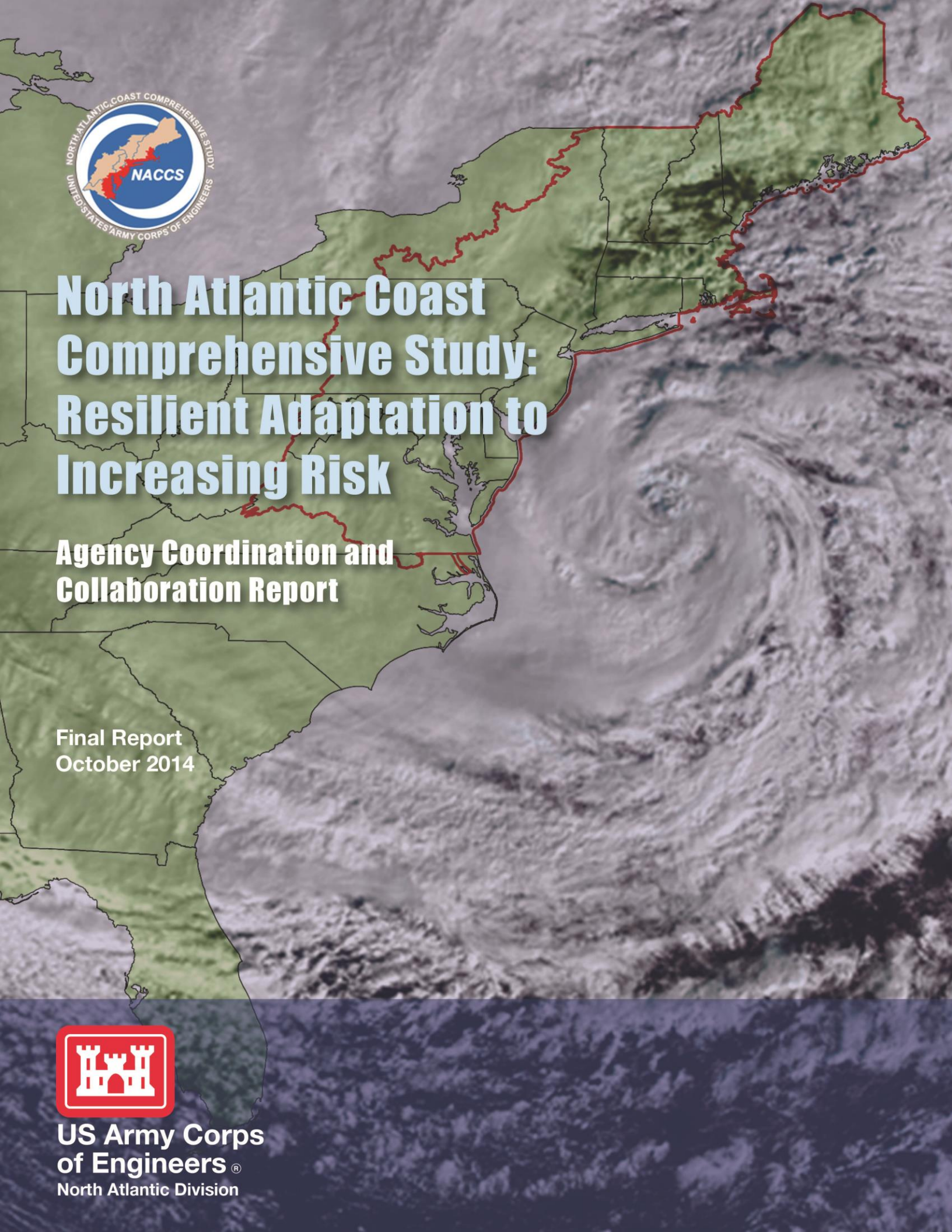

North Atlantic Coast Comprehensive Study: Resilient Adaptation to Increasing Risk

Agency Coordination and Collaboration Report

Final Report
October 2014

US Army Corps of Engineers®
North Atlantic Division

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

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AGENCY COORDINATION AND COLLABORATION

A major component of the North Atlantic Coast Comprehensive Study (NACCS) was coordination and collaboration with others. This study was consistent with, and conducted in collaboration with, Federal, non-governmental (NGO), tribal, state, and local partners. Public Law (PL) 113-2, Chapter 4 specifies "… that the Secretary shall conduct the study in coordination with other Federal agencies, and state, local and tribal officials to ensure consistency with other plans to be developed, as appropriate…".

I. Engagement and Communication Strategy

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

U.S. Army Corps of Engineers North Atlantic Division
June 2014

Engagement and Communication Strategy

North Atlantic Coast Comprehensive Study

Public Affairs Office

SUMMARY

The U.S. Army Corps of Engineers (USACE) is conducting the North Atlantic Coast Comprehensive Study (NACCS), a comprehensive and integrated evaluation study that will identify measures that reduce storm and flood damage risks in areas affected by Hurricane Sandy in a manner that is consistent with the need to promote a resilient and sustainable coastal region. This study will be consistent with, and conducted in collaboration with, Federal, non-governmental (NGO), tribal, state, and local partners and a report will be delivered to Congress by January 2015. Public Law (PL) 113-2, Chapter 4 specifies "… that the Secretary shall conduct the study in coordination with other Federal agencies, and state, local and tribal officials to ensure consistency with other plans to be developed, as appropriate…".

The North Atlantic coast remains extremely vulnerable to Nor'easters, hurricanes, and the associated effects of sea level rise and climate change. The goals of the NACCS are to:

- Provide a Risk Reduction Framework consistent with USACE-NOAA Rebuilding Principles.
- Support Resilient Coastal Communities and robust sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems and infrastructure.

The NACCS provides:

- **An analysis of seal level rise scenarios and climate change**, and how those might affect coastal populations, infrastructure, ecosystems, and implementation of risk reduction strategies;
- **Significant closure of data gaps** in coastal hydrodynamic modeling, economic benefit pools and analyses of natural and nature-based features (NNBF);
- **The identification of activities and areas warranting further analysis**; and
- **The identification of institutional and other barriers** to providing comprehensive risk reduction to affected

The NACCS will not include site-specific data or designs leading directly to projects for construction or implementation.

PURPOSE

This public involvement plan and engagement strategy provides a comprehensive approach for planning, integrating, and executing all communication associated with the NACCS.

SCOPE

The plan identifies key target audiences and spokespersons, establishes communication goals and objectives, and lays out an implementation strategy to engage and inform agencies, congressional interests, public, and the media on the study.

GOALS

- Increase understanding on the purpose and expected outcomes of the NACCS.
- Promote methods for USACE to receive input and feedback from the diverse stakeholder community.
- Facilitate positive relationships among agencies, congressional interests, media, and the general public by keeping them fully informed and engaged about the status of the NACCS.
- Provide a forum for USACE to develop and deliver a consistent message to diverse audiences.

AUDIENCES

There are a variety of audiences that must be considered and regularly communicated with regarding the NACCS. These audiences are:

- Federal and state agencies, including New York City and the District of Columbia
- Regional entities and non-governmental agencies
- Tribes
- Academia
- Communities affected by Hurricane Sandy
- Media

The team recognizes that there will be many agencies, local governments, and the public who are outside the study area. These individuals will be watching and following the study and its analyses to incorporate lessons learned, use transferable data and information, and develop coastal risk reductions for their regions and communities.

THEMES

- Collaborative Approach
- Public Safety and Preparedness

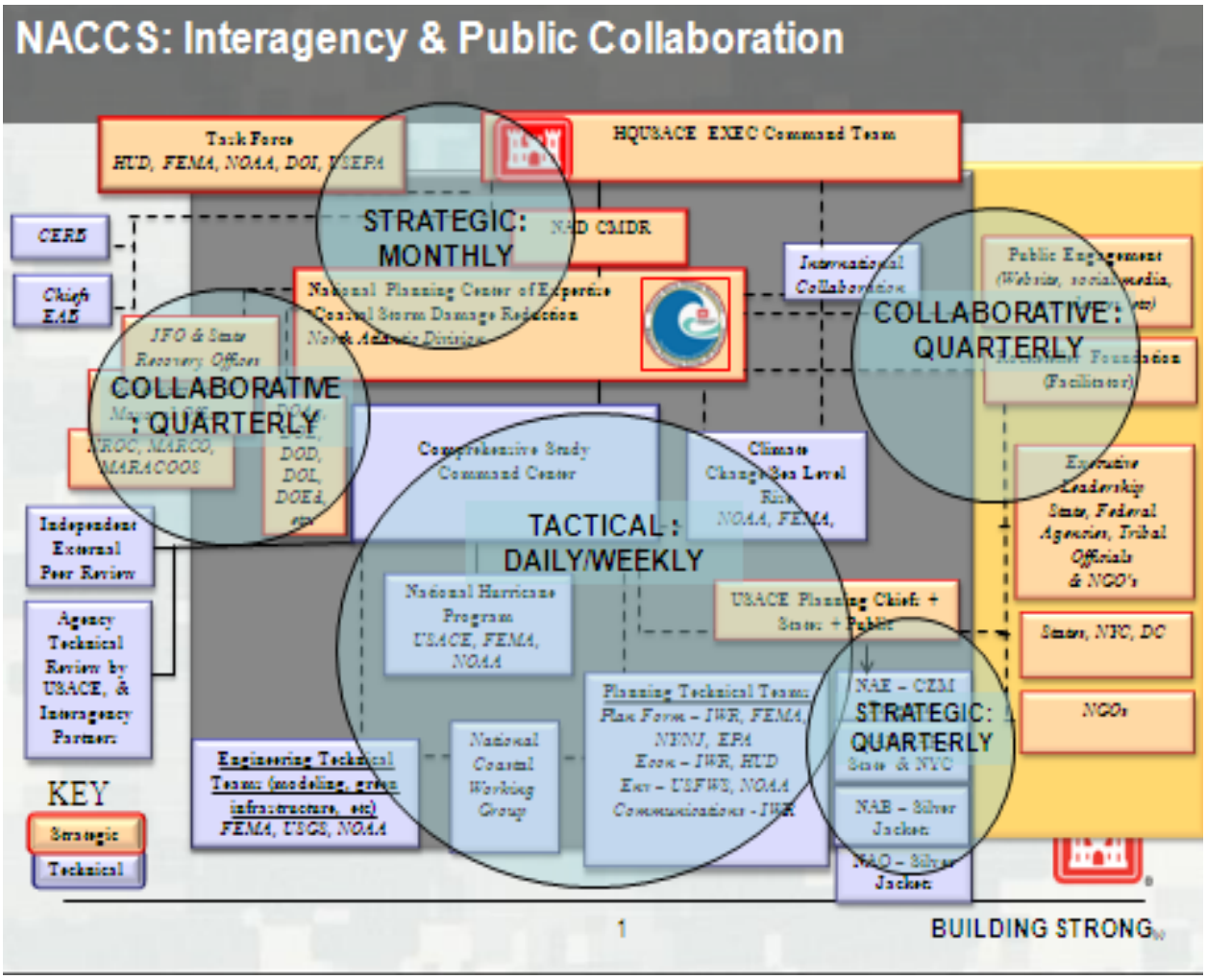
TALKING POINTS – North Atlantic Coast Comprehensive Study

- The NACCS will identify measures that reduce storm and flood damage risks in areas impacted by Hurricane Sandy in a manner that is consistent with the need to promote a resilient and sustainable coastal region.
- The study does not give authorization or appropriation to any of the projects that may be identified but will help establish and define a path forward for projects that may help reduce risk to the North Atlantic region from significant storms.
- The comprehensive study will address coastal storm damage risks in the region and examine the best approaches to reduce vulnerabilities.

TALKING POINTS – Collaborative Approach

- This study is a joint effort between Federal, state, and local government, as well as NGOs and tribes, and takes into account the best science and engineering available.
- USACE and its partners worked diligently and quickly in the immediate aftermath of Hurricane Sandy to ensure the safety and well-being of those affected. USACE will remain dedicated to the recovery of the region through the NACCS such that future risks can be reduced.
- Communication with the public and stakeholders is a key component of the NACCS. USACE will use a diverse set of communication tools and forums to engage and inform interested audiences in the study.

Figure 1: NACCS Interagency & Public Collaboration



TALKING POINTS – Public Safety and Preparedness

- Public safety is always a top priority. In conducting this study, USACE will collaborate with other agencies to develop information that will help inform future decision-making in regard to preparedness planning, choosing risk reduction techniques and projects for implementation, and promoting regional coastal resilience.

COMMUNICATION STRATEGY/ACTION MATRIX

Updates should be provided as new information is available. This table provides an outline of what communication activities the team plans to incorporate throughout the course of the study.

- Activities focused on congressional interests are coded **YELLOW**. Additional briefings will occur upon request and will be added to the table as they occur.
- Activities focused on interagency and tribal collaboration are coded **GREEN**. USACE planning chiefs will conduct additional state coordination which will be tracked as strategic engagements (Attachment 1) as they occur.
- Activities focused on public engagement are coded **BLUE**. Due to the large geographic scale of the study area (numerous states, major cities, and over 31,000 miles of shoreline), traditional public meetings are not planned throughout the region. However, as the needs of the region are diverse and the impacts of Hurricane Sandy were different, the team recognizes the need to be flexible to allow the maximum extent of public participation as is possible within the scope, scale, and budget of this study. Social media, on-line communications, and other methods will be used to reach as many of the interested public as possible.

Table 1: NACCS Communication Activities

Action	Responsibility	Trigger	Method of Action	Date to Occur
Prepare factsheet	Public Affairs Office (PAO) and team	Immediate	Staff action	Complete
Prepare talking points	PAO	Immediate	Staff action	Complete
Develop agency contacts and email list	Vertical team	Immediate	Staff and vertical team	Complete
Initiate collaboration with Federal, state, and local agencies and tribes on scope development and refinement	Team	Immediate	Staff action	Complete
Prepare Frequently Asked Questions (Attachment 2)	PAO and team	Immediate	Staff action	Continuous
Prepare Draft Webpage (Attachment 3) Press Release for Public Rollout (Attachment 4)	PAO	Immediate	Staff action	Complete
Develop and Rollout Website • Utilize interactive capabilities whenever possible. Incorporate Facebook landing page and post NACCS updates through District Facebook pages. See menu of public engagement options below for future use of the website.	PAO	Immediate	Staff action	Complete
Develop congressional and government officials email list for notifications of progress and developments	PAO and Government Accountability Office (GAO)	Immediate	Staff action	Complete
Prepare and publish notice in Federal Register to announce the study	Team	Immediate	Staff action	Complete
Prepare NACCS Powerpoint with voice over	PAO and team	Immediate	Staff action	Complete

Action	Responsibility	Trigger	Method of Action	Date to Occur
Prepare formal coordination letters and mailing list for Federal, state, regional, NGO, and tribal entities (1 letter to those where we have points of contact [POCs] to confirm/verify POCs; 1 letter to those where we still need a POC)	Team	Immediate	Staff action	Complete
Develop Collaboration Series and post on-line (series of thematic webinars to collaborate on technical topics for the study, i.e.: future conditions, considering state/local plans and policies, areas warranting further analysis, etc.).	Team	Immediate	Staff action	Complete (conduct Collaboration Series July-Winter 2014)
Send notification to congressional and government officials regarding availability of website and updated scope, etc.	PAO and GAO	Immediate	Staff action	Complete
Modeling Working Meeting with invited agencies/subject matter experts	Team	Immediate	Staff action	Complete
Measures Working Meeting with invited agencies/subject matter experts	Team	Immediate	Staff action	Complete
Collaboration Webinar #1: Green Infrastructure	Team	Immediate	Staff action	Complete
Cultural Characterization Letters to State Historic Preservation Officers (SHPOs)	Team	Immediate	Staff action	Complete
Weather Channel: NACCS Interview	PAO	Immediate	Staff action	Complete
PBS Nova: NACCS Interview	PAO	Immediate	Staff action	Complete
Newsday: NACCS Interview	PAO	Immediate	Staff action	Complete
Silver Jackets Team Meetings and regional briefings	Team	Immediate	Staff action	Complete
Future without project characterization letters to the States	PL	Immediate	Staff action	Complete
Collaboration Webinar #2: Ecosystem Goods and Services	Team	Immediate	Staff action	Complete

Action	Responsibility	Trigger	Method of Action	Date to Occur
Vulnerability mapping review/confirmation letters to the States	Team	Immediate	Staff action	Complete
Collaboration Webinar #3: Numerical Modeling	Team	Immediate	Staff action	Complete
Collaboration Webinar: EPA/LIS/NY Harbor	Team	Immediate	Staff action	Complete
Collaboration Webinar #4: Vulnerable Communities	Team	Immediate	Staff action	Complete
Federal Register notice requesting peer reviewed information	Team	Immediate	Staff Action	Complete (October)
Nature-based Infrastructure/Green Infrastructure (NBI/GI) Policy Meeting	Team	Immediate	Staff action	Complete
Collaboration Webinar: Policy Challenges	Team	Immediate	Staff Action	Complete (December)
Collaboration Webinar #5: Adaptive Management	Team	Immediate	Staff action	Complete
Collaboration Webinar #6: Climate Change/Sea Level Rise	Team	Immediate	Staff action	Complete
Collaboration Webinars (as needed) for tribes by each District Tribal Liaison	Team	Immediate	Staff action	Two overview webinars complete
Attend regional Tribal Meeting such as United South and Eastern Tribes (USET) Meeting, Washington, DC	Team	Immediate	Staff action	Complete
Attend regional Tribal Meeting such as To Bridge A Gap, Oklahoma				Complete
STAKEHOLDER ENGAGEMENT SEGMENT 2 Develop and conduct targeted webinars to solicit input and share progress (e.g., Federal, state, and tribal; academic and NGO)	Institute for Water Resources (IWR) and team			Spring 2014

Action	Responsibility	Trigger	Method of Action	Date to Occur
Public engagement for updates. Possible forums are: • Webinars posted on website • Voice over PowerPoint and video updates • 3-D animation to show cause/effect of solutions • Interactive (flash) maps • Participation in state/local/government forums/meetings • Feedback requests on the website • Article written/published	PAO and team		Staff action	Summer 2014
Send notification to congressional and government officials email list announcing upcoming submission to Congress and on-line availability of final report	PAO and GAO		Staff action	2 days prior to submittal
Submit final NACCS to Congress and post on-line	PAO and team		Staff action	January 2015

Attachment 6 includes more detailed documentation of the strategic and team communication strategy.

ATTACHMENT 1: USACE STRATEGIC ENGAGEMENTS: COMPLETED (last updated: 09/22/2014)

Date	Agency / Organization	Area / District	How	By Whom	Purpose
27 March 2013	The Nature Conservancy	Philadelphia District (NAP)	Emails and phone calls	Heather Jensen, Patty Doerr, Jay Odell, Jennifer Greene	Discuss the NACCS study, spatial coastal habitat data, and previous The Nature Conservancy (TNC) studies.
5 April 2013	Mid-Atlantic Region	Arlington, VA	Workshop	Roselle Henn, Joe Vietri	Implementing the National Ocean Policy. Includes Federal, state, and tribal groups with coastal interests.
8 April 2013	NJ Joint Field Office (JFO)	Lincroft, NJ	Brief	Roselle Henn, Joe Vietri	Provide information on the NACCS to Federal and state partners.
9 April 2013	Waterfront Alliance	NYC/New York District (NAN)	Panel Discussion	Roselle Henn, Joe Vietri	The Metropolitan Waterfront Alliance includes 620 organizations in the New York and New Jersey Harbor region. Panel discussion on what and how government analysis will dictate our resilience course.
10 April 2013	NY JFO	Forest Hill, NY	Brief	Roselle Henn, Joe Vietri	Provide information to interested Federal and state partners on the NACCS.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
17 April 2013	Union of Concerned Scientists	NYC	Roundtable	Roselle Henn, Joe Vietri	Focus on East Coast cities (not such Sandy area) will include city and county officials and a separate press session.
22 April 2013	NJ Governor's Office	Trenton	Office	Roselle Henn, Joe Vietri	Discuss draft scope of work and opportunities to leverage resources and align planning efforts.
23 April 2013	NYS Governor's Office	DC	Office	Roselle Henn, Joe Vietri	Discuss draft scope of work and opportunities to leverage resources and align planning efforts.
10 May 2013	EPA (George Pavlou, Deputy Regional Administrator; Director Joan Matthews, Clean Water Division; Judy-Ann Mitchell, NEPPS Regional Coordinator	TBD	Meeting	Roselle Henn, Joe Vietri	Discuss the NACCS. Outcome: EPA to identify SME's to work with our Technical Teams (action complete).
11-12 May 2013	Northeast Regional Ocean Council (NROC)	Rhode Island	Meeting	Roselle Henn	Coastal Hazards Resiliency Committee report out to NROC.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
15 May 2013	Congressman Bishop	D.C.	Meeting	Joe Vietri	Speak about rebuilding the shoreline.
16 May 2013	New Jersey Department of Environmental Protection (NJDEP)	Trenton, N.J.	Meeting	Heather Jensen	Meet with JFO and other state representatives to discuss potential new projects identified in the post-Sandy recovery efforts. Brief overview of the NACCS Study.
23 May 2013	Monmouth University	New Jersey	Workshop	Roselle Henn, Joe Vietri	Community stakeholder workshop to identify new policies and best practices that will guide the restoration of the Jersey Shore.
23 May 2013	New Jersey	NAN/NAP	Workshop	Joe Vietri, Lynn Bocamazo, Jeff Gebert	Restoring New Jersey's Beaches for a More Resilient Future. Objective: plan and implement Sandy recovery shore protection projects that address community needs to reduce risk and vulnerability, and enhance community resilience and ecosystem services.
23 May 2013	Maryland Department of Natural Resources (DNR)	Baltimore District (NAB)	Meeting	Amy Guise	Brief MD DNR on the NACCS.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
3 June 2013	EPA	New England District (NAE)	Brief	Jason Engle	Brief the U.S. Environmental Protection Agency (EPA) on the integration of climate change considerations in the NACCS.
3 June 2013	New England Federal Partners (NEFP) Climate Workgroup Meeting	New England/NAE	Meeting	Roselle Henn, Jason Engle	Presentation of projects and resources devoted to New England states post-Sandy.
4 June 2013	Federal Emergency Management Agency (FEMA) Region III	NAB	Meeting	Amy Guise	Brief FEMA Region 3 on the NACCS.
4 June 2013	DC Silver Jackets (SJ) Team	NAB	Meeting	Dave Robbins	Brief DC SJ on the NACCS.
5 June 2013	Rockefeller Foundation	NY/NJ	Presentation	Tom Hodson	RAND presentation and discussion at the Rockefeller Foundation on participatory decision processes post-Sandy.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
11 June 2013	Mayor Bloomberg	NYC	Available for questions	Roselle Henn	Rollout of the NYC report, "A Stronger, More Resilient New York." Will be available to answer questions on how the NACCS will continue to work with the city to synchronize our planning efforts.
12-13 June 2013	USACE (Modeling Working Meeting)	Brooklyn, NY	Working Meeting	NACCS project delivery team (PDT) (Lynn Bocamazo)	Technical exchange, partnering, and collaboration regarding the computing of the joint probability of Hurricane Sandy and historical coastal storm forcing parameters from Maine to Virginia.
13 June 2013	FEMA	All	Conference call	Marc Paiva	Tribal hurricane preparedness conference call.
14 June 2013	Harbor Estuary Program's (HEP's) Citizen Advisory Committee	NJ	Meeting	Roselle Henn	Provide an overview of the NACCS.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
17-18 June 2013	USACE	All	Webinar	NACCS PDT (Lauren Leuck, Amy Guise)	Pre-measures meeting webinar to define the study's scope and objectives, enable participants to discuss key terminology, share questions, and lay out goals and outcomes for the meeting.
26 June 2013	CT Natural and Cultural Resources Task Force	CT/NAE	Meeting	Marc Paiva	Presentation of newly completed CT Community Recovery Resource Guide. Opportunity to provide input/leverage info.
26-27 June 2013	USACE (Measures Working Meeting)	NY	Working Meeting	NACCS PDT	Bring together diverse groups to gather input and discuss how to reduce risk and promote resilience for those areas affected by Hurricane Sandy.
28 June 2013	Coastal Resiliency Task Force	NY	Conference Call	Roselle Henn	Provide an overview of the comprehensive study.
10 July 2013	Barnegat Bay Partnership	NAP	Phone Call	Heather Jensen, Stan Hales	Discuss the NACCS study and Barnegat Bay Partnership's post-Sandy observations on habitat and species impacts.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
11 July 2013	NYU	NYC	Workshop	Donald Cresitello	Regional Infrastructure Resilience Coordination Workshop #1.
11 July 2013	Chesapeake Bay Program (CBP)	NAB	Brief	Amy Guise	Brief CBP on the NACCS.
12 July 2013	Partnership for the Delaware Estuary	NAP	Phone Call	Heather Jensen, Danielle Kreeger	Discuss the NACCS study and partnership of the Delaware Estuary's post-Sandy observations on habitat and species impacts.
16 July 2013	USACE	NY	Meeting	Donald Cresitello	NY Bay Recon Meeting
19 July 2013	HQUSACE	Washington, DC	Meeting	Joe Vietri, Roselle Henn, Amy Guise	NACCS In Progress Review (IPR)
22 July 2013	Delaware Nation	NAB	Webinar	Tomma Barnes, Marc Paiva, David Robbins	Provide an overview of the comprehensive study.
23 July 2013	Federal Climate Partners for Mid-Atlantic	Mid-Atlantic	Conference Call	Jason Engle	Opportunity to present the comprehensive study climate change plan and progress to date.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
30 July 2013	USACE	ALL	Webinar	Dave Robbins	Provide an overview of how green infrastructure is being applied to the comprehensive study and obtain relevant input or data from interagency partners.
31 July 2013	Ocean Studies Board	Monmouth University's Urban Coastal Institute : NJ	Meeting	Don Cresitello	Provide an update on coastal projects for the New York/New Jersey region that addresses some of the vulnerabilities exposed by Sandy.
1 August 2013	PA Department of Environmental Protection (PADEP)	NAP	Email	Heather Jensen, Christian Vlot	Discuss the NACCS document higher level communication about the project, and request a contact at PADEP to provide region-specific post-Sandy observations on habitat and species impacts.
2 August 2013	U.S. Fish and Wildlife Service (USFWS)/National Wildlife Refuge at Tinicum	NAP	Email and phone call	Heather Jensen, Randy Brown	Discuss the NACCS and confirm the refuge's post-Sandy habitat and species impacts.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
2 August 2013	PADEP Coastal Resources Management Program	NAP	Email	Heather Jensen, Randy Brown	Discuss the NACCS and confirm the refuge's post-Sandy habitat and species impacts.
6 August 2013	MD Silver Jackets Team	NAB	Meeting	Dave Robbins	NACCS overview and status.
8 August 2013	Chesapeake Bay Management Board	MD/NAB	Meeting	Amy Guise	Briefing interagency group on the comprehensive study.
13 August 2013	DC Silver Jackets Team	DC	Meeting	Dave Robbins	NACCS overview and discussion of Focus Area Analysis.
13 August 2013	NYC DEP	NYC	Meeting	Roselle Henn, Joe Vietri, Donald Cresitello	Brief deputy commissioner at DEP on the NACCS.
14 August 2013	PADEP	NAP	Email	Heather Jensen, David Burke	Discuss the NACCS and confirm PADEP's post-Sandy observations on habitat and species impacts.
19 August 2013	HR Wallingford	NAB	Meeting	PDT and Jonathan Simm	International Coordination on Sea Level Rise and Climate Change.
20 August 2013	USACE	NAB	Meeting	Amy Guise, Dave Robbins	NACCS IPR: provide update on the status of the NACCS.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
20 August 2013	New Jersey Audubon Society	NAP	Phone Call	Heather Jensen, Jean Lynch	Discuss the NACCS and NJ Audubon's post-Sandy observations on habitat and species impacts and habitat restoration efforts.
21 August 2013	North Atlantic Division (NAD)	NAD	Meeting	Joe Vietri, Roselle Henn	Chief of Engineers Comprehensive Study Brief.
23 August 2013	State of New Jersey, Historic Preservation Office	NAD	Letter	Jesse West-Rosenthal, Joe Vietri	Assessment of coastal flood risk and vulnerability population areas impacted by Hurricane Sandy.
29 August 2013	USACE	ALL	Webinar	Tomma Barnes, Paul Wagner, Todd Bridges, and Al Confrancesco	Ecosystem goods and services webinar for interagency group.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
5 September 2013	NAD	ALL	Meeting	Donald Cresitello, Roselle Henn, Lynn Bocamazo, Bill Curtis	NACCS brief to the Coastal Engineering Research Board (CERB). Lynn discussed breach response and Donald spoke of the PPE. Bill Curtis presented on Engineer Research and Development Center (ERDC) Coastal Research efforts; did a thorough review of the work ERDC is undertaking to support the NACCS.
5 September 2013	USACE	ALL	Webinar	NAB Staff	USACE NACCS, Middle Potomac Washington, D.C. and Metropolitan Area Focus Area Analysis Stakeholder Meeting.
10 September 2013	USACE	NAB	Telecon	Roselle Henn, Amy Guise	Chief's Environmental Advisory Board: NACCS Update.
9-10 September 2013	Dutch Minister of Infrastructure and the Environment and U.S. Secretary of Housing and Urban Development	NY	Forum/Meeting	Joe Vietri, Roselle Henn, Lynn Bocamazo, Donald Cresitello, Peter Weppler	Provide an update of all the major ongoing efforts by governmental entities as related to Hurricane Sandy recovery and rebuilding.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
9-11 September 2013	Northeast Shore and Beach Preservation Association	Mid-Atlantic/North Atlantic	Conference	Jeff Gebert, Lynn Bocamazo, Donald Cresitello, JB Smith, Todd Bridges	Included presentations of Hurricane Sandy impacts and overview of USACE projects and the USACE Hurricane Sandy Coastal Projects Performance Evaluation Study.
11 September 2013	USACE	NAD	Meeting	Joe Vietri, Roselle Henn, Lynn Bocamazo, Donald Cresitello	Technical Exchange NYC Special Initiative for Rebuilding and Resiliency (SIRR) Modeling Team.
12 September 2013	USACE	ALL	Webinar	Amy Guise, David Robbins, Karla Roberts, Robert Nyman, Mark Tedesco	NYNJ Harbor Estuary Program and Long Island Sound joint meeting with the Management and Citizen Advisory Committees.
12 September 2013	USACE	ALL	Webinar	Lynn Bocamazo, Jason Engle, Chris Massey, Norberto Nadal	Numerical Modeling/Climate Change Webinar for interagency group.
12 September 2013	USACE	VA	Telecon	Roselle Henn	USACE-United States Geological Survey (USGS) quarterly meeting: brief on NACCS.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
12 September 2013	American Planning Association –Long Island Section and LI Regional Council	City of Long Beach, NY	Symposium	Joe Vietri, Roselle Henn	American Planning Association - Long Island Section and the LI Regional Planning Council symposium entitled "Long Island Reconstruction and Resilience – Learning from other Regions and the Europeans."
16 September 2013	USACE/DOI/NYS/NYC/Rockefeller Foundation/NGO's	TBD	Workshop	Joe Vietri, Roselle Henn, Peter Weppler	All Hand's Jamaica Bay Workshop.
18 September 2013	USACE	ALL	Telecon	Full NACCS PDT	NACCS Findings Discussion.
23 September 2013	Office of Management and Budget (OMB)/Council on Environmental Equality (CEQ)/Assistant Secretary of the Army for Civil Works (ASA [CW])	CEQ, Washington DC and telecon HQUSACE	Telecon	David Leach, Joe Vietri, Roselle Henn, Amy Guise, David Robbins, NACCS PDT Leads	Crosswalk of NACCS Goals and Questions, Products and Deliverables, and Expenditures.
23 September 2013	USACE	Washington, DC	Meeting	Roselle Henn	Subcommittee meeting.
25 September 2013	USACE	ALL	Webinar	J.B. Smith, Ty Wamsley, Dave Robbins	Vulnerability and Exposure Assessment webinar for interagency group.
2 October 2013	New Jersey Institute of Technology (NJIT)	Faculty and Students at NJIT	Forum	Tom Hodson	Technology and Society Forum: Flooding in NYC due to Hurricane Sandy.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
7 October 2013	Audubon, New York	New York	Meeting	Joe Seebode, Don Cresitello	'Hard' engineering innovations and enhancement of natural infrastructure and barriers to create long-term resilience for the region.
8 October 2013	National Academy Science	Mobile, AL	Meeting	Roselle Henn	Collaboration webinars for tribes to brief on the NACCS.
25 October 2013	ASA (CW) and MG Peabody; Sandy Sync	HQUSACE	Brief	Joe Vietri, Roselle Henn	First brief for MG Peabody and update for Ms. Darcy in preparation for her congressional testimony.
28 October 2013	United South and Eastern Tribes, Inc. (USET)	Cherokee, North Carolina	Meeting	John Haynes	USET hosted-discussions, presentations, and committee meetings to develop strategies to continue its work to promote and protect Tribal Nations sovereignty.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
29 October 2013	USACE	Federal Climate Partners	Teleconference	Jason Engle	Incorporating climate change in the NACCS. Provide consistent, up-to-date coastal forcing information for use in the NACCS and future project planning studies.
29 October 2013	Rockefeller Foundation	New York, NY	Meeting	Joe Vietri, Roselle Henn	Align NACCS, Sandy investigations and nature-based features landscape design initiative.
6-7 November 2013	Society of American Military Engineers (SAME)	Baltimore, MD	Conference	Dave Robbins, Jason Rinker	Discuss the challenges of managing storm water on military installations within the Chesapeake Bay Watershed at the regional SAME conference, which took place at the Sheraton City Center, downtown Baltimore.
8 November 2013	EPA Region 1	New England	Discussion Forum	Bill Hubbard	EPA hosted-meeting with New England communities to build resilience and prepare for climate change.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
11-15 November 2013	CERB Charge PDT	NAP	Meeting	Roselle Henn, Bill Curtis, JB Smith, Pete Blum, Jeff Lillycrop, Julie Rosati, Monica Chasten	Identify a resilience pilot to illustrate a theoretical metric for evaluating system performance in response to the CERB charge. The meeting identified two possible pilot areas: Delaware Bay (outer portion and adjacent coasts of NJ and DE) and Barnegat Inlet. Roselle indicated they will be coordinating with the larger PDT, but their recommendation is to carry both options forward and to defer final selection until a full review of available data has been conducted.
12 November 2013	NROC	Narragansett, RI	Meeting	Bill Hubbard	Report on modeling workshop outcomes and overall update on the comprehensive study.
20 November 2013	USACE	IWR	Meeting	TBD	NNBF policy meeting.
21 November 2013	USACE	HQUSACE	Brief	Joe Vietri, Roselle Henn	Quarterly IPR with HQUSACE.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
21-22 November	USACE	Washington, DC	Meeting	TBD	NNBF technical meeting.
10 December 2013	USACE	State House, Trenton, NJ	Meeting	Joe Vietri, Roselle Henn, NAN, NAP	Validate State of NJ Governor's Office input to NACCS. Meeting with Executive Director Marc Ferzan, Deputy Executive Director Terrence Brody, and Special Advisor Eric Daleo of the Governor's Office of Recovery and Rebuilding to discuss vulnerable areas identified by the comp study and plans for visioning sessions.
11-12 December 2013	National Oceanographic and Atmospheric Administration (NOAA) Center for Weather and Climate Prediction	College Park, MD	TBD	TBD	Coastal Resilience. Using coastal planning and management to advance coastal resilience.
12 December 2013	Pre-Brief ASA (CW), HQUSACE, Coastal Storm Risk Management – Planning Center of Expertise (CSRM-PCX), HSMD	VTC or Washington, DC	Meeting	CG, Mr. Leach, Joe Vietri, Roselle Henn	CG's brief to OMB/CEQ.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
17 December 2013	USACE	NAB	Webinar	Marc Paiva	Conduct tribal webinars that will provide an opportunity for tribal feedback and input into development and implementation of the NACCS.
17 December 2013	National Academy of Science (NAS)	Elizabeth, NJ	TBD	TBD	HQUSACE led initiative with NAS-National Research Council on coastal policy in the Atlantic and Gulf regions.
19 December 2013	IWR, ERDC, NAB, CDM Smith	NAB	Webinar	Todd Bridges, Paul Wagner, Emily Vuxton, Ginger Croom, Mark Dunning	Institutional Barriers and Other Barriers webinar.
8 January 2014	Rockefeller Foundation	New York, NY	Meeting	Joe Vietri, Roselle Henn	Align NACCS, Sandy investigations, and nature-based features landscape design initiative.
14 January 2014	Carnegie Institute	Washington, DC	Forum	Joe Vietri	Align NACCS with Federal efforts for adaptation in metropolitan America.
17 January 2014	National Fish and Wildlife Foundation	NAB	Meeting	Amy Guise	Discuss Department of Interior (DOI) grants and USACE partnerships.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
17 January 2014	HQUSACE, CSRM-PCX, HSMD	HQUSACE, NAD	Meeting	Mr.Leach, HSMD, Joe Vietri, Cliff Jones, Roselle Henn	Sandy Sync.
24 January 2014	Yale University	Hartford, CT	Symposium	Roselle Henn	Yale University Panel on Coastal Protection, Sea Level Rise, and Hurricanes.
27 January 2014	Stakeholders	NYNJHT	Partnering Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.
4 February 2014	Stakeholders	Nassau County Back Bays – NY	Visioning Session Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.
4 February 2014	Stakeholders	Delaware Back Bays	Visioning Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.
4-5 February 2014	Environmental Commission of the World Association for Waterborne Transport Infrastructure	Brussels, Belgium and PIANC, HQ	Meeting	Todd Bridges	Environmental Commission of the World Association for Waterborne Transport Infrastructure (PIANC) EnviCom is composed of

Date	Agency / Organization	Area / District	How	By Whom	Purpose
					representatives from more than a dozen countries and organizations. An overview of Natural and Nature-Based Features (NNBF) work was given and "Working with Nature" philosophy discussed.
7- February 2014	OMB/CEQ Briefing - ASA(CW)/NAD	Washington, DC	Meeting	Joe Vietri, Roselle Henn	Overview and progress update of comprehensive study.
10 February 2014	Stakeholders	Washington, DC	Visioning Meeting	District Staff	Present the NACCS sea level rise (SLR) analysis and discuss how DC agencies and stakeholders are planning to address future impacts from SLR and flooding.
13 February 2014	North Regional Ocean Council	Portsmouth, NH	Meeting	USACE/State Chair/EPA/USFWS/Bureau of Ocean Energy Management (BOEM)/Easter Research Group, Inc. (ERG)	Committee updates on coastal hazards resilience, ocean and coastal ecosystem health, and ocean planning.
18-20 February 2014	NOAA	Charleston, SC	Forum	Susan Durden, Charlie Chesnutt	NOAA Social Coast Forum / Social Science for Coastal Decision-Making. NOAA Coastal Services Center is hosting the second biennial Social Coast Forum to see and share how social science tools and methods are being used to address the nation's coastal issues.
21 February 2014	USACE/USGS/NOAA/ Department of Homeland	GAO Building	Meeting	Interagency POCs	Interagency meeting on the USACE's proposed approach to

Date	Agency / Organization	Area / District	How	By Whom	Purpose
	Security (DHS)/National Park Service (NPS)/National Science Foundation (NSF)/Air Traffic Control (ATC)/Coastal States Organization (CSO)				integrated coastal resilience to understand what other agencies are doing in the area of coastal resilience, discuss the proposed USACE path forward, and get feedback on the USACE approach.
27 February 2014	American Shoreline and Beach Preservation Association	Washington DC	Summit	Joe Vietri, Amy Guise	Present an update on the comprehensive plan.
27 February 2014	Stakeholders	Rhode Island	Visioning Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.
28 February 2014	Stakeholders	Connecticut	Visioning Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.
4 March 2014	Coastal States Organization, 2014 Winter Member's Meeting	Washington, DC	Meeting	Roselle Henn, Charley Chesnutt, Lauren Leuck	Army Corps of Engineers and a New Horizon in Partnerships. How the coastal programs can engage and benefit from the NACCS.
6 March 2014	Stakeholders	Baltimore, MD	Visioning Meeting	District Staff	Convene various stakeholders from Federal, state, and local government agencies and other organizations to discuss the vision of the areas with respect to coastal flood risk and resilience.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
12 March 2014	Delaware River Basin Commission (DRBC)	Delaware	Conference	J.B.Smith	Quarterly DRBC general conference/commissioners meeting. Brief overview of the comp study and scope synopsis. J.B. gave a presentation on resilient adaptation to increasing risk as it relates to NACCS.
27 March 2014	U.S. Naval Academy (USNA) Oceanographic Engineering Speaking Engagement	Annapolis, MD	Annual Lecture	BG Savre and Joe Vietri	The USNA has an annual lecture, the Bock lecture, that seeks to bring in influential leaders in ocean engineering to address about 250 midshipmen majoring in ocean engineering and naval architecture.
1-8 April 2014	USACE	All (webinars)	Webinar	PDT	Draft Analyses webinar series (6 total) to provide background and context for the interagency review.
8-10 April 2014	Virginia Military Institute in Lexington	VA/NAO	Symposium	David Robbins, Rachel Haug	25th Annual Environmental Virginia Symposium: NACCS presentation and discussion.
10 April 2014	Delaware Department of Natural Resources and Environmental Control (DNREC)	NAP	Meeting	J.B. Smith	Discuss progress of the NACCS with Delaware partners.
16 April 2014	North Atlantic Landscape Conservation Cooperative (LCC) Steering Committee	Portland, Maine	Meeting	Michelle Haynes	Overall goal of the meeting: consensus on vice chair, executive committee, new members; priorities for and balance between science development and science delivery; advancing LCC communications; continued involvement in State Wildlife Action Plan (SWAP) updates; supporting landscape conservation design; and achieving

Date	Agency / Organization	Area / District	How	By Whom	Purpose
					LCC coastal priorities through Hurricane Sandy resilience projects. USACE will present on NACCS Overview and NNBF Policy challenges.
21-23 May 2014	USACE-ERDC	New Orleans, LA Westin Canal Place	Conference	Todd Bridges	Coastal Resilience: The Environment, Infrastructure, and Human Systems. NACCS NNBF will be discussed.
29 May 2014	MWA, NY/NJ Harbor Coalition and Environmental Defense	New York District	Meeting	Roselle Henn	MWA, NY/NJ Harbor Coalition and Environmental Defense
1-5 June 2014	PIANC World Congress	San Francisco, CA	Workshop	Todd Bridges, Monica Chasten	Working with Nature (WwN) as part of the 33rd PIANC World Congress. Regional, Local, U.S., and International perspectives on working with nature. Innovative Approaches and overcoming Technical Hurdles.
2 June 2014	Culture and Heritage Committee	Bar Harbor, Maine	Meeting	Marc Paiva	USET 2014 Semi-Annual Meeting. USACE will provide a presentation on the current status and draft analyses of the NACCS to USET member Tribes on your committee and generate feedback and discussion.
4 June 2014	Old Dominion University (ODU)	Norfolk, VA	Meeting	Dr. Kelly Burks-Copes	Focused on tools and technology that can be used to assist in a "whole of government plus

Date	Agency / Organization	Area / District	How	By Whom	Purpose
					industry" approach to mitigating and adapting to seal level rise (SLR) and coastal storm threats in the Hampton Roads area on the North Atlantic coast.). Dr. Burks-Copes presented the tools and technologies ERDC has developed to assess impacts to critical infrastructure threatened by coastal storms and SLR, including their efforts in support of the NACCS.
10 June 2014	USACE-USGS HQ	Reston, VA	Meeting	ERDC Reps, Jason Engle	Discussion and update on post-Sandy activities.
11 June 2014	USACE-NCPC	Washington D.C.	Meeting	USACE, DDOE, NCPC	NACCS briefing.
12 June 2014	Sandy Regional Infrastructure Resilience Coordination (SRIRC)	New York	Meeting	Roselle Henn	NACCS briefing.
17 June 2014	Silver Jackets – Water Science Center	Troy, NY	Meeting	USGS, FEMA, USACE, NYSDOS	NACCS briefing.
27 June 2014	Rebuild by Design's Policy and Implementation	Cooper Union, Manhattan	Meeting	Naomi Fraenkel	Sandy Recovery discussions.
10 July 2014	Chesapeake Bay Program, Management Board Chair	NAB	Teleconference	Amy Guise, Dave Robbins	A presentation on the replicable process & framework for identifying site-specific solutions to reduce risk and promote resilience, which was developed through a study of vulnerability assessments, resilience metrics, modeling, and

Date	Agency / Organization	Area / District	How	By Whom	Purpose
					other aspects of the NACCS study.
10 July 2014	Coastal Working Group	NAB	Conference	Dr. Kelly Burks-Copes	A presentation on NNBF as it relates to NACCS.
21 July 2014	National Academy of Sciences	NAB	Meeting	Roselle Henn	Debriefing a resilience report completed by the National Academy of Sciences.
22 July 2014	ASFRM Coastal Issue Committee	NAB	Webinar	Dave Robbins	Presentation of the NACCS.
22 July 2014	Gloucester County Planning Department	NAP	Meeting	J.B. Smith	Meeting with Gloucester County Planning Dept. to discuss integration of the NACCS into their hazard mitigation plan and master plan to be updated in Spring and November of 2015, respectively.
27 August 2014	Federal Interagency Floodplain Management Task Force (FIFM-TF)	Washington, D.C.	Meeting	Roselle Henn	NACCS team to provide an update to the FIFM-TF on the NACCS status and progress.
9-11 September 2014	91st Coastal Engineering Research Board Meeting	San Francisco, CA	Meeting	Roselle Henn, Julie Rosati	To review the coastal engineering challenges within the southwest Pacific coastal region, focusing on regional sediment management and the beneficial (re)use of dredged material to improve the resilience of our coastal systems and to identify research and technology that is needed to help Districts and the Nation meet those challenges.

Date	Agency / Organization	Area / District	How	By Whom	Purpose
11 September 2014	NJ Silver Jackets	New Jersey	Meeting	J.B. Smith	Provide a presentation on the NACCS and introduce the NJBB Integrated Strategy data collection effort.
11 September 2014	Coastal Sediment Management Workgroup (CSMW)	San Francisco, CA	Meeting	Roselle Henn, Julie Rosati	Lessons learned post-sandy and coastal resiliency.
16 September 2014	Japan Ministry of Land, Infrastructure, Transport and Tourism Delegation (MLIT)	NAD	Meeting	Joseph Forcina, Roselle Henn	A 10-member Japan Ministry of Land, Infrastructure, Transport and Tourism Delegation received a Sandy Hurricane Recovery Program and NACCS briefing, followed by a question and answer discussion hosted by Mr. Joe Forcina and Ms. Roselle Henn.

USACE STRATEGIC ENGAGEMENTS: SCHEDULED (last updated: 09/22/2014)

Date	Agency / Organization	Area / District	How	By Whom	Purpose
22-24 September 2014	Association of Climate Change Officers	NYC, NY	Summit	Dr. Kelly-Burks/Kathleen White	Basics training event prior to the strategic engagement 22-24 September 2014.
24-26 September 2014	Association of Climate Change Officers, “Basics of Sea Level Rise and Impacts on Coastal Assets & Infrastructure”	Crowne Plaza Times Square, NY	Boot Camp	Dr. Kelly Burks-Copes, Jason Engle	Dr. Burks-Copes will be focusing her lectures on conducting vulnerability assessments and will offer case studies from her efforts to support the Navy’s Task Force Climate Change initiatives. Mr. Engle will focus on the Comprehensive

					Evaluation of Projects with Respect to Sea Level Change platform and the work he has been doing to support SLR modeling and impact assessments for the NACCS.
30 September 2015	ICHARM	Tokyo, Japan	Symposium	Bill Curtis	USACE participation at the International Center for Water Hazard and risk Management (ICHARM) symposium.
TBD September 2015	ICE Coastal Management Conference	Netherlands	Conference	Jonathan Simm	Presenting/co-authoring a paper on NACCS at the ICE Coastal Management conference.
15 October 2014	American Shore and Beach Preservation Association (ASBPA)	Virginia Beach, VA	Conference	Joe Vietri	ASBPA 2014 National Coastal Conference. Presentation of “North Atlantic Comprehensive Study: Valuable Tools for Coastal Communities”.
12 November 2014	ASCE Met Section COPRI	NYU Poly	Meeting	Lynn Bocamazo	Provide a presentation on NACCS for the ASCE coastal oceans ports and river group.
12-14 November 2014	USACE	Mid-Atlantic Region	Conference	Rebecca Patton, Roselle Henn, Todd Bridges, Brian Batten	SAME Middle Atlantic Region Training & Education. Presentation on resilience planning and design: addressing sea level rise and climate change.
8-12 December 2014	A Community of Ecosystem Services (ACES)	NAB	Conference	Dr. Kelly Burks-Copes	Discussion on Performance Metrics for Ecosystem Goods and Services Generated by Natural, Nature-based (NNBF) and Structural Features in the Post-Sandy Environment.

ATTACHMENT 2: DRAFT FREQUENTLY ASKED QUESTIONS (continuous expansion)

Q1: What is the North Atlantic Coast Comprehensive study and what is it not?
A1: The NACCS will not result in a list or set of projects ready for design and construction. The coastal framework will identify risk areas; a diverse set of structural, non-structural, and programmatic risk reduction and coastal resilience measures; benefits; parametric costs; institutional barriers; and areas and activities warranting further analysis. This will enable projects and programs to proceed in an integrated way such that the costs and benefits of near-term and long-term implementation can be realized in a regional and systems context.

Q2: How were the impact areas defined/ranked?
A2: The County Impact Assessment was completed by the FEMA Modeling Task Force (MOTF) and includes a composite of surge, wind, precipitation, and snow impacts from Hurricane Sandy. The data are publicly available on the web (http://fema-data.esri.com/GISData/MOTF/Hurricane%20Sandy/FEMA%20MOTF-Hurricane%20Sandy%20Products%20README%2004182013.pdf).

Q3: Does the study cover the entire coastline for Hurricane Sandy impacted area or only for USACE project areas?
A3: The study covers tidally influenced, Hurricane Sandy-impact areas (as defined by the FEMA impact analysis and NOAA Sandy storm surge extent) in the USACE North Atlantic Division (the area from Maine to Virginia).

Q4: How are other Federal, state, and local agencies being incorporated into the study?
A4: There are many opportunities for incorporating agency and tribal input.

- Interagency subject matter experts provided input to the NACCS scope of work and have been embedded in the technical teams.
- An Interagency Collaborative Webinar Series was launched to facilitate input on specific topics.
- A public website (www.nad.usace.army.mil/CompStudy) was set up with opportunities to provide input on resilience and to sign up for a subscribe list.
- Two Federal Register notices were published soliciting input and peer reviewed data sets.
- Extensive media and agency engagements have been accepted to provide information, presentations, and panel discussion representation.
- Several of the draft analyses were shared with state and tribal stakeholders for verification prior to being incorporated into the NACCS.
- In early 2014, there will be an interagency review period for detailed validation of analyses.

Q5: What opportunities will be available for public input?

A5: Public participation is critical to comprehensive coastal risk reduction and resilience. Across the extensive geographic area of the NACCS, public input is being solicited through the following forums:

- A public website (www.nad.usace.army.mil/CompStudy) was set up with opportunities to provide input on resilience and to sign up for a subscribe list.
- Extensive media and agency engagements have been accepted to provide information, presentations, and panel discussion representation.
- USACE has established and maintained state-by-state (including DC and NYC) communications and is using public input provided to the state agencies as input to the NACCS.
- Community-level engagement and interagency visioning will be stated as critical to preparing for future risk reduction and regional resilience at a local and site-by-site scale.

Q6: What type of review will the comprehensive study undergo?
A6: The comprehensive study will undergo internal document quality control (DQC), agency technical review (ATR), and interagency and subject matter expert review.

Q7: Will the geographic information system (GIS) data from the study be available to the states/localities?
A7: Yes, GIS data compiled for the NACCS (minus sensitive data) will be available as a geodatabase to our stakeholders and partners.

Q8: How is the North Atlantic Coast Comprehensive Study expected to influence ongoing activities?
A8: USACE envisions stronger and more transparent coordination and collaboration among agencies when planning and implementing risk reduction and resilience measures into the future. Any interim products or data completed as a result of the NACCS will be immediately available on the NACCS website (www.nad.usace.army.mil/CompStudy) for use by our partners in their efforts and initiatives. These interim products will be shared prior to the final report being processed.

Q9: What are the effects of sea level rise combined with storm surges?
A9: It is anticipated that this combination of events will exacerbate coastal flooding and will be assessed, in detail, as part of the study.

Q10: How aware are people in the communities of the potential risk?
A10: This will become known as coordination, and engagement with the public, local, and state agencies and tribal communities continues. Strategic communications will be developed with the States, DC, and NYC.

Q11: Will there be a comparison of the cost to protect coastal communities to justify their existence?
A11. No specific benefit cost ratios at a community level will be calculated.

Q12: What models will be utilized to complete the NACCS?
A12: The NACCS will utilize existing model outputs from the Sea, Lake, and Overland Surges from Hurricanes (SLOSH) to present the inundation from CAT 1-4 for risk identification. Additionally, existing floodplain delineations obtained from FEMA as they relate to the 100-year floodplain will be included in the study, which include water surface elevations obtained from various coastal hydraulic models, including the ADvanced CIRCulation (ADCIRC) model. As part of the NACCS, USACE will develop updated ADCIRC modeling from VA to ME to establish a baseline model from which future detailed investigations would use and apply to a site-specific study location.

Q13: Does the North Atlantic Coast Comprehensive Study look at retreat and if so, how drastically?
A13. The comprehensive study will look at a very large and diverse set of structural, non-structural, and programmatic risk reduction and coastal resilience measures, including retreat. Combinations of measures may be appropriate, and the level of application of the measures will be the decision of state and local entities.

Q14: Will the North Atlantic Coast Comprehensive Study predict precipitation out into the future?
A14: The study will forecast future conditions and anticipated changes, incorporating risk and uncertainty, as appropriate.

Q15: Are we envisioning that this is an opportunity to bring up strategy recommendations that come through New York City and State (e.g., New York State 2100 Report)?
A15: Yes. It is important that this study be consistent with, and informs, ongoing plans and strategies by others.

Q16: The slides show that the Project Management Plan (PMP) was due on March 15, 2013. Is this already completed? Can it be shared?
A16: A summary of the scope of work is available on the NACCS website (www.nad.usace.army.mil/CompStudy).

Q17: Are there any studies being conducted to look at rebuilding higher and/or stronger?
A17. There are many ongoing initiatives and studies by other agencies. Each study has its charge and/or goals and may include looking at a range of rebuilding options.

Q18: Is there less willingness of Congress to provide funds for beach nourishment?
A18: USACE cannot speculate on congressional intent to fund, or not, specific projects or mission areas.

Q19: How were the focus areas identified?
A19: The focus area analysis was conducted as a part of the North Atlantic Coast Comprehensive Study (NACCS) authorized under the Disaster Relief Appropriations Act of

2013 (Public Law [PL] 113-2), Title X, Chapter 4 approved 29 January 2013. Specific language within PL 113-2 states, "… as part of the study, the Secretary shall identify those activities warranting additional analysis by USACE." Due to the extensive east coast study area, focus areas were identified to allow evaluation of coastal flood risk management at a smaller scale. The areas identified were known to be highly vulnerable and represented coastal geography, populations and risks from the northern areas to the southern areas of the study boundary that currently do not include USACE structural flood risk management measures. The Focus Area Analyses (FAAs) are included in the NACCS State Analyses and District of Columbia Appendix.

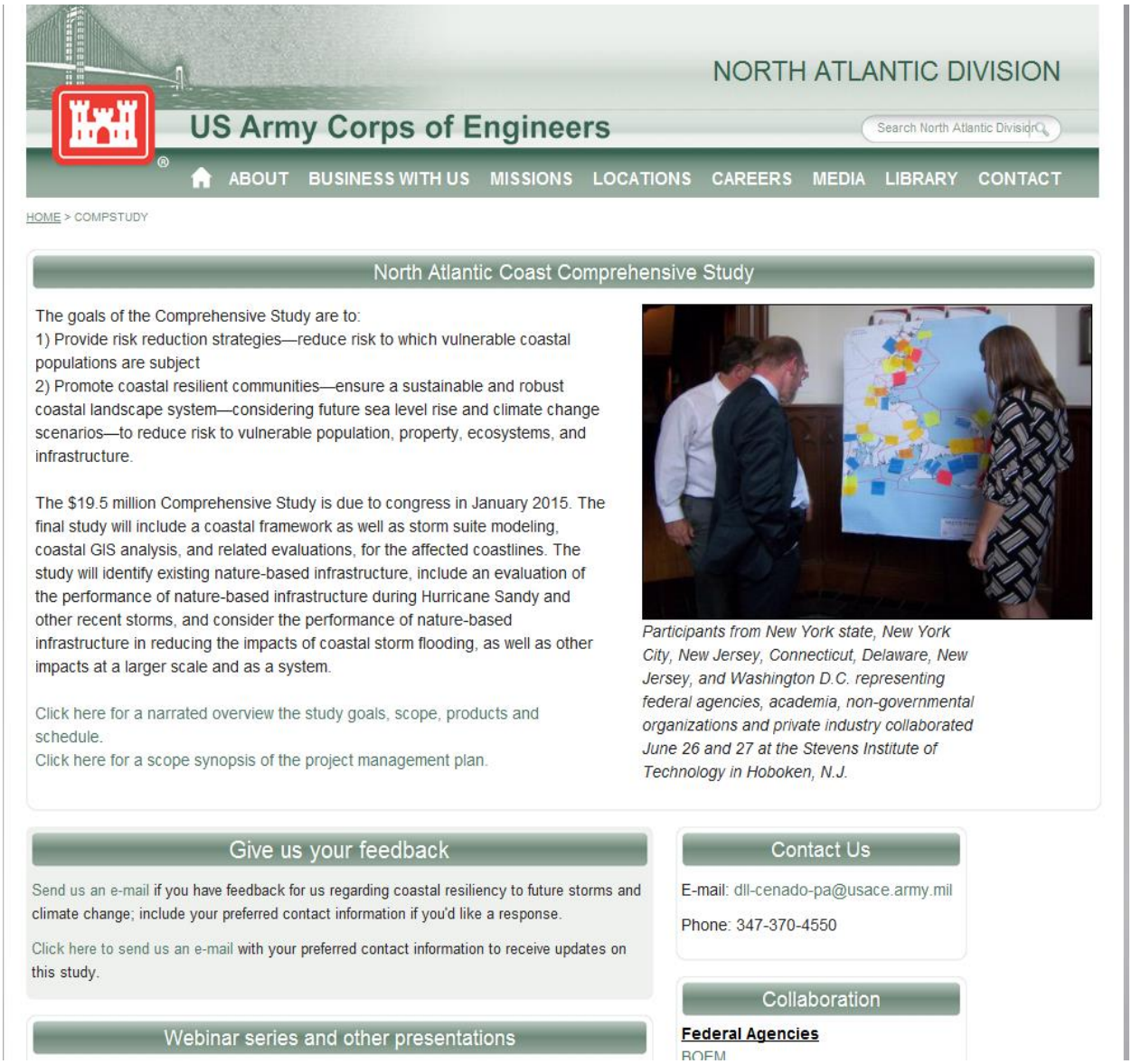
Q20: What is the next step for the FAAs?

A20: USACE was authorized by the Disaster Relief Appropriations Act of 2013 to "...conduct a comprehensive study to address flood and storm damage risk of vulnerable coastal populations in areas affected by Hurricane Sandy...". The FAAs were an opportunity to collaborate with stakeholders to obtain and present more specific data in developing the comprehensive study to address flood and storm damage risk to vulnerable coastal populations; however, more intensive feasibility studies would be necessary in order to fully identify problems, needs and opportunities, and develop alternatives and financing strategies for those solutions.

Q21: Will there be public review of the NACCS report and when?

A21: PL 113-2 specifically requires the comprehensive study to align with regional planning efforts. In order to accomplish this within the legislatively set timeframe for completion and to embrace the extensive geographic area impacted by Sandy, we have enlisted state and local governments, and tribal representatives to serve as our conduit to input from their respective constituents. While the study is not a decision document, it has been scoped as a foundation and catalyst for further in depth analyzes and the full public review required to screen feasible alternatives. In addition, the comprehensive study has sought to engage technical subject matter experts across all levels of government, academia, NGOs, and the private sector on a national and international basis. The study's public website, launched in May 2013, has allowed for public input on resilience and other key aspects of the study and to receive updates on the study as they become available. In addition, a Federal Register notice was published on October 4, 2013, requesting peer reviewed data relevant to the comprehensive study. Submissions are being accepted until December 31, 2013. This input, as well as input gathered from numerous public engagements, was used in developing the NACCS.

ATTACHMENT 3: WEBSITE SCREENSHOT (FEBRUARY 4, 2014)
www.nad.usace.army.mil/CompStudy



ATTACHMENT 4: NEWS RELEASE DRAFT (TEXT ONLY)

Corps of Engineers begins post-Sandy comprehensive study of North Atlantic coast

Contact
Justin Ward
North Atlantic Division Public Affairs
347-370-4550

BROOKLYN, N.Y. – As directed by Congress with the passage of the Disaster Relief Appropriation Act of 2013, U.S. Army Corps of Engineers scientists and engineers launched a collaborative study today to determine how best to reduce flood and storm damage risks for people and communities along the North Atlantic coast.

According to the Act, the study was authorized up to $20 million to "… address the flood risks of vulnerable coastal populations in the areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the [U.S. Army] Corps [of Engineers]."

The Act requires completion of the study by January 2015.

While compiling the study, officially known as the North Atlantic Coast Comprehensive Study, scientists and engineers will consider future sea-level rise scenarios and integrate economic, climatological, engineering, environmental, and societal data from Virginia to Maine to develop a comprehensive framework to reduce coastal flood risk and promote resilience, said Mr. Joseph Vietri, Director, National Planning Center of Expertise for Coastal Storm Risk Management, who is leading the effort for USACE.

According to Vietri, the study will be collaborative, comprehensive and integrated, and conducted in partnership with Federal, tribal, state, and local government representatives as well as non-government organizations, academia, technical experts, and interested parties.

For more information on the North Atlantic Coast Comprehensive Study please visit http://www.nad.usace.army.mil/CompStudy.

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ATTACHMENT 5: SAMPLE SOCIAL MEDIA POSTS

Facebook (To be released 28 May)

Press Release:

The U.S. Army Corps of Engineers launched a two-year collaborative study today to determine how best to reduce flood and storm damage risks for people and communities along the entire North Atlantic coast. The study will be collaborative, comprehensive, and integrated, and conducted in partnership with Federal, tribal, state, and local government representatives as well as non-government organizations, academia, technical experts, and interested parties. More info can be found here: LINK TBD

NY Times article:

U.S. Army Corps of Engineers launches study to recommend methods to improve resilience of Sandy-impacted coast LINK TBD via @nytimes

Webpage:

Did you know there are 31,000 miles of coastline from Virginia to Maine? And that, through its post-Sandy North Atlantic Coast Comprehensive Study, the Army Corps and its partner will study this entire coastline to determine the best flood and storm damage risk reduction measures? More info on the study, which kicked off today, can be found here: http://www.nad.usace.army.mil/CompStudy

Facebook (To be released 31 May)

Hurricane Season:

Hurricane season officially starts tomorrow. Find out how an ongoing U.S. Army Corps of Engineers study will determine the best flood and storm damage risk reduction measures to protect the coast from future storms http://www.nad.usace.army.mil/CompStudy

Twitter (To be released 28 May)

Press Release:

Today #USACE launched a 2-year study of the northeast to determine best measures to improve coastal resilience. More LINK TBD #Sandy

NY Times article:

#USACE launches study to recommend methods to improve resilience of #Sandy impacted coast LINK TBD via @nytimes

Webpage:

There are 31K miles of coast from VA to ME to be studied by #USACE to determine measures to improve resilience http://goo.gl/S1At0 #Sandy

Twitter (To be released 31 May)

Hurricane Season:

Hurricane season starts 6/1. Find out how an ongoing #USACE study will look at ways to improve coastal resilience http://goo.gl/S1At0 #Sandy

ATTACHMENT 6: DETAILED PDT COMMUNICATIONS

PDT ACTIONS

Strategic Coordination and Collaboration:

- Numerous Federal, state, and local government agencies; NGOs; and tribal partners will be interested in providing data, resources, input, and feedback to the NACCS. There is dedicated time in the schedule devoted entirely to elicit agency validation and collaborative discussions with the numerous stakeholders. Clearly communicating the goals, objectives, and outcomes of the NACCS will be a key component to interagency and international input and collaboration.
- The USACE Institute for Water Resources and Engineering Research and Development Center are key contributors to the NACCS. In addition to IWR and ERDC expertise, subject matter experts from across USACE and the interagency team are embedded in the technical teams and analyses.
- A strong and diverse USACE and interagency team have been assembled, with new members continuing to join, at the strategic and tactical levels of the study. Experts are involved and participating in the process and development of the study in addition to being available to participate in later review efforts.
- The draft Project Management Plan was shared with the Joint Field Offices, Federal agencies, states and tribal officials for review on 22 April, with comments due 3 May 2013. Over 260 comments were received with responses available for coordination by 28 June 2013.
- A Non-Federal entity or contractor will facilitate the exchange of scientific information through a series of collaborative working meetings on technical topics related to resilience and Federal, state, NGO, and academia collaboration.
- Due to the large geographic scale and numerous, diverse stakeholders, virtual and targeted communications must be used to disseminate information as opposed to individual meetings with every stakeholder group. As a result, a targeted working meeting/webinar approach will be utilized to share information with interested stakeholders and solicit input.
- USACE will work with each state to share information and updates as well as to solicit public input and feedback. Such forums will include engaging across Silver Jackets, Coastal Zone Management, and state government teams.
- A website will be hosted by NAD and updated to provide a factsheet, frequently asked questions, the Project Management Plan, PowerPoints with voice over/recordings, progress on the NACCS, and links to partner websites. The public will be further engaged via this website with opportunities to provide targeted information and feedback. Social media will be used in a “push-pull” link to the website.
- Mr. Joe Vietri and Ms. Roselle Henn will regularly coordinate with Mr. Josh Sawislak related to Hurricane Sandy Rebuilding Task Force (TF) progress, challenges and recommendations. Ms. Alicia Gould (USACE Liaison to the TF) and Mr. Kevin Warner (Science Lead for the TF) are engaged in biweekly meetings with the NACCS team. HQUSACE Executive Team (Ms. Karen Durham-Aguilera and Mr. Mark Mazzanti) will

regularly brief the Task Force Principals. Dr. Kate White is the USACE representative on the Task Force Science Group and will provide updates to the NACCS Team. Dr. White facilitated a briefing on the NACCS by Ms. Henn to the Task Force Science Group on 23 April 2013.

- Mr. Joe Vietri and Ms. Roselle Henn will conduct strategic outreach with Joint Field Offices (JFOs) in New Jersey and New York; the Northeast Regional Ocean Council and the Mid-Atlantic Regional Council on the Ocean (MARCO) responsible for implementing the National Ocean Policy; and the NYC Mayor's Office. The purpose of the initial strategic outreach is to gain input and consensus on the NACCS approach and identify points of contact for in depth coordination with technical team members. Agencies, points of contact, key meeting dates, and other information will be captured and tracked as strategic engagements.
- Ms. Roselle Henn and appropriate technical leads will conduct strategic outreach with environmental resource agencies, including DOI: National Park Service, USGS, Fish and Wild Service, BOEM and NOAA, National Marine Fisheries. The purpose of the outreach is to identify the points of contact for in depth coordination with technical team members and to provide periodic updates to the leadership of those agencies. Agencies, points of contact, key meeting dates, and other information will be captured in an agency coordination template.
- Corps of Engineers Institute for Water Resources (CEIWR), primarily Mr. Charley Chesnutt, and the Command Center will conduct strategic outreach with NOAA. A NOAA representative has been added to the biweekly meetings.
- NGO coordination will occur through at least one working meeting. Other forums and communications are under development. Coordination with NGOs with whom USACE has memorandums of understanding (MOUs) for the exchange of scientific and technical data are underway.
- The NACCS is a highly collaborative effort. Congress passed Federal Advisory Committee Act (FACA) in 1972 as one of the Federal government's Sunshine Laws that ensure agency decisions occur under the daylight of public review. Related laws include the Freedom of Information Act (FOIA, 5 U.S. Code [USC] 552) and Privacy Act (PA, 5 USC 552a). This document provides key principles and practical advice for determining if a collaborative effort falls under the parameters of FACA (5 USC App.). The parameters of FACA (5 USC App.) have been reviewed, and the NACCS does not trigger FACA.

Team Communications:

- NACCS updates will be provided weekly via the HQ conference calls (Tuesdays, 1pm) and NAD conference calls (Wednesdays, 1pm).
- The Command Center maintains daily communication with technical leads, as well as weekly meetings (Wednesdays, 10am to 2pm) focused on execution, integration, and emerging issues. Every other Wednesday meeting will include an expanded team representing IWR, ERDC, TF, and other key USACE team members to ensure continual updates, incorporation of new information, and resolution of issues. The five District Planning Chiefs within the North Atlantic Division will regularly coordinate with the States

and will be the lead for scheduling meetings and briefings. District review of the Project Management Plan occurred 10 to 17 April 2013.

- The NACCS technical leads and their teams will also coordinate with their respective Federal and state representatives.
- The Engineering Standards and Criteria Team is led by the Engineering Technical Lead, Lynn Bocamazo. The team met on 10 and 11 April 2013 with 16 technical specialists. The focus of this team is on refining coastal risk-based design and design criteria. Future virtual meetings will be planned using the same team over the next few months to finalize the design criteria for the range of possible risk reduction measures included in the NACCS.
- Ms. Denise Reed, Environmental Advisory Board, will serve as on-board quality control and in an advisory capacity for the duration of the NACCS.
- The USACE Sharepoint intranet includes a page for internal team communications and information.

https://team.usace.army.mil/sites/NAD/PDT/SandyCoastal/Comprehensive%20Study/Forms/AllItems.aspx

II. HUD Task Force Recommendations

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

Table 2: HUD Task Force Recommendations

HUD TF Corps Actions Identified	NACCS Activities
(Joint) Recommendation 1**. Facilitate the incorporation of future risk assessment, such as sea level rise, into rebuilding efforts with the development of a sea-level rise tool.**	Sea-level rise analysis is being conducted for four scenarios – 2018, 2068, 2100, 2118; mapping will be produced based on the analysis, which could be developed into a tool in the future.
(Joint) Recommendation 19. **Consider green options in all Sandy infrastructure investments.**	NNBF are identified in the list of risk management measures presented in the NACCS report. The NNBF Technical Report also provides significant analyses of these features.
(Joint) Recommendation 20. **Improve the understanding and decision-making tools for green infrastructure through projects funded by the Sandy Supplemental.**	The NNBF Technical Report characterizes these features, presents a conceptual approach for developing coastal vulnerability metrics, discusses performance metrics for ecosystem goods and services generated by NNBF, and provides a framework for assessing and ranking NNBF alternatives.
(Joint) Recommendation 21. **Create opportunities for innovations in green infrastructure technology and design using Sandy funding, particularly in vulnerable communities.**	Several working meetings have been held as a part of the collaboration component of the NACCS. The measures working meeting was held in June 2013 in addition to two NNBF working meetings (technical and policy) that were held in the fall of 2013. Both the measures working meeting and the NNBF technical working meeting focused on identifying innovative ways to use NNBF as a means to provide flood risk management.
(Joint) Recommendation 23. **Ensure Sandy recovery water infrastructure investments are timely, resilient, sustainable, and effective.**	The comprehensive study and its analyses are being completed within 2 years and will provide a succinct framework from which states/localities can make decisions about their most vulnerable communities.
Recommendation 4. **Apply Infrastructure Resilience Guidelines to all Federal infrastructure investments for Sandy recovery.**	The NACCS is consistent with the NOAA/USACE Infrastructure Systems Rebuilding Principles; however, the NACCS does not establish guidelines for all Federal infrastructure investments.
Recommendation 5. **Consider applying Infrastructure Resilience Guidelines nationally.**	The NACCS is consistent with the NOAA/USACE Infrastructure Systems Rebuilding Principles; however, the NACCS does not establish guidelines for all Federal infrastructure investments.
Recommendation 6. **Federal, state, and local agencies should continue to coordinate Sandy recovery infrastructure resilience projects.** (Includes Recommendation 24. **Ensure Sandy recovery water infrastructure projects are coordinated with other infrastructure investments.)**	As a major component of the NACCS, the team is coordinating with other Federal, state, and local agencies to identify existing and planned projects. The study team has also requested via a Federal Register Notice and through regular communications that agencies provide peer reviewed data, studies, or reports that could be of benefit to the NACCS. Received references are noted in the report.
Recommendation 7. **Institutionalize regional approaches to resilience planning in the NDRF and the National Mitigation Framework.**	Not addressed by NACCS.

HUD TF Corps Actions Identified	NACCS Activities
Recommendation 8. **Establish a Sandy Regional Infrastructure Permitting and Review Team that leverages the Executive Order 13604 framework for Sandy projects.**	Not addressed by NACCS.
Recommendation 9. **Leverage the Executive Order 13604 framework to identify opportunities to expedite and improve other types of review processes through programmatic agreement or consultation where appropriate.**	Not addressed by NACCS.
Recommendation 10. **Disaster recovery efforts should account for the temporary staffing needs of Federal, state, and local governments who conduct reviews and permitting of Federal disaster recovery projects.**	Not addressed by NACCS.
Recommendation 11. **Provide technical assistance to states and localities to help optimize Sandy recovery infrastructure funding, share best practices, leverage resources, advance sustainability, and meet the needs of vulnerable communities.**	The NACCS assists states and localities by identifying those vulnerable coastal populations and identifying measures that could be analyzed further in a refined study.
Recommendation 22. **Develop a consistent approach to valuing the benefits of green approaches to infrastructure development and develop tools, data, and best practices to advance the broad integration of green infrastructure.**	The NNBF Technical Report characterizes these features, presents a conceptual approach for developing coastal vulnerability metrics, discusses performance metrics for ecosystem goods and services generated by NNBF, and provides a framework for assessing and ranking NNBF alternatives.
Recommendation 24. **Ensure Sandy recovery water infrastructure projects are coordinated with other infrastructure investments.**	Not addressed by NACCS.
Recommendation 59. **Support New Jersey planning efforts, including pilots for New Jersey local resilience partnerships, and encourage Federal agencies, the State of New Jersey, non-profits, and philanthropic organizations to provide both financial and technical support for the formation and operation of the local resilience partnerships.**	A major effort of the NACCS is coordination and collaboration with other Federal, state, and local agencies; NGOs; tribal organizations; and academia. The NACCS report references and is consistent with studies or reports provided by these stakeholders.
Recommendation 60. **Package the variety of existing resources and tools for community planning and capacity building into a coordinated suite of assistance that enhances and streamlines access for impacted communities.**	The NACCS provides a framework by which states and localities can further assess areas of vulnerability. The study also includes information from and provides reference to many plans by others.

III. Federal Register - Public Notice - Notice of Study Initiation, June 19, 2013

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

Base, Alabama 36112–6335, telephone (334) 953–1303.

Tommy W. Lee,

Acting Air Force Federal Register Liaison Officer.

[FR Doc. 2013–14567 Filed 6–18–13; 8:45 am]

BILLING CODE 5001–10–P

DEPARTMENT OF DEFENSE

Department of the Army

[Docket ID USA–2013–0020]

Proposed Collection; Comment Request

AGENCY: Department of the Army, DoD.

ACTION: Notice.

In compliance with Section 3506(c)(2)(A) of the *Paperwork Reduction Act of 1995,* the Department of the Army announces a proposed public information collection and seeks public comment on the provisions thereof. Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed information collection; (c) ways to enhance the quality, utility, and clarity of the information to be collected; and (d) ways to minimize the burden of the information collection on respondents, including through the use of automated collection techniques or other forms of information technology.

DATES: Consideration will be given to all comments received by August 19, 2013.

ADDRESSES: You may submit comments, identified by docket number and title, by any of the following methods:

- *Federal eRulemaking Portal: http://www.regulations.gov.* Follow the instructions for submitting comments.
- *Mail:* Federal Docket Management System Office, 4800 Mark Center Drive, East Tower, Suite 02G09, Alexandria, VA 22350–3100.

Instructions: All submissions received must include the agency name, docket number and title for this **Federal Register** document. The general policy for comments and other submissions from members of the public is to make these submissions available for public viewing on the Internet at *http://www.regulations.gov* as they are received without change, including any personal identifiers or contact information.

Any associated form(s) for this collection may be located within this same electronic docket and downloaded for review/testing. Follow the instructions at *http://www.regulations.gov* for submitting comments. Please submit comments on any given form identified by docket number, form number, and title.

FOR FURTHER INFORMATION CONTACT: To request more information on this proposed information collection or to obtain a copy of the proposal and associated collection instruments, please write to the U.S. Army Corps of Engineers, 441 G Street NW., Washington, DC 20314–1000, *Attn:* CECW–CO, or call Department of the Army Reports clearance officer at (703) 428–6440.

Title; Associated Form; and OMB Number: Application for a Department of the Army Permit; ENG Form 4345, OMB Control Number 0710–0003.

Needs and Uses: Information collected is used to evaluate, as required by law, proposed construction or filing in waters of the United States that result in impacts to the aquatic environment and nearby properties, and to determine if issuance of a permit is in the public interest. Respondents are private landowners, businesses, non-profit organizations, and government agencies. Respondents also include sponsors of proposed and approved mitigation banks and in-lieu fee programs.

Affected Public: Individuals or households; business or other for-profit; not-for-profit institutions; farms; Federal government; State; local or tribal government.

Annual Burden Hours: 984,000

Number of Respondents: 89,450

Responses per Respondent: 1

Average Burden per Response: 11 hours

Frequency: On Occasion.

SUPPLEMENTARY INFORMATION:

Summary of Information Collection

The Corps of Engineers is required by three federal laws, passed by Congress, to regulate construction-related activities in waters of the United States. This is accomplished through the review of applications for permits to do this work.

Dated: June 12, 2013.

Aaron Siegel,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 2013–14633 Filed 6–18–13; 8:45 am]

BILLING CODE 5001–06–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

North Atlantic Coast Comprehensive Study

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of Study Initiation.

SUMMARY: The Congressional response to the devastation in the wake of Hurricane Sandy included a mandate to collaborate with federal, state, tribal and local government agencies to regionally address the vulnerability of coastal populations at risk within the boundaries of the U.S. Army Corps of Engineers (USACE) North Atlantic Division. The goals of the North Atlantic Coast Comprehensive Study authorized under the Disaster Relief Appropriations Act, Public Law 113–2, are to (1) reduce flood risk to vulnerable coastal populations, and (2) promote coastal resilient communities to ensure a sustainable and robust coastal landscape system, considering future sea-level rise and climate change scenarios. In addition, the Comprehensive Study will identify activities warranting further analysis and institutional barriers to comprehensive implementation. A draft of the North Atlantic Coast Comprehensive Study will be available for public review and comment in early 2014 and a final report is due to Congress in January 2015. The study will identify those areas warranting more detailed evaluations; however, USACE is not authorized to develop designs or implement such projects at this time. Although potential environmental impacts will be generally evaluated, National Environmental Policy Act (NEPA) compliance processes will not be completed due to the scale of the study. Full NEPA and other environmental compliance would be required as part of future detailed evaluations before any actions could be implemented.

ADDRESSES: For media contacts please contact Mr. Justin Ward, U.S. Army Corps of Engineers, Public Affairs, 302 General Lee Avenue, Brooklyn, NY 11252, at *justin.m.ward@usace.army.mil* or at (347) 370–4550.

FOR FURTHER INFORMATION CONTACT: Mr. Justin Ward, U.S. Army Corps of Engineers, Public Affairs.

SUPPLEMENTARY INFORMATION: The North Atlantic Coast Comprehensive Study will include a coastal risk reduction framework, by State, including a range of structural, non-structural and programmatic measures for

approximately 31,000 miles of shore and coastline, planning level cost estimates and anticipated risk reduction and benefits per measure. The Comprehensive Study will also include storm suite modeling, coastal GIS analyses, economic evaluations, an assessment of green infrastructure and ecosystem goods and services, regional sediment management and climate change and sea-level rise considerations. Additional information and a study area map may be found at: *http://www.nad.usace.army.mil/CompStudy*. Furthermore, interested parties can access the Web site and subscribe to receive periodic electronic mail updates on the study's progress.

Dated: June 11, 2013.

Amy M. Guise,

Chief, Planning Division, Baltimore District, U.S. Army Corps of Engineers.

[FR Doc. 2013–14561 Filed 6–18–13; 8:45 am]

BILLING CODE 3710–58–P

DEPARTMENT OF EDUCATION

[Docket No. ED–2013–ICCD–0042]

Agency Information Collection Activities; Submission to the Office of Management and Budget for Review and Approval; Comment Request; Streamlined Clearance Process for Discretionary Grant

AGENCY: Department of Education (ED), Office of the Secretary/Office of the Deputy Secretary (OS)

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 3501 *et seq.*), ED is proposing an extension of an existing information collection.

DATES: Interested persons are invited to submit comments on or before July 19, 2013.

ADDRESSES: Comments submitted in response to this notice should be submitted electronically through the Federal eRulemaking Portal at *http://www.regulations.gov* by selecting Docket ID number ED–2013–ICCD–0042 or via postal mail, commercial delivery, or hand delivery. Please note that comments submitted by fax or email and those submitted after the comment period will not be accepted. Written requests for information or comments submitted by postal mail or delivery should be addressed to the Director of the Information Collection Clearance Division, U.S. Department of Education, 400 Maryland Avenue SW., LBJ, Room 2E105 Washington, DC 20202–4537.

FOR FURTHER INFORMATION CONTACT: Electronically mail *ICDocketMgr@ed.gov*. Please do not send comments here.

SUPPLEMENTARY INFORMATION: The Department of Education (ED), in accordance with the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3506(c)(2)(A)), provides the general public and Federal agencies with an opportunity to comment on proposed, revised, and continuing collections of information. This helps the Department assess the impact of its information collection requirements and minimize the public's reporting burden. It also helps the public understand the Department's information collection requirements and provide the requested data in the desired format. ED is soliciting comments on the proposed information collection request (ICR) that is described below. The Department of Education is especially interested in public comment addressing the following issues: (1) Is this collection necessary to the proper functions of the Department; (2) will this information be processed and used in a timely manner; (3) is the estimate of burden accurate; (4) how might the Department enhance the quality, utility, and clarity of the information to be collected; and (5) how might the Department minimize the burden of this collection on the respondents, including through the use of information technology. Please note that written comments received in response to this notice will be considered public records.

Title of Collection: Streamlined Clearance Process for Discretionary Grant.

OMB Control Number: 1894–0001.

Type of Review: Extension without change of an existing collection of information.

Respondents/Affected Public: State, Local, or Tribal Governments.

Total Estimated Number of Annual Responses: 1.

Total Estimated Number of Annual Burden Hours: 1.

Abstract: Section 3505(a)(2) of the PRA of 1995 provides the OMB Director authority to approve the streamlined clearance process proposed in this information collection request. This information collection request was originally approved by OMB in January of 1997. This information collection streamlines the clearance process for all discretionary grant information collections which do not fit the generic application process. The streamlined clearance process continues to reduce the clearance time for the U.S. Department of Education's (ED's) discretionary grant information collections by two months or 60 days. This is desirable for two major reasons: it would allow ED to provide better customer service to grant applicants and help meet ED's goal for timely awards of discretionary grants.

Dated: June 14, 2013.

Stephanie Valentine,

Acting Director, Information Collection Clearance Division, Privacy, Information and Records Management Services, Office of Management.

[FR Doc. 2013–14641 Filed 6–18–13; 8:45 am]

BILLING CODE 4000–01–P

DEPARTMENT OF EDUCATION

[Docket No. ED–2013–ICCD–0053]

Agency Information Collection Activities; Submission to the Office of Management and Budget for Review and Approval; Comment Request; Program for International Student Assessment (PISA 2015) Recruitment and Field Test

AGENCY: Department of Education (ED), Institute of Education Sciences/National Center for Education Statistics (IES).

ACTION: Notice.

SUMMARY: In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. chapter 3501 *et seq.*), ED is proposing a revision of an existing information collection.

DATES: Interested persons are invited to submit comments on or before July 19, 2013.

ADDRESSES: Comments submitted in response to this notice should be submitted electronically through the Federal eRulemaking Portal at *http://www.regulations.gov* by selecting Docket ID number ED–2013–ICCD–0053 or via postal mail, commercial delivery, or hand delivery. Please note that comments submitted by fax or email and those submitted after the comment period will not be accepted. Written requests for information or comments submitted by postal mail or delivery should be addressed to the Director of the Information Collection Clearance Division, U.S. Department of Education, 400 Maryland Avenue SW., LBJ, Room 2E105 Washington, DC 20202–4537.

FOR FURTHER INFORMATION CONTACT: Electronically mail *ICDocketMgr@ed.gov*. Please do not send comments here.

SUPPLEMENTARY INFORMATION: The Department of Education (ED), in accordance with the Paperwork Reduction Act of 1995 (PRA) (44 U.S.C. 3506(c)(2)(A)), provides the general

IV. Federal Register - Public Notice - Request for Peer Review, October 4, 2013

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

farmland; hydrology and hydraulic; air quality; threatened and endangered species and critical habitat. Socioeconomic issues include navigation; induced flooding; land use; property values, tax revenues; population and housing, community and regional growth; environmental justice (effect on minorities and low income populations), community cohesion; public services, recreation, transportation and traffic, utilities and community service systems and cumulative effects of related projects in the study area.

6. *Environmental Consultation and Review.* The U.S. Fish and Wildlife Service (Service) will assist in documenting existing conditions and assessing effects of project alternatives through the Fish and Wildlife Coordination Act consultation procedures. Consultation will be accomplished with the USFWS and the National Marine Fisheries Service (NMFS) concerning threatened and endangered species and their critical habitat per the Endangered Species Act. The NMFS will be consulted regarding the effects of this proposed action on Essential Fish Habitat per the Magnuson-Stevens Act. The USACE will consult with the State Historic Preservation Officer per the National Historic Preservation Act.

7. *Availability.* The draft EIS is estimated to be available for public review and comment no sooner than the spring of 2015. At that time a 45-day public review period will be provided for individuals and agencies to review and comment on the DEIS. All interested parties are encouraged to respond to this notice and provide a current address if they wish to be notified of the DEIS circulation.

Dated: September 26, 2013.

Richard L. Hansen,

Colonel, U.S. Army District Commander.

[FR Doc. 2013–24234 Filed 10–3–13; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

North Atlantic Coast Comprehensive Study

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice.

SUMMARY: The U.S. Army Corps of Engineers (USACE) is requesting peer reviewed information that would be useful in the preparation of the North Atlantic Coast Comprehensive Study (Hurricane Sandy). The USACE is preparing a report that will be submitted to Congress in 2015. The goals of the North Atlantic Coast Comprehensive Study authorized under the Disaster Relief Appropriations Act, Public Law 113–2 are to (1) provide risk reduction strategies to reduce risk to which vulnerable coastal populations are subject, and (2) promote coastal resilient communities to ensure a sustainable and robust coastal landscape system, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, infrastructure and ecosystems.

DATES: The USACE will accept data and literature in response to this request until December 31, 2013.

ADDRESSES: Methods for submission include: *Email:* Send information by electronic mail to: *NACCS@usace.army.mil.* Please include your name and contact information in the body of your email. *Fax:* Fax information to: (410–962–4698), ATTN: Mr. David Robbins. *Mail:* Send information by mail to: Mr. David Robbins, U.S. Army Corps of Engineers, 10 South Howard Street Baltimore Maryland 21201, ATTN: North Atlantic Coast Comprehensive Study.

Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. Information on a CD ROM should be formatted as a MS Word, Rich Text, or Adobe Acrobat PDF file.

FOR FURTHER INFORMATION CONTACT: For further information, please contact: Mr. David Robbins, Project Manager, at *David.W.Robbins@usace.army.mil,* or by telephone at (410) 962–0685.

SUPPLEMENTARY INFORMATION: The Congressional response to the devastation in the wake of Hurricane Sandy included a mandate to address as a regional system the vulnerability of populations at risk in the U.S. Army Corps of Engineers (USACE) North Atlantic Division. The draft analyses of the Comprehensive Study will be coordinated amongst interagency stakeholders in early 2014 and a report will be submitted to Congress in 2015.

The USACE would appreciate receiving information from the public to facilitate the preparation of the Study. The USACE prefers information which has been peer reviewed. Interested persons may provide scientific analyses, studies, and other pertinent scientific information, preferably information which has undergone scientific peer review. The USACE will consider all submissions but will give preference to all peer reviewed data and literature sources. Please understand that not all data and sources provided may be reflected in the draft analyses socialized in early 2014, but the resources will be incorporated into the final report.

Brenda S. Bowen,

Army Federal Register Liaison Officer.

[FR Doc. 2013–24237 Filed 10–3–13; 8:45 am]

BILLING CODE 3720–58–P

ENVIRONMENTAL PROTECTION AGENCY

[ER–FRL–9011–5]

Environmental Impacts Statements; Notice of Availability

Responsible Agency: Office of Federal Activities, General Information (202) 564–7146 or *http://www.epa.gov/compliance/nepa/.*

Weekly receipt of Environmental Impact Statements
Filed 09/23/2013 through 09/27/2013
Pursuant to 40 CFR 1506.9.

Notice

Section 309(a) of the Clean Air Act requires that EPA make public its comments on EISs issued by other Federal agencies. EPA's comment letters on EISs are available at: *http://www.epa.gov/compliance/nepa/eisdata.html.*

EIS No. 20130287, Final EIS, USFS, ID, Idaho Panhandle National Forests, Revised Land Management Plan, *Review Period Ends:* 11/26/2013, *Contact:* Mary Farnsworth 208–765–7223.

The above document was inadvertently omitted from EPA's **Federal Register** Notice Published 09/27/2013. The review/wait period will start 09/27/2013 and end 11/26/2013.

EIS No. 20130288, Final EIS, USACE, TX, Luce Bayou Interbasin Transfer Project, *Review Period Ends:* 11/04/2013, *Contact:* Jayson Hudson 409–766–3108.

EIS No. 20130289, Draft EIS, USACE, CA, Los Angeles River Ecosystem Restoration Integrated Feasibility Report, *Comment Period Ends:* 11/18/2013, *Contact:* Erin Jones 213–300–9723.

EIS No. 20130290, Draft EIS, NPS, CA, Restoration of Native Species in High Elevation Aquatic Ecosystems Plan, Sequoia and Kings Canyon National Parks, *Comment Period Ends:* 11/25/2013, *Contact:* Woodrow Smeck 559–565–3101.

EIS No. 20130291, Final EIS, BOEM, 00, Gulf of Mexico OCS Oil and Gas Lease Sales: 2014 and 2016; Eastern

V. Notice on Study Initiation, Correction on Study Review, January 9, 2014

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

Intent To Prepare a Supplemental Environmental Impact Statement for the Route 460 Location Study From Prince George County to the City of Suffolk, Virginia

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DOD.

ACTION: Notice; correction.

SUMMARY: The email address listed for Alice Allen-Grimes under the **FOR FURTHER INFORMATION CONTACT** section of the notice published in the **Federal Register** on Friday, December 27, 2013 (78 FR 78948) was incorrect. The email address should read as follows: *alice.w.allen-grimes@usace.army.mil.*

FOR FURTHER INFORMATION CONTACT: Alice Allen-Grimes, email: *Alice.W.Allen-Grimes@usace.army.mil;* (757) 201–7219.

SUPPLEMENTARY INFORMATION: None.

Brenda S. Bowen,

Alternate Army Federal Register Liaison Officer.

[FR Doc. 2014–00152 Filed 1–8–14; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF DEFENSE

Department of the Army; Corps of Engineers

North Atlantic Coast Comprehensive Study

AGENCY: Department of the Army, U.S. Army Corps of Engineers, DoD.

ACTION: Notice of study initiation; correction on study review.

SUMMARY: Information included in the **Federal Register** Notice published on June 19, 2013, 78 FR 36753, has changed. The notice published on June 19, 2013 stated: "A draft of the North Atlantic Coast Comprehensive Study will be available for public review and comment in early 2014 and a final report is due to Congress in January 2015." As the study advanced, it has been determined that formal public review and comment period of a draft of the North Atlantic Coast Comprehensive Study report document will not occur in early 2014 as previously stated. However, in order to prepare a report in the legislatively set time frame for completion of 24 months and to embrace the extensive geographic area impacted by Hurricane Sandy, as well as to promote public involvement throughout, various mechanisms to provide information to the public and solicit input have been established. The Study's public Web site, launched in May 2013, has allowed for public input on resiliency and other key aspects of the Study, and offers interested stakeholders the opportunity to receive updates on the Study as they become available. In addition, a **Federal Register** notice was published on October 4, 2013 requesting peer reviewed data relevant to the Comprehensive Study. Submissions were accepted through December 31, 2013, to allow for adequate time to review and consider for incorporation. This input, as well as input gathered from public engagements, is being used in development of the Comprehensive Study. In addition, the Comprehensive Study has sought to engage technical subject matter experts across all levels of government, academia, NGO's, and the private sector, on a national and international basis. PL 113–2 specifically requires the North Atlantic Coast Comprehensive Study to be conducted in coordination with other federal agencies, and state, local, and tribal officials to ensure consistency with other plans to be developed. While the Study is not a Decision Document, it has been scoped as a foundation and catalyst for further evaluation of coastal flood risk. Subsequent federal agency decision documents would likely include a public comment period required for screening feasible alternatives in accordance with the National Environmental Policy Act.

ADDRESSES: For media contacts please contact Mr. Justin Ward, U.S. Army Corps of Engineers, Public Affairs, 302 General Lee Avenue, Brooklyn, NY 11252, at *justin.m.ward@usace.army.mil* or at (347) 370–4550.

FOR FURTHER INFORMATION CONTACT: Mr. Justin Ward, U.S. Army Corps of Engineers, Public Affairs.

SUPPLEMENTARY INFORMATION: None.

Dated: December 18, 2013.

Amy M. Guise,

Chief, Planning Division, Baltimore District, U.S. Army Corps of Engineers.

[FR Doc. 2014–00151 Filed 1–8–14; 8:45 am]

BILLING CODE 3720–58–P

DEPARTMENT OF EDUCATION

Applications for New Awards; Educational Technology, Media, and Materials for Individuals With Disabilities—Stepping-Up Technology Implementation

AGENCY: Office of Special Education and Rehabilitative Services, Department of Education.

ACTION: Notice.

Overview Information: Educational Technology, Media, and Materials for Individuals With Disabilities—Stepping-up Technology Implementation Notice inviting applications for new awards for fiscal year (FY) 2014.

Catalog of Federal Domestic Assistance (CFDA) Number: 84.327S.

DATES:

Applications Available: January 9, 2014.

Deadline for Transmittal of Applications: March 10, 2014.

Deadline for Intergovernmental Review: May 9, 2014.

Full Text of Announcement

I. Funding Opportunity Description

Purpose of Program: The purposes of the Educational Technology, Media, and Materials for Individuals with Disabilities Program [1] are to: (1) Improve results for students with disabilities by promoting the development, demonstration, and use of technology; (2) support educational activities designed to be of educational value in the classroom for students with disabilities; (3) provide support for captioning and video description that is appropriate for use in the classroom; and (4) provide accessible educational materials to students with disabilities in a timely manner.

Priority: In accordance with 34 CFR 75.105(b)(2)(v), this priority is from allowable activities specified in the statute (see sections 674 and 681(d) of the Individuals with Disabilities Education Act (IDEA) (20 U.S.C. 1400 et seq.)).

Absolute Priority: For FY 2014 and any subsequent year in which we make awards from the list of unfunded applicants from this competition, this priority is an absolute priority. Under 34

[1] This program was formerly called "Technology and Media Services for Individuals with Disabilities." The Department has changed the name to Educational Technology, Media, and Materials for Individuals with Disabilities and updated the purposes of the program to more clearly convey that the program includes accessible educational materials. The program's activities and statutory authorization (20 U.S.C. 1474) remain unchanged.

VI. Agency Participation in Working Meetings and Webinars

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

Table 3: Stakeholder Participation in Working Meetings and Webinars

American Association of Port Authorities
American Littoral Society
American Shore and Beach Preservation Association (ASBPA)
American Society of Civil Engineers (ASCE), Coasts, Oceans, Ports and Rivers Institute (COPRI)
Association of State Floodplain Managers (ASFPM)
Atkins Engineering
Audubon Society
Avalon, NJ
Bureau of Ocean Energy Management (BOEM) Headquarters (HQ)
BOEM Region
Boston Water and Sewer Commission
Coastal Engineering Research Board (CERB)
City of Portsmouth, NH
Coastal States Organization (CSO)
Columbia University
Connecticut
Connecticut Department of Energy and Environmental Protection
Connecticut State Historic Preservation Office (SHPO)
Delaware Department of Natural Resources and Environmental Control
Delaware SHPO
District of Columbia State Historic Preservation Office (SHPO)
District of Columbia Department of the Environment
Department of Transportation (DOT), Headquarters (HQ)
DOT Region
Drexel University
Ducks Unlimited
Environmental Protection Agency (EPA), Headquarters (HQ)
EPA Office of Research and Development (ORD)
EPA Region
ERG
Federal Emergency Management Agency (FEMA), Headquarters (HQ)
FEMA Region
Fish and Wildlife Service (FWS) Headquarters (HQ) – Climate
FWS HQ – Engineering
FWS, North Atlantic LCC
FWS Region
Gahagan and Bryant Associates, Inc.
HR Wallingford
Department of Housing and Urban Development (HUD), Headquarters (HQ)

HUD Region
Hurricane Sandy Rebuilding Task Force
Jersey Shore Partnership
Joint Field Office (JFO) – CT
Joint Field Office (JFO) – NJ
Joint Field Office (JFO) – NY
Lawrence Livermore National Laboratory
Louis Berger Group
Maine Department of Agriculture, Conservation and Forestry
Maine State Historic Preservation Office (SHPO)
Maryland Department of Natural Resources
Maryland State Historic Preservation Office (SHPO)
Massachusetts State Historic Preservation Office (SHPO)
Massachusetts Department of Public Health
Massachusetts Office of Coastal Zone Management
Metropolitan Area Planning Council (MA)
Moffat & Nichol
Monmouth University
MWH Global
National Association of Flood and Stormwater Management Agencies (NAFSMA)
Narragansett Indian Tribe
National Fish and Wildlife Federation (NFWF)
National Waterways Council
National Wildlife Federation
New Hampshire
New Hampshire State Historic Preservation Office (SHPO)
New Jersey Department of Environmental Protection
New Jersey Governor's Office of Recovery and Rebuilding
New Jersey Institute of Technology
New Jersey State Historic Preservation Office (SHPO)
New York State Department of Environmental Conservation
New York State Historic Preservation Office (SHPO)
National Oceanic and Atmospheric Administration (NOAA) - LCC Coordinator
NOAA at NY JFO
NOAA Coastal Services Center (CSC)
NOAA Headquarters (HQ)
NOAA NE Regional Office
NOAA National Marine Fisheries Service (NMFS)
NOAA NMFS - Sandy Hook Field Office
NOAA National Weather Service (NWS)
NOAA Region

NOAA Restoration Center - Sandy Hook, NJ
Northeast Climate Science Center
National Park Service (NPS), Fire Island National Seashore
NPS Gateway National Recreation Area
NPS Headquarters (HQ)
NPS Northeast Regional Office
Natural Resources Conservation Service (NRCS), Region
New York City (NYC) Department of Planning
New York City (NYC) Environmental Justice Alliance
New York City (NYC) Parks
NYC Mayor's Office of Long-Term Planning and Sustainability
NY-NJ Harbor Coalition
Pennsylvania State Historic Preservation Office (SHPO)
Polytechnic Institute of New York University
Princeton University
Restore America's Estuaries
Rhode Island
Rhode Island State Historic Preservation Office (SHPO)
Rockingham Planning Commission (NH)
Rutgers University
SRA International
Stevens Institute of Technology
Stockton University
Stockton University - Coastal Research Center
Stony Brook University
Taylor Engineering
Tetra Tech
The Conservation Fund
The Nature Conservancy
The Water Institute of the Gulf
Trust for Public Lands
U.S. Army Corps of Engineers
U.S. Geological Survey (USGS)
U.S. Naval Academy
United South and Eastern Tribes (USET)
University of Delaware
University of Maine
University of Maryland
University of New Hampshire
University of New South Wales
University of Rhode Island
University of Southern Maine

URS Corporation
Virginia Department of Environmental Quality (DEQ)
Virginia Institute of Marine Science (VIMS)
Virginia State Historic Preservation Office (SHPO)
Washington, DC
Woods Hole Group
Woods Hole Oceanographic Institution
Woolpert Engineering

VII. Visioning Meetings Summary

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

As part of the efforts for the North Atlantic Coast Comprehensive Study (NACCS) a series of visioning meetings were held throughout the U.S. Army Corps of Engineers (USACE) North Atlantic Division region. Five USACE Districts (New England, New York, Philadelphia, Baltimore, and Norfolk) conducted in-person visioning and partnership meetings with representatives from Federal, state, and regional entities; non-governmental organizations (NGOs); academia, business, and industry; local governments; and the public.

The purpose of the visioning meetings was to continue dialogue with the states and other stakeholders to develop a shared vision for resilience in response to risk and exposure, building upon the previous discussions and information that have been compiled to date.

In coordination with the information assembled for the focus area analysis, the coastal community outreach efforts were aimed at providing stakeholders with information about the NACCS, asking stakeholders about their perceptions about coastal flood risk and management approaches, and stimulating discussion across interagency boundaries.

The focus areas were identified as areas that were vulnerable to incur potential damage from future coastal storms. The purpose of the focus area analysis was to identify problems, needs, and opportunities for coastal storm risk management activities.

The meetings reaffirmed that coastal storm risk management is a reality faced by many stakeholders. The visioning meetings aligned with the main findings from the NACCS analyses, interagency collaboration and outreach. The results also showed that comprehensive, long-term and future planning and pre-planning efforts among all stakeholders are an important component to coastal storm risk management. A report was generated to summarize the findings and is provided as Attachment 7 at the end of this document.

VIII. Measures Meeting Summary

AGENCY COORDINATION AND COLLABORATION REPORT

NORTH ATLANTIC COAST COMPREHENSIVE STUDY

June 26 Opening Plenary Summary

The USACE was directed to lead a comprehensive study of the North Atlantic Coast in light of Hurricane Sandy. This is the first of many opportunities to contribute to the study. The study USACE has developed is an interagency, multi-level endeavor by bringing together as many voices as possible, as well as the best science to contribute to this study. The study will be completed by January 2015 when it is submitted to Congress. This study is focused on the North Atlantic coast, which covers the region from Maine to Virginia. This area covers 31,000 miles of coastline, and the goal of the study is to identify a range of measures to reduce risk along this coastline. This area has a very diverse geographic area, so a range of measures is required to develop the most effective solutions. It is the goal of the meeting to discuss the measures that have already been identified and put into place as well as identify new measures, and determine how effective these measures are or will be.

June 26 Session 1: Identify Measures

The first breakout session of the meeting was very open-ended and allowed for participants to brainstorm the realm of possibilities for measures that could reduce risk and create resilience. No restrictions were placed on the discussion and identification of measures. Participants were divided into diverse breakout groups to discuss and brainstorm the key question of - what actions or measures reduce risk and/or create resilience? Participants shared their knowledge and thoughts on new and innovative structural, non-structural, programmatic, and other measures that could reduce risk and create resilience along the coastline. Measures were collected into four categories:

1. Structural
2. Non/Structural
3. Green Infrastructure
4. Policy/Programmatic

June 26 Session 2-3: Refine Measures

After the initial list of measures was generated, participants spent the remainder of day 1 further exploring the measures in breakout groups organized by category. These breakout groups further defined and refined the measures, discussed their costs and benefits, and distilled them into the different shoreline types and characteristics of the North Atlantic coastline – rocky coast, bluffs, beaches, wetlands, estuaries/lagoons, urban (barrier island and mainland). Following is a summary of each group's discussion:

<u>Structural</u>

The structural measures breakout group looked at offshore measures (can be used in urban areas), beach measures (geomorphic processes), shoreline measures (protection/wall), flood water control measures, and the associated impacts of these measures. Measures they considered included flood barriers (i.e. tidal gate), sediment bed load collector system, very low profile groins, sand bypass and back passing systems, jetty notching and weir jetties, green walls, and new polders for water storage, to name just a few. They discussed the benefits and

costs of these measures based on their shoreline protection, flood reduction, natural system resiliency, adaptability, social value, and robustness.

Non/Structural

The non-structural breakout group focused on various measures that had mixed feasibility. For example, the group thought mixed land use, such as creating passive recreation space to be used for retention during storms, was feasible. Though it is very difficult to acquired suitable land, this measure yields high benefit. Just in time operation management, such as Managing flows in the urban environment, predictive rainfall, understanding the risk, overland flow routing, reduced urban runoff, sacrificial storage, building resistance, reuse of existing sewer system, is highly feasible. The challenge with these measures include timing, water quality, public acceptance, and regulatory issues. Erosion-based setback requirements - such as rolling easements or a more resilient dune system - prevents development within the hazard zone. While highly technically feasibility these type of measures can be met with political resistance.

Green Infrastructure

The Green Infrastructure defined their scope as measures that serve an engineering function or result in risk reduction, to include existing natural features. Measures they identified included the creation, protection, enhancement or restoration of current and future buffering habitats: wetland, coastal wetlands, tidal flats, sea grass; and other submerged aquatic vegetation, maritime forests, river banks, shorelines, and barrier islands. The group also looked at beneficial use of dredged material for wetland restoration, soft solutions to bulkheads-greening sills and berms, acquiring open space and conservation land in upper watersheds and urban environments, and flume repair/fish passage dual use, to name a few.

The group thought that risk reduction is not just about protecting people but also ecosystems. They discussed criteria for selecting measures such as the measure's ability to reduce risk, provide floodwater storage, and attenuate waves. They also compared the measures by the benefits they provided - carbon capture, ecological/environmental, socio-economic, flood risk management, and shoreline stabilization. Finally, they ranked the measures by feasibility, defined as cost, technical, ease of permitting, negative environmental impacts, and property ownership. As an aside, they noted that a lot of adaptation measures to climate change are not necessarily addressing the climate issues but other issues that make the system more resilient overall.

Policy/Programmatic - General

The general policy/programmatic looked at a very large number of measures. One example is vulnerability assessments, necessary to design resilience strategies, focus limited resources, and develop a shared understanding of what needs to be done. These are very feasible, but in order to be effective, must be linked to a feasible action. Another example is building codes with sea level rise and climate change in mind. This would reduce building vulnerability and is feasible at state and local level. Another example of measures they considered was stronger links and integrated funding between FEMA and Army Corps. A benefit to FEMA recognizing Corps projects as beneficial mitigation projects would be reduced federal liability during

response and recovery. When this group looked at feasibility, they considered how realistic is it that the measure can be implemented (technical - applicable to the shorelines of the North Atlantic Division area, materials available, etc.; cost; acceptability – political and social limitations).

Policy/Programmatic - Education, Outreach, Research

This group looked at numerous measures but focused on four they thought were most important: conduct coastal research, develop a community toolkit, refine storm intensity classification beyond wind, and monitor sediment movement. Education is a broad topic but critical because it encourages personal responsibility for family safety and property. It is very feasible using the lessons from Texas, Louisiana and gulf coast.

This group felt it was very important to implement a (Inter)-Community Knowledge Toolkit for local communities whether it is physical or virtual to provide information on past history of projects and their successes or failures. This would include a data-base for the lessons learned through domestic research projects, gives the community a place to start, and is very feasible given a plethora of examples for other states.

There were many new coastal research topics discussed, such as more consistent shoreline monitoring, sediment transport studies, surge modeling/understanding, surge propagation/behavior, storm impact to back barriers, wave, surge, and wind impacts on structures, etc. All these options are technically feasible as long as there is funding. Funding for pure research is not there; this research would be more feasible if directly connected to climate change impacts. Finally, this group identified a critical need to reduce redundancy for research between NOAA, USACE, and USGS.

June 26 Closing Brief

At the close of the first day, the participants had developed a list of measures and refined those measures by five different categories: Green Infrastructure, Structural, Nonstructural, and Policy/Programmatic – General and Education, Outreach and Research. The participants self-selected into these categories that they then focused on during the afternoon. Finally, there was a report-out for each group to share their discussions. Green Infrastructure focused on measures that would reduce risk and included the benefits and feasibility of implementation; how to protect, create, and manage coastal habitats. The structural group divided their measures into two subcategories: beach measures, which focus on shore parallel structures, and flood water, which focuses on structures upland from the shoreline. The overarching benefit is robustness if the structures perform as they are designed. Nonstructural found that measures identified in this category would be difficult to implement because of the policy issues that need to be considered. The Policy/Programmatic groups determined that there was an array of measures that could be implemented. These measures included community involvement, and looking at different types of weather that impacts the northeast, not just hurricanes, as well as looking at these projects over a longer period of time to consider additional factors. They also

determined that the feasibility is determined by cost and authorization; the benefits include long term cost savings, and reduced exposure to flood damage.

June 27 Sessions 4, 5, and 6.

On Day 2 of the workshop, participants organized themselves by geographic region: Massachusetts and Rhode Island; DC, Maryland, Virginia, and Delaware; Connecticut, New York, and New York City; and New Jersey and Pennsylvania. These geographic breakout groups looked at existing or planned measures in their region and whether they were sufficient or needed to be modified. In light of the measures identified and refined on the first day, the group then looked at strategies to combine measures to reduce risk and build resilience in the different regions, as well as the compatibilities and redundancies that should be considered when grouping measures. They also discussed barriers to implementing the measures identified on the first day and mechanisms to overcome these barriers. These conversations were captured spatially on large maps, whereby the participants mapped the existing and planned measures and then used the maps to identify where along the coastline the measures discussed could/should be implemented. Following is a summary of each group's discussion:

<u>Massachusetts and Rhode Island</u>

The primary focus of the breakout group was vulnerabilities to highest risk areas, particularly reducing risk to vulnerable populations and critical infrastructure. Reducing risk to ecological communities was also considered. Integrating living shorelines with beach nourishment was suggested by the group as was combining gray structures with living shorelines and nonstructural measures. In bays and estuaries of this region, living shorelines would be appropriate particularly given future sea level rise. There are many existing structures in this region and it would be ideal to incorporate more green features within them. Building a living shoreline behind a sill or placing green features in front of old sea walls could be some methods to accomplish this integration. Providing room for inland migration of shoreline habitat would also be desirable. Although oyster reefs are not indigenous in offshore areas, they could be considered for near shore regions but there may be policy issues with this feature. In areas where cities are closer to the shoreline, the suggestion was made to create a free standing structure where a dune can be built over the top of it and then have another fall back structure that can feature additional green infrastructure. The difficulty in implementing beneficial use projects and using offshore sand was mentioned as a challenge in this region.

Site-Specific Measures: The Commonwealth of Massachusetts has geographic information system layers including a wetland map that can provide information for the study to consider. There is typically no significant surge in urban areas of Massachusetts and so this should be taken into account when measures are proposed. The south shore of Cape Cod will require beach nourishment while existing groin structures should be changed to low profile groins. Hurricane barriers, flood gates with walls, have been effective in New Bedford, MA as well as Providence, RI. Additional green features and dredging in Providence would be desirable. Increasing green infrastructure in the upper watershed of Upper Bay would also be helpful. In Nantucket Sound and Martha's Vineyard Sound waves are fetch limited so sacrificial berms cannot be used. Buzzards Bay is an area of potential risk as there are significant flooding pass

ways and the barrier island system cannot be extended. In Plymouth, MA the dunes have provided flood protection although the area likely requires beach renourishment.

DC, Maryland, Virginia, and Delaware

The breakout group chose to focus their efforts on the areas within the three states that they thought were most vulnerable based on the property, ecosystem, infrastructure, and people at risk. The areas they focused on were Ocean City MD, the Delaware coast, DC, the Chesapeake Bay, Virginia Beach, and the Prime Hook National Wildlife Refuge. For each area they discussed the existing infrastructure, needed modification and additions, barriers, and case studies.

Ocean City: There are many types of existing infrastructure around Ocean City as well as planned beach nourishment, island restoration, living shoreline projects, and wetland restoration. In addition, this area needs to remove erosional features that are causing problems, create a sand bypassing system (case study - Delaware Indian River Inlet), elevate structures, soften hard infrastructure or make it transportable, restore wetlands and marshes in the back bay areas, and address the loss of potable water. The group noted barriers to setbacks, by-outs, flood insurance, acquisitions, and relocations.

Prime Hook National Wildlife Refuge: There are ongoing marsh restoration studies, beach fills and ditch digging in the refuge. Planned projects include dredging materials at Broadkill beach. There is the possibility to use sediments from the main channel deepening to fill a breach and conduct existing marsh maintenance and beach nourishment. Barriers include the increasing cost/diminishing resource of sediment and inability to use federal money to repair beaches. There is a need for better coordination between federal, state, and regional agencies, where all the players come up with a long-term regional sediment management plan. There is also a need to have the local communities share part of the cost.

Washington D.C.: There are many existing projects that protect the city from river flooding. New ideas are always being considered and there are plans for a D.C. Silver Jackets team. However, there is no identified funding for moving forward and many actors are proceeding on their own, uncoordinated. The east bank of the Potomac is a national park and needs to be raised. Hains Point needs to be relocated/abandoned. Buildings need to be built with plans for water management. The issue in DC is that there is a mismatch with responsibility and authority. It is the most politically complicated piece of real estate in the country. A National Capital Planning Commission is needed (case study **-** stabilizing the Jefferson Memorial, a national icon suffering from sea-level rise).

Chesapeake Bay: In the bay area there are many ongoing living shoreline projects in Maryland. Maryland is looking carefully at its “blue infrastructure” and thinking about where they would pay for land acquisition for buffers and how to restore sea grasses. There are many needs in the area, especially for data and mapping. Maryland has shoreline maps from 1800 to 1995, but nothing from 1995 to the present. There is also a need to update the topography maps for the region and the littoral drift map for the bay. Maryland is looking to apply SEDTRAN, a model

developed to predict the inflow sediment concentration distribution within the coastal zone. 20% of the entire shoreline of the Chesapeake Bay has been armored with bulkheads, which has had a huge impact on the sediment transport system. There is also an opportunity to use dredged material in new ways as the Corps of Engineers transfers some dredging responsibilities to the state of Maryland.

Connecticut, New York, New York City, and Long Island

The breakout group first discussed the North Atlantic Coast Comprehensive Study overall and how the information gained the last two days will be used internally by the Corps to identify how to reduce risk and promote resiliency. However, the Corps cannot build all the projects needed for the region, nor is it appropriate. The projects will be built by a variety of organizations and groups at the Federal, State, and local level. The Corps will take the measures and proposed projects identified at this meeting and through other engagements and include the information in the study where appropriate. The breakout group discussed both measures and issues from both a regional and a site-specific perspective.

Regional and General Issues: General barriers to projects were discussed by the breakout group. Frequently, implementing projects that cross different municipalities bring up a multitude of barriers that slow down the progress of the project. Given that there are many large projects in the area, this can be major factor in getting projects completed. The key to most projects are their interactions with the entire shoreline system which can sometimes be a barrier because of the fact that these issues can cross state boundaries. There has been a lack of monitoring of natural systems and the performance of man-made solutions over time. This makes it very difficult to access information about these systems and make conclusions and predictions about the success of certain proposed methods. Federal authorizations can be barriers in this region as there are a multitude of challenges and restrictions that the Corps and other agencies and states have to contend with for projects. Some of these issues can be overcome via some Congressional direction. Also, if a project or study is within a group that is under the Sandy legislation, there is room to maneuver in terms of authorization. Funding needs are a major barrier to accomplishing the projects discussed by the group. There are concerns that once the Hurricane Sandy money runs out, the project will hit a dead end. Eventually, organizations will have to join forces to develop options for funding as no government entity has the cash to fund these projects. Federal funding is not coming with adequate administrative dollars which is essential to satisfying the up-front cost of most projects. Cost-benefit analyses and the weeding out of certain projects tend to be a barrier due to the complexity of that process. Upgrades to the septic systems in the 50 and 100 year floodplain are needed throughout the region. Federal authorization to deal with septic systems is lacking and there are permitting issues at the local level as well.

Site-Specific Solutions and Potential Barriers: Other measures were identified by the group with suggestions on sites where they could be implemented. Storm surge barriers and offshore breakwaters were solutions considered by the group. Concerns with implementing these types of projects include permitting, environmental issues, funding needs, and political and social debates that they promote (i.e. views being disrupted). Local surge barriers were suggested at

a smaller scale for the New Town/Coney Island area. Potential issues with this location and project would be the fact that it is a Superfund site, permitting, and Jamaica Bay. Breakwater islands were proposed in Brooklyn, Staten Island, and off of the Rockaways. Funding and permitting for these projects would be barriers to overcome in their implementation. Relocation of communities to higher ground was suggested for areas such as Breezy Point but there are significant social and political issues with such a measure. Decreasing the water depth of Jamaica Bay and stopping the Corps dredging activities were suggested. Issues with authorization for this activity, the impacts to navigation and public perception were discussed as significant roadblocks to overcome. Offshore artificial reefs were proposed for Bay Ridge Flats. Human health concerns and a knowledge barrier regarding the growth of oyster reefs were cited as potential problems. Relocation of the navigation channel to allow redevelopment was suggested for the Rockaways. Congressional authorization, funding requirements, and permitting were discussed as the major barriers to applying this solution. Implementation of the Coastal Erosion Hazard Areas (CEHA), a permitting program that allows the State of New York to identify coastal erosion hazard areas and regulate activities within those areas, would be helpful. The group identified current issues with CEHA which include capacity at a state level meaning that there are not enough bodies to accomplish the requirements of the program and financial resources are needed for compensation. Facilitating barrier island migration was also suggested as a solution. Updated evacuation clearance times in New York and New Jersey are being pursued.

New Jersey and Pennsylvania

There was much discussion among this breakout group about the measures that have been successful and what new measures could possibly be implemented in the future. Numerous measures have been used or proposed for the New Jersey coastline. The group highlighted the various actions that have been taken along the shoreline and where else these and other activities could be applied.

General Measures: There is a need to identify new borrow areas for sediment. In-water transfer locations could be developed and used to temporarily store sediment for beach nourishment projects. Using dredge material for wetland habitat creation was suggested but the regulatory issues with using dredge material to fill open waters or create habitat can be a major barrier. Multiple lines of defense that include beaches, dunes, and back berms should be implemented. For those beach fill projects that have been completed or are planned, a dune needs to be part of that project or plan. Beaches should be made higher and wider. Roads and properties should be elevated, especially in back bay areas where flooding was seen during Sandy and in other events. Urban dikes, flood gates, and walls could be used to protect the shoreline as it is not always cost effective to elevate structures. A barrier to using flood gates and other structures is that they can lead to increased flooding for communities that do not choose to protect themselves to the same level. The coastline needs to be looked at as a system. Increasing backpassing projects to get sand to erosional areas would be ideal in some situations along the coast. Bypassing can also be used to maintain inlet channel alignment by preventing sediment build up within the channel. Building low berms with a mix of material can have benefits for both wildlife and flood protection.

Site-Specific Measures: Legislative action is needed in New Jersey to address the variation and discrepancy in dunes along the shoreline. At the entrance of back bays narrow spots in the channel could be ideal for a gate that could limit the flooding in SeaBright and other communities. Ocean City, NJ does not have a dune authorized, but a dune should be added for the entire New Jersey coastline, including Ocean City. A dune strategy for the Jersey Shore should be developed that addresses how the dunes function as a system and how they should be maintained going forward. At Bradley Beach and Fletcher Lake in New Jersey a maritime forest is being constructed and planted along with stabilization and revegetation of the shoreline. A groin field for Brigantine Beach, NJ is being considered. Living shorelines may be a solution for areas meant to be kept natural such as the Forsythe National Wildlife Refuge that was damaged during Sandy. Areas like Mordecai Island, NJ have used geotubes to stop erosion. The city of Avalon, NJ has beneficially used dredged material for its coastline and uses high dunes and other flood mitigation methods to reduce flood risk for the city.

June 27 Closing Briefs of Maps

The participants broke out into 4 groups based on geographic region: Massachusetts and Rhode Island; DC, Maryland, Virginia, and Delaware; Connecticut, New York, and New York City; and New Jersey and Pennsylvania. The Massachusetts and Rhode Island group currently have measures in place that work well in some areas, but there are others that need improvement; new measures identified focused on green infrastructure in that area, but also identified areas that would benefit from seawall improvements, groins, and drainage improvements. The Washington, DC, Virginia, Maryland, and Delaware group focused on prominent geographic areas, and showed the benefits and challenges of each area. One overarching theme for this group was the difficulty surrounding jurisdiction, if those issues can be overcome by different federal and local governments as well as private groups working together, the identified measures can be enacted. New York, New York City, and Connecticut are already involved in a number of USACE projects; but also have the barrier of institutional and governmental complexity. New Jersey and Pennsylvania identified a mix of measures that are already being implemented, and have identified new measures that would be beneficial, but again there are a lot of regulatory issues that need to be addressed.

June 27 Closing Summary

This study takes a comprehensive look at the North Atlantic Coast and how to reduce risk and create resiliency to prevent damage along the coast. The USACE will release a draft framework in September 2013 of the finding from this conference. The objective of this conference was to bring together a diverse group of experts to discuss and identify current and new opportunities to reduce risk and promote resiliency. Many goals were accomplished over the course of the conference, which included: establishing all measures currently in use and identifying new

measures that can be applied to reduce risk along the coast, considering the appropriate location for certain measures, and examining where current measures can be improved to develop a final solution. There were some barriers identified that were common along the area identified in this study, including the regulatory, social, and political barriers, as well as the difficulty in incorporating considerations for future storms. This study will work toward a streamlined process for reducing risk and building resiliency.

ATTACHMENT 7: VISIONING MEETINGS SUMMARY

North Atlantic Coast Comprehensive Study Visioning Meetings Summary

FINAL Report

June 2014

Submitted by:

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50 Hampshire Street
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A Report Submitted to:

U.S. Army Corps of Engineers
Baltimore District

under

USACE IWR Task Order #0146
Contract No. W912HQ-10-D-0004

CDM Smith

Executive Summary

As part of the efforts for the North Atlantic Coast Comprehensive Study (NACCS), a series of visioning meetings were held throughout the U.S. Army Corps of Engineers (USACE) North Atlantic Division region. Five USACE Districts (New England, New York, Philadelphia, Baltimore, and Norfolk) conducted in-person visioning and partnership meetings with representatives from Federal, state, and regional entities; non-governmental organizations (NGOs); academia, business, and industry; and local governments. A total of seven visioning meetings and two partnership meetings were conducted between January and March of 2014.

The purpose of the visioning meetings was to continue dialogue with the states and other stakeholders to develop a shared vision for resilience in response to risk and exposure, building upon the previous discussions and information that had been compiled to date. Partnering meetings were held in two locations in New York to continue dialogue with Federal, state, and local stakeholders in smaller settings where visioning was not as necessary due to existing comprehensive regional plans.

Similar to what is reported in the NACCS, these meetings reaffirmed that coastal storm risk management is a reality faced by many stakeholders throughout the study area. A summary of the most prominent common themes identified during the visioning and partnering meetings is included below. Details on stakeholder responses and feedback are included in Sections 3 and 4 of this report.

The reports from the visioning meetings aligned with the findings delivered from the NACCS main report, which include:

- Coastal populations and infrastructure are vulnerable.
- Methods of coastal storm risk management strategies must be redundant, robust, and adaptable to the future uncertainty of coastal flood risk.
- Flooding from storm surge and intense precipitation events/stormwater runoff threatens coastal communities.
- Interagency coordination and collaboration are quintessential to progress in making informed decisions.
- Low-lying shorelines, such as inland bays or back bays, are significantly susceptible to flooding.
- A common vision and coastal risk framework are needed to make decisions for future conditions.
- Addressing coastal storm risk is a shared responsibility borne by Federal, state, regional, local and other stakeholders.
- Emphasis on data collection, hazards and impacts prediction, support modeling, and the advancement of resources are needed to provide a complete, holistic picture.

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Section 1
Meeting Background and Purpose

1.1 Background

As authorized under the Disaster Relief Appropriations Act of 2013 (Public Law [PL] 113-2), the U.S. Army Corps of Engineers (USACE) is conducting the North Atlantic Coast Comprehensive Study (NACCS).

Specific language within PL 113-2 states, "…as a part of the study, the Secretary shall identify those activities warranting additional analysis by the Corps." Under contract from the USACE South Atlantic Division, Jacksonville District (Contract W912EP-10-D-0010, Task Order 006), a series of reconnaissance-level, focus area analyses were conducted within the USACE North Atlantic Division as part of the NACCS. The focus areas were identified as areas that were vulnerable to incur potential damage from future coastal storms. The purpose of the focus area analysis is to identify problems, needs, and opportunities for coastal storm risk management activities, and to determine whether there is interest to participate in future phases of study.

Within the boundaries of the USACE North Atlantic Division, the nine focus areas (**Figure 1**) are:

- Coastal Rhode Island
- Coastal Connecticut
- New York-New Jersey Harbor and Tributaries
- Nassau County Back Bays, NY
- New Jersey Back Bays
- Delaware Inland Bays and Delaware Bay Coast
- Baltimore Metropolitan Water Resources Area, MD
- Middle Potomac - Washington, D.C. and Metropolitan Area
- The City of Norfolk, VA

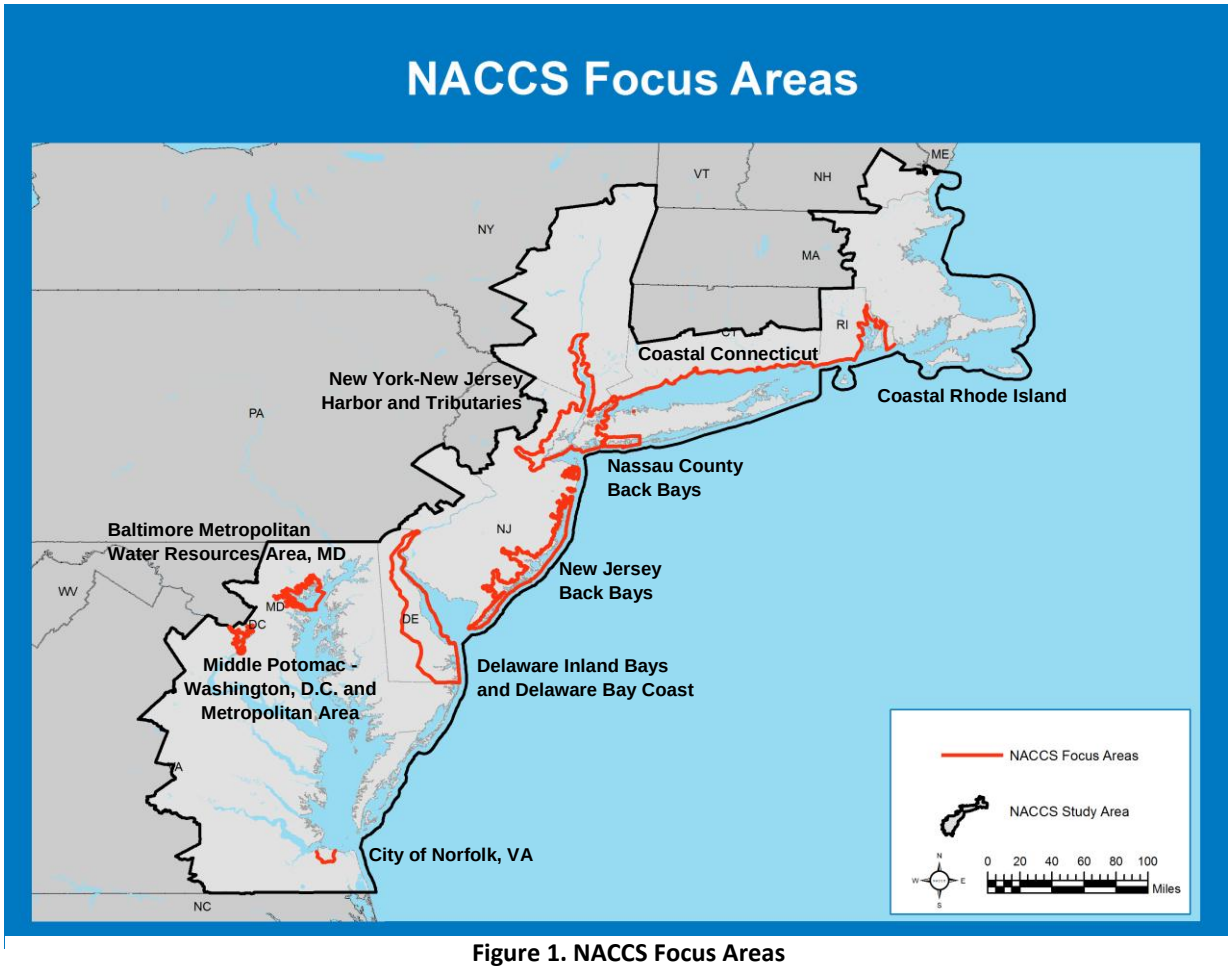


Figure 1. NACCS Focus Areas

During the focus area analysis, the extent of stakeholder engagement and actual stakeholder response varied depending on the focus area, the severity of impacts attributed to Hurricane Sandy, and the existing relationship between the USACE regional districts and the stakeholders. Establishing and maintaining close coordination with stakeholders and local communities is a vital component to the NACCS. Therefore, a series of visioning and partnership meetings were conducted for nearly all of the focus areas to engage representatives from Federal, state, and regional entities; non-governmental organizations (NGOs); academia, business, and industry; and local communities and governments to discuss coastal storm risk management. The intent of the visioning meetings was to share information, generate thoughtful discussion, and begin the process of local collaboration for a common vision to manage coastal flood risk and increase resilience within coastal communities. The visioning meetings were intended to:

- Be an educational opportunity to help participants understand the risks they may face in the future;
- Be a coordination opportunity to provide a forum for dialogue to reach a common vision on risk management and resilience;
- Focus on areas that need additional information provided by states and other stakeholders;
- Discuss how communities can use the NACCS analyses moving forward; and,
- Discuss ways to leverage additional Federal resources.

The general outcome from each visioning meeting was twofold. Stakeholder engagement and thoughtful discussion allowed for meeting attendees to acknowledge a common vision, yet discuss diverse issues. Additionally, the visioning meetings provided insight regarding the stakeholders' concerns and perceptions, which can be further emphasized in the overarching goals and themes of the NACCS.

In total, seven visioning and two partnering meetings were conducted. Due to scheduling conflicts and in response to the needs of the state and local stakeholders, a visioning meeting for the New Jersey Back Bay focus area was not conducted. In addition, a visioning meeting was not held for the New Jersey portion of the New York-New Jersey Harbor and Tributaries focus area.

1.2 Overview of Report Organization

This report documents the proceedings of the visioning meetings and is organized in the following sections:

- Meeting Logistics (Section 2)
- Stakeholder Response Analysis and Common Themes (Section 3)
- Observations of Unique Regional Features (Section 4)
- Conclusions (Section 5)

The interim deliverables for each visioning meeting included a meeting summary, an attendance list, photo documentation, and the attendees' worksheets. They are provided in **Appendix A** through **Appendix G** to supplement the material summarized in this report. For each partnering meeting, a memorandum for record was developed to document the meeting discussion. They are provided in **Appendix H** and **Appendix I**.

Section 2
Meeting Logistics

2.1 Overview

As part of the overall NACCS and in coordination with the information assembled for the focus area analysis, the coastal community engagement efforts are aimed at providing stakeholders with information about the NACCS, asking stakeholders about their perceptions about coastal flood risk and management approaches, and stimulating discussion across interagency boundaries. The visioning and partnering meetings were conducted for nearly all of the focus areas to engage representatives from Federal, state, and regional entities; non-governmental organizations (NGOs); academia, business and industry; local governments; and in one instance, a member of the general public, to discuss coastal storm risk management. A total of 248 attendees participated in the nine meetings (seven visioning meetings, two partnering meetings).

A typical in-person, visioning meeting was divided into two parts: a presentation summarizing the overall NACCS followed by facilitated, small group discussions. The partnering meetings were held in-person or via teleconference call, with a smaller, targeted group of stakeholders to discuss specific coastal storm risk management strategies and to enhance communication and partnership between agencies. **Table 1** describes the location, date, and number of attendees for all meetings conducted as part of these engagement efforts. Interim deliverables with introductory meeting materials for each meeting are provided in **Appendix A** through **Appendix G**. Memorandums for record of the partnering meetings are provided in **Appendix H** and **Appendix I**.

Table 1. Meeting Summary

Location	Date	Number of Attendees
New York-New Jersey Harbor and Tributaries, New York City (NYC)*	January 27, 2014	21
Nassau County Back Bays, NY	February 4, 2014	25
Delaware Inland Bays and Delaware Bay Coast	February 4, 2014	30
Washington, D.C. (National Capital Region)	February 10, 2014	35
Coastal Rhode Island	February 27, 2014	33
Coastal Connecticut	February 28, 2014	33
City of Baltimore, MD	March 6, 2014	30
City of Norfolk, VA	March 11, 2014	31
New York-New Jersey Harbor and its Tributaries, Hudson River Valley*	March 17, 2014	10

*Partnering Meeting

2.2 Attendees

With coordination and direction from the local USACE district, a list of stakeholders was compiled and introductory meeting materials and invitations were distributed via email. Prospective attendees were asked to respond to the email invitation. Some visioning meeting attendees received forwarded invitations, or were proxies for original invitees, and were therefore not included in preliminary contact lists. Federal, state, and local affiliations accounted for the large majority of the attendees as summarized in **Table 2**.

Table 2. Affiliation Breakdown

Affiliation of Meeting Attendees	Percent of Total
Federal	32%
State	26%
Local	24%
NGO	6%
Academic	5%
Private	5%
County	3%

2.3 Meeting Format

Before each visioning meeting, attendees who had confirmed their meeting attendance were divided into pre-assigned small groups. The group assignments were intended to mix attendees of different affiliations to provide a diverse range of insight and priorities, as well as an opportunity to express opinions in a smaller group setting. Attendees who arrived on-site without registering were randomly assigned a group. Each group was also assigned a discussion facilitator from CDM Smith. The overall meeting was moderated by a CDM Smith representative.

Typically, the visioning meeting was divided into two parts: a presentation and a facilitated discussion. In most instances, the meeting was opened by either a representative from the USACE regional district and/or the local stakeholder(s) who hosted the meeting. A USACE spokesperson or a CDM Smith spokesperson presented an overview of the meeting detailing the meeting purpose, the NACCS background, and study timeline. After the general overview, the content of each meeting was customized to address specific issues and interests under the direction of the USACE regional districts. The additional information is summarized in **Table 3**. The meetings, at a minimum, addressed area-specific coastal storm risk management, but most addressed the focus area analysis, ongoing Federal recovery projects, and finally, state recovery efforts.

Table 3. Area-Specific Presentations

Location	Area-Specific Presentations
New York-New Jersey Harbor and its Tributaries, New York City*	• NYC Mayor's Office, Special Initiative for Rebuilding and Resiliency (SIRR) Efforts
Nassau County Back Bays, NY	• Focus Area Analysis • USACE New York District Sandy Recovery Projects • New York (State) Rising Community Reconstruction Program
Delaware Inland Bays and Delaware Bay Coast	• Focus Area Analysis • USACE Philadelphia District Continuing Authorities Program (CAP) Projects
Washington, D.C. (National Capital Region)	• Climate Change Considerations in the NACCS
Coastal Rhode Island	• Focus Area Analysis • USACE New England District Sandy Recovery Projects and Coastal Storm Damage Investigations Initiated • State Recovery Efforts
Coastal Connecticut	• Focus Area Analysis • USACE New England District Sandy Recovery Projects and Coastal Storm Damage Investigations Initiated • State Recovery Efforts
Baltimore Metropolitan Area	• Focus Area Analysis
City of Norfolk, VA	• Summary/Output of Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette • USACE Norfolk District CAP Projects and Limited Revaluation Report
New York-New Jersey Harbor and its Tributaries, Hudson River Valley*	• Sandy Impacts to the Hudson River Valley • Sandy-Related Projects and State Coordinated Response

*Partnering Meeting

Following the opening presentations in the visioning meetings, attendees were divided into their predetermined groups for the facilitated, small group discussions. Depending on the visioning meeting and meeting size, small groups typically ranged from five to ten attendees. In some visioning meetings, separate breakout rooms were used whereas in others, one large room was split into multiple corners to accommodate the groups.

Input from the attendees on key issues that related to coastal storm risk management was provided in the small groups. The foundation for each attendee's input was from a worksheet addressing a question. Each attendee was asked to provide their individual written response on the provided worksheet. They silently generated their response to each question. Analysis of the worksheet responses is detailed in **Section 3**. For the majority of the meetings, three general topics discussed were vulnerability, potential solutions, and institutional/policy change related to coastal storm risk. Although there were slight modifications in wording, the worksheet questions were:

Q.1 How is your community (or agency/organization) most vulnerable to coastal storm risk?

Q.2 Based on one vulnerability noted above, what are 1-2 promising changes (or solutions) to address this vulnerability?

Q.3 What is the most prominent policy change or legislative change (or solution) that could improve coastal resilience?

The Washington, D.C. and the City of Norfolk visioning meetings presented slightly different questions. The Washington, D.C. visioning meeting was a concurrent meeting of the District of Columbia Flood Risk Management Working and the Monumental Core Climate Change Adaptation Working Group. Thus, the focus of the area-specific presentation was on climate change considerations in the NACCS. The one question asked was:

Q.1 What are the implications of Sea Level Change (SLC) on your agencies' missions, objectives, or operations?

The City of Norfolk visioning meeting was also slightly different due to a previous charrette conducted in August 2013. The USACE Norfolk District conducted a comprehensive flood risk management analysis scoping charrette focused on the City of Norfolk. Since initial stakeholder discussions regarding vulnerabilities and potential solutions were part of this charrette, the focus of the March 2014 visioning meeting was shifted to other related topics. The questions asked as part of the City of Norfolk visioning meeting were:

Q.1 What are the major institutional barriers that limit comprehensive coastal planning?

Q.2 What are prominent policy changes or legislative solutions that could improve coastal resilience?

Q.3 What management strategies/approaches are currently working to reduce risk from coastal storms?

Q.4 What strategies should be implemented to reduce risk from coastal storms?

Q.5 What is an acceptable level of risk?

After each question, each attendee read their response aloud as an opportunity to provide their input as time allowed. Then, the group, as a whole and with the help of the facilitator, summarized the main themes and responses for each question on large poster sheets. This was repeated for all questions. The completed worksheets were collected at the end of each meeting. At the conclusion of the group discussions, a volunteer from each group presented their group's findings and reported it to the entire audience. Characteristically, each visioning meeting had repeated answers amongst groups. Per each visioning meeting, the main themes from the report-out for all groups were further summarized as part of the interim deliverable. A general comment card was also distributed to participants requesting their feedback on the process, the NACCS, and any other remarks. All general comments submitted are summarized by visioning meeting in **Section 3.2**.

In comparison to the visioning meeting format previously described, the USACE New York District conducted two partnering meetings, one for New York City and another for the Hudson River Valley. These were both focused on coastal storm risk management measures and strategies. The meetings, which were held in conjunction with stakeholders from New York City and New York State, were informal in comparison to the other visioning meetings. Memorandums of record summarizing the discussion from these partnering meetings are included in **Appendices H** and **I**.

Section 3
Stakeholder Response Analysis and Common Themes

3.1 Response Analysis

Evaluation of the stakeholder written responses to questions provides further insight on the feedback which was left unspoken due to time constraints. Observations of group dynamics, even in a small group setting, demonstrated that specific observations of certain individuals tended to dominate the discussion and, in some instances, heightened certain priorities over others. Therefore, for further analysis, each stakeholder worksheet was assessed to identify any underlying trends, which was then compared to the group summaries for corroboration in each visioning meeting as further detailed in **Section 4.5**.

Written responses that identified with certain topics or keywords were counted and totals were tallied. Professional judgment was used to interpret responses on attendees' worksheets. In some instances, attendees may not have answered the question as it was intended, but in the spirit of capturing the responses as it was written, they were considered. All responses from each visioning meeting were compiled and then compared to other visioning meetings. The response analysis did not weight results to the number of meeting attendees as listed in Table 1; therefore, some meetings may show greater numbers than other meetings. Provided in the following sections is a description of overlap, trends, and commonalities on specific issues.

3.1.1 Vulnerabilities

In total, 42 different topics from six of the seven visioning meetings were identified in response to the first question regarding vulnerabilities: "How is your community (or agency/organization) most vulnerable to coastal storm risk?" As mentioned previously in Section 2.3, the City of Norfolk visioning meeting addressed a variation of this topic during the charrette in August 2013 and therefore, was not included in this analysis.

The purpose of the figures and tables on the following pages is to graphically represent the overall trends as interpreted from the responses. After studying each attendee's response and attributing them to certain topical groups by tally, the results were graphed in **Figure 2** to show the responses with the most tallies summed for all visioning meetings that addressed the subject of vulnerabilities. The 17 different topics shown in Figure 2 were attributed to at least 20 unique attendees. The cutoff number for the primary topical groups shown was chosen arbitrarily, but at a natural break in the dataset.

The first column of **Table 4** lists the topical groups: the general statements that were used to assemble the interpreted response from each attendee. The numeric values within each table are the summation of all of the responses attributed to that topical group for the specific visioning meeting listed in the table header. This raw data was used to create Figure 2, but is parsed out to show both the similarities and differences in responses for every visioning meeting. The top ten responses from

each visioning meeting are highlighted in red to accentuate the distribution of responses. **Figure 3** is a word cloud representation demonstrating the different words or phrases that visioning meeting attendees used to describe the vulnerabilities.

The most common responses were related to obvious impacts from flooding – both from storm surge and stormwater runoff caused by extreme precipitation. Two broad, distinct physical entities were identified as being particularly vulnerable. The general category of natural systems and resources (includes ecosystems, wetlands, tidal creeks, marshes, and wildlife habitats) and aging infrastructure (including, but not withstanding, roads, bridges, properties, structures, tunnels, etc.), were identified in all meetings. Similar to the themes of natural systems to include a multitude of terms, the general term “coastal infrastructure” also had a variety of interpretations. For example, some attendees listed “blocked roads, bridges, and tunnels” – which could be attributed to both the coastal infrastructure and the public safety theme. Depending on the context of the attendee’s response, the response could be counted for multiple themes. Unless explicitly stated or duplication occurred on the attendee’s sheet, an attempt was made to characterize each individual’s thought process. In addition, codependence of listed vulnerability groupings was noted, but not explicitly identified. For example, both natural systems and coastal infrastructure are vulnerable to flooding and to erosion and scour. These instances, although valid, were considered separately.

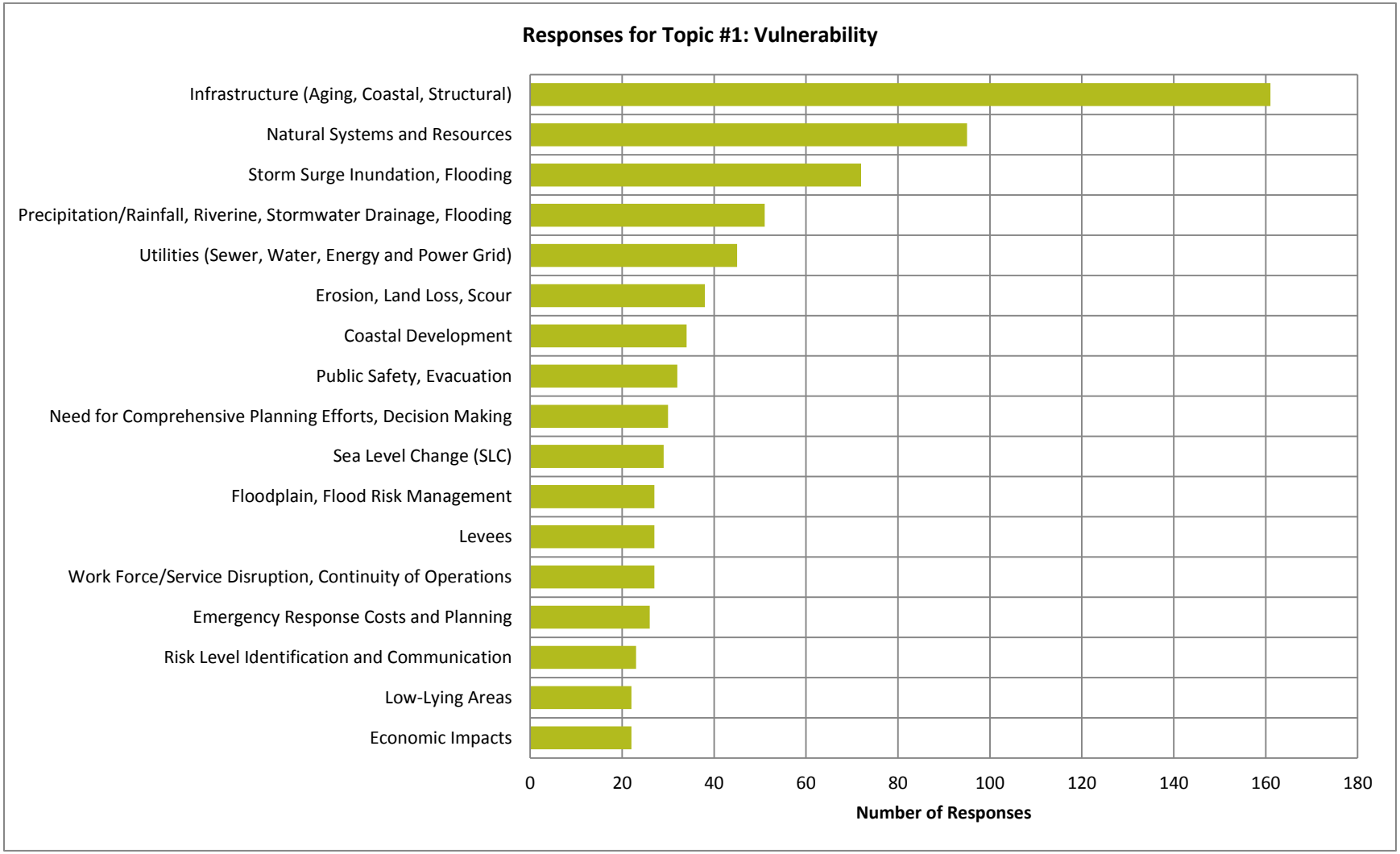


Figure 2. Responses from Visioning Meetings: Vulnerabilities
(This figure does not include the City of Norfolk visioning meeting.)

Table 4. Responses by Visioning Meeting to Topic #1: Vulnerability

Answer Themes	BALT	CONN	DEL	DC	NASS	RI
Infrastructure (Aging, Coastal, Structural)	24	43	26	26	17	25
Natural Systems and Resources	15	17	26	12	10	15
Storm Surge Inundation, Flooding	11	13	17	11	10	10
Precipitation/Rainfall, Riverine, Stormwater Drainage, Flooding	9	6	15	12	4	5
Utilities (Sewer, Water, Power Grid)	6	11	3	12	4	9
Erosion, Scour	6	7	12	0	6	7
Coastal Development	2	9	4	1	4	14
Public Safety, Evacuation	10	2	7	5	5	3
Need for Comprehensive Planning Efforts, Decision Making	3	7	7	7	2	4
Sea Level Change (SLC)	1	7	8	9	1	3
Work Force/Service Disruption, Continuity of Operations	2	6	3	11	3	2
Levees or other flood risk management measures	1	6	9	0	6	5
Floodplain, Flood Risk Management	2	4	11	3	6	1
Emergency Response Costs and Planning	5	5	2	6	4	4
Risk Level Identification and Communication	2	6	4	5	3	3
Economic Impacts	4	8	2	1	3	4
Low-Lying Areas	2	6	4	2	4	4
Resource Management Responsibilities	1	5	4	1	3	4
Asset Identification, Data Collection, and Uncertainty	3	3	3	2	0	4
Operation and Maintenance Issues	7	2	1	2	2	1
Water Quality Impacts, Contaminants	2	2	4	2	0	5
Recovery Decisions	2	2	5	1	3	2
Navigation, Ports, Harbors	6	0	6	1	0	1
Recreational Resources	1	1	2	4	0	6
Public Transportation (Light Rail, Bus)	1	4	1	1	1	1
Insurance Losses	2	5	0	0	0	2
Elderly, Special Needs, Vulnerable Populations	3	1	0	2	0	3
Access to Isolated Communities	1	4	0	1	1	1
Low Income Communities	2	1	0	2	0	3
Tax Base Impacts	0	5	1	0	0	2
Climate Change	1	0	0	6	0	0
Wind	1	2	0	0	0	4
Sedimentation	1	0	1	0	2	2
Forecasting, Predictions, Projections, Storm Surge and Riverine Modeling	0	0	0	5	0	0
Historic and Cultural Resources	0	0	0	5	0	0
Interagency Coordination and Communication	0	0	0	4	0	0
Sheltering	1	2	0	1	0	0
NED Projects, Optimized vs. Design	1	0	1	0	0	0
Fisheries	0	0	0	1	0	0
Sinkholes	1	0	0	0	0	0
Crawl Spaces/Illegal Basements	1	0	0	0	0	0
Not At Risk	1	0	0	0	0	0

Figure 3. Word Cloud for Topic #1: Vulnerability

3.1.2 Solutions

Similar to the tallying methodology and topical groupings as described in Section 3.1.1, the attendees' responses were summarized for the second subject regarding potential solutions: "Based on one vulnerability noted above, what are 1-2 promising changes (or solutions) to address this vulnerability?" In total, 33 different topics from the visioning meetings were identified. Although phrased slightly differently, questions 3 and 4 from the City of Norfolk visioning meeting are considered applicable for current and future measures in the context of this question.

Figure 4 shows the responses that garnered the most tallies summed for all visioning meetings that addressed the subject of solutions. The 20 different topics were attributed to at least 15 unique attendees**.** The cutoff number for the primary topical groups shown was chosen arbitrarily, but at a natural break in the dataset**.** For graphing purposes, complete topical group listings are shown in **Table 5**. Similar to the procedure discussed in Section 3.1.1, the first column of Table 5 lists the topical groups, the numeric values within each table are the summation of all of the responses attributed to that topical group for the specific visioning meeting listed in the table header. The top ten responses for each visioning meeting are highlighted in red. The data presented in Table 5 was used to create the bar graph in Figure 4. **Figure 5** is a graphical, word cloud representation used to answer this question.

The most common responses and themes were related to "community scale" and "building scale" measures. The community scale measures included proper zoning and land use regulations, floodplain management to limit development and redevelopment after a disaster, as well as community retreat. The building scale measures included floodproofing, building requirements and standards, as well as elevating structures and other types of mitigation, either structural or nonstructural, measures. Another recurring theme was design guidance and standards for future conditions attributed to climate change, SLC, and increased severity and likelihood of precipitation events. The results from all visioning meetings also show that comprehensive, long-term and future planning, and pre-planning efforts are important components to a solution for coastal storm risk management. These responses generally ranked in the top ten topics per visioning meeting, but did not receive the greatest number of tallies to promote it as a primary theme, but more as a common theme. Understandably, many aspects of comprehensive planning and pre-planning are required in the most commonly represented solutions.

Figure 4. Responses from Visioning Meetings: Solutions
(The full-length topical group descriptions are found in the first column of Table 5.)

Table 5. Responses by Visioning Meetings to Topic #2: Solutions

Answer Themes	BALT	CONN	DEL	DC	NASS	NORF	RI
(Community Scale) Zoning, Floodplain and Land use Regulations and Management, Development and Redevelopment Restrictions, Retreat	4	17	5	3	8	15	5
Design Guidance and Standards for Future Conditions (SLR, coastal flood hazards, increased precipitation, climate change, range of scenarios)	13	10	4	11	6	4	7
(Building Scale) Floodproofing, Codes and Standards, Nonstructural Measures, Mitigation, Elevate	3	4	12	0	7	6	12
Natural and Nature Based Features	5	6	10	2	4	7	4
Restoration and Stabilization of Existing Natural Features	5	5	13	5	4	1	9
Public Education and Awareness, Community Engagement	12	8	3	5	3	3	2
Information and Data Collection, Studies & Monitoring, Coastline Mapping, High Water Marks	11	5	4	2	1	4	4
Effective, Targeted Risk Communication	7	9	1	0	1	6	3
Risk Identification Inventory and Assessment to consider primary and secondary effects	4	9	6	5	1	5	4
Proactive Long-Term, Planning, Pre-Planning as part of Interim Decision Making Process	5	7	5	7	7	4	7
Forecasting, Predictions, Projections, Storm Surge and Riverine Modeling	11	0	7	5	0	3	1
Sustainable Funds/Economy Resource, Capacity Building		5	2	3	2	5	6
Interagency Collaboration and Coordination (Silver Jackets)	5	5	0	4	2	8	1
Incentives to Act/Mitigate	1	4	0	4	0	4	9
Limit or Target Public Investment in Infrastructure	2	6	5	0	2	0	9
Flood Insurance Legislation Requirements and Reform to Reflect Risk	2	3	0	1	0	8	1
Emergency Planning, Services, Early Warning System or Notification, to enhance Public Safety	9	3	0	6	3	4	2
Green Infrastructure (Stormwater, Low Impact Development)	3	3	9	0	2	3	3
Preserve Open Space, Create Buffers or other Adaptation Measures	0	0	0	0	0	8	0
Multi-use, Redundant, or Combination of Measures and Infrastructure	4	7	1	0	1	0	5
Disaster Response Planning with Disaster Response Teams (Navigation)	2	4	0	0	2	0	2
Places Utilities Underground	1	1	1	0	2	2	3
Public/Private Partnerships	0	0	0	0	0	2	0
Recovery Planning and Decisions	1	2	0	1	0	0	0
Benefit-Cost analysis	0	0	0	0	0	2	0
FEMA Community Rating System	1	0	0	0	0	0	2
Grey Infrastructure	1	0	0	0	0	0	1
Simplify Permitting Process to Encourage Acquisition and Preservation of Properties	0	0	0	0	0	2	0
Cross-Training	1	1	0	0	0	0	0
Salt-Tolerable Plantings	1	0	1	0	0	0	0
Regional Sediment Management	0	0	0	1	0	0	0
Memorandums of Understanding/Memorandums of Agreement	1	0	0	0	0	0	0

Figure 5 - Word Cloud for Topic #2: Solutions

3.1.3 Policy Challenges

The same approach in Sections 3.1.1 and 3.1.12 was used to analyze the responses for solutions to address policy and institutional barriers: "What is the most prominent policy change or legislative change (or solution) that could improve coastal resilience?" As mentioned in Section 2.3, during the Washington, D.C. visioning meeting, attendees were asked to respond to one question regarding the implications of SLC on their agency or their community. The responses relating to solutions to overcome policy challenges were separated from those that were geared towards vulnerabilities. Since the subject of policy challenges or solutions to address such challenges was not explicitly expressed, the results of the Washington, D.C. visioning meeting are not included for this specific question. Generally, the responses corroborated those that were expressed in other visioning meetings.

Figure 6 shows the responses that garnered the most tallies summed for all visioning meetings that addressed the subject of solutions to overcome policy challenges. The 14 different topics were attributed to at least 15 unique attendees. Again, the cutoff number for the primary topical groups shown was chosen arbitrarily, but at a natural break in the dataset**.** For visualization purposes, complete topical group listings are shown in **Table 6**. Similar to the procedure discussed in Section 3.1.1, the first column of Table 6 lists the topical groups, the numeric values within each table are the summation of all of the responses attributed to that topical group for the specific visioning meeting listed in the table header. The top ten responses for each visioning meeting are highlighted in red.

The most common responses and themes were related to community scale policy changes in regards to land use, zoning, and imparting further restrictions on development within the existing and future floodplain. Retreat was also considered as part of the community-scale policies. In addition, interagency coordination and collaboration was a common theme amongst all visioning meetings. Increase in funding, staffing, and general capacity building to ensure that local communities are adequately prepared for coastal storms was another commonality amongst all meetings. **Figure 7** is a graphical, word cloud representation used to answer this question.

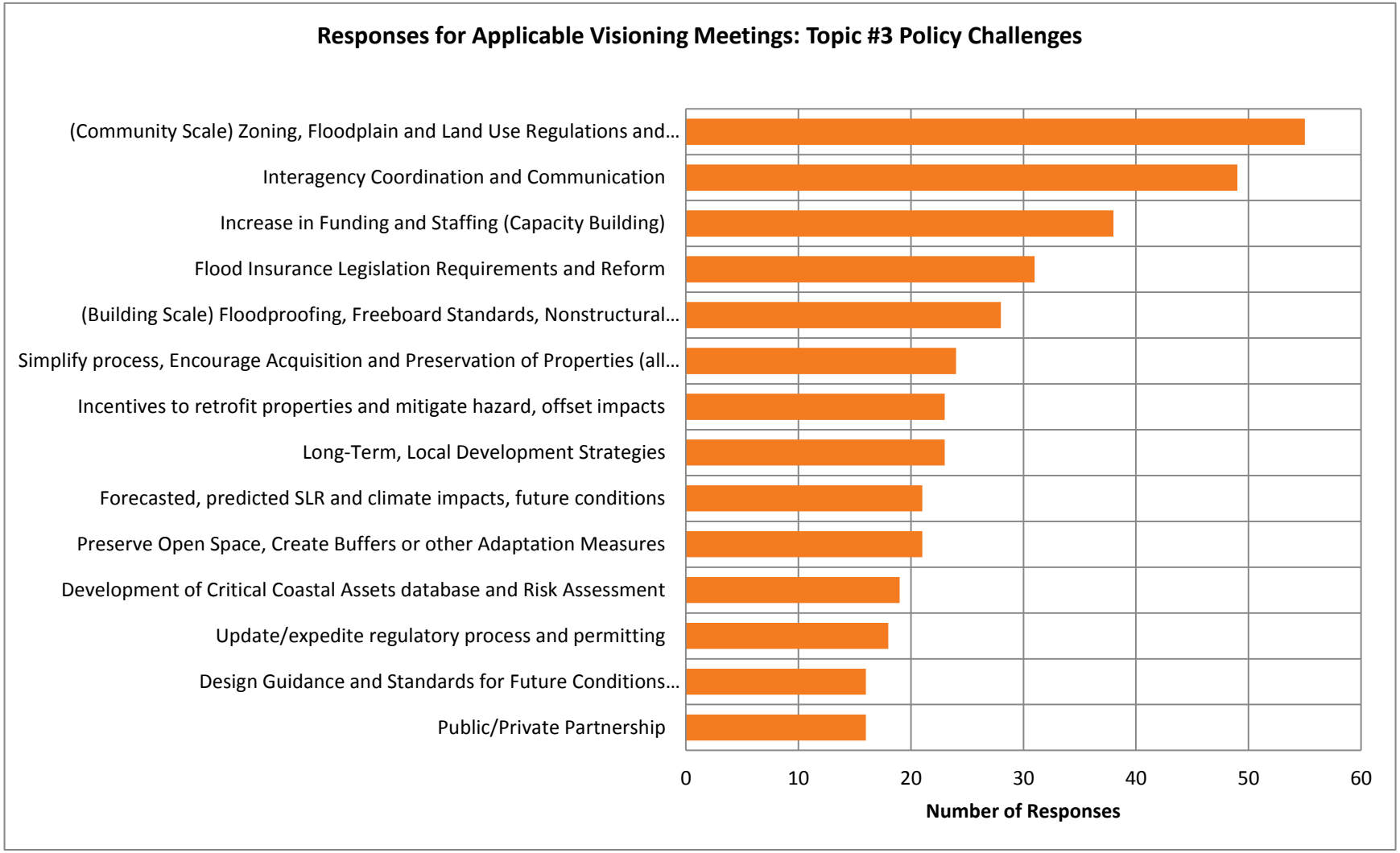


Figure 6. Responses from Visioning Meetings: Policy Challenges

(This figure does not include the Washington, D.C. visioning meeting. The full-length topical group descriptions are found in the first column of Table 6.)

Table 6. Responses by Visioning Meetings to Topic #3: Challenges

Answer Themes	BALT	CONN	DEL	NASS	NORF	RI
(Community Scale) Zoning, Floodplain and Land Use Regulations and Management, Development and Redevelopment Restrictions, Retreat	13	10	9	8	11	17
Interagency Coordination and Communication	2	9	3	2	28	5
Increase in Funding and Staffing (Capacity Building)	3	6	10	5	12	2
Flood Insurance Legislation Requirements and Reform	6	5	5	3	8	4
(Building Scale) Floodproofing, Codes and Standards, Nonstructural Measures, Mitigation, Elevation	4	4	6	6	2	6
Simplify process, Encourage Acquisition and Preservation of Properties (all parties)	3	5	4	2	0	10
Long-Term, Local Development Strategies	2	4	2	3	7	5
Incentives to retrofit properties and mitigate hazard, offset impacts	4	3	1	3	3	9
Preserve Open Space, Create Buffers or other Adaptation Measures	4	5	4	2	0	6
Forecasted, predicted SLR and climate impacts, future conditions	8	1	2	1	6	3
Development of Critical Coastal Assets database and Risk Assessment	4	4	4	4	0	3
Update/expedite regulatory process and permitting	2	0	6	2	3	5
Public/Private Partnership	1	3	2	0	8	2
Design Guidance and Standards for Future Conditions (SLR, coastal flood hazards, increased precipitation, climate change, range of scenarios)	2	0	2	4	7	1
Needs for a cultural shift, supplementary education	1	2	4	0	2	5
Benefit-Cost analysis	1	4	4	1		2
Effective, Targeted Risk Communication	2	2	0	0	7	1
Encourage Natural and Nature-Based Features (NNBF)	1	4	0	1	3	1
Consistent authorities across all levels (local, state, Federal)	0	0	0	0	10	0
Information and Data Collection, Studies & Monitoring, Coastline Mapping, HWMs	0	0	0	0	6	0
Invest in Green Infrastructure	0	0	2	1	0	2
Multi-use, Redundant, or Combination of Measures and Infrastructure	0	0	0	0	1	0
FEMA Community Rating System	0	0	0	0	1	0

Figure 7. Word Cloud for Topic #3: Policy Challenges

3.2 General Comments

In the same format as the worksheets, general comment worksheets were provided to all attendees at some point during the visioning meetings. Most attendees provided verbal feedback, but some attendees used the sheet to comment on general flood risk management measures, observations from the visioning meeting, or comments about some of the information displayed. The original worksheets are part of the interim deliverables for each visioning meeting provided in **Appendix A** through **Appendix G**. The sheet stated, "Please use this space and the back if you have comments that you would like to convey to the NACCS team." The general comments from each visioning meeting are summarized herein.

Comments received for the City of Baltimore visioning meeting:

- An attendee provided further detailed discussion and elaboration of the flooding associated with coastal storms that affect Greater Baltimore. In addition, the attendee supplied general comments discussing the potential of coastal flood risk to infrastructure, utilities, and electrical supply.

- An attendee requested consideration of the socio-economic makeup of coastal populations. The comment was aimed on demonstrating the parity between affluent populations utilizing vulnerable coastal areas for recreation and less affluent populations with no choice, and little means to live in vulnerable coastal areas. The attendee stressed that a certain responsibility must be burdened by those who live in these vulnerable areas and for state and local governments to consider mandating a "risk fee" for provided services.

- An attendee stated that the greatest challenge his agency faces is to accurately forecast water levels and predict the potential impact of water level rise on communities. A lack of consistency in modeling without ground-truthed impacts results in an increased hazard to local communities and their residents. He encouraged those conducting the study to consider

abandonment of a singly, deterministic storm surge forecast and rather provide a range of possible associated hazards and attributable scenarios.

Comments received for the Washington, D.C. visioning meeting:

- In response to specific meeting visuals, an attendee requested more distinct coloration of storm surge impacts on the map of Washington, D.C. under certain SLC scenarios. In response to the presentation, the attendee suggested the graphic depicting the USACE High SLC plots have appropriate titles and axes labels. In general, the attendee also suggested that the study provide scientific and technical information at a lay person level.

- An attendee provided comments regarding the presentation, stating that it was well presented, but too abbreviated due to the time constraints.

Comments received for the Coastal Connecticut visioning meeting:

- An attendee provided feedback requesting information regarding how the costs and benefits are calculated for current USACE projects in the context of associated present risk and how it is calculated or portrayed over the life of the project, potentially several decades. The attendee suggests that a comprehensive assessment is needed to evaluate the cost effectiveness of alternative structural and nonstructural approaches for coastal erosion control and references the disaster risk assessment that was performed for the Gulf of Mexico entitled, “Building a Resilient Gulf Coast.” In addition, the attendee suggests the crucial need to connect regional approaches/studies for sediment management to the work being performed as part of regional ocean planning through two agencies: Northeast Regional Ocean Council (NROC) and the Mid-Atlantic Regional Ocean Council (MARCO). The attendee considers this pertinent to coastal storm risk management. Lastly, the attendee presented the need to ensure that all USACE projects are conducted in the context of a regional resilience framework. The examples presented for Connecticut are to suggest the State to establish a state-based framework to provide guidance, similar to what is currently provided, to some extent, in Connecticut State Hazard Mitigation Plan. This also includes concurrent plans for conservancy and/or development. By placing USACE projects within the context of regional resilience, the overall risk portfolio for Connecticut could potentially be reduced. The projects, specifically dredging and restoration projects can be singularly linked to this regional resilience framework. The attendee suggests that it would enhance comprehension and project integration from local to state agencies.

Comments received for the Delaware Inland Bays and Delaware Bay Coast visioning meeting:

- An attendee suggested additional engagement efforts to the communities in the Delaware Inland Bays area, in addition to the stakeholders at the county level.

- An attendee commended the presenters on an excellent concise process, which was both well-organized and facilitated. The attendee suggested that those stakeholders that were not present should be given an opportunity to provide feedback. The attendee felt that the resulted mix of site-specific and broad solutions would be helpful to prioritize and identify areas that are most vulnerable.

- An attendee suggested providing follow-up communication to the stakeholders who were unable to attend to provide an opportunity for feedback, similar to the topics and questions posed in the facilitated discussion.

- An attendee provided feedback that further engagement efforts are needed for all communities, that the USACE planning process is too cumbersome and does not result in enough action. In regards to the format of the meeting, the attendee noted that the group discussion was worthwhile.

- An attendee encouraged USACE to reach out to and aid smaller communities to be included in future processes.

- An attendee suggested that the meeting materials be provided to all attendees further in advance. The attendee also noted that it was unclear how the input being sought would be incorporated into the overall NACCS, specific to vulnerability and potential solutions. The attendee also suggested that more material and information be provided regarding the authorizing legislation, the outcomes from the NACCS, and the connection to the Continuing Authorities Program.

- An attendee appealed to USACE to review the comments and incorporate them into future planning needs for the State of Delaware

- An attendee stated that they gleaned more information regarding the NACCS, but that the use of abbreviations was confusing and ill-defined.

- An attendee suggested that the input from communities and representatives should be shared amongst all stakeholders. The attendee expressed gratitude and the intent to stay involved.

- An attendee stated that the next steps, as presented in the visioning meeting, were not well defined and that any further feedback and input may not contribute to any further information. The attendee stated that the visioning meeting seemed duplicative of information that was already received as part of the focus area analysis. The attendee asked to share information and the report to request specific feedback from stakeholders, including those at the municipal and county government level. The attendee noticed that no representatives from New Castle County were present at the meeting, which is a gap in communication since the issues that county faces may be different than those faced for Delaware Inland Bays and Delaware Bay Coast communities.

- An attendee encouraged USACE and local stakeholders to move forward and seek Federal funding for bayfront beaches.

- An attendee requested that a focus area/visioning meeting specific website be created so that documents and information could be easily shared amongst stakeholders.

- An attendee stated that the visioning meeting was productive, but that the results or outcomes from the meeting may be lost.

- An attendee requested that stakeholders are kept informed as the process and the NACCS continues and requested that USACE considers more public involvement.

Comments received for the Coastal Rhode Island visioning meeting:

- An attendee requested that State and local governments are kept informed during the NACCS review process to bolster collaboration, communication, and cooperation.

- An attendee suggested that there is overlap between NACCS, a study being performed by CRC, URI Bay Campus, and the statewide planning program with the hope that the organizations could correspond to share work.

- An attendee noted that most adjustments will have to, by definition, occur at the local level. The local communities have the least resources and the capability to deal with these issues.

- An attendee expressed interest in maintaining engagement and discussion for the area of South Kingston, Rhode Island.

- An attendee provided comments regarding appreciation of the discussion invoked as part of the visioning meetings. The attendee suggested a potential opportunity to provide coastal property owners a similar meeting to engage them in discussions and inform them of the potential realities of living in a high risk area.

Comments received for the Nassau County Back Bays visioning meeting:

- An attendee made a note to discuss the project life span of 50 years for the Long Beach Storm Reduction Project.

Comments received for the City of Norfolk visioning meeting:

- An attendee provided insight regarding the perceived impediments for resilience measure implementation, which were funding for large-scale, high impact resilience measures and capacity of the local communities to raise such funds – cooperation from state and Federal sponsors would be required. Secondly, the attendee requested a clear definition of the goals for coastal storm risk management, specifically whether communities should consider hardened defenses or retreat.

- An attendee suggested revising the question regarding “an acceptable level of risk”. The attendee suggested that it should specify what is at risk (such as life, property, natural defense, environment), and/or the scope of risk (local, individual people, regional, or global).

- An attendee suggested that for future stakeholder meetings, more time be allotted to discuss within the small group setting in order to debate and consider the topics.

- An attendee posted the question, “How do we get from framework to implementation? Studies will identify risks, what is the process for implementation?” In addition, the attendee noted that two state agencies, VADEQ and VRMC, were not present at the visioning meeting,

but these two agencies are important in the permitting and therefore, the implementation process.

- An attendee expressed the need for a clear use and goal of the NACCS. The attendee was under the impression or belief that money is available at the end of the NACCS for implementation of projects. Initiation of collaboration needs to happen at the Federal level.

Section 4
Observations of Unique Regional Features

Every visioning meeting had the same primary goal, which was to continue dialogue with stakeholders to develop a shared vision for resilience in response to risk and exposure, building on the previous discussions and information that had been pulled together to date. The visioning meetings were intended to share information, generate discussion, and begin the process of local collaboration for a common vision to reduce coastal flood risk and increase resilience within coastal communities. Topics discussed included vulnerabilities, solutions, and challenges related to flood risk as described in Section 3. The discussion topics were designed to be similar, but the essence of each visioning meeting was decidedly unique. These slight differences between visioning meetings are discussed in this section.

4.1 Hurricane Sandy Impacts and Stakeholder Feedback

The severity of impacts from Hurricane Sandy provided unique insight and revealed a range of reported experiences and responses from the visioning meetings. Some areas also suffered damages from Hurricane Irene in 2011. Two focus areas that were considered as experiencing "very high storm impact," as conveyed by the Federal Emergency Management Agency (FEMA) Hurricane Sandy Impact Analysis Map, did not have standard visioning meetings. Leading up to the period of visioning meetings, the New York-New Jersey Harbor and Tributaries focus area and the New Jersey Back Bays focus area were undergoing a variety of major stakeholder engagement efforts via other state and Federal programs.

Stakeholders were being asked to provide similar information as part of the disaster recovery efforts conducted by FEMA and the Department of Housing and Urban Development (HUD) Rebuild by Design efforts in addition to local and state recovery and resilience efforts (e.g., New York Rising Community Reconstruction Program). Stakeholders from these focus areas expressed "data request fatigue" as they were still enduring the multiple requests as part of the recovery process. For each visioning meeting, the severity of impacts from Hurricane Sandy (from the FEMA Impact Analysis Map) was a significant factor in the themes of general responses and is presented in **Table 7**.

Table 7. Hurricane Sandy Impacts to Stakeholder Feedback

Visioning Meeting	Severity of Hurricane Sandy Impacts
Nassau County Back Bays	Very High Storm Impact: Stakeholders expressed that they were overloaded with information and data requests. The missions and requests from different agencies overlapped. Damages from Hurricane Sandy severely impacted the communities in this area and the recovery process was ongoing, the memory from Hurricane Sandy was still apparent.
Delaware Inland Bays and Delaware Bay Coast	High Storm Impact: Tidal flooding caused record high water levels during Hurricane Sandy. Flooding occurred in predictable areas. Impacts were felt along the Delaware Coast. General consensus during the visioning meeting was that the impacts could have been worse if the storm path had been different. Local and state stakeholders acknowledged this opinion and recognized that the NACCS was an opportunity to plan for future coastal storms.
Washington, D.C. (National Capital Region)	Moderate Storm Impact: During Hurricane Sandy, continuity of operations was moderately disrupted, but widespread tidal flooding was not publicized as apparent. However, the DC Silver Jackets and other stakeholders recognized that coastal flooding does occur, most recently attributed to Hurricane Isabel. Riverine and interior drainage flooding is a primary focus.
Coastal Rhode Island	Moderate to High Storm Impact: Coastal Rhode Island experienced impacts due to Hurricane Sandy. At the visioning meetings, communities expressed the need for completion of recovery projects in particularly damaged areas to prevent damages from future coastal storms.
Coastal Connecticut	High to Very High Storm Impact: Similar to coastal Rhode Island, impacts from Hurricane Sandy were experienced and communities expressed the need for completion of projects to prevent damages from future coastal storms.
City of Baltimore	High Storm Impact: For Hurricane Sandy, widespread tidal flooding and disruption was not publicized to have majorly impacted the area. Similar to Washington, D.C., severe flooding occurred more recently attributed to Hurricane Isabel.
City of Norfolk	High Storm Impact: The City of Norfolk experienced flooding during Hurricane Sandy, but similarly for the region, did not experience the brunt of the storm. Due to its particularly low-lying areas, the City is often subject to flooding due to coastal storms.

4.2 Shoreline Features and Focus Area Characteristics

Aside from the distinctions of each visioning meeting, notable differences in the regional geomorphology, shoreline usage, and land type provided additional differences in outcomes from the visioning meetings. As part of the NACCS, shoreline type and classifications developed by the National Oceanic and Atmospheric Administration (NOAA) - Environmental Sensitivity Index (ESI) were used to generally characterize the majority of the focus areas. The physical expanse of locations was also considered in observing differences. The focus areas ranged from a city-scale (Washington, D.C.) to county-scale (Nassau County) to statewide (Coastal Connecticut). These variances contributed to the specificity of how certain solutions and challenges were framed.

Table 8. Location Characteristics

Visioning Meeting	NOAA-ESI Shoreline Type	Distinguishing Physical Characteristics
Nassau County Back Bays	Beaches (Exposed), Manmade Structures (Sheltered and Exposed), Wetlands/Marshes/Swamps (Sheltered)	City of Long Beach and associated small incorporated villages fronted by a barrier island. Focus area analysis was on back bay areas.
Delaware Inland Bays and Delaware Bay Coast	Beaches (Exposed), Manmade Structures (Sheltered and Exposed), Wetlands/Marshes/Swamps (Sheltered) Vegetated high banks (Sheltered)	Small incorporated towns and villages with rural areas of unincorporated communities. National Wildlife Refuges along protected coastal areas in Delaware Bay.
Washington, D.C. (National Capital Region)	Manmade Structures (Sheltered and Exposed), Vegetated low banks (Sheltered)	Dense, urban metropolitan area subject to tidal influence from Potomac River and Chesapeake Bay. Historical and cultural resources such as national monuments, museums, and governmental buildings are significantly important.
Coastal Rhode Island	Beaches (Exposed) Manmade Structures (Sheltered and Exposed) Wetlands/Marshes/Swamps (Sheltered)	Patchwork of high density coastal populations characterized by town or city centers with a mixture of areas that are exposed and sheltered.
Coastal Connecticut	Beaches (Exposed) Manmade Structures (Sheltered and Exposed) Wetlands/Marshes/Swamps (Sheltered) Vegetated low banks (Sheltered)	Patchwork of high density coastal populations characterized by town or city centers, most subject to influence from Long Island Sound.
City of Baltimore	Man-made Structures (Sheltered and Exposed), Wetlands/Marshes/Swamps (Sheltered)	Dense, urban metropolitan area subject to tidal influence from Chesapeake Bay. Baltimore's Inner Harbor is significantly important to the local economy. The Port of Baltimore is significantly important to the regional economy.
City of Norfolk	Man-made Structures (Sheltered and Exposed), Wetlands/Marshes/Swamps (Sheltered)	Dense, urban area subject to tidal influence at the mouth of Chesapeake Bay. Norfolk Harbor and naval facilities are significantly important.

4.3 Customization of Presentation Materials of Local USACE Districts

Generally, each local USACE district dictated how information was disseminated, the format of the meeting, and how the visioning meeting was conducted. In some cases, the meetings also took state or local stakeholders' preferences into consideration (e.g., Washington, D.C.).

Table 9. USACE District Preferences

Visioning Meeting	Presentation Specific Details
Nassau County Back Bays	Representatives from New York State discussed the concurrent, ongoing efforts relating to the statewide coastal community resilience efforts called New York Rising. A summary of the stakeholder feedback received from the focus area analysis was discussed.
Delaware Inland Bays and Delaware Bay Coast	The USACE Philadelphia District discussed further details of the NACCS and presented a simple flow chart describing the different components of the overall study. The flow chart discussed the main body of the report, the state-specific appendices, and the focus area analysis. A summary of the stakeholder feedback received from the focus area analysis was discussed.
Washington, D.C. (National Capital Region)	The visioning meeting coincided with the District of Columbia Flood Risk Management Working Group and the Monumental Core Climate Change Adaptation Working Group monthly meeting. The meeting, held at the National Capital Planning Commission office, was primarily focused on climate change, particularly SLC, and its impacts to the region. The discussion of the NACCS SLC analysis aligned with the NASA SLC analysis that the Monumental Core Climate Change Adaptation Working Group has adopted. In addition, information from the NACCS regarding structural measures, natural and nature-based measures, non-structural and policy/programmatic options, were presented. The focus area analysis was not explicitly discussed.
Coastal Rhode Island	The USACE New England District provided information regarding current and future coastal storm risk management efforts for coastal Rhode Island. The focus area analysis was not explicitly discussed. Potential flooding and impacts defined by the SLOSH storm surge model was also presented.
Coastal Connecticut	Similar to Rhode Island, the USACE New England District provided information regarding current and future coastal storm risk management efforts, which was discussed for coastal Connecticut, but the focus area analysis was not explicitly discussed. The SLOSH storm surge model was mentioned as a product used for risk identification and to identify susceptible areas, but graphical representation of flooding and impacts was not presented.
City of Baltimore	The USACE Baltimore District provided an overview and update of the NACCS and presented a flow chart describing the components of the concurrent efforts and the connection between each NACCS work product. The focus area analysis was also discussed, including a summary of the stakeholder feedback received from the focus area analysis.
City of Norfolk	Since the USACE Norfolk District had already conducted an in-person workshop and charrette in August 2013, vulnerabilities and susceptible areas were already discussed with stakeholders. The Norfolk District had performed a significant amount of analysis as part of the comprehensive coastal flood risk management report (similar to the other focus area analyses). To avoid redundancy, the facilitated discussions and worksheet questions were focused on institutional/policy challenges and an acceptable level of risk.

4.4 Stakeholder Representation

The invitee list for each visioning meeting typically included a variety of individuals from local, state, and Federal agencies. Prior to each meeting, the stakeholders were divided into facilitated discussion groups in an attempt to distribute local, state, Federal, and other stakeholders amongst all groups.

Some regions have strong local authority and representation (such as Connecticut and Rhode Island) whereas in other regions, management is allocated at the county or state-level (Delaware and Maryland).

Within each facilitated discussion group, the individuals from each group could provide specific insight to their community's or agency's experience in addressing coastal storm risk. The attendees ranged from a local building inspector and their concerns on a site-specific scale to the director of a state emergency management agency that views the emergency response process on a regional or state level. This type of parity was apparent – and in all cases, provided perspective to all parties in understanding the levels of coordination required for coastal storm risk management.

Table 10. Stakeholder Representation

Visioning Meeting	Stakeholder Representation
Nassau County Back Bays	Representatives from local communities attended. The type of local stakeholders who attended ranged from building inspectors to deputy town commissioners to local village engineers. State representatives from the NY Rising Community Reconstruction Program and from the New York State Department of Environmental Conservation were also present. Since the focus area was for Nassau County, there was also representation at the county level.
Delaware Inland Bays and Delaware Bay Coast	There was a significant state presence at the visioning meeting and in particular from DNREC. DNREC was a lead contributor the focus area analysis and was an avenue for local communities to provide information. Local community officials, such as mayors and commissioners, attended as well as a private citizen. Representation from local NGOs specific to the region contributed focus to the ecosystems goods and services that the area provides. No county-level representatives were present at this meeting.
Washington, D.C. (National Capital Region)	The visioning meeting was attended by stakeholders from various Federal agencies that represented a broad array of agency missions and objectives. On occasion, representatives from certain agencies described that they could not participate or speak on behalf of their agency. Those that did express their opinions were focused on the continuity of operations (during and after a storm event) due to the functional importance of the Nation's Capital. Other District agencies representing Metro Washington, D.C. were represented.
Coastal Rhode Island	The visioning meeting was attended by representatives from local communities such as engineers and planners, mayors, and building officials. Many of these communities have worked closely with the state and in with neighboring communities. Some conversations during the facilitated discussion were exceptionally fervent due to differing opinions in coastal zone management. It was evident during this meeting that the state, local, and Federal agencies have a high level of collaboration already.
Coastal Connecticut	There was a significant state presence at the visioning meeting and in particular from the Connecticut Department of Energy and Environmental Protection, the meeting host. Representatives from local communities attended, but no representation was present at the county level.

Visioning Meeting	Stakeholder Representation
City of Baltimore	The visioning meeting was attended by representatives from both the state and county level, in addition to the additional stakeholders from Federal agencies. This visioning meeting also coincided with the Maryland Silver Jackets meeting. Of those that attended, there was only one representative from the City of Baltimore. Coordination also occurred with representatives from the Port of Baltimore, but due to inclement weather and scheduling conflicts, they did not participate in-person at the visioning meeting.
City of Norfolk	The visioning meeting was attended by multiple representatives from the City of Norfolk including from the engineering, emergency management, and operations departments. Stakeholders representing the Navy were present. There were state representatives from the Department of Emergency Management and Department of Health, but representatives from the Virginia Department of Environmental Quality were not present.

4.5 Comparison of Stakeholder Responses to Report-Out Summaries

Section 3 presents the analysis of the individual stakeholder responses and the common themes that were represented in the response worksheets. An interim deliverable was developed for each visioning meeting. Within each interim deliverable, a summary of primary themes was reported. These primary themes, per topic, were derived from the summary posters that were used to present the group summary during the report-out portion of the visioning meeting. Comparison between the individual stakeholder response worksheet and these primary theme summaries is presented in this section to demonstrate the differences in how individuals answered the question and how the in-person group dynamic influenced what was reported. Observations of the trends associated with stakeholder responses are also captured in this section. Additional narratives are provided to address the three general topics discussed in the visioning meeting: vulnerabilities, solutions, and policy/legislative changes.

4.5.1 Vulnerabilities

The majority of stakeholder responses and poster summaries were synchronized regarding vulnerabilities. The visioning meeting attendees recognized that the areas where visioning meetings were held are susceptible to coastal, riverine, and stormwater flooding. The primary themes across most visioning meetings generally aligned, and specifics for each meeting are listed below in **Table 11**.

Review of the graphics and tables summarized in Section 3.1.1 was performed concurrently with the review of the report-out summaries. Of particular note were results from the Washington, D.C. visioning meeting. Unsurprisingly, since climate change was the main topic discussed at the visioning meeting, it was an often referenced topic. In addition, both the attendee response sheets and the summary report-out indicated that historical and cultural resources are highly vulnerable assets which are subject to flooding. Interpreted responses also indicated that Washington, D.C., with many of the Nation's essential operations and staff, indicated that disruption of services and operations is another particular vulnerability. For the City of Baltimore, an important theme was vulnerability of navigation, ports, and harbors, most likely because Baltimore is famed for its Inner Harbor and historic seaport area. During the visioning meetings, attendees at both the Rhode Island and Connecticut meetings

expressed concern about current and future coastal development or coastal redevelopment in cases that had been impacted by Hurricane Sandy.

Table 11. Synopsis of Reported Vulnerabilities

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Vulnerability

Nassau County Back Bays
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Low-lying topography
	• Insufficient height and coverage of existing bulkheads
	• Issues with aging infrastructure and location of key infrastructure in high risk areas, such as:
	  ○ Development within the floodplain and low-lying areas
	  ○ Utilities are mostly above-ground
	  ○ Aging stormwater infrastructure
	• Long-term/ongoing regional sediment management and beach maintenance is lacking
	• Safety
	  ○ Evacuation planning needed
	  ○ Lack of necessary communication
	  ○ Lack of education
	• Cost and economics
	• New construction in high hazard areas
	• Habitat impacts
	• Coastal erosion and flooding

Delaware Inland Bays and Delaware Bay Coast
 	
Stakeholder responses generally aligned with the summary of primary themes. However, it is noted that during review of stakeholder worksheets, no written responses regarding modeling efforts were recorded. Through facilitated discussion, this was considered a vulnerability.
	• Loss of land, habitat, and environmental concerns
	  ○ Delaware Seashore camp grounds, docks, and marinas
	  ○ Deterioration of beach
	  ○ Coastal forests
	  ○ Tidal marshes
	  ○ Freshwater wetlands
	  ○ Agricultural land loss caused by saltwater intrusion
	• Coastal flood risk and realistic flood loss information is not communicated adequately to the public.
	  ○ Communicate information that is easy to understand
	  ○ Unincorporated communities are not represented in planning decisions
	  ○ Proper (scientifically-based) identification and communication of storm type
	• Risks to utilities/infrastructure
	  ○ Loss of electrical power
	  ○ Health risks from releases of hazardous material
	  ○ Loss of business
	  ○ Transportation system threatened by rising waters and are a threat to public safety
	• Coastal flooding/storm surge
	  ○ Current building codes are lenient, building standard flood levels are too low
	  ○ Build to new codes that include effects of barrier beaches, inlets
	• Stormwater conveyance
	• Existing modeling efforts produce results that are too low, which impacts development and building requirements, and provides the public/decision makers with a false sense of security.

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Vulnerability

Washington, D.C. (National Capital Region)
 	
Stakeholder responses generally aligned with the summary of primary themes. Historical and cultural resources were identified as particularly vulnerable assets. Discussion also centered on the vulnerability of the Metro and DC Water infrastructure. In addition, SLC was identified in stakeholder responses, but was not explicitly captured in the report-out summary.
	• Health, safety, and welfare
	• Flooding
	  ○ Buildings and mechanical systems
	  ○ Critical infrastructure
	  ○ Historical and cultural resources
	  ○ Transportation
	  ○ Utilities
	  ○ Medical facilities
	  ○ Emergency response
	• Cascading impacts
	  ○ Environmental impacts on habitats, biological resources
	  ○ Displacement of coastal operations (and waterfront)
	  ▪ Maintenance and continuity of operations for facilities and staffing
	  ○ Cultural resources and infrastructure including National monuments and museums
	  ○ Recreation in tourism areas and redefinition of park boundaries
	• Future infrastructure and design standards
	  ○ Incorporating into capital planning and facilities plans
	  ▪ Community/regional approach

Coastal Rhode Island
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Natural systems
	  ○ Beach, dune systems
	  ○ Back bay barriers, coastal wetlands
	  ○ Eel grass habitats
	• Storm exposure (inland and coastal—southerly exposure)
	  ○ Habitat loss
	  ○ Generally low topography
	  ▪ Coastal hazards/flooding
	  ▪ Riverine flooding
	  ▪ Sea level change
	  ▪ Storm surge
	  ○ Contamination
	  ○ Erosion
	• Access
	  ○ Emergency response
	  ○ Low-lying roads/ wash-over of sand onto roadways/ evacuation/detour routes
	  ○ Debris from trees
	• Infrastructure
	  ○ Public and private
	  ○ Above ground utilities and power supply
	  ○ Septic systems/wells
	  ○ Wastewater treatment plant
	  ○ Drinking water lines
	  ○ Coastal development
	• Socioeconomic and cultural
	  ○ Town and regional identity as coastal communities
	  ○ Property-by-property or town-by-town decisions
	  ○ Economic drivers—tourism and tax base
	  ○ Potential loss of tax base
	  ○ Adaptive capacity of communities
	  ○ Lean from past storms, but improve interagency coordination
	  ○ Changing mindset

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Vulnerability

Coastal Connecticut
 	
Stakeholder responses generally aligned with the summary of primary themes. Comprehensive planning effort was noted in stakeholder responses and a mention of poor historical planning is interpreted as a need for comprehensive planning. Erosion and scour were also noted in some stakeholder responses – land loss was interpreted as a similar response.
	• Low-lying areas (extensive shoreline)
	  ○ Many residences
	  ○ Utilities
	  ○ Infrastructure – including major highways and rail lines
	  ○ Coastal and inland flooding
	  ○ Sea level change
	  ○ Public amenities
	• Economic impacts
	  ○ Recovery costs
	  ○ Implementation costs
	  ○ Business loss of use
	  ○ Loss of tax base
	  ○ Tourism loss
	  ○ Economic growth opportunity
	• Environmental impacts
	  ○ Habitat/land loss of wetlands, marshes, and bluffs
	  ○ Sensitive ecological areas
	  ○ Water quality
	  ○ Human health
	  ○ Needs for “green” infrastructure/buffer
	• Infrastructure
	  ○ Age/capacity
	  ○ Water, WWTP, Power, Housing
	  ○ Tree damage/debris
	  ○ Roadways for emergency access and evacuation
	  ○ Amtrak and other rail routes
	  ○ Shelters required for people and pets
	• Poor historical planning
	  ○ Mitigation
	  ○ Preparedness and through national response framework
	  ○ Education/community engagement
	  ○ Social vulnerability

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Vulnerability

City of Baltimore
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Critical infrastructure- Vulnerable to inundation flooding and aging
	  ○ Utilities
	  ○ Transportation systems (including navigation channels)
	  ○ Power grid
	  ○ Wastewater treatment plants
	  ○ Other facilities
	  ○ Communication systems
	  ○ Stormwater systems
	  ○ Military facilities
	  ○ Conowingo Dam
	• Stormwater and interior flooding
	• Lack of flood risk management projects
	• Wind impacts
	• Uncertainties associated with weather forecasting, SLC, and associated impacts
	• Natural resources/systems
	  ○ Services they provide are compromised
	  ○ Systems are impacted by storm events and can become a liability
	• Social considerations
	  ○ Public safety
	  ○ Communities, vulnerable populations
	  ○ Hospitals/schools
	  ○ Emergency response system/access/communication
	  ○ Food supply and resilience planning after a hazard event
	• Economic losses/impacts
	  ○ Impacts to business/tourism
	  ○ Cost of road detours
	  ○ Underfunded operations and management budgets compared to capital improvements
	  ○ Flood insurance/mapping changes
	  ▪ Uninsured residents in special flood hazard areas without a mortgage requiring a flood insurance policy

City of Norfolk	N/A, vulnerabilities were not explicitly discussed during this visioning meeting.

4.5.2 Solutions

The majority of stakeholder responses corresponded to poster summaries. Visioning meeting attendees at various locations recognized that, in general, solutions would work if applied in the correct context. Review of the summarized results from the attendee worksheets in Section 3.1.2 provided insight into the potential preferences of certain areas.

Both the City of Baltimore and Washington, D.C. did not explicitly state potential “community scale” or “building scale” measures as a top tier solution to managing coastal flood risk. Most likely, difficulty in obtaining public acceptance of more stringent land use regulations or the impracticality of elevating historic structures disqualifies it as an appropriate solution.

However, the attendees at the City of Norfolk visioning meeting reported the “community scale” measures as its top potential solution. As mentioned in Section 3.1.2, comprehensive planning was another common theme amongst all visioning meetings.

Attendees at the Delaware visioning meeting identified that the restoration and stabilization of existing natural features was a top solution and this could be attributed to the multiple wildlife refuges within the study area.

An observation that is not clearly evident in the table below, involves two focus areas that are adjacent to each other and yet resulted in differing opinions regarding solutions. Solutions discussed in coastal Rhode Island revolved around the concept of balancing "managed retreat" with "loss of tax base." This was discussed, at length, during the breakout sessions in Rhode Island. However, in coastal Connecticut, the concept of "managed retreat" was only peripherally discussed. Part of the reason for avoiding the phrase "managed retreat" during the Connecticut visioning meeting was due to a prior, statewide legislative attempt to incorporate retreat as a potential policy. The general public reacted negatively to the possibility of legislative reform and the topic has not been publicly vetted since.

Table 12. Synopsis of Reported Solutions

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Solutions

Nassau County Back Bays
 	
Stakeholder responses generally aligned with the summary of primary themes. "Interagency coordination" was expressed on stakeholder worksheets, but was not explicitly summarized.
	• Zoning policy and building code
	  ○ Infrastructure evaluation
	• Elevate roads/homes/businesses
	• Smart reconstruction – two sides of the spectrum were recognized:
	  ○ Retreat from the shoreline, or
	  ○ Build and engineer solutions to protect the shoreline development
	  ○ Both types of solutions should be considered in any planning effort
	• Preventing access via the Jones Inlet
	• Fund the Long Beach Project
	• Environmental concerns
	• Buyouts
	• Prepare communities for evacuation planning – identify protected routes
	  ○ Protect routes
	  ○ Communication

Delaware Inland Bays and Delaware Bay Coast
 	
Stakeholder responses generally aligned with the summary of primary themes. "Risk Identification and Assessments" were expressed on stakeholder worksheets, but are not explicitly summarized.
	• Unique and out-of-the-box solutions
	• Better modeling
	  ○ Improve flood prediction models and maps
	• Better communication
	  ○ Improve education/engagement
	• Beach nourishment/structural measures
	  ○ Coastal relief/restoration
	  ○ Raise seawall
	  ○ Jetty wall repair
	  ○ Storm surge barriers
	  ○ Wetlands restoration
	• Land Use Policies and Building Permit Standards
	  ○ Update/create future decision standards by taking coastal flooding into account
	  ○ Smart planning
	• Potential upgrades and assessments
	  ○ Manage development for transportation infrastructure
	  ○ Elevation of marshes/structures/infrastructure
	  ○ Storm drain assessment
	  ○ Relocation of homes
	  ○ Tide gates
	  ○ Dikes

Washington, D.C. (National Capital Region)	N/A. Specific solutions were not explicitly discussed during this visioning meeting.

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Solutions

Coastal Rhode Island
 	
Stakeholder responses generally aligned with the summary of primary themes. Although restoring natural systems is listed as a solution in the summary, "Green Infrastructure" and "Natural and Nature-Based Infrastructure" was expressed in worksheets, but are not listed herein.
	• Proactive adaptation and future mitigation planning
	  ○ Coastal monitoring and better data
	  ○ Improved mapping
	  ○ Low impact development
	  ○ Sea level change planning
	  ○ Move utilities underground
	  ○ Build roads at an elevation to prevent overwash
	  ○ Design infrastructure
	  ○ Alternative power sources
	• Policy changes
	  ○ Increasingly stringent building codes and flood insurance
	  ○ Creating a sustainable economy
	• Human influence
	  ○ Restore natural systems
	  ○ Move commercial nodes
	• Increased awareness/engagement
	  ○ Funding/public-private
	• Infrastructure
	  ○ Lead by example
	  ○ Retreat/elevate/move/acquire
	  ○ Relocate WWTPs or flood-proof critical infrastructure
	  ○ Address vulnerable septic systems
	  ○ Development in "smart" places
	• Regional zoning (across town borders)
	  ○ Designate areas of protection, retreat, and restoration
	  ○ Provide incentives
	  ○ Develop criteria
	  ○ Conduct proactively
	  ○ Enhance coordination

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Solutions

Coastal Connecticut
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Community education and capacity building
	  ○ Education/collaboration on "real-risk" and unknowns
	  ○ Identify vulnerabilities (infrastructure)
	  ○ Decide how/where to rebuild
	• Planning
	  ○ Design resilient infrastructure
	  ○ Hazard mitigation planning
	  ○ Protect natural defenses
	  ○ Planning and decisions for shoreline retreat and hardening
	  ○ Coordinate emergency planning
	• Research, reliable data, and innovation
	• Policy changes
	  ○ Building codes
	  ○ Increase minimum standards such as those related to risk and uncertainty of forecasted SLC scenarios
	  ▪ At state level
	  ▪ Allow communities to better enforce
	  ▪ Address rebuilding post-storm
	  ▪ Identify resources (long term recovery coordinator at regional and local levels)
	  ○ Zoning codes such as Coastal A-Zone regulations
	  ○ Buyouts, including funding
	  ○ Discourage buildings in sensitive areas
	• Property acquisition - elevate, planned and managed retreat, adapt
	  ○ Difficult politically
	  ○ Economic incentives
	  ○ From most vulnerable areas to help increase natural buffer

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Solutions

City of Baltimore
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Infrastructure
	  ○ Evaluate existing infrastructure
	  ○ Maintain access to public infrastructure without increasing risk
	  ○ Identify high risk areas and critical assets
	  ○ Identify backup facilities
	• Future planning
	  ○ Consider future scenarios and conditions for infrastructure design and operations
	  ○ Floodplain management and mitigation
	  ○ Identify areas of natural protection
	  ○ Develop a better understanding of risks and vulnerabilities
	  ○ Collaboration across agencies / communities / NGOs / jurisdictions (example: Silver Jackets)
	  ○ Education/engagement
	  ○ Pre-position assets and continue future planning instead of retroactively
	  ▪ Use of historic events (i.e., Hurricane Isabel) as a baseline assessment for flood risk management
	  ○ Incorporation of SLC criteria
	• Environmental
	  ○ Improve mapping/modeling to inform solutions and identify high risk areas
	  ○ Improve information regarding the effectiveness of storm risk management techniques
	• Communication
	  ○ Move to analysis of a range of scenarios vs. one scenario when communicating risk
	  ○ Early warning and emergency plan systems
	  ○ Develop a common language to communicate risk
	  ○ Dissemination of flood depth grids
	  ○ Public engagement and education
	  ▪ Safety, evacuation, preparedness
	  ▪ Uninsured property owners currently in the floodplain
	• Risk assessment
	  ○ Support data collection to inform future planning and design efforts to limit risk
	  ○ Support science to improve forecasting and warning systems
	  ○ Enhance state-mandated rebuilding regulations
	  ○ Identify all risks-coastal, riverine, etc.
	  ▪ Inventory of exposed areas
	  ▪ Determine risk sensitivity of structure
	  ▪ Adaptive capacity

City of Norfolk
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• More comprehensive strategy
	  ○ Use of money for biggest positive impact
	  ○ Include private industry
	  ○ Must be multi-level, multi-tiered approach
	• Improve communication of risk
	  ○ Use graphics
	  ○ Risk identification with home sales and planning decisions
	• Well defined egress and evacuation routes
	• Compare physical barriers vs. economics cost of relocation of major cities
	• Uniform guidance and data assets
	• Flood insurance actuarial rates
	• Funding for attending regional forum discussions
	• Regional approach to generator locations
	  ○ Solar charging stations for cell phones [public]

4.5.3 Policy Change or Legislative Solution

The manner in which the visioning meetings were designed allowed for duplication of answers similar to those that were described and summarized in the previous section, 4.5.2, in regards to general solutions and management of coastal storm risk. Review of the summarized results from the attendee worksheets in Section 3.1.3 provided insight into the potential preferences of stakeholders in certain areas. Interagency coordination and communication was a repeated challenge for most visioning meetings. The need for collaboration and consensus was particularly expressed in multiple visioning meetings.

The Cities of Baltimore and Norfolk have both recently undertaken SLC impact studies and the policy challenges associated with implementation of the recommendations from those studies was discussed.

The City of Norfolk also had animated discussions regarding the need for public-private partnership in order to provide an economically sustainable waterfront area. Typically, allowable funding was identified as a significant policy change that would aid in implementation of proper coastal management.

Attendees from the Nassau County visioning meeting discussed the need for funding and capacity building to support the disaster recovery efforts.

Also, a lot of discussion revolved around potential changes to the FEMA National Flood Insurance Program (NFIP) and the potential changes from the Biggert-Waters Act of 2012. On March 21, 2014, the Homeowner Flood Insurance Affordability Act of 2014 amended some of the legislative mandates listed in the Biggert-Waters Act of 2012. Nevertheless, the responses listed herein reflect the responses from the visioning meetings that took place prior to the passage of the law. The documented suggestions to potential policy changes or legislative solutions are still valid.

Table 13. Synopsis of Reported Policy Challenges and Possible Solutions

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Policy Challenges

Nassau County Back Bays
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Benefit-cost analysis to be completed before reconstruction. The current situation seems to be spending money in a lot of different places without a concerted effort by all parties to identify the best solutions.
	• Funding:
	  ○ For mitigation/resilience/safety
	  ○ For improved reconstruction
	  ○ Flexibility
	  ○ To maintain open space
	  ○ Improved timing of funding
	• 100% Federal funding
	• Partnership—clearer definitions of roles and responsibilities
	  ○ Legislative
	  ○ Fiscal
	  ○ Levels of government
	  ○ Interagency
	  ○ Regulatory consistency
	  ▪ Decision making transparency
	  ▪ Federal funding
	• Floodplain management
	  ○ Building/zoning codes
	  ○ Insurance (cost and structure)
	• Increased coordination and leadership between Federal, state, and local agencies

Delaware Inland Bays and Delaware Bay Coast *Stakeholder responses generally aligned with the summary of primary themes. Stakeholder responses also suggest using "Community-scale Floodplain Management and Zoning" as a policy change, but was not explicitly summarized.*	• Adoption of stricter building codes and standards to improve building resilience • Changes to NFIP programs (incentives) • Provide/disseminate information on costs and risks of coastal flooding • Flood risk maps for future scenarios • Funding mechanisms to address cost share issue • FEMA/USACE data sharing • Streamlined permitting for living shorelines (natural and nature-based features) • Changes in "Federal Standard" regarding dredge material disposal • Federal budgeting should consider regional budgeting instead of by business lines

Washington, D.C. (National Capital Region)
 	
Although specific policy solutions were not discussed, the summary of primary themes discussed policy issues and therefore is summarized here.
	• Policy and regulation
	  ○ Differences between different levels of government
	  ○ Management of existing policies
	  ○ Changes/improvements to datasets, etc. that are provided to communities and other agencies
	  ○ Capacity building to instill flood risk issues
	• Valuation/monetary assessment for vulnerabilities

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Policy Challenges

Coastal Rhode Island
 	
Stakeholder responses generally aligned with the summary of primary themes. Stakeholder responses also indicated that "Incentives" would be a potential policy change, but was not explicitly summarized.
	• Policy reform
	  ○ Policy change to maintain and better protect existing coastal resources
	  ○ Science and engineering based policy
	  ○ Implement solutions in sustainable way
	  ○ Flood insurance reform
	  ○ Pass carbon cap and trade tax to curb greenhouse gases
	• Construction
	  ○ Enforcement of existing policies, regulations
	  ○ More stringent codes on reconstruction and new construction
	  ○ Reduce repetitive loss claims
	  ○ Limit construction and reconstruction in areas subject to frequent storm damage
	  ○ Stop funding reconstruction and use free market to dictate construction/reconstruction
	  ○ Development of Standards
	  ▪ Require standards that account for risk and uncertainty associated with forecasted SLR scenarios
	  ▪ Require CRMC permit that incorporate SLR setbacks
	• Rolling "Easement"
	  ○ No current mechanism in state
	  ○ Some type of legacy lease
	  ○ State or community could buy out property, allow current landowner to resize for a set period of time (~30 years)
	• Develop plan for prioritized mitigation
	  ○ Get local buy-in
	  ○ Buyouts
	  ▪ "1 strike and you're out" for new construction
	  ▪ "Buyer beware" for vulnerable areas
	• Funding
	  ○ Increased cost of compliance
	  ○ Mitigation funding as temporary solution
	  ○ Tax structure reform
	• Investment support
	  ○ Data sharing
	• Education (statewide curriculum)
	  ○ Resilience
	  ○ SLC
	  ○ Awareness of alternative solutions

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Policy Challenges

Coastal Connecticut
 	
Stakeholder responses generally aligned with the summary of primary themes. Stakeholders expressed "Interagency Coordination and Collaboration" as a potential policy change, but it was not explicitly summarized.
	• Regional planning authority and guidance
	  ○ Prioritize coordination and communication
	  ○ Consistency and continuity among state/various Federal agencies
	  ▪ Incentivize to encourage resilience and mitigation projects
	  ○ Need for regional planning authority since individual decision making among towns are inconsistent
	  ○ Mandate benefit-cost risk analysis before any Federal/state funds are expended
	  ▪ 50 year-minor improvements
	  ▪ 75 year-major improvements
	  ○ Educate legislators on benefit-cost analysis to focus better on infrastructure resilience projects
	• Funding
	  ○ Public/private funding to incentivize adaptation
	  ○ Fund high impact and open space projects
	• Refine Biggert-Waters 2012 (BW2012), but do not repeal
	• Revise land use and building codes to restrict or prohibit development especially in vulnerable area

City of Baltimore
 	
Stakeholder responses generally aligned with the summary of primary themes.
	• Flood management
	  ○ Easier process for buyouts and floodplain restoration
	  ○ Develop new long-term design standards
	  ○ Consider implementation of systemic, redundant approaches to minimize "down time"
	  ○ Mandate flood insurance to consider sea level rise and other projected future conditions
	  ○ Changes to zoning and planning to account for inundation risk
	  ○ Pay for your risk
	  ○ Improve incentives for floodplain restoration including wildlife habitat
	  ○ Consideration of multiple future scenarios to inform planning and design and warning statements
	  ○ Limit support to current properties in floodplains
	• Enhanced agency, stakeholder, and policy maker communication and coordination
	• Coordinate interagency Memorandums of Understanding (MOU) to facilitate action
	• Risk assessment
	  ○ Funding for forecasting improvements
	  ○ Education of risk

Visioning Meeting and Observations from Worksheets	Interim Deliverable Summary of Policy Challenges

City of Norfolk	• Find ways to address repetitive flood losses
	• Engage local stakeholders in process and provide accurate information to the public
	• Local land use policies, constraints on development
	• Authority
	  ○ Give more authority to agencies that do technical work and longer-term funding
	  ○ Give local authority to do comprehensive planning
	  ○ Provide/determine a lead for information dissemination and information credibility
	  ○ Have one group/agency in charge of a study
	• More funding (public/private)
	  ○ Short-term/mid-term/long-term
	  ○ Incremental, sustained effort
	  ○ Incentives to promote desired behavior
	  ○ Creative solutions for financing
	• Legislative change on a commonwealth level
	  ○ One common future condition to plan/design to
	  ○ Priorities for state and local
	  ○ Address policies which limit natural feature capabilities
	  ○ State leadership when working together

Section 5
Conclusions

The communication and learning experienced at the visioning meetings should continue through the duration of the NACCS and well into the follow-on relationships between Federal, regional, state, and local stakeholders. Most participants indicated that they were given an opportunity to provide USACE input during the visioning meetings. The goal of providing straightforward information regarding the NACCS, generating thought-provoking discussion, collecting the attendees' input on broader coastal storm risk management issues, and translating that input into common themes to inform the NACCS was achieved.

Two major observations were clear as part of the visioning meetings. First, the severity of impacts from a disaster will dictate the extent of stakeholder feedback, type of information, and level of stakeholder engagement. The two, substantially large focus areas that were most severely impacted by Hurricane Sandy, New York-New Jersey Harbor and its Tributaries and New Jersey Back Bays, did not conduct true visioning meetings. Both areas suffered from burdensome data and information requests as well as a multitude of various stakeholder engagement meetings, engagement events, town halls, etc. These areas experienced differing priorities from a multitude of Federal and state agencies, a lack of local capacity and staff to address such request, and general disaster fatigue. To some extent, a similar response was conveyed by the attendees of the Nassau County Back Bays visioning meeting.

The second lesson is that communication through the avenues of interagency collaboration is quintessential to engage and involve the population of local, state, academic, private, and other stakeholders. The cooperation between all of the agencies, be it Federal, state, and regional entities, is needed to deliver a shared vision to the local communities. Communities, who often bear the burden of knowing the absolute specifics of the issues that they face and the capacity to which they can implement coastal risk management measures, may follow suit in cooperation and could provide and seek additional support.

Appendix A: Nassau County Back Bays Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
Nassau County Back Bays
Visioning Meeting
Interim Deliverable

February 4, 2014

1:00 PM – 3:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Tuesday, February 4, 2014 the U.S Army Corps of Engineers (USACE) New York District conducted an in-person visioning meeting with representatives from state agencies, local communities, and concerned citizens with specific focus and dialogue related to the Nassau County Back Bays Focus Area. Twenty-four people attended the 2 hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agency:	US Army Corps of Engineers (USACE)
State Agencies:	New York State Department of Environmental Conservation (NYSDEC) New York Rising Community Reconstruction Program (CRP) Department of State South Shore Estuaries Reserve (DOS SSER)
Communities:	Town of Hempstead Village of Freeport Village of East Rockaway Village of Island Park Nassau County
Other:	Bioengineering Group CDM Smith (meeting facilitation team)
Location:	Merrick Road Park, 2550 Clubhouse Road, Merrick, New York

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment was driven by a presentation provided by Donald Cresitello, (USACE) on the overview of the NACCS, and Ginger Croom (CDM Smith) on an overview of the Focus Area Analysis conducted for this area as part of the NACCS. Anthony Ciorra (USACE) presented an overview of USACE Sandy Recovery efforts in Nassau County, and Long Island in general. Zachary Richner

(New York Rising) presented an overview of the NY Rising Community Reconstruction Program. These presentations are included in Attachment C. The second part of the meeting was a facilitated discussion aimed at surfacing participant insights on the vision for the local coastal issues. Photographs from the meeting are included in Attachment D.

Following the presentation, questions and discussion topics were raised.

Questions/Discussion:

- A member of the audience raised a question regarding other ongoing recovery efforts, such as Rebuild by Design, and whether the NACCS study team was coordinating efforts. Donald Cresitello answered that coordination with these other efforts is being considered and will be conducted to the extent possible. The NACCS is trying to coordinate with other programs to obtain additional relevant information to the extent possible.
- A member of the audience asked whether funds that will become available as part of the NY Rising Community Reconstruction Program could be used as the non-federal cost share for potential USACE projects, and the response was affirmative.

At the conclusion of the question and answer period, a brief break was followed by facilitated discussions with attendees broken out into three groups for brainstorming sessions. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

Question 1: How is your community most vulnerable to coastal storm risk?

- Low lying topography
- Insufficient height and coverage of existing bulkheads
- Issues with aging infrastructure and location of key infrastructure in high risk areas, such as:
    - Development within the floodplain and low-lying areas
    - Utilities-mostly above-ground
    - Aging stormwater infrastructure
- Long term / ongoing regional sediment management and beach maintenance is lacking
- Safety
    - Evacuation planning needed
    - Lack of necessary communication
    - Lack of education
- Cost and economics
- New construction in high hazard areas
- Habitat impacts
- Coastal erosion and flooding

Question 2: Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?

- Zoning policy and building code
    - Infrastructure evaluation

- Elevate roads/homes/businesses
- Smart reconstruction – two sides of the spectrum were recognized:
    - Retreat from the shoreline, or
    - Build and engineer solutions to protect the shoreline development
    - Both types of solutions should be considered in any planning effort
- Preventing access via the Jones Inlet
- Fund the Long Beach Project
- Environmental concerns
- Buyouts
- Prepare communities for evacuation planning – identify protected routes
    - Protect routes
    - Communication

Question 3: What is the most prominent policy change or legislative solution that could improve coastal resilience?

- Cost-benefit analysis to be completed before reconstruction. The current situation seems to be spending money in a lot of different places without a concerted effort by all parties to identify the best solutions.
- Funding:
    - For mitigation/resilience/safety
    - For improved reconstruction
    - Flexibility
    - To maintain open space
    - Improved timing of funding
- 100% Federal funding
- Partnership—clearer definitions of roles and responsibilities
    - Legislative
    - Fiscal
    - Levels of government
    - Interagency
    - Regulatory consistency
        - Decision-making transparency
        - Federal funding
- Floodplain management
    - Building/zoning codes
    - Insurance (cost and structure)
- Increased coordination and leadership between federal, state, and local agencies

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
Nassau County Back Bays
Visioning Meeting - Facilitated Breakout Groups

Name	Organization
Group A	
Ginger Croom	CDM Smith (facilitator)
Zachary Richner	New York Rising CRP
Alan Fuchs	NYSDEC
Ron Masters	Town of Hempstead
Joe Madigan	Village of Freeport
Sergio Mauras	Village of Freeport
Group B	
Lauren Klonsky	CDM Smith (facilitator)
Phyllis Elgut	New York Rising CRP
Eric Star	NYSDEC
Michelle Gibbons	NYSDEC
Donald Cresitello	USACE
Roman Rakoczy	USACE
Juan Garcia	Village of East Rockaway
Jonathan Smith	Village of Freeport
Kent Katter	Village of Island Park
Group C	
Jamie Lekfowitz	CDM Smith (facilitator)
Sherry Forgash	DOS SSER Office
Brian Schneider	Nassau Conty
Satish Sood	Nassau County
Sean Sallie	NCDPW
Peter Scully	NYSDEC
Other	
Michael Scarano	Bioengineering Group
Nanette Vignola-Henry	CDM Smith
Mike Foley	Town of Hempstead

NACCS Visioning Session

Nassau County Back Bays - 2/04/2014

Name	Community/Agency	Title	E-Mail	Telephone
Roman Rakoczy	USACE	Sr Planner	roman.g.rakoczy@usace.army.mil	518-698-4330
Ron Masters	Town Hempstead	Commissioner	rmasters@tohmail.org	516 897-4118
Al Fuchs	NYSDEC	Director	AAFUCHS@GW.DEC.STATE.NY.US	518 402 8185
Nanette Vignola	CDM Smith		vignolahenningn@cdmsmith.com	516-496-8400
Joe Madigan	Vill. of Frpt.	Floodplain Mgr. Supt. Bldg	JMADIGAN@FREEPORTNY.GOV	516 377-2243
Peter A Scully	NYSDEC	Regional Director	pascully@gw.dec.state.ny.us	631-444-0345
Michelle Gibbons	NYSDEC	Wildlife Manager	mlgibbon@gw.dec.state.ny.us	631 444 0306
MIKE FOLEY	TOWN HEMPSTEAD	LAB DIRECTOR	MICHFOL@TOHMAIL.org	516 897 4133
SERGIO A. MAURAS	VILLAGE OF FREEPORT.	BUILDING INSPECTOR	SMAURAS@FREEPORTNY.GOV	516-351-3316
Jonathan Smith	Village of Freeport	Building Inspector	JSmith@freeportny.gov	516-659-1902
BRIAN SCHNEIDER	NASSAU COUNTY	ASST. TO DEP. COMM	bschneider@nassaucountyny.gov	516 571-9610
Kent Katter	Village of Island Park	Building Admin	Katter44@gmail.com	516 544.2220
MICHAEL SCARANO	BOENGINEERING GROUP / PERKINS-EASTMAN/BFJ/L BERGER	VP, PM/PgM	mscarano@att.net mscarano@boengineering.com	917 860-2671
[illegible signature]	NYSDEC	EPS2	EXSTARE@gw.dec.state.ny.us	631 444 0423
Donald E. Cresitello	USACE-NY	Planner	donald.e.cresitello@usace.army.mil	917 790 8608

NACCS Visioning Session
Nassau County Back Bays - 2/04/2014

Name	Community/Agency	Title	E-Mail	Telephone
FOR N. ROCKS SHERRY FORGASH	DOS SSER OFFICE	PROG. Impl. Spec.	SHERRY.FORGASH@DOS.NY.GOV	631-952-7901
Zachary Richner	NY Rising	Policy Director	ZRichner@stormrecovery.ny.gov	
Sean Sallie	NCDPW	Planner III	SSallie@nassaucountyny.gov	
Stanislaw Sood	NC DPW	Dep Commissioner	Ssood@nassaucountyny.gov	
JUAN GARCIA	EAST ROCKAWAY	VILLAGE ENGINEER	JGARCIA@VILLAGEOFEASTROCKAWAY.ORG	(516) 887-0316
Phyllis Elgut	NYSDOT/NYRCR	SENIOR SPEC./PLANNER (NYRCR)	phyllis.elgut@dot.ny.gov	631 952-7904
Ginger Croom	CDM Smith	Facilitator	croomgl@cdmsmith.com	617-999-9691
Lauren Klonsky	CDM Smith	Facilitator	klonskyls@cdmsmith.com	617-452-6361
Jamie Lefkowitz	CDM Smith	Facilitator	lefkowitzj@cdmsmith.com	617-452-6591

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays

Merrick Road Park
2550 Clubhouse Road, Merrick, New York

February 4, 2014
1-3 pm

I. Introductions

II. Agenda Overview and Meeting Purpose

III. USACE NACCS
a. Update
b. Focus Area Analysis

IV. Other Updates

BREAK

V. Facilitated Discussion Topics
a. Vulnerability
b. Potential Solutions
c. Policy and Institutional Barriers

VI. Closing Remarks/Adjourn

List of Handouts

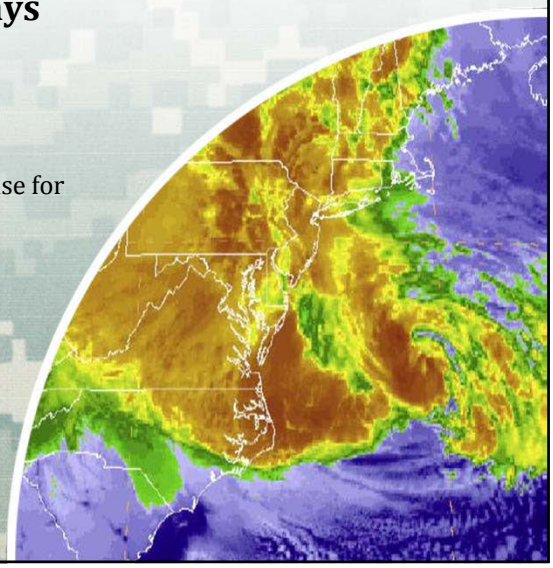
Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

Nassau County Back Bays Visioning Meeting



U.S. Army Corps of Engineers
National Planning Center of Expertise for Coastal Storm Risk Management

4 February 2014

Introductions

USACE
- Donald E. Cresitello
- Roman Rakoczy
- Anthony Ciorra
- Peter Weppler

NYSDEC
- Alan Fuchs
- Eileen Murphy
- Peter Scully

CDM Smith – USACE Contractor
- Ginger Croom
- Lauren Klonsky
- Jamie Lefkowitz
- Nanette Vignola-Henry

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS**
  - ►**Update**
  - ►**Focus Area Analysis**
- **IV. Other Updates**

  BREAK
- **V. Facilitated Discussion** (small groups)
- **VI. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015

Sandy Overview

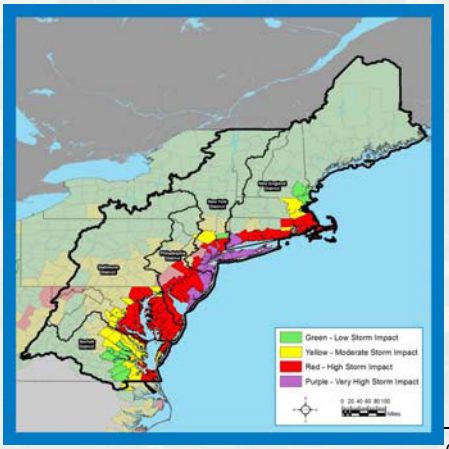
- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  24 States from Florida to Maine; New Jersey and New York to Michigan and Wisconsin
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

NACCS Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

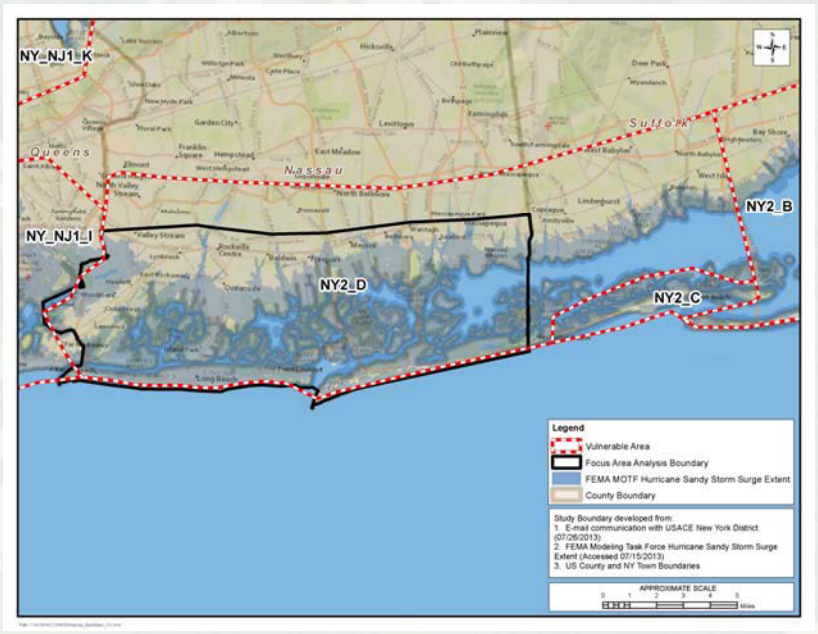
- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

Focus Area Analysis

Nassau County Back Bays



Feedback Requested (Fall 2013)

- 1. Problem identification for your area:
  - ► Did your area experience storm surge?
  - ► Specify particular areas and water bodies within your jurisdiction that experienced storm surge.
  - ► What factors, if any, exacerbated damages from storm surge?

Feedback Requested (Fall 2013)

- 2. Description of damages for your area:
  - Provide a narrative including the types of infrastructure damaged or temporarily out of use, structure (building) damages, personal injuries/fatalities.

Feedback Requested (Fall 2013)

- 3. Prior related studies or projects (local, state, federal) in the damaged area
- 4. Measures that your jurisdiction has considered to address the problem

Stakeholder Information

- **Nassau County** – Letter & Preliminary Damage Assessments of Facilities
- **City of Long Beach** – Meeting and Reports
  - ► Hurricane Sandy Storm Damage Report
  - ► Conditions Evaluation of Bulkheads & Outfall Structures
  - ► Comprehensive Plan Technical Memorandum Existing Conditions / Issues and Opportunities
  - ► Coastal Protection Study
- **Town of Hempstead** – Meeting and Correspondence
- **Village of Cedarhurst** – Letter

Stakeholder Information

- New York State Standard Multi-Hazard Mitigation Plan (2011)
- Nassau County, New York Multi-Jurisdictional Natural Hazard Mitigation Plan (2007)
- New York Recovers Hurricane Sandy Federal Recovery Support Strategy (2013)

Stakeholder Identified Problems

- Coastal Flooding
- Beach and Dune Erosion
- Stormwater / Collection System Flooding
- Aging Infrastructure

Stakeholder Identified Measures

- Replace or repair and/or elevate aging bulkheads, and harden shorelines
- Elevate bridges and other county roadways
- Develop a collection system maintenance/ management plan
- Construct stormwater force mains
- Install tide valves
- Provide submersible operation and emergency power at critical facilities

Stakeholder Identified Measures

- Maintain County ponds to manage flooding
- Constructed reefs
- Rehabilitate wetlands within South Oyster Bay
- Restore dune and beach systems (include dune vegetation)

Stakeholder Identified Measures

- Identify buyouts and relocation in high risk areas
- Improve hazard mitigation communication
- Develop bayside storm protection plans
- Update building codes and zoning regulations
- Apply regional sediment management
- Enhanced floodplain management

NACCS Next Steps
(Six Month Snapshot)

Early March 2014: Interagency release of the draft analyses

March 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

NACCS Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses currently ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

QUESTIONS

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS
  - Update
  - Focus Area Analysis
- **IV. Other Updates**

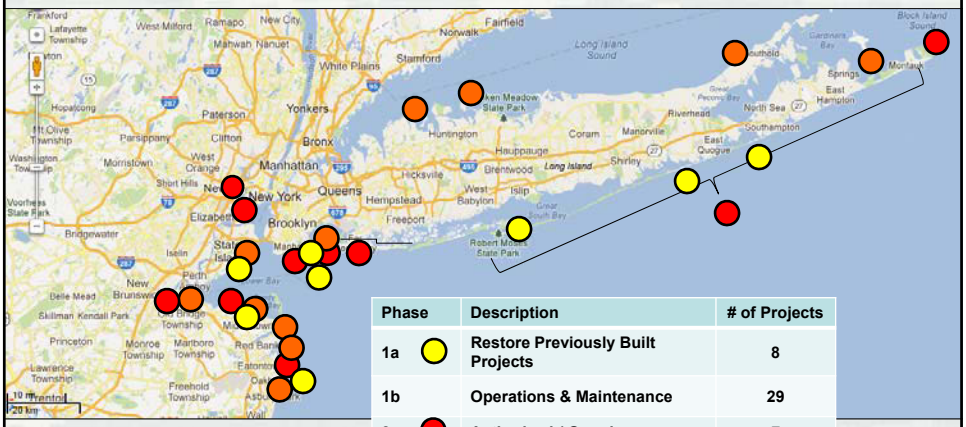
BREAK

- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Other Updates

- **USACE**
  - ► Sandy Recovery (other than NACCS)
- **NYS**
  - ► New York Rising Community Reconstruction Program

New York District-Sandy Recovery



Phase	Description	# of Projects
1a	Restore Previously Built Projects	8
1b	Operations & Maintenance	29
2a	Authorized / Ongoing	7
2b	Authorized / Unconstructed	4
2c	Ongoing Studies / New Projects	11
2d	Continuing Authorities Program	3

Program Estimate: $3.25 B
62 Projects

Sandy Recovery Project Phases

Phase	Description	# of Projects	Initial Estimate	Current Estimate
1a	FCCE Repair/Restore	8	$336 m	$298 m
1b	O&M	29	$489 m	$203 m
2a	Authorized / Ongoing	7	$1.29 b	$1.29 b
2b	Authorized / Unconstructed	4	$553 m	$553 m
2c	Ongoing Studies / New Projects	11	$17 m (study costs only)	$17 m
			$850 m (est. construction cost)	$850 m
2d	Continuing Authorities Program	3	$3 m	$10 m

Total Current Program Estimate (62 projects): ~$3.25 B

New York Rising Community Reconstruction Program

BREAK

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS
  - Update
  - Focus Area Analysis
- IV. Other Updates

BREAK

- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, or C based on name tag and table**
    - Group A: Ginger Croom
    - Group B: Lauren Klonsky
    - Group C: Jamie Lefkowitz
- **Discussion Topics**
  - ***Vulnerability***
  - ***Potential Solutions***
  - ***Institutional or Policy Challenges***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

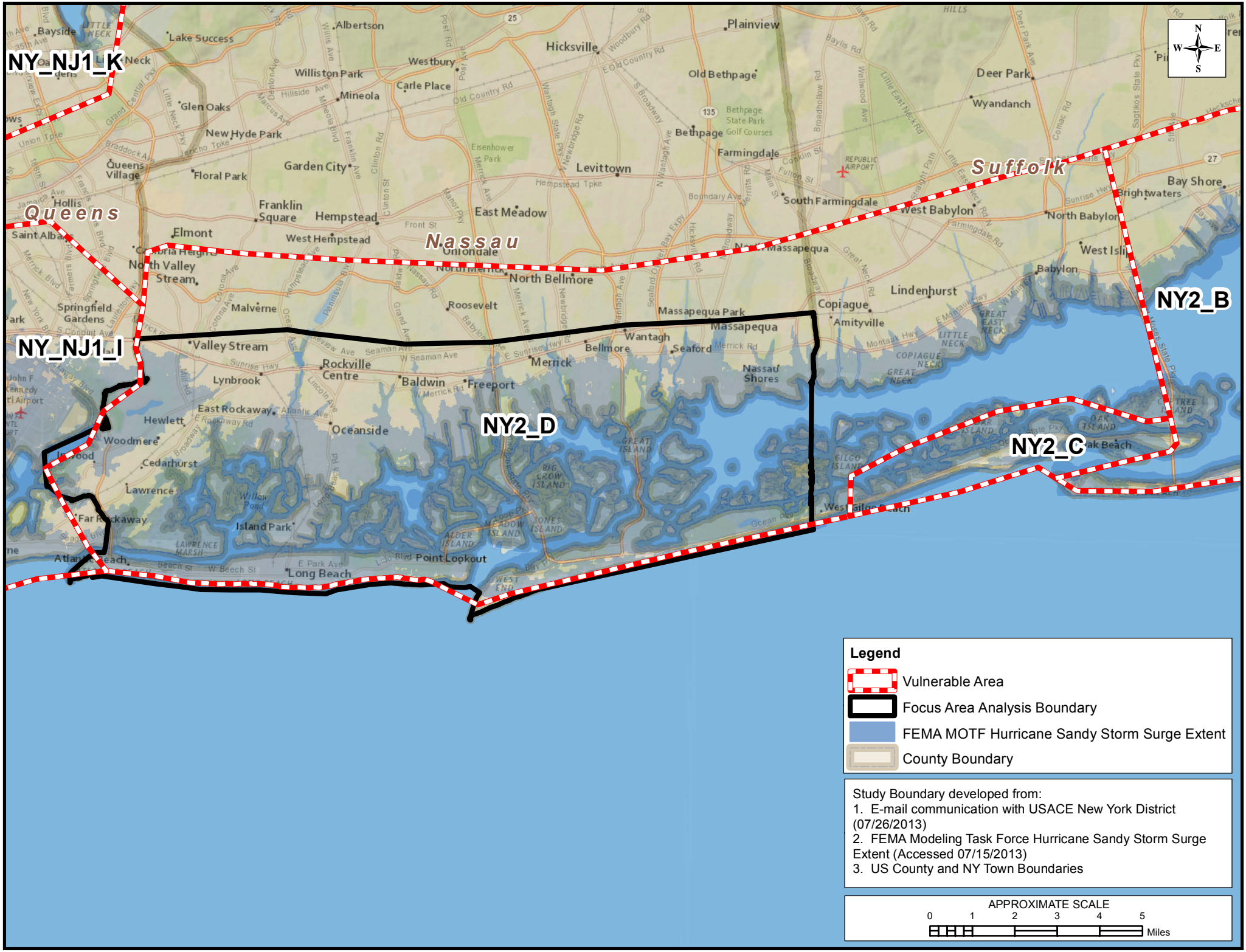
1. How is your community most vulnerable to coastal storm risk?
2. Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?
3. What is the most prominent policy change or legislative solution that could improve coastal resilience?

Small Group Report-Out

- Group A
- Group B
- Group C

Contact Information

- Donald E. Cresitello– USACE
  - Donald.E.Cresitello@usace.army.mil
  - 917-790-8608 (ph)
- Roman Rakoczy – USACE
  - Roman.G.Rakoczy@usace.army.mil
  - 518-698-4330 (ph)
- Ginger Croom – CDM Smith (USACE Contractor)
  - croomgl@cdmsmith.com
  - 617-452-6594 (ph and fax)
  - 617-999-9631 (mobile)



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Attachment D

Photograph Log

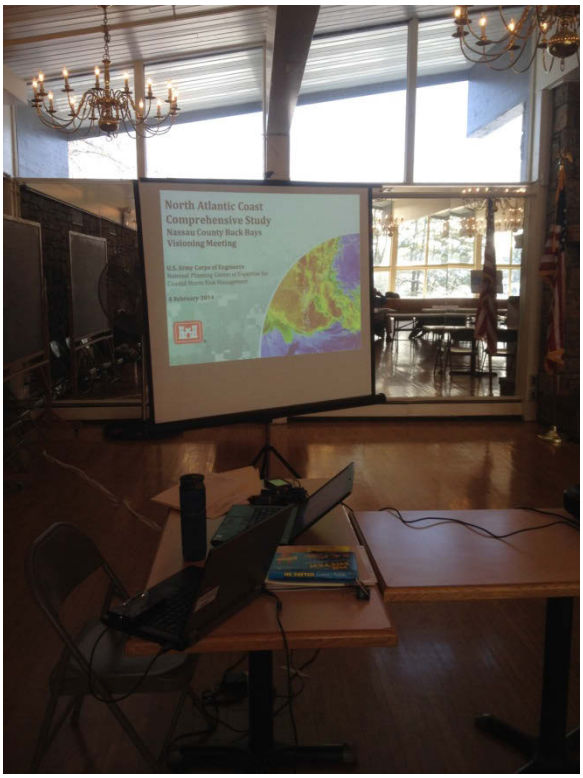

Photo 1- Presentation for the Visioning Meeting

Photo 2 – Participants gather and prepare for the meeting

Photo 3 – Zachary Richner from the New York Rising Community Reconstruction Program provides a program update.

Photo 4 – Meeting shifts toward breakout session discussions

Photo 5 – Ginger Croom (CDM Smith) prepares to document responses from the breakout session discussion

Photo 6 – Ginger Croom (CDM Smith) leads break out session.

Photo 7 – Jamie Lefkowitz (CDM Smith) documents responses from the breakout session discussion

Photo 8 –Brian Schneider (Nassau County) presents a summary of responses from Group C.

Photo 9 – Ron Masters (Town of Hempstead) presents a summary of responses from Group A.

Attachment E

Breakout Session Responses

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: JOE MADIGAN **EMAIL:** JMADIGAN@FREEPORTNY.GOV

Organization: VILL. OF FREEPORT

Question 1: ***How is your community most vulnerable to coastal storm risk?***

① Approx 2/3 of Village is in a AE Flood Zone. Residential & Commercial. Approx 3,500 structures. Also formerly marshlands. A direct line to Jones Beach Inlet. Geographically the water surges into Frpt. Bay Area & Residential/Commercial coast line. Freeport is one of the lowest elevations on L.I. South Shore.

② Elevation of streets, homes, (sea wall accountable) marsh replenishment.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: SERGIO A. MAURAS **EMAIL:**

Organization: VILLAGE OF FREEPORT BUILDING DEPT. SMAURAS@FREEPORTNY.GOV

Question 1: ***How is your community most vulnerable to coastal storm risk?***

THE VILLAGE OF FREEPORT IS A LOW LYING COASTAL COMMUNITY ON THE SOUTH SHORE OF LONG ISLAND. THE TOTAL SURGE HEIGHT FOR SANDY EQUALED 10.12 WHICH EQUATED TO APPROXIMATELY 4000 STRUCTURES BEING AFFECTED BY FLOODING. WE HAD APPROX. 130 SUBSTANTIALLY DAMAGED PROPERTIES. THERE WERE (INCLUSIVE OF THE 4000) APPROX, 220 PROPERTIES OUTSIDE THE FLOOD ZONE WHICH ALSO WERE AFFECTED BY WATER.

FREEPORT IS ALSO DIRECTLY AFFECTED BEING THAT THE JONES INLET ALLOWS FOR A DIRECT WATER ACCESS FROM THE ATLANTIC OCEAN, THE SURROUNDING MARSH AREAS HAVE DETERIORATED AS SO HAVE THE BARRIER ISLANDS.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Kent Katter **EMAIL:** Katter44@gmail.com
Organization: Village of Island Park

Question 1: ***How is your community most vulnerable to coastal storm risk?***

The Village of Island Park is surrounded by water on 3 sides and has an average elevation of 5' above sea level. The aging and/or lack of sufficient infrastructure ie. bulkheading, storm water drainage system and ~~roadway~~ & consistent beach erosion makes the Village vulnerable to coastal storms.

Key infrastructure - Village Hall, Fire station and evacuation routes are all located in the flood plain and flood consistently.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Phyllis Elgot **EMAIL:** phyllis.elgot@dot.ny.gov
Organization: NYSDOT/NYRCR

Question 1: ***How is your community most vulnerable to coastal storm risk?***

There is a higher risk to storm events during high tide events, which could impact community assets ie. residential / homes, transportation network, utility services, recreational resources, etc.

- Safety
- Communications
- Travel
- Economic
- Access

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 1: ***How is your community most vulnerable to coastal storm risk?***

1. Beach Erosion & development in Areas where homes & businesses should not be by Ocean.
2. Also Flooding from Bays.
3. ALL from Seawater rise
4. Long Beach Project Failure.
5. DEC PERMITS APPROVAL (SPEEDY)

Town Beaches
Point Lookout

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Jonathan Smith **EMAIL:** JSmith@freeportny.Gov

Organization: Village of Freeport

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- large amount of older Condensed Residential Housing located in the floozone. w/ low elevations.
- limited amount of energency route away from Coast in a major event.
- ~~prone to~~ many areas regularly prone to coastal flooding.
- Key Infrastructure built in floodzone - no space to relocate

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Peter A Scully **EMAIL:** pascully@gw.dec.state.ny.us

Organization: NYSDEC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Long Island is most vulnerable to coastal storm risk due to coastal erosion impacts and related flooding of the Long Island main land. In addition, developed areas in and around the coastline of the barrier beach mainland are at significant risk for property damage during coastal storm events. Finally the impacts of Hurricane Sandy on the barrier beach eliminated dune areas along much of Fire Island, leaving Long Island's south shore at greater risk in any future storm.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: SATISH SOOD **EMAIL:** SSood@nassaucountyNY.GOV
Organization: NCDPW.

Question 1: ***How is your community most vulnerable to coastal storm risk?***

The whole South Shore (near Coastal area) is effected by Coastal Storms (i.e. economically, Physically and ecologically)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Sean Sallie **EMAIL:**
Organization: NCDPW

Question 1: ***How is your community most vulnerable to coastal storm risk?***

S/S
- Back-bay shoreline typology is predominantly engineered / hard-edge.
- Storm water outfalls no longer clear High tide mark.
- High property values → potential for relocation / flood insurance relief.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Roman Rakoczy
Organization: USACE

EMAIL: roman.g.rakoczy@usace.army.mil

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Flooding/Erosion – main problem

Ill advised construction in flood prone areas – looking to structural solutions to solve problem

Sea Level Rise / significant erosion

False security from storm risk damage projects (people tend to build in areas where there are flood protection projects)

Rebuild infrastructure damaged by flood events to the same standards prior to the event (no lesson learned from event)

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Ocean Parkway **EMAIL:** EXSTAR@gw.dec.STATE.NY.US

Organization: NYSDEC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

LACK of (pre-SANDY) ANNUAL FUNDING TO maintenance dredge major inlets CREATES A SAND deficit which results in Shoreline Erosion reducing resiliency to COASTAL STORMS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Michelle Gibbons **EMAIL:** mlgibbon@gw.dec.state.ny.us

Organization: NYS DEC, Bureau of Wildlife

Question 1: ***How is your community most vulnerable to coastal storm risk?***

habitat loss
reconstruction during critical windows

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: BRIAN SCHNEIDER **EMAIL:** bschneider@nassaucountyny.gov
Organization: NASSAU COUNTY DPW

Question 1: ***How is your community most vulnerable to coastal storm risk?***

From the County's perspective there are many risks when dealing with a coastal storm. First and foremost is the health and safety of its residents. Managing several hundred thousand people before, during and after a coastal storm is the number one priority and being in harms way is a serious challenge. We are vulnerable in dealing with evacuations, relocation centers and delivering the basic services to the county residents

- Second, the County's infrastructure is vulnerable as was exhibited at the Bay Park STP.

-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: JUAN A. GARCIA, P.E. **EMAIL:** JGARCIA@VILLAGEOFEASTROCKAWAY.ORG

Organization: VILLAGE OF EAST ROCKAWAY

Question 1: ***How is your community most vulnerable to coastal storm risk?***

ANY STORM THAT OVERCOMES ELEVATION 6.5 - 7 FLOODS ENTIRE SOUTHSIDE OF EAST ROCKAWAY. THE VILLAGE HAS BEEN ACTIVE TO ELEVATE LOW ROADWAYS THAT WOULD BE FLOODED BY NORMAL ~~HIGH~~ TIDAL WATERS. STORMS (EXCEED) THAT INCREASE THE MAXIMUM MOON TIDES FLOOD ~~THE~~ ROADWAYS AND ENTIRE COMMUNITY SOUTH OF MAIN STREET EAST ROCKAWAY.

1. LOW LYING ROADWAYS
2. DRAINAGE INFRASTRUCTURES.
3. EMERGENCY INFRASTRUCTURE.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Includes:
Barrier Islands, Marsh Islands, Bulkheads, Storm Drains, Debris Removal, various utilities (water, elect, alt energy, aging Power / Gas distribution.
2 ocean inlets, south shore mainland.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Joe Madigan
Organization: V. of Freeport

EMAIL: JMadigan@freeportny.gov

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Elevation of streets, homes, sea wall upgrades, power plant

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

* STONE * - CORPS generosity

Beach Rehab - projects to feed.
toe of Dune.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Sergio A Mauras **EMAIL:**

Organization: Village of Freeport Building Dept SMAURAS@FreeportNY.gov

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Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

~~I~~ IN MY OWN OPINION, PREVENTING ACCESS VIA JONES INLET WOULD GREATLY REDUCE THE EFFECTS OF STORM RELATED DISASTERS.

BULKHEADING SHOULD ALSO BE ADDRESSED BUT MUST ALSO CONSIDER "NO ADVERSE IMPACT".

Village of Freeport's main Power Plant (DPW) is located in the flood Zone and was severely impacted by "Sandy". It needs to be relocated or protected by other means.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Michelle Gibbons **EMAIL:** mlgibbon@gw.dec.state.ny.us
Organization: NYS DEC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Habitat disturbance due to reconstruction
Work with State & federal NR Agencies to design & implement Reconstruction projects that avoid OR minimize impacts to Natural Resources.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Kent Katter **EMAIL:**

Organization: Village of Island Park

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

new construction

- Increased education and code changes for new construction within the flood plain.

storm drainage

- ~~R~~Evaluation and Engineering Studies to reconstruct and rebuild an adequate storm drainage system.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: PATRICK SOUD **EMAIL:**
Organization: NC DPW

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1. Change in Zoning laws to meet risks & near the coastal areas to ~~not~~ encounter coastal surges)
2. Tax Reliefs for home owners / Businesses
3. Affordable insurance availability
4. Improve advance Weather predictions with evacuation Plan.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Sean Sullivan **EMAIL:**

Organization: NLOPCN

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Large-scale improvements: ① Upland stormwater retention/detention
↓
economies of scale

② tidal gates/barriers
③ wetland restoration Bay-wide scale
④ Fortification of critical infrastructure
⑤ Redundancy in emergency management tools/resources (power, communication, damage recovery)

→ Education to those though not to be in storm impact zone
- All residents should be aware of storm impacts and recovery efforts.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: JUAN A. GARCIA, P.E. **EMAIL:** JGARCIA@VILLAGEOFEASTROCKAWAY.ORG

Organization: VILLAGE OF EAST ROCKAWAY.

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- ROAD RAISING PROJECTS
- FLOOD VALVES PROJECTS ON EXISTING DRAINAGE SYSTEMS.
- INCREASE ELEVATION OF EXISTING BULK HEADS
- MAINTENANCE OF PROPOSE INFRA STRUCTURE. (FUNDING FOR)

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Peter A Scully **EMAIL:** pascully@gw.dec.state.ny.us
Organization: NYSDEC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

The most promising solutions to address the inherent vulnerability to coastal erosion and related flooding are:

(1) restoration of dune areas damaged during Sandy to at least pre-storm conditions to better protect the mainland.

(2) Elevation and retrofitting of structures in at risk areas of the mainland so that they can better withstand flooding.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Phyllis Elgot
Organization: NYSDOT/NYRCR
EMAIL: phyllis.elgot@dot.ny.gov

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Transportation Infrastructure

Focus funding to address storm surge & vulnerable transportation infrastructure in high use/density areas to create a more storm resilient resource.

- Mapping of vulnerable transportation system network as they relate to FEMA risk maps.
- Identify funding or allocate new funding to implement projects to strengthen those storm surge vulnerable roads/highways.
- Establish a list/guide of best practices for roadway strengthening roads in storm surge ~~flood~~ vulnerable areas.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Brian Schneider **EMAIL:** bschneider@nassaucountyny.gov
Organization: Nassau County DPW

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

(1) In order to fully address the vulnerability, we need to retreat from the coastline or rebuild to include structures/developments that are flood prone
(2) Build or identify evacuation centers that can house many more people
(3) construct flood prone evacuation routes.
(4) Bridge across the LI Sound

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

PREVENT NEW CONSTRUCTION IN COASTAL ZONE AREAS. 50 year STORM REDUCTION
COMPLETE LONG BEACH ~~ERR~~ EROSION CONTROL
PROJECT.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Jonathan Smith **EMAIL:** JSmith@freeportny.gov

Organization: Village of Freeport

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- long term multi ~~year~~ jurisdictional plan
- ~~ed~~ public education * - flood risk - safety - & resilliancy contruction
- incentive to rebuild better (stronger) / relocate
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

People forget. The more time passes, the less focused the public will be regarding flood protection

People should be reminded / educated of storm impacts between major storm events.

Government should be vigilant in enforcing flood resistant construction between storm events

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Michelle Gibbons **EMAIL:** [redacted] mlgibbon@gw.dec.state.ny.us
Organization: NYS DEC Bureau of Wildlife

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Work together for mutually agreeable solutions

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Kent Katter **EMAIL:**

Organization: Village of Island Park

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Comprehensive and regional flood plain management.

Similar to the Nassau County Hazard mitigation plan.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Dedicated annual funding to maintain existing flood damage reduction projects & support enforcement of existing flood damage reduction building code.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Modification of Laws (local, State, Federal) to work collectively and not against each other

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Jonathan Smith **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

federal

Permanent funding for evaluated necessary safety projects. risk reduction projects as

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

1. Prevention of new construction in Flood Plain
2. Maintenance of Sand Placement on South Shore Required Beaches.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Phyllis Elgut **EMAIL:** phyllis.elgut@dot.ny.gov
Organization: ~~NYSDOT~~ NYSERDA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Allow emergency funding to apply to improving/repairing damaged transportation resources and adjacent area beyond pre-storm conditions to create more storm resilience.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: IVAN A. GARCIA, P.E. **EMAIL:** JGARCIA@VILLAGEOFEASTROCKAWAY.ORG

Organization: VILLAGE OF EAST ROCKAWAY

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

ALLOCATE FUNDING FOR STUDIES / CONSTRUCTION / MAINTENANCE OF INFRASTRUCTURES.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Brian Schneider **EMAIL:** bschneider@nassaucountyny.gov
Organization: NCDPW

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Cost of flood insurance? who knows what it will be ... it may be too expensive to live in a flood prone area ... even if you can't see the water.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Peter A. Scully **EMAIL:** pascully@gw.dec.state.ny.us

Organization: NYSDEC

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

The most prominent policy change or legislative solution that could improve coastal resilience would be an updating or revision of building and zoning codes to prohibit new construction in high risk areas and to require flood resistant construction methods in areas which are developed upon redevelopment.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: SATISH SOOD **EMAIL:**
Organization: NCDPW.

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Zoning changes to accommodate economic needs.

- Tax Relief · Buildings

Build – Storm Resilient / infrastructure.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Sean Sallies **EMAIL:**

Organization: NCDPW

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Quantifying

- Quantifying the economic ~~[illegible]~~ costs/impacts of future storm events → this information can establish basis for choosing engineering solutions or land-use policy changes.
  - * compare costs of inaction vs. intervention

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Sergio A Mauras **EMAIL:** SMAuras@freeport ny.gov.
Organization: Village of Freeport
(Building Dept)

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

The Village of Freeport has adopted a new Ordinance in regards to elevation of structures. The State of Ny has a freeboard requirement which is New or substantially improved structures in the flood Zone must construct 2' above the BFE. The Village is now 4' above the BFE or 2' above the state Freeboard requirement. We have also amended our Zoning Ordinance to allow for the increased height of structures.

Benefits:
Safety of the residents + their property. Low Flood Insurance Premiums. Better CRS credits which allows for insurance discounts to the policyholders.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: Joe Madigan **EMAIL:** JMadigan@freeportny.gov
Organization: Vill. of Freeport

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

locally. Additional mitigation
local laws for more Restrictive codes
than NFIP or NYS.

Regulatory Agencies

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Nassau County Back Bays / February 4, 2014

Name: MICHAEL FOLEY **EMAIL:** MICHFOL@HOTMAIL.ORG

Organization: TOWN OF HEMPSTEAD

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

50 year Long Beach Storm Reduction Project

Appendix B: Delaware Inland Bays and Delaware Bay Coast Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
Delaware Inland Bays and Delaware Bay Coast
Visioning Meeting
Meeting Notes

February 4, 2014

10:00 AM – 12:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Tuesday, February 4, 2014 the U.S. Army Corps of Engineers (USACE) Philadelphia District conducted an in-person visioning meeting with representatives from the Delaware Department of Natural Resources and Environmental Control (DNREC), local communities, non-profit organizations, and concerned citizens with specific focus and dialogue related to the Delaware Inland Bays and Delaware Bay Coast.

In general, a high level of collaboration was evident among state and federal agency staff as well as local communities and NGOs represented at this meeting. There was significant dialogue regarding how information being developed as part of the NACCS is being coordinated with stakeholders, as well as how information obtained during the visioning session would be incorporated into the NACCS.

Thirty people (see Attachment A) attended the 2 hour meeting, including individuals from the following organizations:

Federal Agency: US Army Corps of Engineers (USACE)

State Agencies:
Delaware Department of Transportation (DelDOT)
Delaware Department of Natural Resources and Environmental Control (DNREC)
Delaware Emergency Management Agency (DEMA)
Office of State Planning Coordination

NGOs:
Alliance of Bay Communities
Delaware Center for the Inland Bays
Delaware Wildlands
Partnership for the Delaware Estuary
University of Delaware – Sea Grant

Communities:
Bowers Beach
Little Creek
Pickering Beach
Prime Hook Beach

Other: CDM Smith (meeting facilitation team)

Location: St. Jones Reserve, 818 Kitts Hummock Road, Dover, DE 19901

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment was driven by a presentation provided by J. Bailey Smith (USACE) on the overview of NACCS, the Focus Area Analysis, and the USACE Continuing Authorities Program (CAP) (Attachment C). The second part was a facilitated discussion aimed at surfacing participant insights on the vision for the local coastal issues. Photographs from the meeting are included in Attachment D.

Questions/Discussion: Following the presentation, several questions and discussion topics were raised.

- A member of the audience asked if representatives from the three Delaware Counties were present. J. Smith replied that they were invited, but did not RSVP to attend. As a follow-up, there was discussion regarding how presentation materials would be made available to the communities, representatives, and others who were unable to attend. J. Smith replied that it was a decision that will be made as part of the overall study/stakeholder outreach.
- A member of the audience asked about what was meant by the term "sustainable coastal landscape". J. Smith replied that it was used as a general term and that the findings of the NACCS could help communities properly adapt to sea level rise. It will include examples of maintaining dune or shoreline edge elevations or minimum beach widths to achieve greater resiliency so that communities can return to normalcy after a storm event.
- A member of the audience asked about the meaning of the phrase "review and enhance coastal guidelines" in respect to the focus area analysis. J. Smith replied that the responses shown from the focus area analysis were simply responses that were gathered as part of an expedited analysis of coastal needs and potential measures. Some of the responses may be more appropriate for a state-level discussion on guidelines.
- A member of the audience provided comments regarding the communities at risk along the Delaware Bayshore and Inland Bay areas. Coastal communities, both on the open coast, back bay and inland bays, are all exposed to potential flooding. Although there are ideas and measures being presented in this type of forum, not everything has the potential to be funded. The NACCS, Focus Area Analysis, and CAP are opportunities for measures that are fundable to demonstrate to Congress that forward investment in coastal risk reduction needs to a priority.
- Peter Blum (USACE) provided comments about the NACCS, the USACE process, and potential funding avenues. He considers the NACCS an "incubator" for projects and that the information/knowledge being assembled can be leveraged with current USACE authorizations, discretionary funding as part of the potential Omnibus Bill process, or for local partnership to be established as part of the next step past the Focus Area Analysis to a Feasibility Study.
- A member of the audience, representing the community of Little Creek, asked about how certain bayshore communities are being categorized both at the federal and state level. Little Creek does not necessarily have a shorefront, but is still impacted by coastal storms. Both Tony Pratt (DNREC) and J. Smith confirmed that Little Creek, and similar communities, are considered coastally impacted although less vulnerable compared to communities on the open coast. The

concept of the NACCS and the Focus Area Analysis is to reduce coastal flood risk to all coastal communities.

- A member of the audience asked about when the public is provided an opportunity to review the material set forth during the meeting and the NACCS. J. Smith answered that information is publically available on the USACE North Atlantic Division website, or through an internet search of the North Atlantic Coast Comprehensive Study. Webinars are also being used to inform the public. The decisions to release draft reports or information specific to the meeting has not been finalized.
- A member of the audience asked about more detail regarding the state appendices. J. Smith replied that as part of the NACCS, a state-by-state vulnerability analysis was performed and is an intermediary step between the overall Comp Study and the focus area analysis. The Delaware state appendix is broader than the Focus Area Analysis, but does characterize specific areas of vulnerabilities of the state.
- A member of the audience expressed concern regarding the timely manner of the dissemination of information. They were specifically concerned about the ability to provide comments or questions regarding the draft analysis. Although the meeting was intended to demonstrate the openness of the process, they felt as if this part of the process was not clearly defined.
- A member of the audience suggested that a website be made available for the public, or for communities/stakeholders that were not able to attend, to show the process and the steps that USACE are currently undertaking to ensure an open dialogue.
- A member of the audience asked for further clarification of the CAP. He referred to communication between DNREC and USACE in December of 2012 with respect to a letter of interest sent for flood abatement measures as part of Section 205. Peter responded with information regarding the procedure. Typically, a CAP project does not require Congressional approval and is generally available for projects that are on a smaller scale, that are not locally or hydraulically connected. The requirements are much simpler in terms of funding and require a letter of interest from the community.
- A member of the audience asked what the cost-share is for a CAP project. Peter replied a 50% federal, 50% local sponsor cost-share.

At the conclusion of the question and answer period, a brief break was followed by facilitated discussions with attendees broken out into three groups for brainstorming session. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

Question 1: How is your community most vulnerable to coastal storm risk?

- Loss of land, habitat, and environmental concerns
    - Delaware seashore camp grounds, docks, and marinas
    - Deterioration of beach
    - Coastal forests
    - Tidal marshes
    - Freshwater wetlands
    - Agricultural land loss caused by saltwater intrusion
- Coastal flood risk and realistic flood loss information is not communicated adequately to the public.

    - Communicate information that is easy to understand
    - Unincorporated communities are not represented in planning decisions
    - Proper (scientifically-based) identification and communication of storm type
- Risks to utilities/infrastructure
    - Loss of electrical power
    - Health risks from releases of hazardous material
    - Loss of business
    - Transportation system threatened by rising waters and are a threat to public safety
- Coastal flooding/storm surge
    - Current building codes are lenient, building standard flood levels are too low
    - Build to new codes that include effects of barrier beaches, inlets
- Stormwater conveyance
- Existing modeling efforts produce results that are too low, which impacts development and building requirements, and provides the public/decision makers with a false sense of security.

Question 2: Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?

- Unique and out-of-the-box solutions
- Better modeling
    - Improve flood prediction models and maps
- Better communication
    - Improve education/outreach
- Beach nourishment/protection measures
    - Coastal relief/restoration
    - Raise seawall
    - Jetty wall repair
    - Storm surge barriers
    - Wetlands restoration
- Land Use Policies and Building Permit Standards
    - Update/create future decision standards by taking coastal flooding into account
    - Smart planning
- Potential upgrades and assessments
    - Manage development for transportation infrastructure
    - Elevation of marshes/structures/infrastructure
    - Storm drain assessment
    - Relocation of homes
    - Tide gates
    - Dikes

Question 3: What is the most prominent policy change or legislative solution that could improve coastal resilience?

- Adoption of stricter building codes and standards to improve building resilience
- Changes to NFIP programs (incentives)
- Provide/disseminate information on costs and risks of coastal flooding
- Flood risk maps for future scenarios
- Funding mechanisms to address cost share issue
- FEMA/USACE data sharing
- Streamlined permitting for living shorelines (nature and natural based features)
- Changes in "Federal Standard" regarding dredge material disposal
- Federal budgeting- consider regional budgeting instead of by business lines

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
Delaware Inland Bays and Delaware Bay Coast
Visioning Session - Facilitated Breakout Groups

Group A	
Frannie Bui	CDM Smith (facilitator)
Jim Bailey	Alliance of Bay Communities
Ron Hunsicker	Bowers Beach
Kate Hackett	Delaware Wildlands
Mike Powell	DNREC
Bob Scarborough	DNREC
Patrick Cooper	DNREC
Constance Holland	Office of State Planning Coordination
Jim Kirkbride	Pickering Beach
Group B	
Debra Beck	CDM Smith (facilitator)
Bob McDevitt	Bowers Beach
Chris Bason	Delaware Center for the Inland Bays
Jeff Reed	DelDOT
Don Knox	DEMA
Tony Pratt	DNREC
Susan Love	DNREC
Glenn Gauvry	Little Creek
John Robinson	Prime Hook Beach Organization
Wendy Carey	University of Delaware - Sea Grant
Brian Mulvenna	USACE
Group C	
Mark Dunning	CDM Smith (facilitator)
Gene Donaldson	DelDOT
Karen Bennett	DNREC
Kimberly McKenna	DNREC
Stephen Johnson	DNREC
Virgil Holmes	DNREC
Jennifer Adkins	Partnership for the Delaware Estuary
Nancy Lawson	Pickering Beach
J. Bailey Smith	USACE
Peter Blum	USACE

NACCS Visioning Session

Delaware Inland Bays and Delaware Bay Coast - 2/04/2014

Name	Community/Agency	Title	E-Mail	Telephone
Tim Bailey	Alliance Bay Community	Chairman	southernyankees2@comcast.net	302-684-4013
Karen Bennett	DNREC - DFW	DE Bayshore Initiative	karen.bennett@state.de.us	302 739-9124
Kim McKenna	DNREC - Shoreline & Waterway	geologist	kimberly.mckenna@state.de.us	302 739-9921
J B Smith	USACE	Geologist	jbsmith@usace.army.mil	215 656 6579
FRANNIE BUI	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.COM	617 452 6288
MARK DUNNING	CDM SMITH	PM	DUNNINGCM@CDMSMITH	703 966-2398
Debra Beck	CDM Smith	PM	Beckdf@cdmsmith.com	617 452 6277
Tony Pratt	DNREC	Admin	Tony.Pratt@state.de.us	302-735-3621
Pat Cooper	DNREC	DNREC	patricia.cooper@state.de.us	302-739-9902
DON KNOX	~~DNREC~~ DEMA	NATURAL HAZARDS SUP.	Don.Knox@state.de.us	659-2204
JIM KIRKBRIDE	PICKERING BEACH		JFKIRKBRIDE	999-8112
Wendy Carey	UD Sea Grant	DE Sea Grant	wcarey@udel.edu	302-645-4258
CHRIS BASON	DE CIB	Exec. Director	chrisbason@inlandbays.org	226-8105
Nancy Lawson	Pickering Beach		Froggy1938@aol.com	734-5071
GLENN GAUVEY	LITTLE CREEK	MAYOR	ERDG@HORSESHOECRAB.ORG	302 236 5383

NACCS Visioning Session
Delaware Inland Bays and Delaware Bay Coast - 2/04/2014

Name	Community/Agency	Title	E-Mail	Telephone
Bob McDevitt	Bowers	Town Comm	bobatBowers@GMAIL.com	670-9766
Ron Hunsicker	Bowers	Mayor	Ronaldhunsicker@yahoo	302-572-9000
John Robinson	Prime Hook B	Board Member	RJJR6@AOL.com	302-684-2610
Peter Blum	US Army Corps	chief, Planning Div	Peter.R.Blum@usace.army	mil 215-656-6540
Bob Scarborough	DNREC	Program Manager	Bob.Scarborough@state.de.us	302-739-9283
Mike Powell	DNREC	Program Mgr	michael.powell@state.de.us	739-9921
Brian Mulvenna	USACE	Project Mgr	brian.j.mulvenna@usace.army.mil	215-656-6579
Susan Love	DNREC DCP	Planner	susan.love@state.de.us	302 739 9283
Gene Donaldson	DelDOT	TMC Operations Manager	GENE.DONALDSON@STATE.DE.US	302-659-4601
Jeff Reed	DelDOT	S. Dist Engineer	Jeff.reed@State.de.us	302-853-1300
Kate Haskett	DE wild lands	Exec Dir	khaskett@ de wild lands.org	378-2736
Virgil Holmes	DNREC	Program Mgr	Virgil.Holmes@state.de.us	739-9381
Stephen Johnson	DNREC	Env Eng	stephen.johnson@state.de.us	302 395-2000
Jennifer Adkins	PDE	Exec. Dir.	jadkins@ Delaware Estuary.org	3026554990
Constance C. Holland	Office of St Planning	Director	Connie.Holland@St.de.us	302-739-3090

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast

Delaware National Estuarine Research Reserve, St Jones Reserve
818 Kitts Hummock Road, Dover, DE 19901

February 4, 2014
10 am – 12 pm

I. **Introductions**

II. **Agenda Overview and Meeting Purpose**

III. **USACE NACCS**

a. **Update**
b. **Focus Area Analysis**

IV. **USACE Continuing Authorities Program (CAP)**

BREAK

V. **Facilitated Discussion Topics**

a. Topic 1 - Vulnerability
b. Topic 2 – Solutions
c. Topic 3 – Policy/Institutional
d. Report Out

VI. **Closing Remarks/Adjourn**

List of Handouts

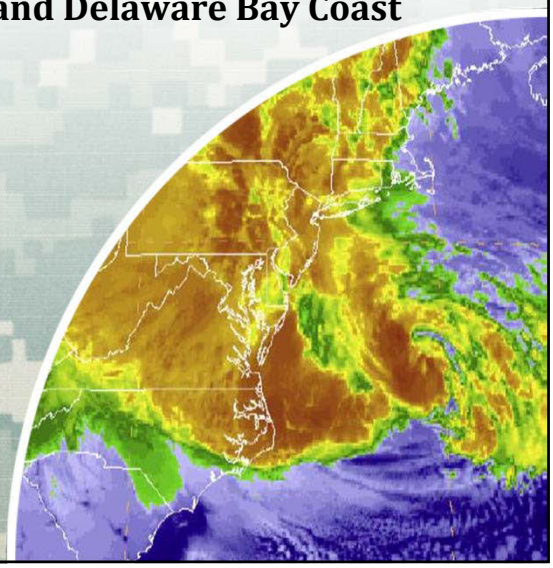
Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

Delaware Inland Bays and Delaware Bay Coast Visioning Meeting



U.S. Army Corps of Engineers
National Planning Center for
Coastal Storm Risk Management

4 February 2014

Introductions

- J. Bailey Smith, USACE
- Charles McIntosh, USACE
- Peter Blum, USACE
- Kim McKenna, DNREC
- Tony Pratt, DNREC
- Mike Powell, DNREC
- Mark Dunning, CDM Smith
- Debra Beck, CDM Smith
- Frannie Bui, CDM Smith

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS**
  - ►**Update**
  - ►**Focus Area Analysis**
- **IV. USACE Continuing Authorities Program**
  BREAK
- **V. Facilitated Discussion** (small groups)
- **VI. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015.

Sandy Overview

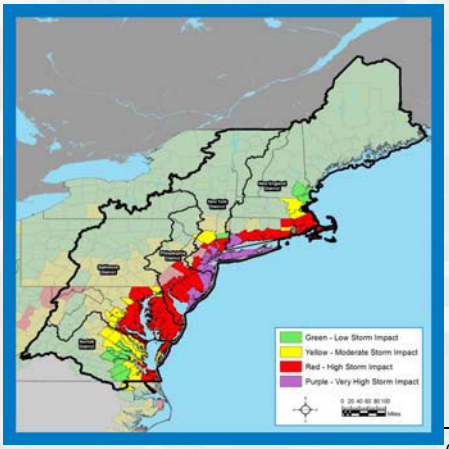
- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  24 States from Florida to Maine; New Jersey to Michigan and Wisconsin
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

NACCS Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

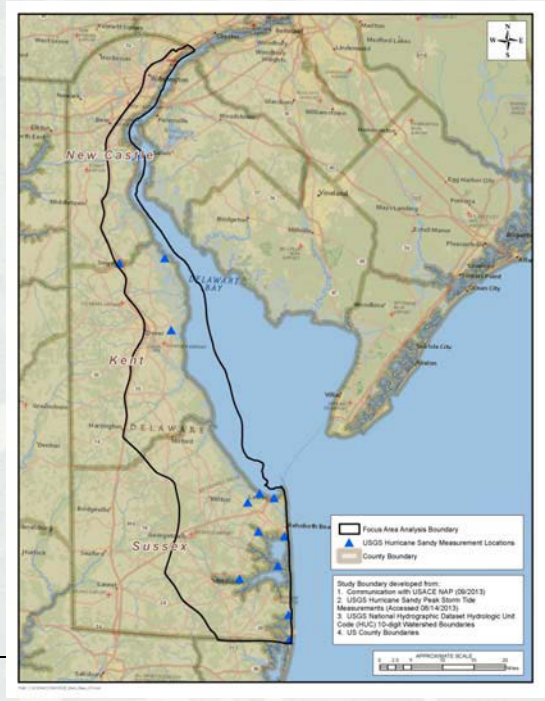
- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

Focus Area Analysis

Delaware Inland Bays and Delaware Bay Coast



BUILDING STRONG®

Feedback Requested (Fall 2013)

- 1. Problem identification for your area:
  - ▶ Did your area experience storm surge?
  - ▶ Specify particular areas and water bodies within your jurisdiction that experienced storm surge.
  - ▶ What factors, if any, exacerbated damages from storm surge?

BUILDING STRONG®

Feedback Requested (Fall 2013)

- 2. Description of damages for your area:
  - Provide a narrative including the types of infrastructure damaged or temporarily out of use, structure (building) damages, personal injuries/fatalities.

Feedback Requested (Fall 2013)

- 3. Prior related studies or projects (local, state, federal) in the damaged area
- 4. Measures that your jurisdiction has considered to address the problem

Stakeholder Information

- Delaware Natural Resources and Environmental Control (DNREC) - Letter
- Town of South Bethany Beach - Letter

- New Castle County Hazard Mitigation Plan
- Sussex County Hazard Mitigation Plan
- City of Lewes Mitigation and Climate Adaptation Action Plan

Stakeholder Identified Problems

- Flooding by coastal storms
  - ►Storm surge
  - ►Wave action
  - ►Erosion
- Stormwater runoff
- Aging infrastructure

Stakeholder Identified Measures

- Strengthen existing flood risk management measures
- Develop integrated flood risk management systems
- Create wetlands for stormwater retention
- Nourish beaches and dunes
- Acquire or elevate floodprone structures
- Incorporate regional sediment management practices
- Enhance waterfront zoning and permitting
- Review and enhance coastal area design guidelines

NACCS Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses currently ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

NACCS Next Steps
(Six Month Snapshot)

Early March 2014: Interagency release of the draft analyses

March 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

USACE

Continuing Authorities Program (CAP)

USACE Hurricane Sandy CAP Overview

- Nine legislative authorities
- USACE can plan, design and implement certain types of water resources projects
- Federal Interest Determination, feasibility phase and implementation phase

USACE CAP – Legislative Authorities

AUTHORITY	PROJECT PURPOSE
Section 14, Flood Control Act of 1946, as amended	Streambank and shoreline erosion protection of public works and non-profit public services
Section 103, River and Harbor Act of 1962, as amended (amends Public Law 79-727)	Beach erosion and hurricane and storm damage reduction
Section 107, River and Harbor Act of 1960, as amended	Navigation improvements
Section 111, River and Harbor Act of 1968, as amended	Shore damage prevention or mitigation caused by Federal navigation projects
Section 204, Water Resources Development Act of 1992, as amended	Beneficial uses of dredged material
Section 205, Flood Control Act of 1948, as amended	Flood control
Section 206, Water Resources Development Act of 1996, as amended	Aquatic ecosystem restoration
Section 208, Flood Control Act of 1954, as amended (amends Section 2, Flood Control Act of August 28, 1937)	Removal of obstructions, clearing channels for flood control
Section 1135, Water Resources Development Act of 1986, as amended	Project modifications for improvement of the environment

USACE CAP – Federal Interest Determination Phase

- Federal Interest Determination (FID)phase includes:
  - ►Letter of Support
  - ►FID report
  - ►Pathway to Feasibility phase

USACE CAP – Feasibility Phase

- Feasibility phase includes:
  - ►Development of alternative plans
  - ►Initial design and cost estimating
  - ►Environmental analysis
  - ►Real Estate analyses

USACE CAP – Implementation Phase

- Implementation phase includes:
  - Final design
  - Contract plans and specifications
  - Permitting
  - Real estate acquisition
  - Contract procurement
  - Construction

USACE CAP – Typical Funding

- Federal Interest Determination 100% Federal funding
- First $100,000 of feasibility phase federally funded
- Remaining funding for feasibility phase is 50/50 cost share with a non-federal sponsor
- Non-federal sponsor signs a Feasibility Cost Sharing Agreement (FCSA)
- Implementation
  - 65/35 cost share
  - Federal limit < $7,000,000 depending on authority
- Focus Area Feasibility Study 50/50 cost share

Delaware CAP Requests

- Delaware Bayshore (Section 205)
- Specific locality identification to commence FID
- Letters of Support submittal
- Implementation of FAR-selected plan through CAP implementation authority

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS
  - Update
  - Focus Area Analysis
- IV. USACE Continuing Authorities Program

BREAK

- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, or C based on name tag and table**
    - Group A: Frannie Bui
    - Group B: Debra Beck
    - Group C: Mark Dunning
- **Discussion Topics**
  - ***Vulnerability***
  - ***Potential Solutions***
  - ***Institutional or Policy Challenges***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

1. How is your community most vulnerable to coastal storm risk?
2. Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?
3. What is the most prominent policy change or legislative solution that could improve coastal resilience?

Small Group Report-Out

- Group A
- Group B
- Group C

Contact Information

- J. Bailey Smith – USACE Philadelphia District
  - J.B.Smith@usace.army.mil
  - 215-656-6579 (office)

Attachment D

Photograph Log

Photo 1-Meeting preparations with Frannie Bui (CDM Smith)

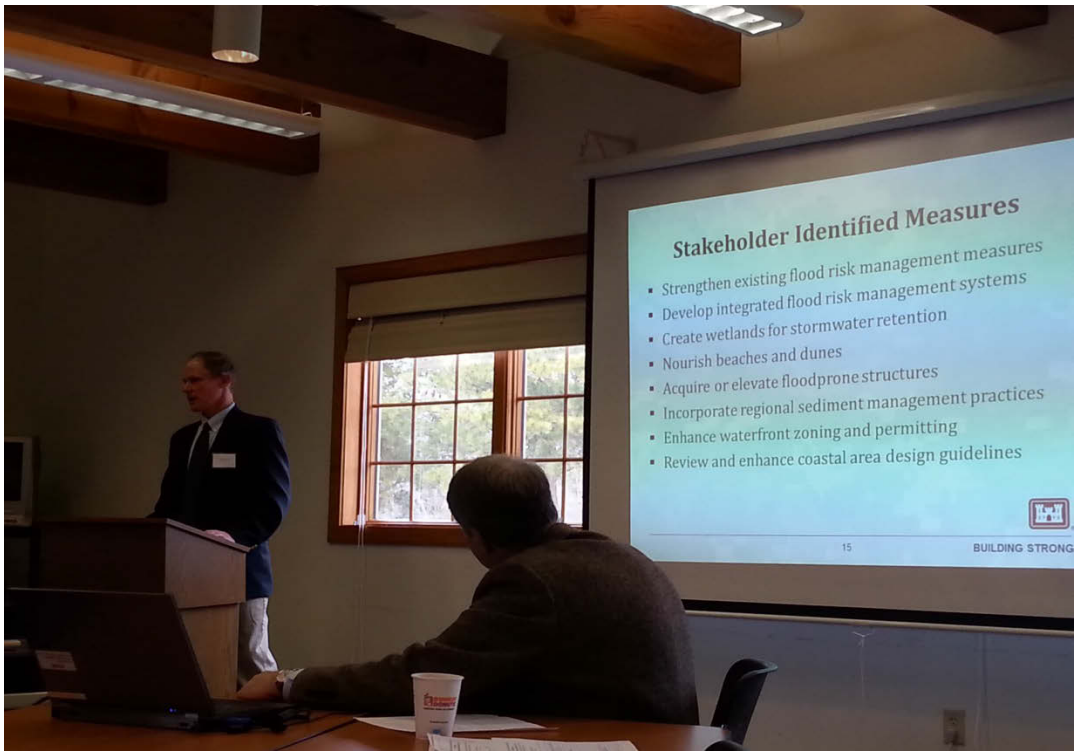


Photo 2 – J. Smith (USACE) presenting an overview of the Focus Area Analysis

Photo 3 – Peter Blum (USACE) providing comments about the Comp Study, the USACE process, and potential funding avenues

Photo 4 – Attendees listen to J. Smith (USACE) as he presents the NACCS overview

Photo 5 – J. Smith (USACE) presents a diagram depicting the overall NACCS process

Photo 6 – Presenter J. Smith (USACE) provides his contact information

Photo 7 – Mark Dunning (CDM Smith) explaining breakout sessions

Photo 8 – Constance Holland (Office of State Planning Coordination) presenting responses from Group A

Photo 9 – Susan Love (DNREC) presenting responses from Group B

Photo 10 – Jennifer Adkins (Partnership for the Delaware Estuaries) presenting responses from Group C

Photo 11 – Tony Pratt (DNREC) adding to the discussion

Attachment E

Breakout Session Responses

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jennifer Adkins **EMAIL:** jadkins@DelawareEstuary
Organization: Partnership for the Delaware Estuary

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Tidal wetlands vulnerable to erosion, inundation – leads to loss of habitat, water quality, fish production, coastal protection

Freshwater tidal wetlands vulnerable to salinity changes (can adapt to above)

Oysters vulnerable to salinity & from flooding + diseases from warm waters, economic declines

Access to Bay vulnerable to flooding, storm damage, loss of economic vitality of Businesses,

Freshwater mussels vulnerable to flooding, erosion, salinity &

Salt marsh mussels vulnerable to erosion + loss of marsh habitat

Horseshoe crabs vulnerable to beach/nest erosion + loss

water quality impacted by flooding spreads in haz waste, Sewage

loss of wetlands, shellfish.

S. Wellington – flooding of roads, basements, etc
Amtrak, HAZ waste / Brownfields, high population
Port

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jim Bailey **EMAIL:** Southernyankees2@comcast.net
Organization: Alliance of Bay Communities

Question 1: ***How is your community most vulnerable to coastal storm risk?***

1/ Delaware Bay shore is most vulnerable to Storm surge, Due to Beach erosion. Unincorporated Communities get little or no support from the counties.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Chris Bason **EMAIL:** chrisbason@inlandbays.org
Organization: Delaware Center for the Inland Bays

Question 1: ***How is your community most vulnerable to coastal storm risk?***

a measure of the degree to which a human or natural system is unable to cope w/ adverse effects.

The elevations of the IB shoreline communities and their structures and infrastructures is very near sealevel and the natural ecosystems that can protect these communities have decreased in acreage and ~~functional capacity~~ storm attenuation capacity. Current ~~state and local~~ land use policies and permitting and "subsidies" are encouraging growth in and around these communities @ low elevations. SLR is increasing groundwater table elevations and storm inundations. The Indian river inlet continues to scour (very likely) creating higher high tides. ~~Roads are~~ Roads are experiencing increased inundations and often become impassible during storms which could affect evacuations.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Karen Bennett **EMAIL:** karen.bennett@state.de.us
Organization: DNREC F&W

Question 1: ***How is your community most vulnerable to coastal storm risk?***

* Mispillion Harbor + Milford Neck Marshes loss of
* Tidal Marshes + channelization → increasing water + salinity impacts. Back marsh flooding
  impacting vegetation/wetland function to act as buffer ~~against~~ for community flooding risk.
* Coastal Impoundments - Levees + loss of habitat + vegetated areas to open water connection to bay eg. AFWR
* Gene manages operations + evacuation + incident management under his section. (FMI)
* Coastal Route 9 (evacuation route) not high level of use. Route 1 @ IR1 + roadways to subidence + flooding + beach communities (used to lower bay)
* Hazardous Sites $1500 bridges + culverts
* ~~Beaches~~ @ dune line along central bayshore
* N to South coming out of wildlife area @ Pickerbog Beach + also Kitts Hummock back ~~to~~ marsh flooding

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Peter Blum **EMAIL:** Peter.R.Blum@usace.army.mil
Organization: USACE

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Ocean coastline subject to inundation, wave attack & storm surge.
- Flood plain management not consistent w/ "Sea Level Rise"
- Bay areas & hard structures not "resilient" to storm surge/ structures built ~~right~~ adjacent to bulkheads & "hard structures"
- ~~See~~ No management plan for sediments, nourishment & dredging not synchronized.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Wendy Carey **EMAIL:** wcarey@udel.edu.
Organization: Univ. of Delaware Sea Grant.

Question 1: ***How is your community most vulnerable to coastal storm risk?*** → Coastal flooding (storm surge); stormwater management (high tides, excessive precip, drainage issues)

Examples:

Delaware City – storm surge flooding (DE River – esp. tidal tributaries)
public safety → evac. route flooding
→ excessive precipitation
→ stormwater infrastructure
daina/overwhelmed w/ precip/flooding
→ pumping now back to river –
SLR issues.

Lewes – seawall
→ flooding from L/B canal side – impacts to property, city infrastructure, transportation, evac. routes

At Coast Communities – Bayside flooding
~~Inland Bays~~
Fenwick
S. Bethany
Bethany (e.g. Loop Canal)
Dewey

Unincorporated communities around DE Inland Bays.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Pat Cooper **EMAIL:** patrick.cooper@state.de.us
Organization:
DNREC Division of Parks & Recreation

Question 1: ***How is your community most vulnerable to coastal storm risk?***

→ I oversee 5 state Parks and a ~~~~ marina along the Atlantic Coast Between Lewes / Fenwick Delaware..

- biggest issue
  - Cape ⇒ destruction of pier / boardwalks
  - Dune / Beach issues
  - destruction of habitat wildlife / natural
- ASSP / Fenwick / ~~Holts~~
  - Constant closures and Flooding Pit /
  - destruction of compound infrastructure

Indian River Marina
- Damage to boats
- Damage to docks and utilities

Holts Landing
- Damage habitat wildlife / natural
- pier / boat ramp damage

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GENE DONALDSON **EMAIL:** GENE.DONALDSON@STATE.DE.US

Organization: DELAWARE DEPARTMENT OF TRANSPORTATION

Question 1: ***How is your community most vulnerable to coastal storm risk?***

THE BIGGEST THREAT TO DELAWARE'S TRANSPORTATION SYSTEM IS WATER. WITH INCREASED SEVERITY ~~AND~~ OF WEATHER EVENTS, SEALEVEL RISE, ~~AND~~ POPULATION GROWTH IN COASTAL AREAS HOW CAN WE INCREASE THE RESILIENCY OF TRANSPORTATION SYSTEM.

- CULVERTS
- BRIDGES
- ELEVATION OF ROAD
- EVACUATION ROUTES
- DETOURS
- PUBLIC SAFETY

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GLENN GAUVRY
EMAIL: ERDG@HORSESHOECRAB.ORG
Organization: MAYOR OF LITTLE CREEK

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- FLOODING
  - PROPERTY "LAND"
  - STRUCTURES RES. & COM.
  - ROADS. MAIN & SECONDARY
  - STORM DRAINS
  - WETLAND WATER MANAGEMENT
  - RIVER FLOW & UPRIVER DAM/SPILLWAY STRUCTURES

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kate Hackett **EMAIL:** khackett@dewildlands.org
Organization: Delaware Wild Lands

Question 1: ***How is your community most vulnerable to coastal storm risk?***

containment issues from Superfund sites

I represent a non-profit land trust that has spent millions of dollars ~~000~~ - and leveraged millions of $ in State, Federal & private funding - to protect open land, farmland and forestland along the DE Bayshore area. Our natural resources and land and water based economies (agriculture, forestry, fisheries) are extremely vulnerable to saltwater deposition, degradation from sea level rise, loss of habitat (land and water based), loss of resources and traditional cultural heritage.

like coastal forests, freshwater tidal wetlands

loss of

migratory fish & fowl
waterfowl
birds
aquatic species

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Constance C. Holland **EMAIL:** Connie.Holland@State.de.us
Organization: Office of State Planning
DE. State Government

Question 1: ***How is your community most vulnerable to coastal storm risk?***

The Office of State Planning is very interested in supporting coastal communities through Comp Plans & assisting with "PLANNING" within their jurisdiction. Informati-

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Virgil Holmes
Organization: DNREC

EMAIL: Virgil.Holmes@state.de.us

Question 1: ***How is your community most vulnerable to coastal storm risk?***

As Section Manager for the Wetlands and Sub Aqueous Lands Section, we review and issue permits for most coastal activities. The vulnerabilities that are apparent include:

Dikes - That contain contaminated sediments

Beach - Beach Erosion

Impoundments - Loss of vegetation & stability

Roads - Flooding & damage at bridges

Docks/Piers/Structures - Damage/Loss from storm energy - Poor siting

Infrastructure - Combined sewage/storm water facilities overwhelmed - Loss of outlet

Wetland Loss - Erosion & Inundation

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Ron Hunsicker **EMAIL:** ronaldhunsicker@yahoo.co
Organization: Town of Bowers

Question 1: ***How is your community most vulnerable to coastal storm risk?***

STORM SURGE
BACK BAY FLOODING

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Stephen Johnson **EMAIL:** stephen-johnson@state.de.us

Organization: DNREC- Div of WASTE & HAZ MATLS

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Loss of electricity.

Releases of haz materials.

- fuel for example
- Catastrophic failure of tanks + cleanup complications

Loss of businesses due to flooding

- long + short term

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JIM KIRKBRIDE **EMAIL:** JFKIRKBRIDE @COMCAST.NET
Organization: PICKERING BEACH

Question 1: ***How is your community most vulnerable to coastal storm risk?***

(1A) FLOODING BOTH FROM THE BAY AND FROM THE WET LANDS WHICH BORDER PICKERING BEACH. DURING MOST STORMS THE ONLY ACCESS ROAD TO PICKERING BEACH IS FLOODED.

(1B) PICKERING BEACH IS A PRIMARY HORSESHOE CRAB ~~[illegible]~~ AREA. THE SHORE LINE IS CHANGING AND REDUCING THE HORSESHOE CRAB REPRODUCING AREA.

(2) BEACH NOURISHMENT APPEARS TO BE THE MOST OBVIOUS, TIMELY AND DEMONSTRATED APPROACH TO PROTECTING P.B SHORELINE.

(3) IDENTIFY SOURCE OF $$$ TO PROVIDE NEAR TERM BEACH NOURISHMENT

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: DON KNOX **EMAIL:** Don.Knox@state.de.us
Organization: DEMA

Question 1: ***How is your community most vulnerable to coastal storm risk?***

1) STORM SURGE - DESTROYING DUNES + REACHING HOMES + BUSINESSES
2) BACK BAY FLOODING OF HOMES + ROADS

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Nancy Lawson **EMAIL:** frogy1938@AOL.Com

Organization: Pickering Beach Resident

Question 1: ***How is your community most vulnerable to coastal storm risk?***

By Northeasters and Storms - Losing Dunes on Beach & the Closing of the PB Road By ~~wash~~ High Water from High tides / Flooding (Water running North to South) out of the Little Creek Wild Life area.

All drains Closed By Sand over the years.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Susan Love **EMAIL:** susan.love@state.de.us

Organization: DNREC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

* Many counties + munis have projects outlined in their hazard mitigation program - use these plans as basis
* most [illegible] suffer from rainfall / precip + storm surge outpacing drainage systems. No where for water to drain
* SLR ↑ making all existing issues more problematic

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob McDevitt **EMAIL:** bobatbowersbeach@gmail.com
Organization: Bowers Town Council

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Town of Bowers is located between 2 - Rivers on the Del Bay The Murderkill on the South The St Jones on the North The entire town is in a flood plain.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kim McKenna **EMAIL:** Kimberly.mckenna@State.de.us

Organization: DE DNREC / Shoreline & Waterway

Question 1: ***How is your community most vulnerable to coastal storm risk?***

regional - ~~roadway~~ flooding of roadways/evacuation routes
shoreline erosion (open coast & Bay shoreline)
back barrier flooding & erosion

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: BRIAN MULVENNA **EMAIL:** brian.j.mulvenna@usace.army.mil

Organization: USACE

Question 1: ***How is your community most vulnerable to coastal storm risk?***

LAND LOW
WATER HIGH

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Michael Powell **EMAIL:** MICHAEL.POWELL@STATE.DE.US

Organization: DELAWARE DNREC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

DELAWARE INLAND BAY COMMUNITIES EXPERIENCED BLDG. DAMAGE DURING SANDY DUE TO INADEQUATE FLOOR ELEVATIONS OF HOMES BUILT TO BASE FLOOD ELEVATIONS THAT WERE TOO LOW.

- 24 TOWNHOUSE SUBSTANTIALLY DAMAGED THAT WERE BUILT TO 1980S FLOOD LEVELS.
- USACE/FEMA PRELIMINARY FLOOD STUDIES LOWER 100 YEAR FLOOD LEVELS AND 500 YEAR FLOOD LEVELS WHICH WILL RESULT IN ADDITIONAL BUILDING BUILT AT RISK. SEA LEVEL RISE, COASTAL EROSION, DEEPENING OF INDIAN RIVER INLET INDICATE INLAND BAY FLOOD LEVELS SHOULD BE GOING UP NOT DOWN.

ADCIRC MODELING DOES NOT INCLUDE BARRIER ISLAND IMPACTS, EROSION, BREACHING ETC. WHICH LEADS TO FLOOD LEVELS WHICH ARE TOO LOW.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Tony Pratt **EMAIL:** Tony.Pratt@state.de.us
Organization: DNREC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Surge flooding - results in Property damage and loss of land. Vulnerability is equal parts building in flood plain and surge heights.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JOHN ROBINSON **EMAIL:** RJJR6@AOL.COM
Organization: PRIME HOOK BEACH ORGANIZATION (PHBO)

Question 1: ***How is your community most vulnerable to coastal storm risk?***

RISK IS TWO FOLD:

1) FROM POTENTIAL STORM SURGE ON THE BAY SIDE - DUNE PROTECTING HOMES ON THE BAYSIDE IS CONTINUINGLY AT RISK AND BEING ERODED.

2) FROM THE MARSH SIDE BEHIND OUR COMMUNITY DUE TO A "BREACHED" AREA (IN DUNE LINE) NORTH OF THE COMMUNITY.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob Scarborough **EMAIL:**

Organization: DNREC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Coastal Flooding and Storm Surge
Proper warning + estimates of flooding from coastal storms
Flooding impacts can vary widely along DE Shoreline + Inland Bays. DE Bay coast estimates for but Inland Bays and up tributary need to be refined

Categorizing Storms by their potential Impacts not just on wind speed (Hurricane rating system) ~~but include storm surge, rainfall, duration~~, this does not truely categorize storm and public may not take proper preparation or evacuation.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jennifer Adkins **EMAIL:** jadkins@DelawareEstuary.org
Organization: Partnership for The Delaware Estuary

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Regional Sediment Management, including
- living shorelines
- beneficial use of sediment

Oyster Restoration

Wetland Restoration - marsh migration

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jim Bailey **EMAIL:** Southernpaulsboro2@comcast.net
Organization: Alliance of Bay Communities

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Beach Berm Restoration & maintenance
1) Drainage mangement of marshes

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Chris Bason **EMAIL:** Chrisbason@inlandbays.org
Organization: Delaware CIB

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Land use policy that does permit or subsidize construction near the coast at low elevation. Do not permit or subsidize more vulnerabilities.

- ~~wetland~~ coastal wetland ~~creation~~ ~~enhancement~~ reef/shoreline creation + enhancement.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Karen. Bennett
Organization: DNREC F&W
EMAIL: karen.bennett@state.de.us

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

* Restore hydrology / wetland restoration upper bay
* Increase salt marsh restoration ~~low~~ central to lower bay
* Beach nourishment
* Innovative NNBF like living shorelines
* improved culvert design
* Shoreline assessment to evaluate
* RSM - implement to local level w/ living shoreline + beneficial reuse of sediment
* CAP - ecosystem restoration
* Manage develop + future design standards.
* Educated zoning to prevent future problems
* Remove/relocate vulnerable structures

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Peter Blum **EMAIL:**

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- "Local protection Plans" (e.g. "CAP"
  ~~Regional~~
- Synchronizing Nourishment Cycles to save Costs
- "RSM" Approach e.g. MisAllian.
- combine ecosystem restoration with the flood risk management (create buffer zones); ~~also~~
  ~~to~~
- Beneficial use of dredged material for buffer zones & flood risk management
-

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Wendy Caren **EMAIL:** wcaren@udel.edu
Organization: University of Delaware Sea Grant

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

support vulnerability assessments - esp. related to city infrastructure, evac. route elevation, private property, stormwater systems, water supply, etc.

→ elevation adaptation options } education/ outreach re

Flood plain management, improved building/zoning codes

- Best practice guidance

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Patt Cooper **EMAIL:** patricia.cooper@state.de.us

Organization:
DNREC PARKS

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Better construction Along of docks / boardwalks / piers. May include design/engineering

- We Division may need to rethink Capital spending

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GENE DAVIDSON **EMAIL:** GENE.DAVIDSON@STATE.DE.US
Organization: DELAWARE DEPARTMENT OF TRANSPORTATION

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1. MANAGED DEVELOPMENT
2. ~~FUTURE DE~~ THE FUTURE DESIGN STANDARDS FOR TRANSPORTATION INFRASTRUCTURE

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GLENN GAUVRY **EMAIL:** FERDG@HORSESHOECRAB.ORG.

Organization: MAYOR OF LITTLE CREEK

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- RIVER DREDGE & UPRIVER STRUCTURE MITIGATIONS
- WETLAND DRAINAGE ~~ASSESSMENT~~ & MITIGATIONS

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kate Hackett **EMAIL:** khackett@dewildlands.org
Organization: Delaware Wild Lands

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

assisted
① wetlands migration
② marsh restoration methodologies, success rates & funding
③ investments in non-traditional agriculture crops that thrive in salt-inundated areas
④ increase elevation of tidal saltmarshes and restore natural hydrology of wetlands & marshes. (this starts to get at beneficial re-use)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Constance C. Holland **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

(*) Better information - for communities - Map @ Local level - TDR program — $

Better PR - to be used in Local communities —

Proactive - not Reactive —

$ down to Local levels —

Public Involve!!!

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: VIRGIL HOLMES **EMAIL:** VIRGIL.HOLMES@STATE.DE.US

Organization: DNREC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

I SEE NO SILVER BULLET BECAUSE THE PROBLEM IS SO DIVERSE:

EDUCATION AND ZONING TO PREVENT MORE FACILITIES FROM BEING CONSTRUCTED IN VULNERABLE AREAS, AND REMOVAL OVER TIME OF FACILITIES IN VULNERABLE AREAS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Ron Hurdle **EMAIL:** ronaldhurdle@yahoo.com
Organization: Town of Bowers,

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Sea wall repair
Drainage improvement
Building elevation requirements
Dune Maintenance

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: S Johnson **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Re location of above ground storage tanks that are vulnerable to surge.

OR UPGRADE TANK SYSTEMS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: DON KNOX **EMAIL:** Don.Knox@state.de.us
Organization: DEMA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1) BEACH RESTORATION
2) ~~ELE~~ ELEVATION, (OF HOMES) ALSO ACQUISTION, DEMOLITION, OR RELOCATION
3) DRY FLOOD PROOFING OF HOMES + BUSINESSES
4) ZONING SETBACK REGULATIONS
5) MINOR LOCALIZED FLOOD REDUCTION
6) STRUCTURAL RETROFITTING OF EXISTING BUILDINGS

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Nancy Lawson **EMAIL:** froggy1938@AOL.com
Organization: Pickering Beach Resident

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Possibly More/Larger Dune on the Beach area. -
Opening closed drainage ditches ~ possibly joined
work done in the Little Creek Wild life area to
minize flooding on Pickering Beach Rd.
Raise a portion of our Road. -

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Susan Love
EMAIL: susan.love@state.de.us
Organization: DCP

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Use/improved tide gates, drainage systems, retrofits
- use wetlands for flood storage - wetland restoration
- Beneficial Reuse!
- ↑ tools for shore protection + evacuation
- More vul. probability assessments - linked to specific actions
- Better models for SLR, surge + ↑ precip combined
- Dikes/seawalls ONLY in highly urbanized roadways
- living shorelines, off shore wave breaking structures.
- Avoid new impacts → Retreat from or stop ones.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob McDevitt **EMAIL:**

Organization:

Town of Bowers

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1. Keep Beach + Dune MAINTAINED
2. Change our BLD. CODE TO ADD More FREEBOARD TO NEW CONSTRUCTION
   Raising sea wall in
   Received DRAINAGE GRANT

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kim McKenna **EMAIL:**
Organization: DE DNREC / Shoreline & Waterway

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- raise or relocate roadways
- add more sediment (beneficial uses of sediment) to balance losses.
- Create wetland buffers on back barriers.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: BRIAN MULVENNA **EMAIL:** brian.j.mulvenna@usace.army.mil
Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

STORM SURGE BARRIER AT INDIAN RIVER INLET

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: MICHAEL POWELL **EMAIL:** MICHAEL.POWELL @ STATE.DE.US
Organization: DNREC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- FLOOD LEVELS (REGULATORY) SHOULD BE BASED ON MODELING THAT INCLUDES DYNAMIC EFFECTS ON BARRIER BEACHES, AND SEA LEVEL RISES SHOULD BE ADVISORY ON ALL FLOODPLAIN MAPS
- A COMPREHENSIVE SURVEY SHOULD BE CONDUCTED TO IDENTIFY STRUCTURES AT EXTREME RISK FOR AQUISITION / ELEVATION PURPOSES, WHERE FLOOD PROTECTION PROJECTS ARE NOT FEASIBLE.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Tony Pratt **EMAIL:** Tony.Pratt@State.de.us

Organization: DNREC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- refined - improved flood Prediction models and maps
- Projects that reduce surge impacts on the ground

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JOHN ROBINSON **EMAIL:** RJJR6(19)AOL.COM
Organization: PHBO (PRIME HOOK BEACH)

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1.) POTENTIAL INCLUSION IN THE 10 YEAR PLAN (STATE) FOR BEACH REPLENISHMENT IF WE CAN BECOME A "PUBLIC BEACH"!

2.) DUNELINE TO BE CLOSED AND BUILT UP (HOPEFULLY!) IN LATE 2014 BY THE FISH + WILDLIFE SERVICE WHO OWNS THE LAND AT THE BREACHED AREA. (I.E. FOWLER BEACH)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Rob Scarborough **EMAIL:**
Organization: DNREC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1) Improved ~~Assess~~ modeling of flooding + storm surge, particularly in Inland Bays and up tribs

2 Coastal Storm Severity Index based on wind, storm surge, ~~duration~~ duration, rainfall, tide. to better estimate impacts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jennifer Adkins **EMAIL:** jadkins@DelawareEstuary.org
Organization: Partnership for the Delaware Estuary

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Streamlined permits (+ standards) for living shorelines (or require to look @ before any hard structure.)
- Δ in USACE process re: least cost required (with strong standards!)
- Investment in green infrastructure (+ favorable tax policies) ... lack of appropriate investment in small coastal communities and natural areas

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Jim Bailey **EMAIL:** Southernyankees2@comcast.net
Organization: Alliance of Bay Communities

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Realization of the actual value of
The entire System that is the
Delaware Bay Shore.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Chris Bason **EMAIL:** chris.bason@inlandbays.org

Organization: DE Center for the Inland Bays

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

→ Statewide Critical Areas Act ~~Similar to Connecticut Similar to Maryland~~ that really gets a handle on growth near the coast.

→ ~~including~~ flood insurance program being robust in not subsidizing insurance for flood zones.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Karen Bennett **EMAIL:** karen.bennett@state.de.us
Organization: DNREC F&W

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

* Funding/$ Mechanisms to address cost share
* Easements
* Permitting support for I.S.
*

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Peter Blend **EMAIL:**

Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Corps & Federal Budget process needs to be done regionally ~~rather~~ (across "business lines") rather than by function ("business line"). E.g. Business lines have limited "pots" of $, and we need to change that by stretching dollars, ~~to leverage e.g.~~ for multiple s.e; e.g. navigation dredge material for eco rest⊕ flood risk management
- Flood Plain mgmt / zoning to preclude dev development of floodplains
- ~~Why~~ Improved way of measuring flood dam. reduction to include loss of life, etc..

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Wendy Carey **EMAIL:** wcarey@udel.edu
Organization: Univ. of ~~Del~~ Delaware Sea Grant

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

-> eg. SB 64 - Drainage + Stormwater Recommendations

-> higher standards for floodplain management statewide (consider future flood risk)

-> higher standards for structures in flood prone areas

-> > setback lines along DE Bay + Atlantic Coast

-> > coastal construction standards

-> > education/outreach re risks + vulnerabilities across all sectors - property, infrastructure, nat. environ., economic, public safety, etc.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GLENN GAUVRY **EMAIL:** ERDG@HORSESHOECRAB.ORG

Organization: MAYOR OF LITTLE CREEK

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- PROF. ASSISTANCE IN WRITING CMP's, FEMA REPORTS, GRANTS ETC. (TEMPLATES ARE HELPFUL).
- SOLUTION TO SMALL COMMUNITY COST SHARING REQUIRMENTS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kate Hackett **EMAIL:** khackett@dewildlands.org
Organization:
Delaware Wild Lands

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

① increased $!!, and ties of funding to priority / regional needs

② greater flexibility in Federal farm programs (such as WRP, EQIP, etc.), which have contracts that do not allow flexibility to adapt to changes resulting from sea level rise and storm surges

③ requirement to look at costs of future funding and maintenance (sustainability of proposed measure & solution.)

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Constance C Holland **EMAIL:**

Organization:

(no popular)

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Healthy Communities !!

- $ set aside for preservation — Legislature —
- FEMA Save $ for moving structures —
- Building Codes — Permits — for infrastructure
  sewer, water, roads —

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Virgil Holmes **EMAIL:** Virgil.Holmes@state.de.us

Organization: DHREC

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Funding + Cost Share

Zoning

Less Study → More Implementation

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Ron Hunsicker **EMAIL:** ronaldhunsicker@yahoo.com
Organization: Town of Bowers

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Repeal/Modify Biggert Waters

Changes to NFIP Incentive Programs

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: S Johnson **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

DON't REBUILD.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: DON KNOX **EMAIL:** Don.Knox@state.de.us

Organization: DEMA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

SETBACK REGULATIONS & ZONING

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Nancy Lawson **EMAIL:** froggy1938@Ad.Com
Organization: Pickering Beach Resident

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Spend more time/effort on Protection for the Beach/Coastal Communities as far as what ~~Could~~ Be done as opposed to Cities + Industries.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Susan Love **EMAIL:** Susan.love@state.de.us.
Organization: DCP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- DE communities have lack of technical + funding capacity for large scale infrastructure projects
- there is limited knowledge of the USACE NAP program at local and (state) level. USACE may need to improve its outreach on this program.
- link funding to local land use rules. Why spend federal dollars when locals are doing everything they can (buffers, soil books, building codes, wetland protection)
- Keep Biggert-Waters Intact!!
- Cost/Benefit ratios for USACE may not allow many DE projects. Amend criteria - build in flexibility

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob McDevitt **EMAIL:**

Organization:

Town of Bowers

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

A source for permanent funding for Beach + Dune Replenishment.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kim McKenna **EMAIL:**

Organization: DE DNREC | Shoreline & Waterway

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- add funding sources for DelDOT to address roadways
- ~~funding~~ USACE support & funding projects for Regional Sediment Mgt.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: BRIAN MULVENNA **EMAIL:** bmulvenna@usace.army.mil

Organization:
USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

~~Response~~

IMPROVE DATA SHARING between FEMA PA/IA/HAZARD MITIGATION & NFIP PROGRAMS AND USACE PLANNING AND FLOOD RISK MANAGEMENT STUDY INVESTIGATIONS

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: MICHAEL POWELL **EMAIL:**

Organization: MICHAEL.POWELL@STATE.DE.US

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- PROVIDING REALISTIC INFORMATION ON THE FUTURE COSTS OF FLOOD INSURANCE, SHORE PROTECTION, AND INCRASED RISK (INCLUDING EVACUATION) TO ALL COASTAL RESIDENTS SO THEY (AND MARKETS) CAN ADJUST ACCORDINGLY.

  ECONOMICALLY INEQUITABLE SUBSIDIES, THAT ENCOURAGE THE OCCUPATION OF HIGH RISK AREAS, SHOULD BE RECONSIDERED

- FLOOD RISK MAPS THAT PORTRAY FUTURE RISK, IN AREAS WHERE RISKS ARE CHANGING.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Tony Pratt **EMAIL:** tony.pratt@state.de.us
Organization: DNREC

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

full analysis of cost of floodings with the budget decision makers be informed by future cost of flood damage - mitigation to save money

insufficient funding - Not choosing to fund flood reduction projects, rather only to wait to pay more to recover from the flood.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JOHN ROBINSON **EMAIL:** RJJR 6 (AT) AOL.COM
Organization: PIHBO (PRIME HOOK)

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

THANKFULLY, FUNDING IS IN PLACE - HALF FROM SANDY RESTORATION - TO CLOSE THE DUNE LINE + BUILD IT UP!

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob Scarborough **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Decrease Match Requirements on federal projects
Don't rebuild to "risky conditions"
Encourage migration policy changes

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Chris Bason **EMAIL:**
Organization:

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Perhaps additional outreach to the communities in the Inland Bays would help. Also the counties. I believe they may be unaware of this process or unsure about why it is important.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Karen Bennett
Organization: DNREC Div fs W
EMAIL: karen.bennett@state.de.us.

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Excellent concise process, well organized + facilitated. Agree that those present representing communities & affected sectors (e.g. agriculture) not other should be given opportunity to weigh in. Report out resulted in mix of site/geographic specific + broad solutions, which is ok but worry about a ~~prior~~ process for prioritizing or at least acknowledging most vulnerable areas w/o necessarily prioritizing, which gets very messy. Thank you!

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Wendy Carey **EMAIL:** wcarey@udel.edu.
Organization: UD Sea Grant

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

consider sending follow-up communication to communities that were invited but could not attend. This would give them an opportunity to respond to the 3 questions discussed in breakout groups. This may be especially important since you were asking for community-specific input.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Pat Cooper **EMAIL:**
Organization:
DNREC

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

⇒ Good topic. Seems to be a need to reach out to all local communities

⇒ Planning process to cumbersome

⇒ need more Action

⇒ I like that we had group discussions

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: GLENN GAUVRY **EMAIL:**
Organization:
MAYOR OF LITTLE CREEK ERDG@HORSESHOECRAB.ORG

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

HELP SMALL COMMUNITIES BE INCLUDED IN THE PROCESS (THEIR FUTURE).

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kate Hackett
EMAIL: khackett@dewildlands.org
Organization: Delaware Wild Lands

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

(1) Meeting leaders referred to the "local analysis" and "meeting materials package", which was not sent out in advance

(2) was not clear that input was being sought for vulnerability and values, nor was <u>how</u> this study would be used.

(3) more info or pre-meeting material needed about authorizing legislation, outcomes of this effort and what is the Costing Authority Program

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Constance C. Holland **EMAIL:** Connie.Holland@State.de.us
Organization: Office of State Planning
(Gov's office) ~~State of Delaware~~

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.*** — Delaware needs help. Please review our comments to save our future. /

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JIM KIRKBRIDE **EMAIL:** JFKIRKBRIDE @COMCAST.NET
Organization:
PICKERING BEACH

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

SOME NEW INFORMATION GLEANED.

WOULD HAVE BEEN MORE INFORMATIVE IF FEWER ABBREVIATIONS USED SINCE THESE ARE CONFUSING AND NOT WELL DEFINED.

4

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Nancy Lawson **EMAIL:** froggy1938@AOL.Com
Organization: Pickering Beach Resident

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Share all input w/ Communities/Representatives whether Industrial/State/or Resident

As a private Resident - I would like to say thank you - I would like to stay involved

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Susan Love
EMAIL: susan.love@state.de.us
Organization:

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

The next steps for USACE and for participants here were not well defined. I'm confused as to what you need from me.

Today's session seemed duplicative of the info you already covered.

Please make sure you share your results and ask for specific feedback from stakeholders, including our municipal and county governments.

No communities from New Castle County were at this meeting. This is a big concern as their issues are significantly different than those of the Bay and Inland Bay communities.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob McDevitt **EMAIL:**
Organization:
Town of Bowers

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Keep moving forward such Federal Funding for Bay Beaches (The same as Ocean Beaches)

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Kim McKenna. **EMAIL:**
Organization: DE DNREC

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Webpage w/ Visioning Mtg minutes & FAA.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: JOHN ROBINSON **EMAIL:** RJJR6@AOL.COM
Organization: PIHBO

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

STUDY - VISIONING IS GREAT

BUT -

TOO OFTEN ACTUAL RESULTS SEEM TO GET LOST AT THE END.

JUST AN OBSERVATION - NOT MEANT TO BE NEGATIVE, BUT AN ONGOING CONCERN, ALWAYS

JOH

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Delaware Inland Bays and Delaware Bay Coast/ February 4, 2014

Name: Bob Scarborough **EMAIL:**
Organization: DNREC

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Keep everyone informed as process continues
Consider more public involvement

Appendix C: Washington, D.C. (National Capital Region) Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
National Capital Region
Visioning Meeting
Meeting Notes

February 10, 2014

1:00 PM – 3:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Monday, February 10, 2014, the U.S. Army Corps of Engineers (USACE) conducted an in-person visioning meeting hosted by the National Capital Planning Commission with representatives from the District of Columbia Flood Risk Management Working Group, the Monumental Core Climate Change Adaptation Working Group, other federal agencies, non-profit organizations, and CDM Smith to discuss the NACCS with specific focus and dialogue regarding climate change and sea level change considerations.

In general, a high level of collaboration was evident among the District, federal agencies, and NGOs represented at this meeting. There was significant dialogue regarding how information being developed as part of the NACCS is being coordinated with stakeholders, as well as how information obtained during the visioning session would be incorporated into the NACCS. The USACE sea level change presentation and related facilitated discussion topic framed the response. Many participants highlighted the significant cultural and historical assets that are vulnerable to future flooding.

Thirty-five people attended the 2 hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agency:
Department of Defense (DoD)
Department of Justice (DOJ)
General Services Administration (GSA)
Naval Facilities Engineering Command (NAVFAC)
National Oceanic and Atmospheric Administration (NOAA)
National Parks Service (NPS)
Department of the Treasury
USACE Baltimore and Jacksonville Districts
U.S. Global Change Research Program (USGCRP)

District Agencies:
Department of Homeland Security (DHS)
District of Columbia Water and Sewer Authority (DC Water)
District Department of the Environment (DDOE)
Metropolitan Washington Council of Governments (MWCOG)
National Capital Planning Commission (NCPC)

Washington Metropolitan Area Transit Authority (WMATA)

NGOs: Center for Clean Air Policy (CCAP)
Smithsonian

Other: CDM Smith (meeting facilitation team)
CH2MHILL
PEPCO
University of Maryland

Location: NCPC: 401 9th Street NW, North Lobby, Suite 500, Washington, DC

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment began with an introduction and opening remarks provided by Amy Tarce (NCPC). Phetmano Phannavong (DDOE) provided additional remarks describing efforts to include the District as part of a more focused analysis in the NACCS. Karla Roberts (USACE, Baltimore District) presented an overview of the NACCS, followed by Dave Robbins (USACE, Baltimore District) presenting coastal flood risk management measures incorporated in the NACCS and next steps to complete the report. A presentation on the considerations for assessing climate change in the NACCS with emphasis on sea level change impacting the DC area was then given by Jason Engle (USACE, Jacksonville District). These presentations are included in Attachment C. The second part of the meeting was a facilitated discussion aimed at surfacing participants' insights. Many of those who attended are members of the Monumental Core Climate Adaptation Working Group and District of Columbia Flood Risk Management Team. Photographs from the meeting are included in Attachment D.

Following the presentation, questions and discussion topics were raised.

Questions/Discussion:

- A member of the audience commented on the nature/nature-based measures and policy/programmatic measures. She asked whether USACE will provide guidance for specific policies at different detail levels (state, local, tribal, etc.). Dave replied that the Comp Study will evaluate existing policies and identify institutional barriers facing implementation. The Comp Study is an opportunity to address current policy challenges.
- A member of the audience asked a question regarding the exposure analysis comparing the coastal areas of Maryland exposed to Chesapeake Bay and Washington, DC. Dave responded that storm surge from Hurricane Sandy was used to identify the extent of the study area. Although DC experienced minor impacts, the potential for increased water surface levels caused by sea level change reveal these possible vulnerabilities. This is the purpose for performing a focused analysis and to continue dialogue with DC and its stakeholders.

- A member of the audience asked about the tables of measures and its inclusion as part of the report or as a reference, as part of the framework. Dave responded that the tables will be presented in the Comp Study report.
- A member of the audience acknowledged that the Comp Study addressed current vulnerabilities, but asked whether future vulnerabilities were also being considered. Dave responded that future vulnerabilities are being considered based on EPA population estimates, projected development densities and patterns, and other future projections. These future scenarios are overlain with inundation mapping to assess impacted areas.
- A member of the audience stated that new LiDAR data was being flown for the DC area slated to occur within the 2014/2015 timeframe. She asked if data from the Comp Study or information about the vulnerability maps would be publicly available. Dave responded that the exposure and vulnerability data is a raster-based dataset to be compiled as a spatial geodatabase. Each grid cell is 10-meters to allow for a larger scale analysis given the study area. Site-specific analysis will have to be performed at a different scale, but at a community-level, the information is adequate for analysis. The purpose is to propose a framework and a suite of tools that address risk and incorporate it into future planning.
- A member of the audience asked about the economic analysis that was being performed by the USACE technical team as part of the Comp Study. Dave responded that USACE is currently updating the depth-damage functions for structures or buildings given the physical damage and interior contents as a product associated with the NACCS. In addition, costs are being evaluated for loss of life and emergency services. USACE also acknowledges secondary and tertiary effects similar to how other computer programs, such as HAZUS, consider costs and benefits. They are currently in the stage of performing expert elicitations.
- A member of the audience asked about the analysis and project implementation that happened Post-Hurricane Katrina. Dave answered that a system providing a 100-year level of protection was being implemented in the Gulf Coast. As part of that system, a robust, layered approach was implemented and includes wetland restoration. Jason provided information regarding the Louisiana Coastal Protection and Restoration Plan (LACPR) and Mississippi Coastal Improvements Program (MsCIP) on the different projects that are currently being undertaken.
- A member of the audience asked which Congressional committee would receive the Comp Study report. Dave responded that he was unsure, but that he would follow-up.
- A member of the audience referred to her previous question about future vulnerabilities and asked whether a similar tool for viewing sea level rise, which was available for New York and New Jersey, was being incorporated or provided as part of the Comp Study. Members of the audience responded that the tool was only available for NY/NJ and that it would not be part of the Comp Study scope once the report is delivered.
- A member of the audience asked about detailed depth-damage curves and considerations for the DC area in terms of cultural resources, national treasures, and historical properties. Dave responded that there were no immediate plans to develop specialized depth-damage curves for culturally significant properties. Allowable projects must comply with a cost-benefit ratio of greater than or equal to one. More detailed analyses would take into consideration the OSE or culturally significant structures when evaluating economic damages prevented. Each structure that is culturally significant would require further consideration.

- A member of the audience recommended that a standard set of curves should be developed for historical properties. Dave responded that certain facilities, on the list of properties that were impacted by Hurricane Sandy, did not have specific damage information since the damages were varied, therefore a standard set would not be applicable.
- A member of the audience requested verification of the location of the NOAA tide gage used in the statistical analysis. Jason confirmed that long-term NOAA tide gage for the DC area was used. In general, the tide gages used were chosen based on gage records greater than 40 years without major data gaps.

At the conclusion of the question and answer period, a brief break was followed by facilitated discussions with attendees divided into four groups for brainstorming sessions. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

Please identify three key implications of SLC on your agencies' missions, objective, or operations.

- Health, safety, and welfare
- Flooding
  - Buildings and mechanical systems
  - Critical infrastructure
  - Historical and cultural resources
  - Transportation
  - Utilities
  - Medical facilities
  - Emergency response
- Policy and regulation
  - Differences between different levels of government
  - Management of existing policies
  - Changes/improvements to datasets, tools, etc. that are provided to communities and other agencies
  - Capacity building to instill flood risk issues
- Valuation/monetary assessment for vulnerabilities
- Cascading impacts
  - Environmental impacts on habitats, biological resources
  - Displacement of coastal operations (and waterfront)
    - Maintenance and continuity of operations for facilities and staffing
  - Cultural resources and infrastructure
  - Recreation in tourism areas and redefinition of park boundaries
- Future infrastructure and design standards
  - Incorporating into capital planning and facilities plans
    - Community/regional approach

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
National Capital Region
Visioning Session - Facilitated Breakout Groups

Name	Agency
Group A	
Ginger Croom	CDM Smith
John Scheri	DC Water
Bradley Provancha	DoD
Louis Naber	DOJ
Susan Walker	NAVFAC
Amy Tarce	NCPC
Darlene Finch	NOAA
Shirley Harmon	PEPCO
Eric Bradley	Treasury
Dave Robbins	USACE
Emily Seyller	USGCRP
Group B	
Tim Feather	CDM Smith
Maureen Holman	DC Water
Phetmano Phannavong	DDOE
Amanda Campbell	MWCOG
Colin Clarke	NAVFAC
Jane Passman	Smithsonian
Group C	
Lauren Klonsky	CDM Smith
Walter Nielsen	DoD WHS
Erich Lutz	NAVFAC
Richard Owen	NAVFAC
David Stirrett	Smithsonian
Martha Newman	USACE
Sandra Knight	University of Maryland
Group D	
Frannie Bui	CDM Smith
Merideth Secor	DHS
Anthony Mondy	GSA
Stan Briscoe	NPS
Karla Roberts	USACE
Suzanna Sterling-Dyer	WMATA
Other	
Shana Udvardy	CCAP
Laurens van der Tak	CH2MHILL
Erin Morrow	MWCOG
Michael Sherman	NCPC
Mathieu Philippot	NCPC

NACCS Visioning Session
National Capital Region - 2/10/2014

Name	Community/Agency	Title	E-Mail	Telephone
Martha Newman	US. Army Corps Eng	Envi Spec.	martha.newman@usace.army.mil	410 962 4590
David Robbins	USACE	Project Manager	David.W.Robbins@usace.army.mil	(410) 962-0685
Karla Roberts	USACE	Study Manager	Karla.A.Roberts@usace.army.mil	410-962 3065
John Scheri	HMM/DC WATER	VP	john.scheri@hatchmott.com	201-572-5026
Rick Owen	NAVFAC	Planning Coord.	richard.owen1@navy.mil	202-685-3101
Susan Walker	NAVFAC HQ	CC/LU Plnr	susan.e.walker@navy.mil	202-685-9323
Anthony Mondy	GSA	Proj Mgr	Anthony.Mondy@gsa.gov	202 205 5166
Phetmano Phannavong	DOE	Floodplain Manager	phetmano.phannavong@dc.gov	202-439-5715
Colin Clarke	NAVFAC Wash	Com. Planner	Colin.clarke@navy.mil	202 685 3179
Maureen Hdman	DC Water	Proj Mgr Sustainability	Maureen.hohman@dcwater.com	(202) 787-2206
FRANNIE Bui	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.COM	617 452 6248
Shana Udvardy	CCAP	Policy Analyst	Sudvardy@ccap.org	202-858-0025
Emily Seyller	USGCRP	Program Mgr	eseyller@usgcrp.gov	(202) 419-3492
Darlene Finch	NOAA	Program Analyst	darlene.finch@noaa.gov	✓
David Streett	Smithsonian	Security Engr	streettd@si.edu	2026339673

NACCS Visioning Session
National Capital Region - 2/10/2014

Name	Community/Agency	Title	E-Mail	Telephone
Eric Bradley	Treasury	ENV. / Energy Program Mgr.	eric.bradley@treasury.gov	202.622.0722
Menideth Secor	DHS	Analyst Strategy + Policy	menideth.secor@hq.dhs.gov	703-235-8172
Louis Naber	Dept of Justice	Assistant Director Facilities	louis.naber@usdoj.gov	202-616-3925
Shirley Harmon	Pepco Holdings, Inc.	Mgr - Env Compl & Perf Asst	SHHarmon@pepcoholdings.com	202-331-6640
Suzanna Sterling-Dyer	WMATA	Proj MGR - Flooding	ssterling-dyer@wmata.com	202-962-1269
Laurens vander Tak	CH2M HILL	VP	Laurens.vandertak@ch2m.com	301-204-2436
Walt Nielsen	WHS-FSD	Gen Engr.	walter.e.nielsen.civ@mail.mil	703-695-5624
ERICH LUTZ	NAVFAC Washington	Technical Discipline Coordinator – Architecture	erich.lutz@navy.mil	202-685-3846
ERIN MORROW	MWCOG	TRANSPORTATION ENGINEER	emorrow@mwcog.us	202-962-3793
Lauren Klonsky	CDM Smith	Engineer	klonskyls@cdmsmith.com	617-452-6361
Tim Feather	CDM Smith	Facilitator	feather-t@cdmsmith.com	
Ginger Croom	CDM Smith	Facilitator / Manager	croomgl@cdmsmith.com	
Jane Passman	Smithsonian	Sr. Facilities Master Plan	passmj@si.edu	2026336549
Amanda Campbell	MWCOG	Env. Planner	acampbell@mwcog.org	202-962-3324

NACCS Visioning Session
National Capital Region - 2/10/2014

Name	Community/Agency	Title	E-Mail	Telephone
STAN BRISCOE	NPS	ARCHITECT	STANLEY_A_BRISCOE@NPS.GOV	202-619-6391
Sandra Knight	UMA	Engineer	Sandra@water-works.com	601-831-2520
AMY TARCE	NCPC	URBAN PLANNER	AMY.TARCE@NCPC.GOV	202-482-7241
BRADLEY PROVANCHA	DEP'T OF DEFENSE WASHINGTON HQ SERV. (PENTAGON)	DEPUTY DIRECTOR FACILITIES SERV. DIRECTORATE	BRADLEY.PROVANCHA@WHS.MIL	703-697-7241
MICHAEL SHERMAN	NCPC	DIRECTOR POLICY & RESEARCH DIV.	MICHAEL.SHERMAN@NCPC.GOV	202-482-7254
MATHIEU PHILIPPOT	NCPC	INTERN		

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region

February 10, 2014
1 pm – 3 pm

National Capital Planning Commission (NCPC)
Main Commission Meeting Room
401 9th Street NW
North Lobby, Suite 500, Washington, DC

AGENDA

I. Introductions

II. Agenda Overview and Meeting Purpose

III. USACE NACCS Update

IV. Climate Change Considerations in the USACE North Atlantic Coast Comprehensive Study
a. Methodology
b. Results
c. Q&A

BREAK

V. Facilitated Discussion (small groups)
a. What are the implications of SLC on your agencies' missions/objectives/operations
b. Report out on small groups

VI. Adjourn

List of Handouts

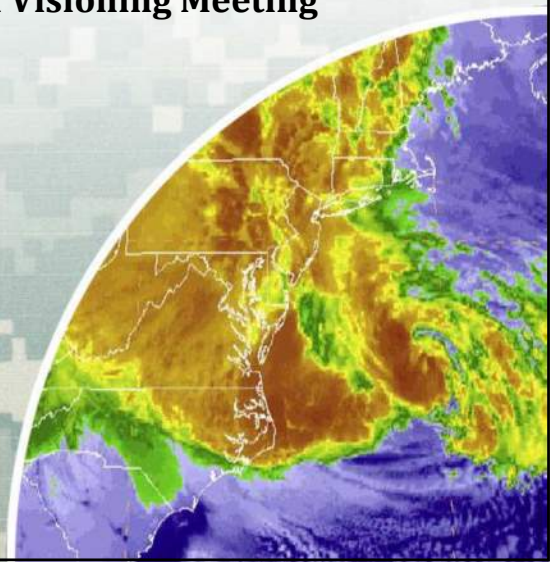
Agenda
Slide Deck handouts
USACE Climate Change Adaption handout
NACCS Sea Level Change Analysis map focused on the study area
NACCS Sea Level Change Analysis map of the overall area
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

National Capital Region Visioning Meeting



U.S. Army Corps of Engineers
National Planning Center for
Coastal Storm Risk Management

10 February 2014

Introductions

- Amy Tarce - NCPC, Monumental Core Climate Adaptation Working Group
- Phetmano Phannavong - DDOE , DC Flood Risk Management Team

USACE
- Amy Guise
- Dave Robbins
- Karla Roberts
- Martha Newman

CDM Smith (USACE Contractor)
- Ginger Croom
- Frannie Bui
- Tim Feather
- Lauren Klonsky

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Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS Update**
- **IV. Climate Change Considerations in the NACCS**

  BREAK
- **V. Facilitated Discussion** (small groups)

  What are the implications of Sea Level Change on your agencies' missions, objectives or operations?
- **Adjourn**

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Meeting Purpose

- Joint meeting of Monumental Core Climate Adaptation Working Group and DC Flood Risk Management Team
- **Meeting focus :** Climate Change Considerations in the North Atlantic Coast Comprehensive Study (NACCS)
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015.

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Sandy Overview

- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  23 States from Florida to Maine; New Jersey to Michigan and Wisconsin, and District of Columbia
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

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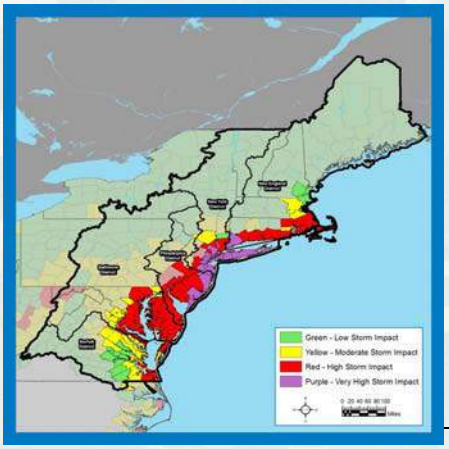
Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

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Technical Teams

- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

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Structural & NNB Measures

Table IV-8. Structural and NNB Measure Applicability by NOAA-ESI Shoreline Type

Measures	Rocky shores (Exposed)	Rocky shores (Sheltered)	Beaches (Exposed)	Man-made structures (Exposed)	Man-made structures (Sheltered)	Scarps (Exposed)	Scarps (Sheltered)	Vegetated low banks (Sheltered)	Wetlands/Marshes/ Swamps (Sheltered)
Structural									
Storm Surge Barrier[1]									
Beach Restoration			x						
Breakwaters and Beach Restoration			x						
Groins and Beach Restoration			x						
Shoreline Stabilization/Protection						x	x	x	
Deployable Floodwall					x				
Floodwall		x			x			x	
Drainage Improvements	x	x	x	x	x	x	x	x	X
Natural and Nature-Based Features									
Living Shoreline						x	x	x	X
Wetlands							x		X
Reefs	x	x				x			X
SAV Restoration[2]									X
Overwash Fan[3]									
Drainage Improvements	x	x	x	x	x	x	x	x	X

[1] *The applicability of storm surge barriers cannot be determined based on shoreline type. It depends on other factors such as coastal geography.*
[2] *SAV restoration is not associated with any particular shoreline type. Initially assumed to apply to wetland shorelines.*
[3] *Overwash fans may apply to the back side of barrier islands which are not explicitly identified in the NOAA-ESI shoreline database.*

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Non-Structural and Policy/Programmatic Options

Table IV-6. Non – Structural Measures Matrix

Aggregated Measure Category	Specific Measures	Typical Design Level (Return Period in Years)	
		Storm Tide	Waves
Building Retrofit	Floodproofing Elevating Structures Relocating Structures Ringwalls	5-100	0-100
Acquisition and Evacuation	Acquisition Evacuation	5-100	5-100
Enhanced Flood Warning & Evacuation Planning	Early Warning Systems Emergency Response Systems Elevating Roads Modify/Remove Structures for Better Channel Function (ex. bridges) Floatable Development Floodable Development	NA	NA

Table IV-7. Policy/Programmatic Measures Matrix

Aggregated Measure Category	Specific Measures
Floodplain Management	Strategic Acquisition Rolling Easements Relocation/Managed Retreat
Landuse Planning	Landuse Zoning Subdivision Regulations Design and Location of Services and Utilities
State/Municipal Policy	Building Codes Housing Codes Tax Adjustments
Natural Resources	Wetland Migration Coastal Zone Management Beneficial Use of Dredged Material (RSM) Ecosystem Protection
Surface Water Management	Low Impact Development Stormwater BMPs
Increase Awareness in Vulnerable Coastal Populations	Education Special Assistance Programs

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Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses currently ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

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Next Steps
(Six Month Snapshot)

End of February 2014: Interagency release of the draft analyses

March 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

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QUESTIONS

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Contact Information

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- Dave Robbins
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Contact Information

National Capital Planning Commission

- Amy Tarce
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  Email: amy.tarce@ncpc.gov

District Department of the Environment (DDOE) Watershed Protection Division

- Phetmano Phannavong
  Phone: 202-439-5715
  Email: phetmano.phannavong@dc.gov

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Climate Change Considerations in the North Atlantic Coast Comprehensive Study

Jason A. Engle
Jacksonville District U.S. Army Corps of Engineers
jason.a.engle@usace.army.mil

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Climate Change Assessment for NACCS: Two-Phased Approach

Objective: provide consistent, up-to-date coastal forcing information for use in the NACCS and future project planning studies.

Phase I: Storm Tide and Sea Level Change Initial Assessment

- New analysis based on existing data
- Used for engineering design criteria and validation of Phase II numerical Modeling
- Phase I draft report delivered October 2013

Phase II: U.S. Army Engineering Research and Development Center 'CSTORM' analysis

- Modern, risk-based storm climatology: Joint Probability Method (JPM)
  - Similar analysis performed for Gulf of Mexico following Hurricane Katrina
  - Future SLR incorporated into modeling
  - Evaluate storm climatology scenarios (frequency, track, intensity, etc)
  - Completely updated future storm risk with SLR
- Phase II delivery by January 2015

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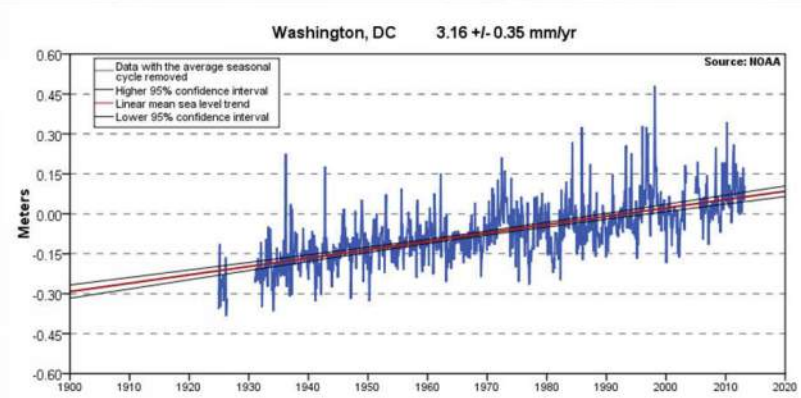
Water Level Measurements, Washington D.C.

NOAA Station 8594900, Water Street, Pier 5



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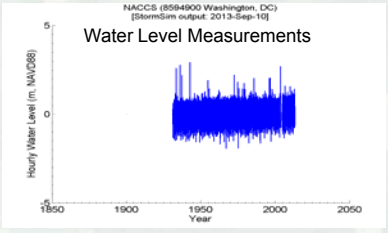
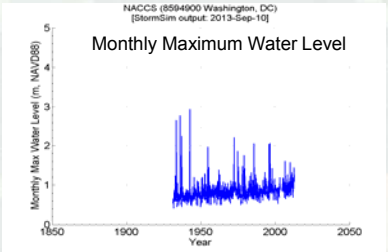
Extreme Water Levels
Phase I: NOAA WL Gage Data Analysis

Station ID	Station Name	First Year	Last Year	Record Length (years)
8410140	Eastport, ME	1947	2012	66
8413320	Bar Harbor, ME	1912	2012	101
8418150	Portland, ME	1921	2012	92
8443970	Boston, MA	1932	2012	81
8447930	Woods Hole, MA	1965	2012	48
8449130	Nantucket Island, MA	1930	2012	83
8452660	Newport, RI	1938	2012	75
8454000	Providence, RI	1938	2012	75
8461490	New London, CT	1947	2012	66
8510560	Montauk Point Light, NY	1931	2012	82
8516945	Kings Point, NY	1893	2012	120
8518750	The Battery, NY	1932	2012	81
8531680	Sandy Hook, NJ	1911	2012	102
8534720	Atlantic City, NJ	1965	2012	48
8536110	Cape May, NJ	1919	2012	94
8557380	Lewes, DE	1943	2012	70
8571892	Cambridge, MD	1902	2012	111
8574680	Baltimore, MD	1928	2012	85
8575512	Annapolis, MD	1937	2012	76
8577330	Solomons Island, MD	1931	2012	82
8594900	**Washington, DC**	**1927**	**2012**	**86**
8638610	Sewells Point, VA	1975	2012	38
8638863	Chesapeake Bay Bridge Tunnel, VA	1947	2012	66

23 North Atlantic gages with sufficient data quantity/quality





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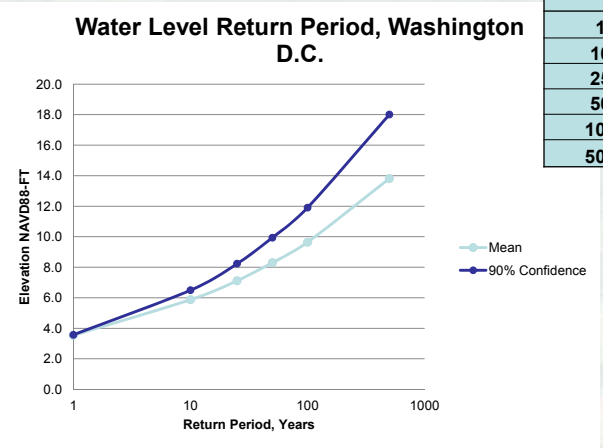
Extreme Water Level Return Period, Washington D.C.

Return Period	Mean EWL	90% Confidence
	NAVD88-FT	NAVD88-FT
1	3.5	3.6
10	5.9	6.5
25	7.1	8.2
50	8.3	9.9
100	9.6	11.9
500	13.8	18.0



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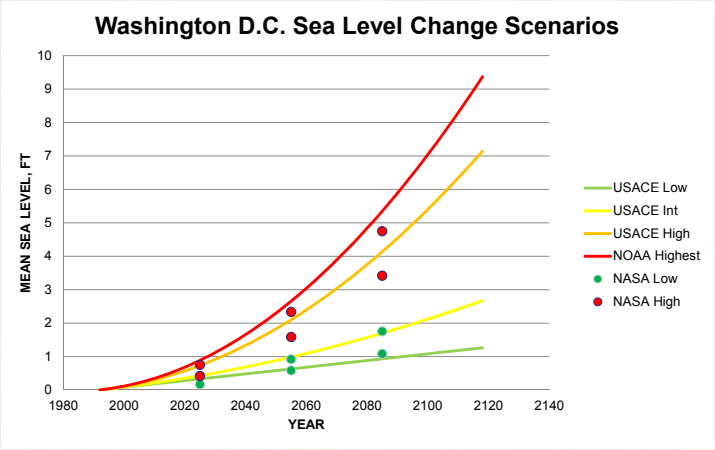
SLR Scenarios

USACE 2011: Sea-Level Change Considerations for Civil Works Programs
NOAA 2012: Global Sea Level Rise Scenarios for the United States National Climate Assessment
NASA: Adapting to a Changing Climate, Federal Agencies in the Washington, DC Metro Area



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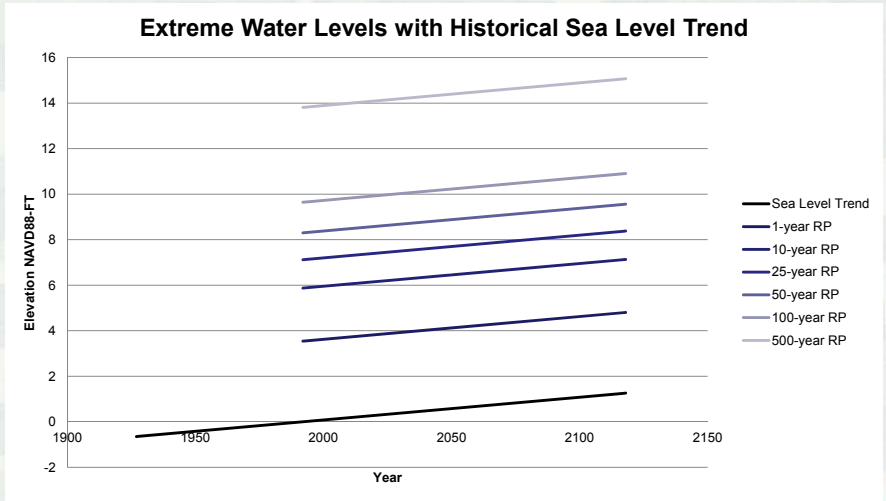

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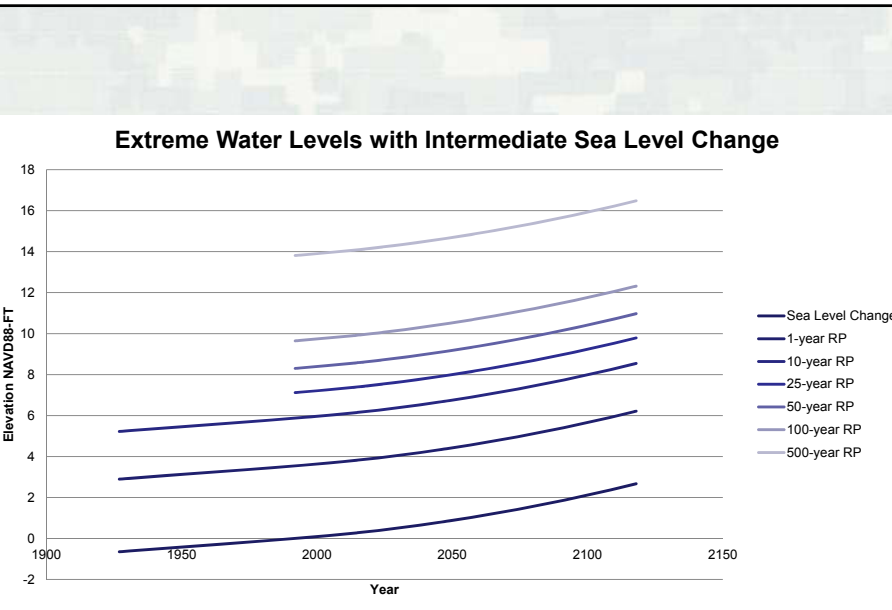

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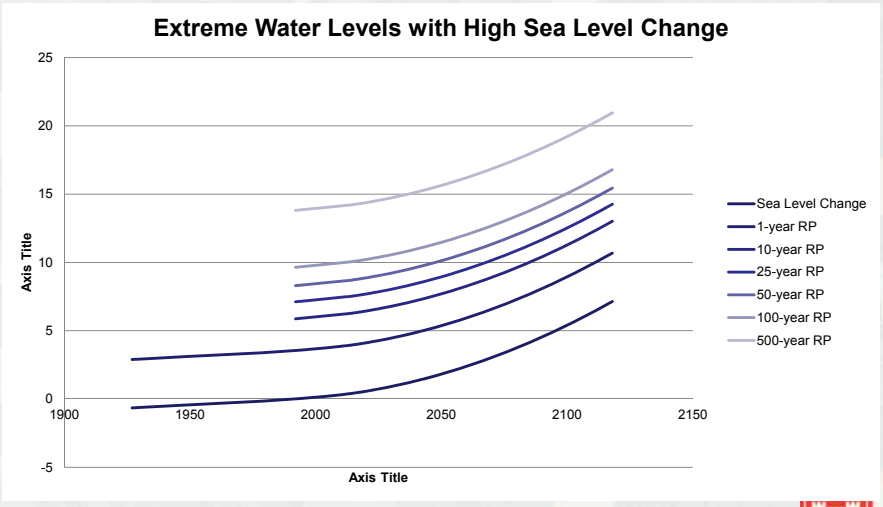

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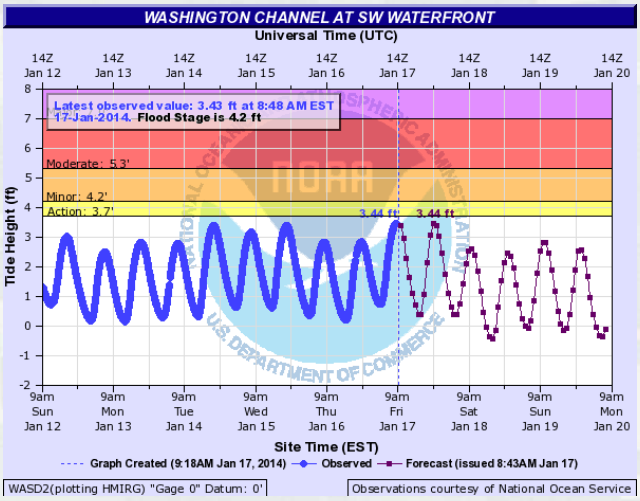
Washington D.C. Flooding Thresholds (NOAA)



Flood Stage NAVD88-FT	
Minor	2.8
Moderate	3.9
Major	5.6

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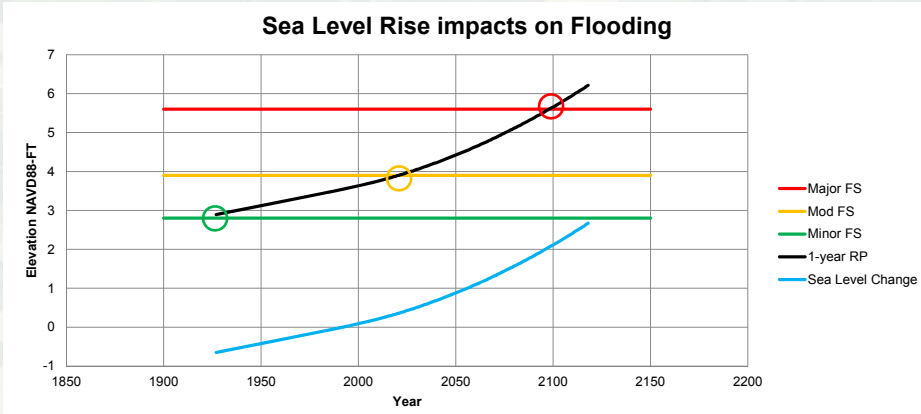
USACE Intermediate SLC Scenario



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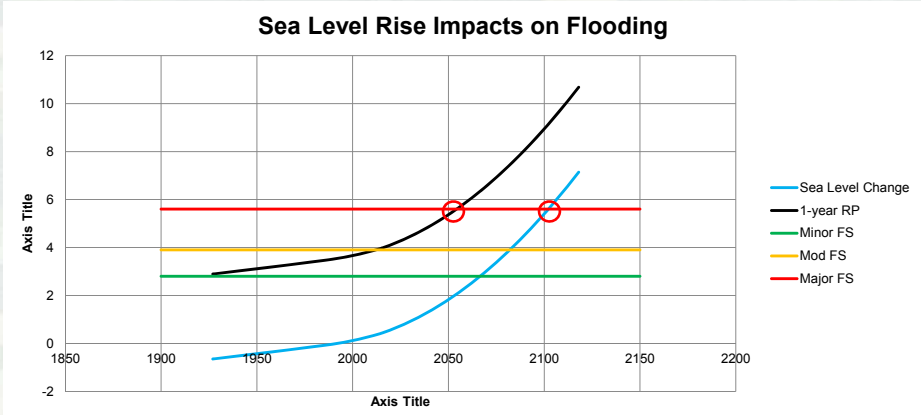
USACE High SLC Scenario



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Climate Change Adaptation

- Coasts are sensitive to sea level rise, changes in the frequency and intensity of storms, increases in precipitation, ocean acidification and warmer ocean temperatures.
- **Resilience** is ability of a coastal system to withstand environmental loading by minimizing or avoiding impacts and the ability to recover from impacts efficiently.
- Resilience of a system is enhanced through climate change adaptation planning.
- **Climate change planning** first requires understanding the potential changes to the coastal landscape and then accurate prediction of the impact to people and infrastructure

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Climate Change Adaptation

- Climate change forecasts are inherently uncertain
- Because of this uncertainty, climate change adaptation planning is less quantitative, more future-oriented
- Due to climate change uncertainty, adaptation for existing/known vulnerabilities and exposures should not be lumped in with climate change adaptation planning
- Climate change adaptation strategies must be flexible to accommodate changes that are uncertain and that may be progressive in nature.

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Adaptation Plans

- Climate change adaptation planning will key in on regional/site specific critical climate thresholds such as sea level elevations, etc.
- Site-specific plans are likely to include concurrent actions and progressive actions where one measure is phased out while another is phased in at critical thresholds.
- Example: Floodplain management + wetland creation + seawall + flood-proofing

NAACS Climate Change Future Actions

- Combined SLC and EWL analysis for all NOAA gage locations
- Climate change adaptation examples
- Suggestions?

Climate Change Adaptation Resources and Documentation

- Post-Sandy Climate Change Information
  http://www.corpsclimate.us/Sandy/
- USACE Climate Change Adaptation Policy Statement
  http://www.corpsclimate.us/docs/USACEAdaptationPolicy3June2011.pdf
- USACE Climate Change Adaptation Plan and Report
  http://www.corpsclimate.us/docs/sept_2011_usace_climate_change_adaptation_plan_and_report.pdf
- USACE Coastal Risk Reduction and Resilience: Using the Full Array of Measures
  http://www.corpsclimate.us/docs/USACE_Coastal_Risk_Reduction_final_CWTS_2013-3.pdf

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QUESTIONS

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Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS Update
- IV. Climate Change Considerations in the NACCS

BREAK

- **V. Facilitated Discussion** (small groups)

  What are the implications of Sea Level Change on your agencies' missions, objectives or operations?

- **Adjourn**

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Small Group - Instructions

- **Group & Room Assignments**
  - **Groups identified as A, B, C, or D on name tag**
  - **Groups A, B – stay in room**
    - Group A: Ginger Croom
    - Group B: Tim Feather
  - **Groups C, D - small meeting rooms**
    - Group C: Lauren Klonsky
    - Group D: Frannie Bui
- **Discussion Topic**

  What are the implications of Sea Level Change on your agencies' missions, objectives or operations?

- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

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Small Group Report-Out

- Group A
- Group B
- Group C
- Group D

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Stay in Touch!

Public website offers information and status updates
www.nad.usace.army.mil/compstudy

USACE Points of Contact

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- Karla Roberts
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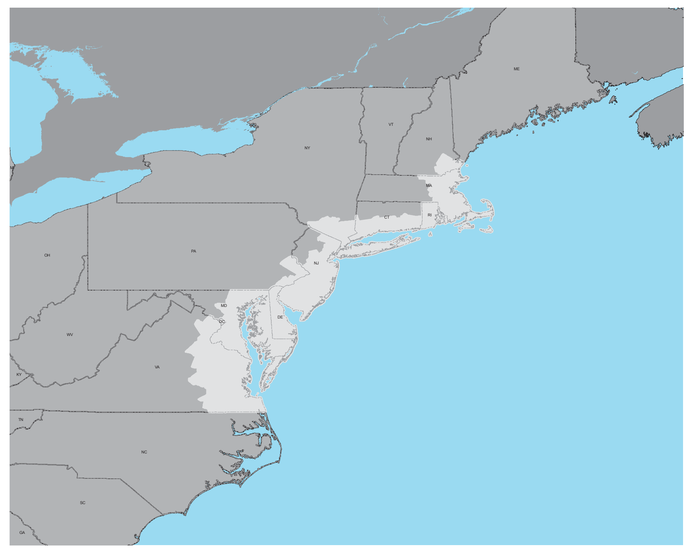
NACCS Sea Level Change Analysis

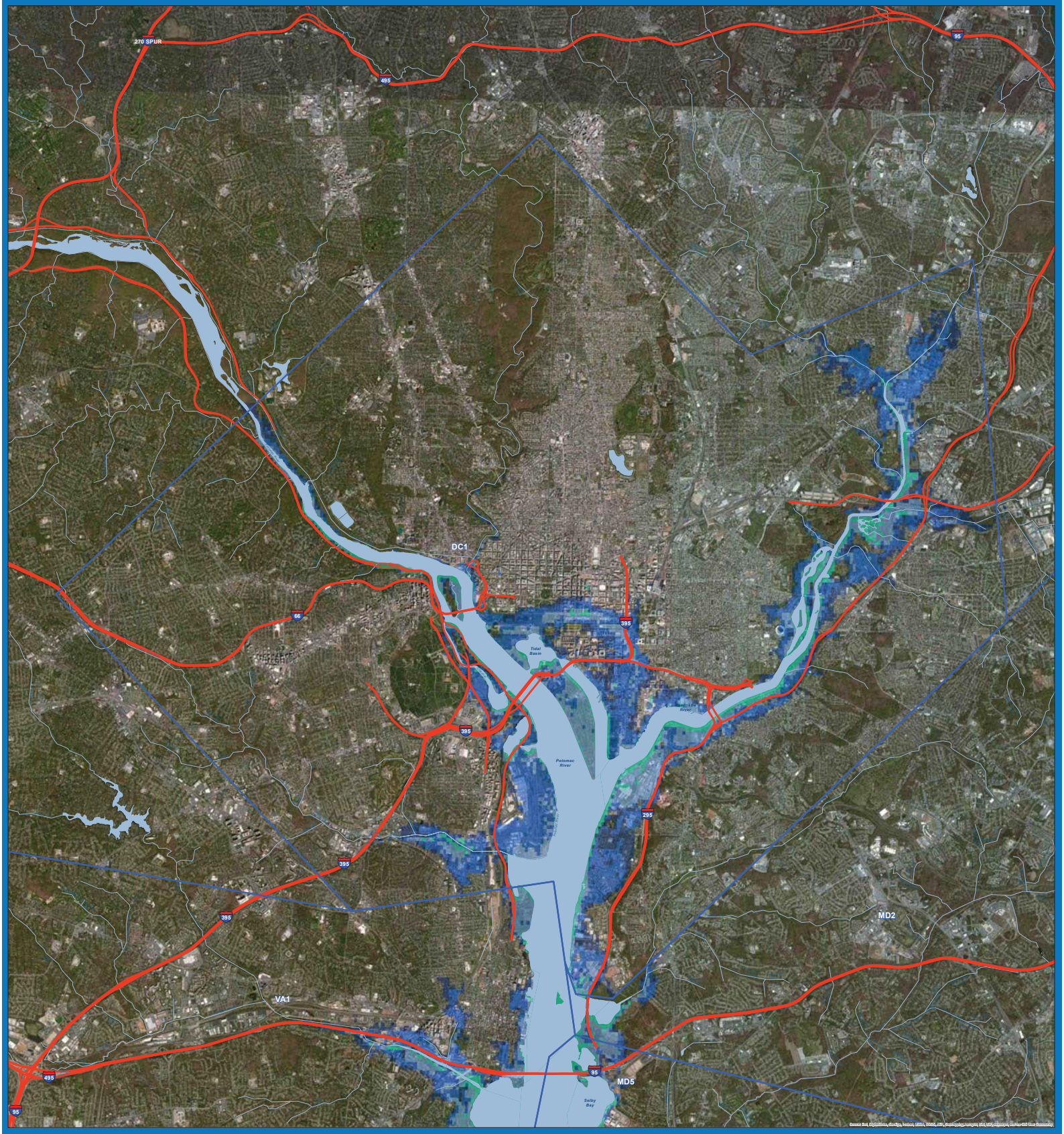
N O R T H A T L A N T I C C O A S T C O M P R E H E N S I V E S T U D Y

N
W NACCS E
S

0 25 50 75 100
Miles

- 2018 Sea Level Change
- 2068 Sea Level Change
- 2100 Sea Level Change
- 2118 Sea Level Change
- NACCS Planning Reaches
- Cities
- Interstate Highways





N O R T H A T L A N T I C C O A S T C O M P R E H E N S I V E S T U D Y

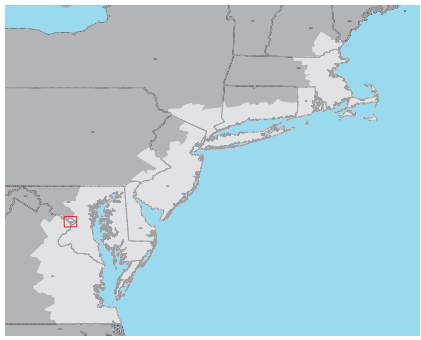
NACCS Sea Level Change Analysis

N
W E
S

0 1 2 3 Miles

- 2018 Sea Level Change
- 2068 Sea Level Change
- 2100 Sea Level Change
- 2118 Sea Level Change
- NACCS Planning Reaches
- Cities
- Interstate Highways

Calculated using the USACE high sea level change scenario



Attachment D

Photograph Log

Photo 1- Phetmano Phannavong (DDOE) providing introductory remarks

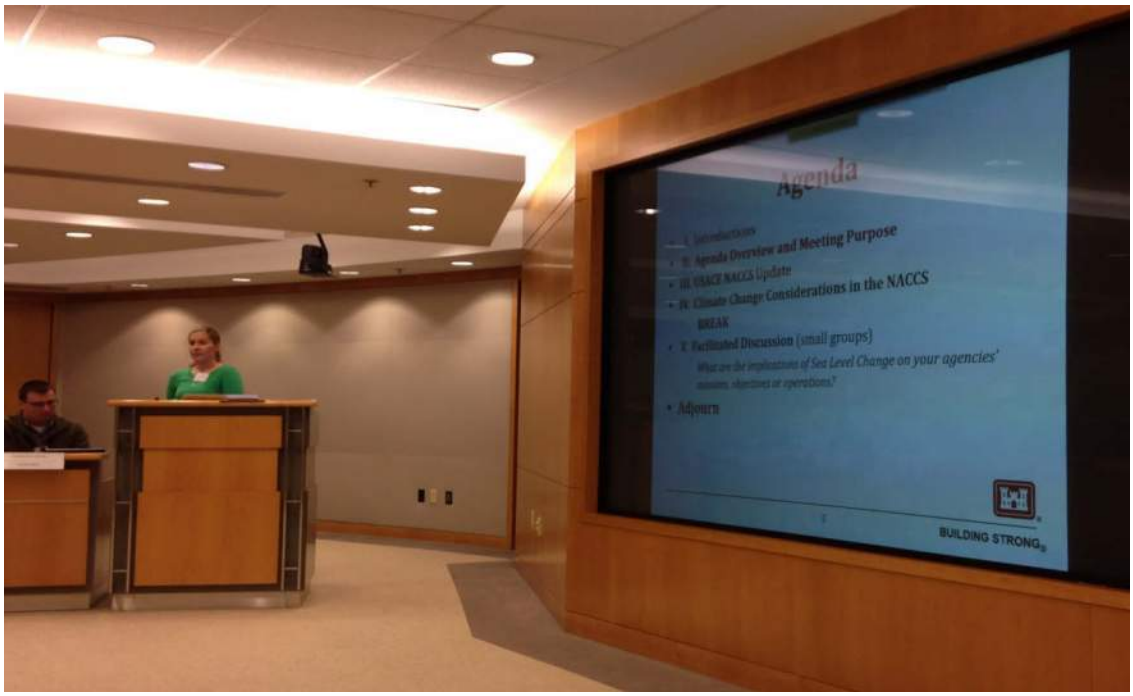


Photo 2 – Karla Roberts (USACE) begins the NACCS presentation with an overview of the meeting agenda

Photo 3 – Dave Robbins (USACE) presents Structural & NNB Measures to the participants

Photo 4 – Ginger Croom (CDM Smith) facilitates Jason Engle's presentation to the audience

Photo 5 – Participants attending the Visioning Meeting take notes

Photo 6 – The forum is opened up for questions and discussion

Photo 7 – Topics discussed during the break-out session are presented to the group

Photo 8 – Emily Seyller (USGCRP) presents the responses of Group A to the others

Photo 9 – Colin Clarke (NAVFAC) presents the responses of Group B to the others

Photo 10 – David Stirrett (Smithsonian) presents the responses of Group C to the others

Photo 11 – Meredith Secor (DHS) presents the responses of Group D to the others

Attachment E

Breakout Session Responses

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: ~~Eric~~ Bradley **EMAIL:** eric.bradley@treasury.gov
Organization: Department of the Treasury

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Flooding of electrical support / IT facilities that are below grade.
   (Transformers / servers being moved to higher floors in places.)

2. Damage to facility support infrastructure (electricity, roads, etc.) ~~on~~ on a local/regional basis. Could affect mint and printing capabilities.

3. Damage to employee property where ~~there~~ their focus is no longer on agency mission/ops.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Stan Briscoe (?) **EMAIL:**
Organization:

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

B. 1. Park boundry changes, which may require additional land acquisition to maintain the park's wildlife.

A. 2. Cultural resources (artifacts) in some cases would have to be relocated burial ground items, small structures and large structures would be impacted. Peoples histories.

3. Public would loose the use of some recreational sites (fishing, camping, site-seeing) activity

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Amanda Campell(?) **EMAIL:**
Organization:

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. How to ~~Keep~~ Increase resilience in a way that protects people, infrastructure & natural environment. Very interested in policy & financial incentives.

2. Were interested in understanding the model predictions for SLR, Stormsurge & riverine flooding.

3. Would like to see metrics for NNB on the ability of NNB measures to withstand/ protect communities from SLR/Storm surge.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Colin Clarke **EMAIL:** Colin.clarke@navy.mil
Organization: NAVFAC Washington

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Impact on Continuity of Operations (COOP)
   - energy
   - transportation
   - land use, facilities planning/development
   - water
   - people/access
2. Impact on facilities planning solutions, e.g. siting
   design guidance
3. Impact on critical assets

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Darlene Finch **EMAIL:** darlene.finch@noaa.gov
Organization: NOAA

from a coastal management perspective

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.*** NOAA is both a 'user' and a 'consumer' of climate information.

1. Significant impacts on how the agency implements our management authorities (e.g. fisheries, other managed resources).
   → how natural systems are impacted and respond

2. ~~Changes the nature of information and tools we develop and deliver to coastal communities and decision-makers.~~

3. Influences the kinds of activities we support with our programs and dollars.

- Information
- Implement what we do today
- Implement our facility / operations
- Future plans

A

NCPC - Policy agency
Federal Plan goes back to 1791 → major plans urban design transp. environment

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Shirley Harmon (?) **EMAIL:**
Organization:

NCPC will require agencies to incorporate / address climate change in capital projects + cost effectiveness

---

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Grid Resilience to extreme weather

What Pepco is doing:

2. Storm preparation, table top drills
   Emerg. Restoration Improvement Project (ERIP) → smart meters
   - to reduce duration of outages (technology, S/W, interconnw/Renewables)
   - to improve comm. w/ customers during storms
     - working/collab. w/ Dept of Energy to coord. best practices & w/ industry to develop mutual assistance framework for natl response

3. Integrated w/ DC Govt Command Center on emerg. response

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Maureen Holman **EMAIL:** Maureen.holman@dcwater.com
Organization: DC Water

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Our facilities/critical infrastructure along the Rivers (Potomac and Anacostia) may become completely inundated.

2. Our ability to provide wastewater treatment services to the region may be compromised.

3. Operations (staffing, resources/funding needed, & Capital Planning meeting CWA permit reqmts, etc.) will need to change to accomodate SLC and, more significantly in the near-term, extreme weather events.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Sandra Knight **EMAIL:** skknight@umd.edu
Organization: University of Maryland
Center for Disaster Resilience

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. As an academic institute looking at and analyzing flood risk in the DC, MD & VA area, clear guidance on expected SLR and uncertainty from authoritative sources (NOAA, USACE, others) will be critical in applying SLR to flood modeling.

2. To evaluate unique vulnerabilities, more information, data and analysis may be needed to identify current & future impacts to economy, social culture and ecosystems.

3. The DC area is a complex mix of agencies, interests and politics/policies (governance). Integrated but targeted adaptation measures must be developed to ~~address~~ protect unique assets and address vulnerabilities.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Erich Lutz **EMAIL:** erich.lutz@navy.mil
Organization: NAVFAC Washington

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. We are not authorized to speak for the NAVY today, but specific questions can be addressed to RDML Markham Rich, Commandant, Naval District Washington.

   Flooding is a concern because of the need to avoid work stoppage.

2. The NAVY is involved in several studies that consider effects of climate change, primarily Sea level rise & flooding.

   Health, safety & welfare of the building occupants.

3. The NAVY is following relevant DoD directives and guidance with regard to contingency planning and installation master planning, including consideration of climate change effects.

   Protection of historic artifacts

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: ANTHONY MONDY **EMAIL:**
Organization: GSA Anthony.Mondy@gsa.gov

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. INCREASED RISK OF Flooding of FEDERAL Buildings Along Constitution AVE.

2. SCARCE FUNDING (CAPITAL FUNDS) NEED TO BE ALLOCATED FOR Flood MITIGATION

3. RECOVERY PLANS NEED to BE UPDATED To ADDRESS RISKS.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Louis Naber (?) **EMAIL:**
Organization:

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. DOJ - Bureaus Will Have Different Issues
BOP - Security, Facilities, Populations, Real Property
DEA -
FBI -
ATF -

2. Utilities - Providers May Lose Infrastructures
- Loss Of Power Grids & Transmission Lines
- Backup Power Generations / Fuel Deliveries Etc.

3. Communications - Intra-Net, Data Center Failures
Internal Communications

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Walter Nielsen
Organization: WHS - FSD (Pentagon)
EMAIL: walter.e.nielsen.civ@mail.mil

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Building operation is at risk; e.g. electrical power, chilled water, and heating capacity could be lost due to flooding

2. Flooding could prevent employee access to building. Telecommuting might be possible; however, our heating & refrig. plant and electrical substation are in a low-lying area (i.e., if flooding prevents employees from reaching the building, then it's likely that the utility systems have also been impacted.

3.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Rick Owen **EMAIL:** richard.owen1@navy.mil.
Organization: Naval Facilities Engineering Command Washington

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Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. I'm not authorized to speak for the Navy today... listening mode only. Consult Naval District Washington.

2. The Navy is involved with several studies considering sea level rise and flooding.

3. The Navy is following all relevant DoD directives and guidance, including consideration of climate change effects.

... See others' comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Jane Passman **EMAIL:**
Organization: Smithsonian

Sea Level Change

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Need to protect facilities, collections, visitors from flood impacts (to DC facilities) – may involve sheltering in place or temporary closures

2. May want to direct research toward effects on coast (MD facilities)
   - change flood elevation

3.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Phetmano Phannavong **EMAIL:** phetmano.phannavong@dode.gov
Organization: DOE

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Current regulations does not address the future impact level (100-year floodplain standards) -

2. More emergency response / coordination - need even more coordination -

3. Higher flood insurance premium for property owner

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Dave Robbins
Organization: USACE
EMAIL: David.W.Robbins@usace.army.mil

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Existing Projects (FRM/CSRM)
   - Risk & uncertainty

2. Ecosystem Restoration
   - natural environment & ecosystem impacts

3. RSM
   - Changes in shoreline
   - Channels
   - Source/sink

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Karla Roberts
Organization: USACE

EMAIL: Karla.A.Roberts@usace.army.mil

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. FRM – Formulating projects that meet todays need for protection but also can be adapted for future storm events.

2. Need for policies/guedance that allow flexibility in project planning/formulation (Combinations – i.e. Structural Combined w/ NNBF)

3. Environmental Impacts – SLC impacts to critical habitat.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: John Scheri **EMAIL:** john.scheri@hatchmott.com
Organization: Hatch Mott MacDonald (DC Water)

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Blue Plains WWTP - Ability to provide core mission of wastewater treatment to protect environment & public. Access to facility, power & communications would be impacted.

2. Water Distribution System - Most water facility assets are outside SLC influence. However, operational access to hydrants / valves will be restricted.

3. Sewer System - Protection of critical facilities is necessary because major infrastructure (pumping facilities, etc.) are located within the flood zone.

Emergency Planning / Response

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Meridith Secor **EMAIL:** meridith.secor@hq.dhs.gov
Organization: DHS office of Infrastructure Protection

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Supporting voluntary resilience adoption -
IP is focused on helping our partners build resilient infrastructure by leveraging lessons learned / best practices. SLC changes the underlying assumptions about the infrastructure assets & its vulnerabilities. It is important for IP to have accurate assessment capabilities to help owners & operators.

2. Sharing information with the private sector
IP has a broad network of private sector infrastructure owners and operators, and we share information through our secure portal. We are interested in using SLC information to share it broadly with state & local communities

3. Managing & addressing future risk to critical infrastructure
- working on Climate change adaptation

4. Damage to lifeline sectors

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Emily Seyller **EMAIL:** eseyller@usgcrp.gov
Organization: USGCRP (using HHS as an example)

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

HHS as example

1. safety concern with health ~~cement~~ facilities, flooding, CSOs, disease spread, getting people access to critical health needs; environmental justice (unhealthy pops) — short- and long-term

2. Preparedness → New monitoring + observing systems needed for early warning; evaluation of successful mgmt of SLR — need to integrate projections into existing models

3. Response → how should HHS respond to gradual SLR? Extremes related to SLR

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: Suzanna Sterling-Dyer **EMAIL:** ssterling-dyer@wmata.com
Organization: WMATA (metro)

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Challange in letting upper management understand how climate change effects metro.

2. Working together w/ various group w/in agency. working w/ outside groups & presentations to those outside groups. Letting the outside world (stakeholders) understand the problem.

3. not be re-active but pro active. Flood Emergency Response Pln.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: David Stirrett **EMAIL:** stirretfd@si.edu
Organization: Smithsonian Institution

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Potential for flooding of buildings along Constitution Ave
   - loss of mechanical systems
   - compromised protection of collections

2. Displacement of operations at coastal facilities
   - STRI - Panama
   - SERC - Chesapeake Bay
   - Ft. Pierce - Florida

3. Changes to the study of the natural environment

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region / February 10, 2014

Name: ~~Name~~ Amy Tarce **EMAIL:** amy.tarce@ncpc.gov
Organization: National Capital Planning Commission

Small Group Discussion: ***Please identify three key implications of SLC on your agencies' missions, objective, or operations.***

1. Impacts on Historic Plan of Washington – Policy changes to Comp Plan
   permanent change to image and land use pattern of L'Enfant City

2. Policy changes to Review criteria
   Will & require applicants to consider adaptation strategies
   Section 106 Review – new priorities to include climate change adaptation should be balanced with preservation of cultural landscapes and historic buildings

3. Interruptions to commute of agency employees

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region Visioning Meeting/ February 10, 2014

Name: Maureen Holman **EMAIL:** maureen.holman @ dcwater.com

Organization: DC Water

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

(1) Please use more distinct colors on maps and charts to better see impacts (instead of 6 different shades of blue-green).

(2) The USACE High SLC Scenario graph needs proper titles on the axis (both vertical & horizontal)

(3) It would be great for the study to include scientific/technical information at a level that the average lay person can understand.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
National Capital Region Visioning Meeting/ February 10, 2014

Name: Walter Nielsen **EMAIL:** walter.e.nielsen.civ@mail.mil
Organization: WHS-FSD (Pentagon)

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Session was too abbreviated – it was good, but too short

Appendix D: Coastal Rhode Island Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
Coastal Rhode Island
Visioning Meeting
Meeting Notes

February 27, 2014

3:00 PM – 5:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Thursday, February 27, 2014, the U.S. Army Corps of Engineers (USACE) New England District conducted an in-person visioning meeting with representatives from the Rhode Island Coastal Resources Management Council (RI CRMC) and other state agencies, non-profit organizations, and local communities with specific focus and dialogue concerning coastal Rhode Island.

In general, a high level of collaboration was evident among state and federal agency staff as well as local Communities, academia, and NGOs represented at this meeting. Since coastal Rhode Island suffered direct impacts from Hurricane Sandy, discussions regarding recent damages as well as targeted coastal risk management practices were main topics of discussion. Another prominent discussion topic was the significance of the coast as an economic, natural resource and cultural/historic asset to the region, and how the coast defines the character of many communities in the region. Many participants expressed the need for continued communication and collaboration among federal, state, and local stakeholders.

Thirty-three people attended the 2 hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agencies:	U.S. Army Corps of Engineers (USACE) U.S. Geological Survey (USGS)
State Agencies:	Rhode Island Coastal Resources Management Council (CRMC) Rhode Island Department of Transportation (RIDOT) Rhode Island Emergency Management Association (RIEMA)
NGOs:	Eastern Connecticut State University Rhode Island Sea Grant Salt Ponds Coalition Save the Bay University of Rhode Island (URI)
Communities:	City of Newport Town of Charlestown

Town of Coventry
Town of East Greenwich
Town of Narragansett
Town of South Kingstown
Town of Tiverton
Town of Westerly

Other: CDM Smith (meeting facilitation team)

Location: University of Rhode Island Bay Campus, Coastal Institute Building, Hazard Room 215 South Ferry Road, Narragansett, RI 0288

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment was driven by a presentation of an overview of NACCS provided by Ginger Croom (CDM Smith). Chris Hatfield (USACE) and Grover Fugate (CRMC) presented an overview of ongoing USACE and state recovery efforts in Rhode Island, respectively (Attachment C). The second part was a facilitated discussion aimed at surfacing participant insights on the vision for coastal storm risk management, including vulnerable areas, potential solutions and policy and institutional barriers to coastal storm risk management. Photographs from the meeting are included in Attachment D.

Following the initial presentations, the floor was opened for questions, yet none were raised at that time. At the conclusion of the question and answer period, a brief break was followed by facilitated discussions with attendees divided into four groups for brainstorming sessions. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

How is your community most vulnerable to coastal storm risk?

- Natural systems
    - Beach, dune systems
    - Back bay barriers, coastal wetlands
    - Eel grass habitats
- Storm exposure (inland and coastal—southerly exposure)
    - Habitat loss
    - Generally low topography
        - Coastal hazards/flooding
        - Riverine flooding
        - Sea level rise
        - Storm surge
    - Contamination
    - Erosion
- Access
    - Emergency response

    - Low-lying roads/ wash-over of sand onto roadways/ evacuation/detour routes
    - Debris from trees
- Infrastructure
    - Public and private
    - Above ground utilities and power supply
    - Septic systems/wells
    - Wastewater treatment plant
    - Drinking water lines
    - Coastal development
- Socioeconomic and cultural
    - Town and regional identity as coastal communities
    - Property-by-property or town-by-town decisions
    - Economic drivers—tourism and tax base
    - Potential loss of tax base
    - Adaptive capacity of communities
    - Lean from past storms, but improve interagency coordination
    - Changing mindset

Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?

- Proactive adaptation and future mitigation planning
    - Coastal monitoring and better data
    - Improved mapping
    - Low impact development
    - Sea level rise planning
    - Move utilities underground
    - Build roads at an elevation to prevent overwash
    - Design infrastructure
    - Alternative power sources
- Policy changes
    - Increasingly stringent building codes and flood insurance
    - Creating a sustainable economy
- Human influence
    - Restore natural systems
    - Move commercial nodes
- Increased awareness/outreach
    - Funding/public-private
- Infrastructure
    - Lead by example
    - Retreat/elevate/move/acquire
    - Relocate WWTPs or flood-proof critical infrastructure
    - Address vulnerable septic systems
    - Development in “smart” places
- Regional zoning (across town borders)
    - Designate areas of protection, retreat, and restoration
    - Provide incentives
    - Develop criteria

    - Conduct proactively
    - Enhance coordination

What is the most prominent policy change or legislative solution that could improve coastal resilience?

- Policy reform
    - Policy change to maintain and better protect existing coastal resources
    - Science and engineering based policy
    - Implement solutions in sustainable way
    - Flood insurance reform
    - Pass carbon cap and trade tax to curb greenhouse gases
- Construction
    - Enforcement of existing policies, regulations
    - More stringent codes on reconstruction and new construction
    - Reduce repetitive loss claims
    - Limit construction and reconstruction in areas subject to frequent storm damage
    - Stop funding reconstruction and use free market to dictate construction/reconstruction
    - Development of Standards
        - Require freeboard
        - Require CRMC permit that incorporate SLR setbacks
- Rolling "Easement"
    - No current mechanism in state
    - Some type of legacy lease
    - State or community could buy out property, allow current landowner to resize for a set period of time (~30 years)
- Develop plan for prioritized mitigation
    - Get local buy-in
    - Buyouts
        - "1 strike and you're out" for new construction
        - "Buyer beware" for vulnerable areas
- Funding
    - Increased cost of compliance
    - Mitigation funding as temporary solution
    - Tax structure reform
- Investment support
    - Data sharing
- Education (statewide curriculum)
    - Resiliency
    - Sea level change
    - Awareness of alternative solutions

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

Questions/Discussion:

- After the facilitated discussion summary, a member of the audience asked how maps and information provided by the communities or the state would be incorporated into NACCS. The recommendation was to provide information to Chris Hatfield and USACE for consideration.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
Coastal Rhode Island
Visioning Session - Facilitated Breakout Groups

Name	Agency
Group A	
Ginger Croom	CDM Smith
James Boyd	CRMC
Pam Rubinoff	RI Sea Grant
Steve McCandless	Town of Charlestown
Vincent Murray	Town of South Kingstown
Group B	
Frannie Bui	CDM Smith
Nathan Vinhateiro	ASA Science
Elise Torello	Salt Ponds Coalition
David Prescott	Save the Bay
Joseph Warner	Town of Charlestown
Kate Michaud	Town of Tiverton
John King	URI, GSO
Group C	
Lauren Klonsky	CDM Smith
Grover Fugate	CRMC
Mark Stankiewicz	Town of Charlestown
Thomas Gentz	Town of Charlestown
Bob Joyal	Town of Coventry
Michael Deluca	Town of Narragansett
Marilyn Shellman	Town of Westerly
Jon Boothroyd	URI
Group D	
Debra Beck	CDM Smith
Sarah Atkins	City of Newport
Bryan Oakley	Eastern Connecticut State University
Jessica Stimson	Rhode Island Emergency Management Agency
Emilie Holland	RIDOT
Juliana Berry	Town of East Greenwich
Chris Hatfield	USACE
Other	
Buvana Ramaswamy	CDM Smith
Kelly Knee	ASA Science
Art Ganz	Salt Ponds Coalition
Judith Johnson	USACE
John Kennely	USACE
Richard Verdi	USGS

NACCS Visioning Session
Rhode Island - 2/27/2014

Name	Community/Agency	Title	E-Mail	Telephone
Jon Boothroyd	URI/GEO	Prof Emeritus	Jon_Boothroyd@URI.EDU	401-874-2265
Bryan Oakley	Eastern CT	Asst. Prof	oakleyb@easternct.edu	—
Judith Johnson	USACOE	Biologist	judith.l.johnson@usace.army.mil	978-318-8138
Chris Hatfield	" "	Project Manager	christopher.l.hatfield@usace.army.mil	978-318-8520
John King	URI/GSO	Professor	jwking@mail.uri.edu	401-874-6182
Joseph Warner	Town of Charlestown	Building Official	JWarner@charlestownri.org	364-1215
Tom Gentz	"	Pres. Town Council	TBGENTZ@COX.NET	527-7161
Mark Stankiewicz	"	Town Adm		
Michael DeLuca	Town of Narra.	CD Director	mdeluca@narragansettri.gov.	782-0602
Stephen McCandless	Town of Charlestown	GIS Specialist	SMcCandless@charlestown	364-1214
DAVID PRESCOTT	SAVE THE BAY	SOUTH COUNTY COASTKEEPER	DPRESCOTT@SAVEBAY.ORG	401-315-2709
Juliana Berry	Town of EG	Planning	jberry@eastgreenwichri.com	886-8645x1
Richard Verdi	USGS	Hydrologist	rverdi@USGS.GOV	508-490-5064
EMILIE HOLLAND	RIDOT	Env. Sci.	emilie.holland@dot.ri.gov	401 222-2023
Bhavana Ramaswamy	CDMS	Geologist	ramaswamyb@cdmsmith.com	617-851-8084

NACCS Visioning Session
Rhode Island - 2/27/2014

Name	Community/Agency	Title	E-Mail	Telephone
ART GANZ	SALT PONDS COALITION	PRESIDENT	GANZAP@VERIZON.NET	401 322 1384
Elise Torello	Salt Ponds Coalition	Exec Director	saltpondscoalition@gmail.com	322-3068
Marilyn Shellman	Town of Westerly	Town Planner	mshellman@westerly.org	348-2604
Kate Michaud	Town of Tiverton	Planner • AO	kmichaud@tiverton.ri.gov	625-6718
Vincent Murray	Town of S. Kingstown	Planning Director	VMurray@SouthKingstownRI.com	7899331 x124
John Kennedy	Corps of Engineers	Chief Plng Br	John.R.Kennedy@usace.army.mil	978 318 8505
Kelly Knee	RPS ASA	Engineer	kknee@asascience.com	789-6224
Sarah Atkins	City of Newport	Grant writer	satkins@cityofnewport.com	202-262-4082 (cell)
Jessica Stimson	RIEMA	State Haz. Mit. Officer	jessica.stimson@ema.ri.gov	462-7115
James Boyd	CRMC	Policy Analyst	jboyd@crmc.ri.gov	401 783-3370
Bob Joyce	Coventry	Town Engineer	RJoyce@Coventryri.org	822-9182
Lauren Klonsky	CDM SMITH	Engineer	klonskyls@cdmsmith.com	617-452-6361
Debra Beck	CDM Smith	PM	beckdf@cdmsmith.com	617.452.6277
NATHAN VINHATEIRO	RPS ASA	OCEANOGRAPHER	nvinhateiro@asascience	789-6224
FRANNIE BUI	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.com	617 452 6298

NACCS Visioning Session
Rhode Island - 2/27/2014

Name	Community/Agency	Title	E-Mail	Telephone
PAM RUBINOFF	RI Sea grant	Coastal extension	rubi@crc.uri.edu	
GINGER CROOM	CDM SMITH	PROJECT MANAGER	CROOMGL@CDMSMITH.com	
Grover Fugate	CRMC	Executive Director	gfugate@crmc.ri.gov	(401) 783-3370

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Coastal Rhode Island

URI Bay Campus
Coastal Institute (CI) Auditorium

February 27, 2014
3:00-5:00 pm

I. Welcome and Introductions

II. Agenda Overview and Meeting Purpose

III. USACE North Atlantic Coast Comprehensive Study (NACCS) Overview

IV. Other Updates

a. USACE
   - Upcoming Recovery Efforts
   - Investigations

b. Other Recovery Efforts

V. Facilitated Discussion Topics

a. Vulnerability
b. Potential Solutions
c. Policy and Institutional Barriers

VI. Closing Remarks/Adjourn

List of Handouts

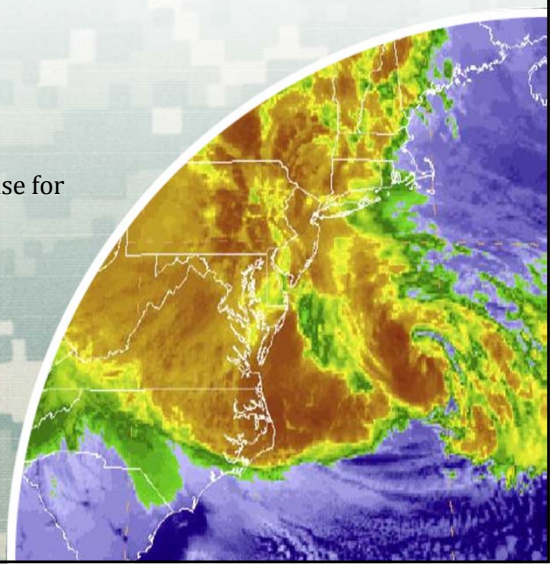
Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

Coastal Rhode Island Visioning Meeting



U.S. Army Corps of Engineers
National Planning Center of Expertise for Coastal Storm Risk Management

27 February 2014

Introductions

Coastal Resources Management Council (CRMC)

- Grover Fugate

USACE New England District

- John Kennelly
- Chris Hatfield

CDM Smith – USACE Contractor

- Ginger Croom
- Debra Beck
- Frannie Bui
- Lauren Klonksy

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS Overview**
- **IV. Other Updates**
- **V. Facilitated Discussion** (small groups)
- **VI. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015

Sandy Overview

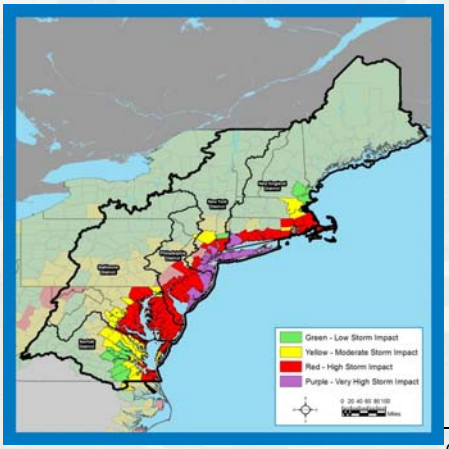
- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  24 States from Florida to Maine; New Jersey and New York to Michigan and Wisconsin
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

NACCS Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

NACCS Next Steps
(Six Month Snapshot)

Early March 2014: Interagency release of the draft analyses

March 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

NACCS Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses currently ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

QUESTIONS

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS Overview
- **IV. Other Updates**
- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Other Updates

- **USACE**
  - ► Upcoming Recovery Efforts
  - ► Coastal Investigations
- **Other Recovery Efforts**

Upcoming USACE Recovery Efforts (P.L. 113-2)

Dredging
Little Narragansett Bay - 10/1/2014

Breakwater/Jetty Repair
Harbor of Refuge, Block Island - 9/1/2014
Point Judith, Harbor of Refuge, East Jetty - 2/26/2014
Point Judith, Harbor of Refuge, East Shore Arm - 10/15/2014
Point Judith, Harbor of Refuge, Camp Cronin – 10/15/2014
Sakonnet Harbor - 2/26/2014

Beach Restoration
Misquamicut Beach, Westerly – 4/1/2014

USACE Investigations Initiated (P.L. 113-2)

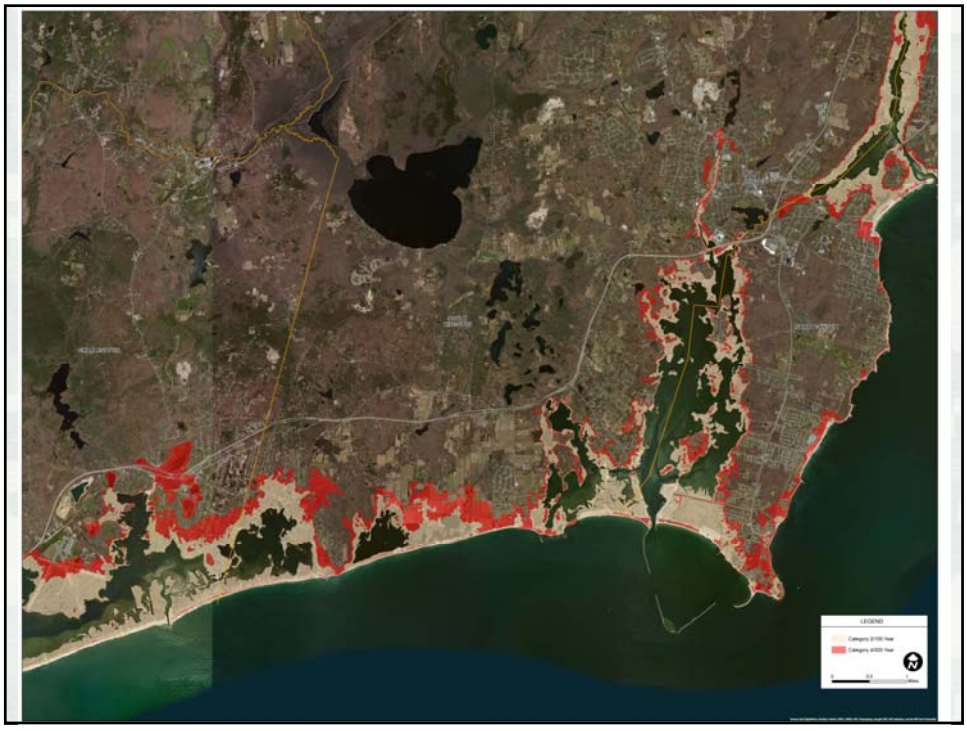
Pawcatuck River Coastal Storm Damage Reduction Feasibility Study

- Sponsor: RI CRMC (agreement signed 1/15/14)
- 100% Federal Cost
- South County coastline from Watch Hill to Point Judith

Pawcatuck River Flood Damage Reduction Feasibility Study

- Sponsor: Town of Westerly (agreement signed 10/28/13)
- 100% Federal Cost
- Primary focus on the Canal Street area of Westerly


LEGEND


LEGEND

Other Recovery Efforts

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS Overview
- IV. Other Updates
- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, C or D based on name tag**
    - Group A: Ginger Croom
    - Group B: Frannie Bui
    - Group C: Lauren Klonsky
    - Group D: Debra Beck
- **Discussion Topics**
  - ***Vulnerability***
  - ***Potential Solutions***
  - ***Institutional or Policy Challenges***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

1. How is your community most vulnerable to coastal storm risk?
2. Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?
3. What is the most prominent policy change or legislative solution that could improve coastal resilience?

Small Group Report-Out

- Group A
- Group B
- Group C
- Group D

Contact Information

- **Chris Hatfield - USACE New England District**
  - Christopher.L.Hatfield@usace.army.mil
  - 978-318-8520 (phone)
- **John Kennelly - USACE New England District**
  - John.R.Kennelly@usace.army.mil
  - 978-318-8505 (phone)

Attachment D

Photograph Log

Photo 1- Grover Fugate (CRMC) provides opening remarks

Photo 2 – Ginger Croom (CDM Smith) presents NACCS background to the participants

Photo 3 – Chris Hatfield (USACE) discusses ongoing and future USACE projects to the crowd

Photo 4 – The participants are divided into small groups for facilitated discussions

Photo 5 – Lauren Klonsky (CDM Smith) records responses from participants in Group C

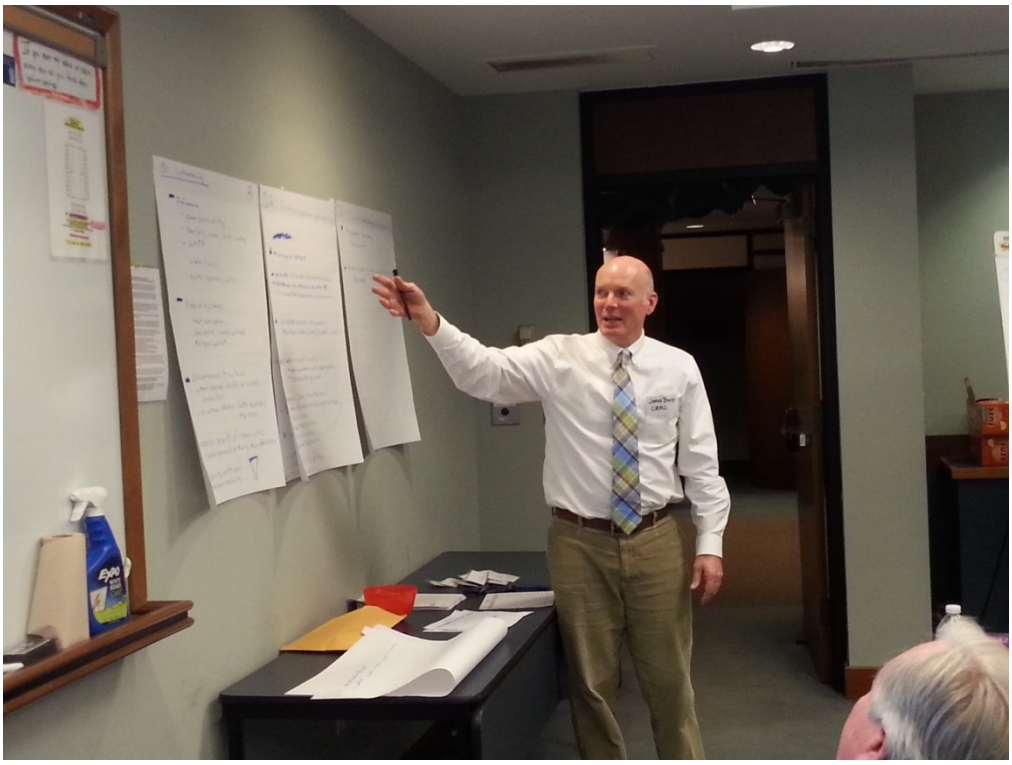


Photo 6 – James Boyd (CRMC) presents the responses generated by Group A to the others

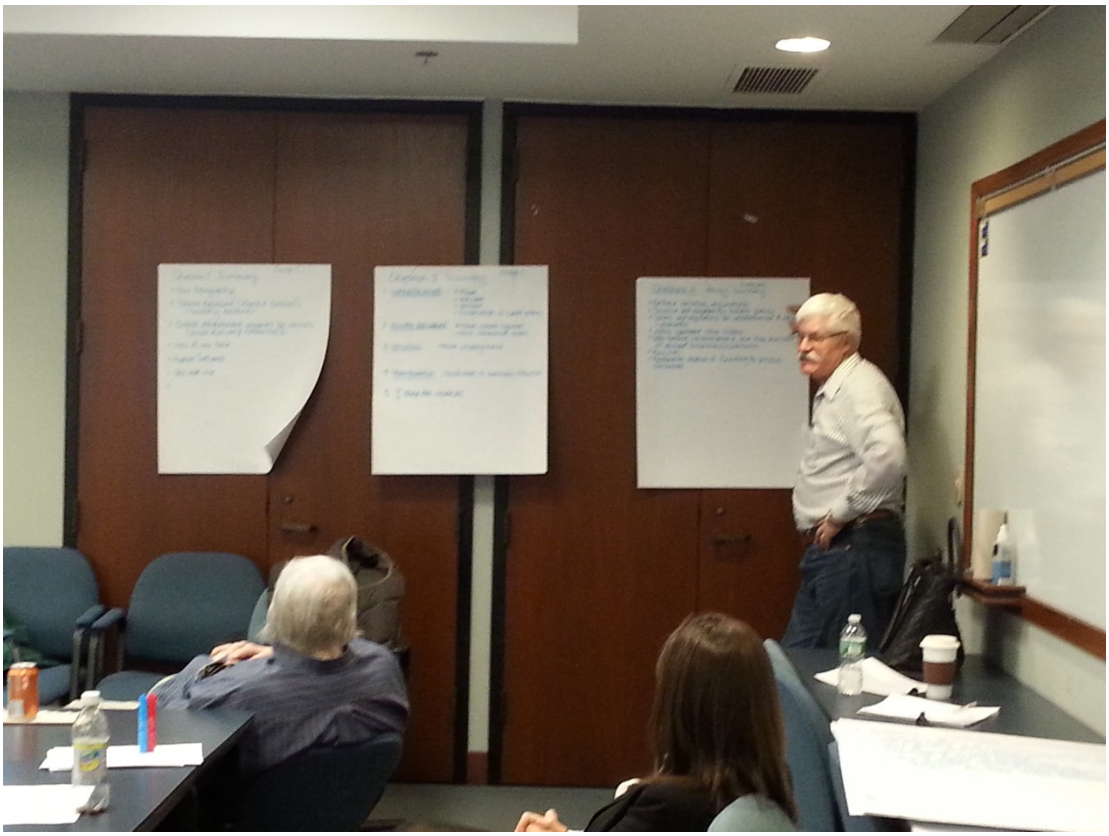


Photo 7 – Thomas Gentz (Town of Charlestown) presents the responses of Group C to the others

Photo 8 – Bryan Oakley (Eastern Connecticut State University) presents the responses of Group D to the others

Attachment E

Breakout Session Responses

why are South County high priority

P

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: SARAH ATKINS **EMAIL:** satkins@cityofnewport.com

Organization: CITY OF NEWPORT

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Water supply
power supply on island
Newport Harbor damage
risk to businesses, tourism eg Cliff Walk
vulnerable neighborhoods - The Point
Economic pressure - social services -
large population of dependents on social services
issues w/ bridges:
access to supplies
~~[illegible]~~

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Juliana Berry
Organization: Town of EG
EMAIL: jberry@eastgreenwichri.com

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Dense population by waterfront (Greenwich Bay) @ relative low elevation
  → Downtown area, older homes + structures that are not necessarily updated
- Some protected open space connected via waterway + bounded on other side by pond flowing in w/ dam
- Stormwater infrastructure not updated
- * - WWTF on waterfront
- River flooding

0

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Jon Boothroyd

EMAIL: Jon_Boothroyd@uri.edu

Organization: URI/GEO

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Shore zone most at risk to storm-surge over wash, frontal erosion & inundation + sea level rise

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd **EMAIL:** jboyd@crmc.ri.gov
Organization: CRMC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- many local roadways will be flooded and not passable during storm surge inundation - potentially impeding evacuation and emergency response
- wastewater infrastructure - treatment facility and some pump stations may be inundated during inundation
- Impacts to natural resources - beaches, coastal wetland

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Michael DeLucia **EMAIL:** mdelucia@narragansettri.gov.
Organization:
Town of Narragansett.

Question 1: ***How is your community most vulnerable to coastal storm risk?***

There are several low-lying areas along the South + east shores of Narragansett. These areas are developed with housing businesses, + beach facilities. Some of these areas also are served by septic systems

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Grover Fugate **EMAIL:** gfugate@crmc.ri.gov
Organization: CRMC

Question 1: ***How is your community most vulnerable to coastal storm risk?***

State
We have a number of vulnerable areas depending on storm direction, track, type
BI and South Shore most exposed

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Gentz **EMAIL:** TBGENTZ@cox.net

Organization: Town of Charlestown, Town Council

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Charlestown's barrier beach is populated with homes and a town road. Sand overwash removes sand and deposits it inland. overwash covers Town infrastructure (Charlestown Beach Rd) and moves sand inland that either has to be removed or replaced. On Quonnie beach ones homes are not raised but on CBR many homes have been raised due to our excellent building official and his education
Two Breachways get filled in and rocks dislodged so dredging & rock replacement must be done
Ecological impacts of saltmarshes & fish spawning are vulnerable

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Chris Hatfield **EMAIL:**

Organization: USACE

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- It represent alot of communities. I think the largest risk is the low lying development that is really at hassle w/ increasing sea levels coupled w/ storms.

- People's mindset about shoreline change has to change.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Emilie Holland **EMAIL:** emilie.Holland @dot.ri.gov

Organization: RIDOT

Question 1: ***How is your ~~community~~ area of responsibility most vulnerable to coastal storm risk?***

IMMEDIATE

Keeping evacuation routes passable to allow for evacuation & emergency response

Identification & communication of detour routes ~~for~~ in the event that a designated evac route is lost.

~~[illegible]~~

LONG TERM

loss of infrastructure

roads, bridges, culverts

damage to other resources from improperly sized culverts.

outdated design due to ↑ development & sea level rise

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: BOB JOYAL **EMAIL:** RJOYAL@COVENTRYRI.ORG
Organization: TOWN OF COVENTRY

Question 1: ***How is your community most vulnerable to coastal storm risk?***

COVENTRY DOES NOT SUSTAIN ~~ANY~~ ANY STORM SURGE DAMAGE DATA SINCE WE ARE AWAY FROM THE COAST. HOWEVER WE DO SUSTAIN WIND DAMAGE TO TREES AND STRUCTURES AND POWER LINES.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: John King **EMAIL:** jwking@mail.uri.edu
Organization: GSO/URI

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Inundation and flooding damage due to storm surge + waves and wind damage.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Steph McCandless **EMAIL:** SMCandless@charlestownri.org
Organization: Town of Charlestown

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Town of Charlestown is located directly on the coast and its primary economic base is the coast and coastal ponds. Loss of this economic base would be very detrimental to the Town of Charlestown financial well being

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Kate Michaud **EMAIL:** kmichaud@tiverton.ri.gov
Organization: Town of Tiverton

Question 1: ***How is your community most vulnerable to coastal storm risk?***

→ drinking water supply vulnerable to storm surge/ dam breech

→ Infrastructure/access vulnerable - coastal areas require difficult evacuations (large elderly population - limited transportation w/in trailer parks, etc.)

→ Lack of public utilities (sewer/water) in coastal areas - private systems are vulnerable

→ Limited staff available to coordinate prep + recovery

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Vin Murray **EMAIL:** vmurray@southkingstownri.com
Organization: TSK

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- impacts to coastal beach areas (rec/env. resources) - habitat
- infrastructure impacts - (access loss - waterlines etc)
- cultural/rec./heritage - loss/risk of heritage continuity - sense of place
- rec impacts to seasonal + year round beach communities -
- eco. Base impact - tax base impact (tourism)

P

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Bryan Oakley **EMAIL:** OakleyB@easternct.edu
Organization: Eastern CT State Univ

Question 1: ***How is your community most vulnerable to coastal storm risk?*** Westerly, RI

- Surge inundation (Pawcatuck R, Misquamicut, Watch Hill etc....)
- Frontal erosion (Building collapse) - barriers + headlands
- Tree damage ⟷ infrastructure → Power, Phone, Travel

↳ River flooding, i.e. 'wet' storm ↳ Irene

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PRESCOTT **EMAIL:** DPRESCOTT@SAVEBAY.ORG
Organization: SAVE THE BAY

Question 1: ***How is your community most vulnerable to coastal storm risk?***

COASTAL EROSION
SLR / COASTAL FLOODING / INUNDATION
RIVERINE FLOODING
ECONOMICS / TAX BASE / DEVELOPMENT
SALT MARSH LOSS
SW INTRUSION

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Pam Rubinoff **EMAIL:**

Organization: RI SeaGrant

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Development along the shore, by private property owners, makes a development decisions lot by lot, with solutions to flooding, erosion etc ~~differing~~ different + often erratic.
- EACH town has their own visions, plans Boards + politics that play out locally.
- difficult to implement regional And-based solutions. (not impossible)

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Marilyn Shellman **EMAIL:** mshellman@westerly.org
Organization: Town of Westerly

Question 1: ***How is your community most vulnerable to coastal storm risk?***

We are a donut.

- River on 2 sides
- center open water white cedar swamp (largest in the state)
- Coastal beaches

B
C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: MARK STANKIEWICZ **EMAIL:** MSTANKIEWICZ@CHARLESTOWN RI. OR. 6

Organization: CHARLESTOWN

Question 1: ***How is your community most vulnerable to coastal storm risk?***

OCEAN FRONT PROPERTY, + low lying BARRIER AREAS, subject to ALL WEATHER EVENTS + potential INFRASTRUCTURE loss

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Jessa Stimson **EMAIL:** jessica.stimson@ema.ri.gov
Organization: RIEMA

Question 1: ***How is your community most vulnerable to coastal storm risk?***

At a state level of course the 21 coastal communities are of primary concern.
South-western coastal are high priority (Westerly, Charlestown, Narragansett, etc) and West Bay island communities for access issues

- infrastructure + vulnerable structures to storm surge inundation

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Elise Torello **EMAIL:** saltpondscoalition@gmail.com
Organization: Salt Ponds Coalition

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Ecologically - Breaching + overwash of coastal barriers, loss of dune structure, sand overwashing eelgrass meadows - not necessarily "damage", but change

People - flooding, storm surge
wave damage
wind damage
loss of property due to eroding of land area on coastal barrier
contamination due to dislodging + spilling of septic systems, oil/gas tanks, other household contaminants
building debris

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: NATHAN VINHATEIRO **EMAIL:** nvinhateiro@asascience.com

Organization:

RPS ASA

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Storm surge inundation

Coastal land loss frontal erosion

Coastal development + infrastructure

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Joe Warner **EMAIL:** jwarner@charlestown
Organization: Town of Charlestown RI.org

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Miles of coastline some heavily developed
- Tremendous fetch from open Ocean
- Barrier beaches protect inland homes
- Inland waterways & ponds separated from Ocean by narrow barriers
- Soils along the coastline are very vulnerable to erosion
- South facing coastline

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: SARAH ATKINS **EMAIL:** SATKINS@CITYOFNEWPORT.COM

Organization: CITY OF NEWPORT

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

EMERGENCY RESPONSE → think ahead, creatively

RESILIENCY → INNOVATION, SUPPORT FOR INNOVATORS

AWARENESS OF THE PROBLEM + ADDRESSING IT

LOOK AT ALTERNATIVES TO EMERGENCY RESPONSE
POWER RESUPPLY, etc.

SUSTAINABLE ECONOMY -

Enterprise based on finding solutions

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Juliana Berry
Organization: Town of EG
EMAIL: jberry@eastgreenwichri.com

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Elevate most at-risk (@ certain elevations + in flood plain) structures

- Update stormwater infrastructure
  → relocate WWTF? (NIMBY)

where do funds come from?

- shore up dam

- require cesspool phaseout + septic checks along at-risk riverbank areas

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: TOM [illegible] **EMAIL:**

Organization: [illegible]

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1) MOVE BACK
2) ELEVATE
3) RETREAT

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd **EMAIL:** jboyd@crmc.ri.gov

Organization: CRMC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- relocate vulnerable infrastructure to inland location
- assist coastal wetlands by accomodating migration/ transition to upland areas
- educate public on storm surge dangers/vulnerability
- elevate at risk structures above BFE (Freeboard 2+feet) subsidize construction costs to offset consumer exposure

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Grace Fugate **EMAIL:**
Organization: CRMC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

I wish I knew

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Grant **EMAIL:**

Organization:

Question 1: ~~*How is your community most vulnerable to coastal storm risk?*~~ 2. ID promising solutions to fix #1

Elevate structures, but how to elevate roads?

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Chris Hatfield **EMAIL:**

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- I know local/state/federal agencies are aware and working to make better policy regarding developing/rebuilding in the coastal region.
- I know the feds are building seawalls into the projects we are doing.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Emilie Holland **EMAIL:** emilie.holland@dot.ri.gov
Organization: RIDOT

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Improved mapping & modeling tools being developed. - SLR migration
- SLRise
- etc

Availability of mitigation funding from FEMA so that we can address problems when repairing damage instead of putting things back exactly like they were before

↑ in use of L.I.D. ∴ may help offset some of the damage that would otherwise accompany ↑ development

CD

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: BOB JOYAL **EMAIL:** RJOYAL @ COVENTRYRI.ORG
Organization: TOWN OF COVENTRY

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

DAMAGE TO POWER LINES

- UNDERGROUND UTILITIES. COVENTRY'S SUBDIVISION REGS. NOW REQUIRE THEM
- TREE PRUNING OR REMOVAL NEAR POWER LINES

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: John King **EMAIL:** jwking@mail.uri.edu
Organization: GSO/URI

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1. Retreat from Vulnerable Areas.
2. Reduce Greenhouse Gas Emissions.
3. Prevent Additional Development in Vulnerable Areas.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Stephen McCandless **EMAIL:** SMCandless@Charlestown.org

Organization: Town of Charlestown

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Allow Nature to take its course. Stop Active Rebuilding
- As property is lost, leave it Natural. The economic Base will Migrate with the erosion
- Maintain the health of the water system by remediation of natural influences

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Kate Michaud **EMAIL:** kmichaud@tiverton.ri.gov
Organization: Town of Tiverton

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

→ Adapt or retreat of coastal infrastructure/development (allow for marsh migration)

→ Plan new development based on data: vulnerability forecasts/assessments

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Vin Murray
Organization: TSK

EMAIL: vmurray@southkingstown.ri.com

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Recognizing limited resources
- identifying/recognizing ecologically or culturally significant aspects or assets where protection or resilience enhancement efforts or techniques are worth considering.
- apply on continuous basis measures to strengthen feature resilience (i.e. ongoing beach nourishment) coord. w/ dredging efforts - maint. + repair of facilities proactively
- relo. rec. facilities landward where possible + feasible
- resource availability?

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Oakley / **EMAIL:** see Q1
Organization: / See Q1

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Re: Frontal Erosion + Surge inundation

(1) Retreat!
↳ Town/State set Examples
↳ infrastructure
↳ ccrn neck rd
→ Residential → by attrition? via Dugger/water?

(2) Elevate existing structures
Again, town/state set examples!

Realize that the line in the sand is not a solid line & is not sustainable!

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PLESSNER **EMAIL:**

Organization: SAVE THE BAY

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

RAISING STRUCTURES / MOVING BACK / MOVING UTILITIES
BUYOUTS / RETURNING PROPERTY BACK TO OPEN SPACE

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Pam Rubinoff **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- grants / low-interest loans for property owners
- Retreat from shore - vulnerable - but need $$$ + incentives (financial)
- when Feds give Rebuilding money - it should be conditioned for resilience
- Regional zoning where there will be Areas "protected" "restored" "retreat"

  Develop criteria to pre-determine these areas + codify these for property owners zoning, town, state Fed decisions

C 3D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: MARILYN SHEEHAN **EMAIL:** msheehan@wrstaty.org

Organization: TOWN OF Westerly

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Stop financing reconstruction & move humans out.
- Restore natural environmental as humans can't manipulate it, relocate commercial nodes to safer locations.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Mark Stankiewicz **EMAIL:**
Organization: Charlestown MStankiewicz@Charlestownri.org

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Elevate Structures or

Move Away

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Jess Stimson **EMAIL:** jessica.stimson@ema.ri.gov
Organization: RIEMA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Infrastructure
- mitigation efforts to upsize inadequate culverts
- elevation of roadways
- bridge assessments & reinforcements

elevation or acquisition of res. or commercial structures in vulnerable areas (flood/wind)

floodproofing WWTF in flood prone areas

↳ to reduce loss of structures
minimize debris
maintain tax base

outreach initiatives to promote public awareness about mit. options

mitigation planning

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Elise Torello **EMAIL:** saltpondscoalition@gmail.com
Organization: Salt Ponds Coalition

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Rolling easements/retreat

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Richard Vinati (?) **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

To address wind damage:

Harden building/construction codes to with stand the increasing number of storms and associated wind & wave damage.

~~To address~~

Stop allowing to ~~build~~ build in flood zones.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: N. VINHATEIRO **EMAIL:** nvinhateiro@asascience.com

Organization: RPS ASA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

"Managed retreat" policies

Changes to building codes - storm surge + wind

Flood insurance reform

Accurate monitoring + modeling of coastal processes

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Joe Warner **EMAIL:** jwarner@charlestown ri.org
Organization: Town of Charlestown

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Elevation, retreat or removal of structures on the immediate coastline
- The RI State Building Code, FEMA Regulations & CRMC regulations that have very (increasingly) stringent requirements for building in Flood Zones & Wind Zones
- The increased accuracy of the recently adopted FIRMS

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Sarah Atkins **EMAIL:** satkins@cityofnewport.com

Organization: City of Newport

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

INVESTMENT + SUPPORT OF PUBLIC/PRIVATE PARTNERSHIPS TO ADDRESS THESE ISSUES THROUGH INNOVATION + ENTREPRENEURSHIP. AWARENESS OF THE URGENCY

More awareness of alternative solutions to immediate effects of the storm (eg. alternate power sources

AS THE OCEAN STATE

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Juliana Berry
Organization: Town of EG

EMAIL: jberry@eastgreenwichri.com

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Take sea level rise projections into account for new coastline projects (perhaps via CRMC permits)

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- require new construction of residential dwellings to 2-3 above BFE
- enable buy outs of vulnerable properties in groups to preserve open beach areas

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: [illegible] **EMAIL:**

Organization: [illegible]

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

1) [illegible]

2) BUYOUTS

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Michael DeLuca **EMAIL:**

Organization:
Town of Narragansett

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- State Zoning override for restricting shoreline development.
- Draft specific regs that must be met for future dev.
  - Include specific criteria that may actually prohibit further reconstruction of damaged properties.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Groves Fugate **EMAIL:** gfugate@crmc.ri.gov
Organization: CRMC

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

In Hazard Areas
- Tax Structure is a problem and needs to change.
- Fund efforts that are adaptation oriented / spend as much on that as we do for recovery

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Gentile **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Let the scientists handle the sea level rise not politicians! So, no legislative policy only engineering or scientific facts &

All the retreat, overrun and let nature take its course will conflict w politicians listening to only those effected.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Chris Hatfield **EMAIL:**

Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Let the NFIP reform go thru - no grandfathering on subsidized rates
- Don't reward (through mitigation) rebuilds, Stricter rules on ~~funding~~ funds.
- For gov't agencies, the rules for how we evaluate acquisition and other floodproofing needs to be done differently. It shouldn't just be strict cost/benefit. Environmental and social outputs should be equal, if not elevated.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Emilie Holland **EMAIL:** emilie.holland@dot.ri.gov
Organization: RIDOT

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

This is
Assuming there is some awareness and acceptence that some action NEEDS to be taken

→ Increasing coordination between
Planning
data sharing
resource sharing

state agencies

→ developing a coordinated plan to reduce vulnerability and implement prioritized mitigation actions.

→ I ♡ Biggest Waters

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: BOB JOYAL **EMAIL:** RJOYAL @ COVENTRYRI.ORG
Organization: COVENTRY

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

PROHIBIT CONSTRUCTION IN AREAS SUBJECT TO REPITITIVE STORM DAMAGE.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: John King **EMAIL:** jsking@mail.uri.edu
Organization: ESO/URI

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Pass carbon cap and trade legislation at national and regional scales.
-

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Stephen McCaffrey **EMAIL:** SMccaffrey@charlestonsc.org
Organization: Town of Charleston

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Managed Retreat

- invest more in Environmental cleanup and improvement
- promote Beach or Marsh Growth through Natural processes

~~Where more frequent~~

In areas that are somewhat permanently altered by structures
allow more accessable Maintance
- use maintenance efforts for replenishment

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Kate Michaud **EMAIL:** kmichaud@tiverton.ri.gov
Organization: Town of Tiverton

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

→ Local policy adoption recognizing vulnerability and requiring comprehensive planning (consideration for public infrastructure expenditures, etc.)
(prioritize as budgeted issue - staff commitment)

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Vin Mulvey **EMAIL:**
Organization: TSK

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- PUBLIC ~~EDUCATION~~ ON CONT. BASIS TO gain Concensus on Coastal Resiliency planning, Policies & Programs and Needs.

- Adequacy of resources to implement efforts to address

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Oakley **EMAIL:** see Q1

Organization: see Q1

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

(elevation - setback)

① Local scale
↳ relax building codes → so Coastal properties can elevate to account for Storm-surge + Sea level Rise

② State/Fed scale → focus on requiring plans to relocate damaged infra structure + plan for future storms + SLR on future construction

i.e. Conn Neck Rd, Block Island

③ ~~Make engineers think like a geologist!~~

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PRESCOTT **EMAIL:** DPRESCOTT@SAVEBAY.ORG

Organization: SAVE THE BAY

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

CONTINUED REFORM OF FLOOD INSURANCE PROGRAM
.... NOT BACKTRACKING

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Pam Rubinoff **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Buyout of Key ~~Areas~~ properties in VULN. Areas (i.e on barrier beaches).

2 strikes + you're out.

economic incentives for build up OR Retreat.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: [illegible] **EMAIL:** [illegible]

Organization: [illegible]

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Reduce repetitive flood claims
Only provide $ for
1. Replacement & Insurate
2. If destroyed again
3. Buyout & only. or
4 Use your own $ to build

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: MARK STANKIEWICZ
Organization: CHARLESTOWN

EMAIL:
MSTANKIEWICZ @ CHARLESTOWNRI.ORG

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

REQUIRE NEW CONSTRUCTION / SIGNIFICANT ALTERATION TO MEET FLOOD STANDARDS

PURCHASE OF COASTAL PROPERTY

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Jess Stimson **EMAIL:** jessica.stimson@ema.ri.gov
Organization: RIEMA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

More stringent development ~~requirements~~ standards
- higher freeboard
- stronger building code
- limit rebuilding in vulnerable areas

The NFIP should continue along BW-12 track.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Elise Torello **EMAIL:** saltpondscoalition@gmail.com
Organization: Salt Ponds Coalition

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

More restrictions on rebuilding ~~on~~ in high-hazard, repeat-impact locations (create incentive to NOT rebuild, or penalize rebuilding)

Set limits on setbacks from coastal (eroding) features and property lines for rebuilding. Once the lot is too small to accommodate building + setbacks, no more re-building. ↳ including H2O + septic

enforceable

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Nathan Vinhateiro **EMAIL:** nvinhateiro@asascanu.com

Organization:
RPA AMA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Short-term
Actuarial risk in flood zone
- restrictions on rebuilding after storm events

Mid-term
Rolling easements

Long-term
Carbon tax / cap + Trade

End to energy subsidies or shift subsidies to non-GHG energy source

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Joe Warner **EMAIL:** jwarner@charlestownri.org
Organization: Town of Charlestown

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Flood Insurance such as the BW12 act can influence property owners to mitigate their property.
- Changes to the Building Code could require more resilient structures to be built
- Changes in planning for land use & density in flood prone areas

Attachment F

General Comments

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Goodwood **EMAIL:** Tom.Goodwood@usace.army.mil

Organization: USACE/NAD

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

See Sheets 1, 2, 3

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd **EMAIL:**
Organization:

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

- Keep state and local governments informed during study process - collaboration - communication - cooperation

e

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Michael DeLuca **EMAIL:**

Organization:
Town of Narragansett

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

This study is one of three that I am aware of that includes CRC at URI Bay Campus and the Statewide Planning Program.

Could the 3 organizations correspond to share their work?

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Grover Fugate **EMAIL:** gfugate@crmc.ri.gov
Organization: CRMC

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Most adjustments will have to by definition will occur at the local level. They however have the least resources and tech capability to deal with these issues.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Vin Murray **EMAIL:**
Organization: Town of South Kingstown

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

very interested in Coastal Study aspect for South Kingstown's South Shore area and want to stay involved/engaged

Vin Murray
Town of So. Kingstown
789-9331 x 1244
vmurray@southkingstownri.com

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Pam Rubinoff **EMAIL:**

Organization: RI Sea Grant

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

These discussions + visioning ideas are greatly appreciated. Wondering if there are opportunities for coastal property owners to engage in a meeting and/or focus group. The reality is much different for them + some good feedback + reality checks.

Appendix E: Coastal Connecticut Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
Coastal Connecticut
Visioning Meeting
Meeting Notes

February 28, 2014

10:00 AM – 12:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Friday, February 28, 2014, the U.S. Army Corps of Engineers (USACE) New England District conducted an in-person visioning meeting with representatives from the Connecticut Department of Energy and Environmental Protection (CT DEEP), other state and federal agencies, non-profit organizations, and local communities with specific focus and dialogue concerning coastal Connecticut.

In general, a high level of collaboration was evident among state and federal agency staff as well as local communities and NGOs represented at this meeting. Many participants discussed the importance of the socioeconomic impacts to their communities. Another theme was the lack of available coastal risk data and coastal resiliency guidance, which prompted discussion regarding the newly-formed Connecticut Institute for Resilience and Climate Adaptation (CIRCA), a partnership between the University of Connecticut, CT DEEP, and NOAA. The stakeholders from the state of Connecticut and its coastal communities are well-versed in the existing framework for preparing and responding to coastal disasters. This stakeholder group recognizes the need for consistent decision-making and implementation based on national preparedness guidance and protocols. The need for improved mitigation planning was also a significant topic of discussion.

Thirty-three people attended the 2 hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agencies:
U.S. Army Corps of Engineers (USACE)
U.S. Geological Survey (USGS)

State Agencies:
Connecticut Department of Economic and Community Development (CT DECD)
Connecticut Department of Energy and Environmental Protection (CT DEEP)
Connecticut Insurance Department (CID)
Connecticut Department of Transportation (CT DOT)
Connecticut Division of Emergency Management and Homeland Security (DEMHS)
Connecticut General Assembly (CGA)

NGOs:
The Nature Conservancy
University of Connecticut

Communities: City of Milford
Town of Fairfield
Town of Guilford
Town of Old Lyme
Town of Old Saybrook
Town of Waterford

Other: CDM Smith (meeting facilitation team)

Location: Connecticut Department of Energy and Environmental Protection, Phoenix Auditorium 5th floor, 79 Elm Street, Hartford, CT 06106-5127

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment was driven by a presentation provided by Ginger Croom (CDM Smith) on the overview of NACCS. Chris Hatfield (USACE) and Brian Thompson (CT CEEP) presented an overview of ongoing USACE and state recovery efforts underway in coastal Connecticut (Attachment C). The second part was a facilitated discussion aimed at surfacing participant insights on the vision for coastal storm risk management, including vulnerable areas, potential solutions and policy and institutional barriers to coastal storm risk management. Photographs from the meeting are included in Attachment D.

Following the presentation, questions and discussion topics were raised.

Questions/Discussion:

- A member of the audience asked about the purpose of NACCS since it is not a NEPA document and does not provide recommendations. Ginger responded that the purpose of NACCS is to provide a coastal risk reduction framework and a range of possible measures to be considered.
- A member of the audience asked about more information regarding the state appendices. Chris responded that the analyses in the state appendix helped to identify areas of highest vulnerability.

At the conclusion of the question and answer period, a brief break was followed by facilitated discussions with attendees divided into four groups for brainstorming sessions. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

How is your community most vulnerable to coastal storm risk?

- Low-lying areas (extensive shoreline)
  - Many residences
  - Utilities

    - Infrastructure – including major highways and rail lines
    - Coastal and inland flooding
    - Sea level rise
    - Public amenities
- Economic impacts
    - Recovery costs
    - Implementation costs
    - Business loss of use
    - Loss of tax base
    - Tourism loss
    - Economic growth opportunity
- Environmental impacts
    - Habitat/land loss of wetlands, marshes, and bluffs
    - Sensitive ecological areas
    - Water quality
    - Human health
    - Needs for "green" infrastructure/buffer
- Infrastructure
    - Age/capacity
    - Water, WWTP, Power, Housing
    - Tree damage/debris
    - Roadways for emergency access and evacuation
    - Amtrak and other rail routes
    - Shelters required for people and pets
- Poor historical planning
    - Mitigation
    - Preparedness and through national response framework
    - Education/community outreach
    - Social vulnerability

Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?

- Community education and capacity building
    - Education/collaboration on "real-risk" and unknowns
    - Identify vulnerabilities (infrastructure)
    - Decide how/where to rebuild
- Planning
    - Design resilient infrastructure
    - Hazard mitigation planning
    - Protect natural defenses
    - Planning and decisions for shoreline retreat and hardening
    - Coordinate emergency planning
- Research, reliable data, and innovation
- Policy changes
    - Building codes
    - Increase minimum standards such as higher freeboard standards
        - At state level
        - Allow communities to better enforce

        - Address rebuilding post-storm
        - Identify resources (long term recovery coordinator at regional and local levels)
    - Zoning codes such as Coastal A-Zone regulations
    - Buyouts, including funding
    - Discourage buildings in sensitive areas
- Property acquisition - elevate, planned and managed retreat, adapt
    - Difficult politically
    - Economic incentives
    - From most vulnerable areas to help increase natural buffer

What is the most prominent policy change or legislative solution that could improve coastal resilience?

- Regional planning authority and guidance
    - Prioritize coordination and communication
    - Consistency and continuity among state/various federal agencies
        - Incentivize to encourage resiliency and mitigation projects
    - Need for regional planning authority since individual decision-making among towns are inconsistent
    - Mandate cost-benefit risk analysis before any federal/state funds are expended
        - 50 year-minor improvements
        - 75 year-major improvements
    - Educate legislators on cost-benefit analysis to focus better on infrastructure resiliency projects
- Funding
    - Public/private funding to incentivize adaptation
    - Fund high impact and open space projects
- Refine BW2012, but do not repeal
- Revise land use and building codes to restrict or prohibit development especially in vulnerable areas

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
Coastal Connecticut
Visioning Session - Facilitated Breakout Groups

Name	Organization
Group A	
Ginger Croom	CDM Smith
Gary Wassmer	City of Milford
Diane Ifkovic	CT DEEP
Paul Corrente	CT DOT
Emily Pysh	DEMHS
Walter Smith	Town of Old Saybrook
Group B	
Frannie Bui	CDM Smith
Jennifer O'Donnell	Coastal Ocean Analytics
Brian Thompson	CT DEEP
John Plante	Langan Engineering & Environmental Services
David Sutherland	The Nature Conservancy
Kevin Magee	Town of Guilford
Group C	
Jamie Lefkowitz	CDM Smith
Michael Lettieri	CT DECD
David Blatt	CT DEEP
George Bradner	CT Department of Insurance
Nicolle Burnham	Milone & MacBroom
Bonnie Reemsnyder	Old Lyme
Sylvain DeGuise	Sea Grant/Uconn
Thomas Lane	Town of Waterford
Dave Williams	
Group D	
Debra Beck	CDM Smith
James Albis	CGA Shoreline Preservation Taskforce
Peter Francis	CT DEEP
Karen Michaels	CT DEEP
Michael Hogan	CT DOT
Adam Welchel	The Nature Conservancy
Tom Gromley	Town of New Fairfield
Other	
Macky McCleary	CT DEEP
Betsey Wingfield	CT DEEP
John Kennelly	USACE
Chris Hatfield	USACE
Jonathan Morrison	USGS

NACCS Visioning Session
Connecticut - 2/28/2014

Name	Community/Agency	Title	E-Mail	Telephone
John Kennelly	USACE	Chief Planning	John.S.Kennelly@usace.army.mil	978 318 8105
Chris Hatfield	USACE	Project Manager	christopher.l.hatfield@usace.army.mil	978-318-8520
Brian Thompson	CT DEEP	Director WQ&S	brian.thompson@ct.gov	860-424-3650
DAVE WILLIAMS	Private	ME	GPADAVE@MAC.com	631 681 6093
Debra Beck	CDM Smith	PM	beckdf@cdmsmith.com	617.452.6277
Michael Hogan	CTDOT	Supervising Engineer	michael.hogan@ct.gov	860-594-3241
Nicolle Burnham	Milone & MacBroom	PM	nicolkb@miloneandmacbroom.com	2032711773
SYLVAIN DEGUISE	UCONN	DIRECTOR CTSG	SYLVAIN.DEGUISE@UCONN.EDU	860-405-9135
Gary Wussmer	City of Milford	City Engineer	gwussmer@ci.milford.ct.us	203-783-3261
PAUL CORRENTE	CT DOT	TSP	PAUL.CORRENTE@ct.gov	860-594-2932
James Albis	CGA	State Rep	james.albis@cga.ct.gov	203-435-8427
Tom Gormley	TN New Fairfield CT	ZEO CFM	TGormley@NewFairfield.org	203-405-1893
Jon Marsan	USGS	Hydrologist	JMarsa@usgs.gov	860 291-6761
Diane Ifkovic	CT DEEP	EA III	diane.ifkovic@ct.gov	860 424-3537
Karey Michaels	CT DEEP	EA II	Karen.michaels@ct.gov	860 424-3779

NACCS Visioning Session
Connecticut - 2/28/2014

Name	Community/Agency	Title	E-Mail	Telephone
Thomas W Lane	Waterford	ZEO	tlane@waterfordct.org	860-822-8000
Emily Pysh	DEMHS	SHMO	Emily.Pysh@CT.gov	860 7705442
JOHN D PLANTE	LANGAN	MANAGING PRINCIPAL	jplante@langan.com	203 562-5771
Mike Letteri	DEEP	CO Director	Michael.Letteri@ct.gov	8602708128
George Bradner	DOT	Director	george.bradner@ct.gov	810-297-3866
WALTER SMITH	OLD SAYBROOK	CONS. COMM.	WSMITH4@COMCAST.NET	—
David Blatt	DEEP CLIS P	Supervising Coastal Planner	david.blatt@ct.gov	860 424-3610
ADAM Whelchel	The Nature Conservancy	Director of Science	awhelchel@tnc.org	860-970-8442
Macky McCleary	CT DEEP	Deputy Commissioner	macky.mccleary@ct.gov	860-424-3060
Bonnie Reemsnyder	Old Lyme	First Selectwoman		
Jennifer O'Donnell	Coastal Ocean Analytics	CEO	jodonnell@coastaloa.com	860-961-2467
Kevin Magee	Guilford	Environmental Planner	mageek@ci.guilford.ct.us	203-453-8079
Betsy Wrightsil	CT DEEP	Bureau Chief		
FRANKIE BUI	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.COM	6174526288
JAMIE LEFKOWITZ	CDM SMITH	ENGINEER	LEFKOWITZJS@CDMSMITH.COM	[redacted]
CHRISTOPHER CROOM	CDM SMITH	PROJECT MANAGER	CROOMCE@CDMSMITH.COM	

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Coastal Connecticut

Connecticut Department of Energy and Environmental Protection
Phoenix Auditorium, 5th Floor
79 Elm Street, Hartford, CT 06106-5127

February 28, 2014
10 am - 12 pm

I. Welcome and Introductions

II. Agenda Overview and Meeting Purpose

III. USACE North Atlantic Coast Comprehensive Study (NACCS) Overview

IV. Other Updates

a. USACE
   - Recovery Efforts
   - Coastal Investigations

b. State Recovery Efforts

V. Facilitated Discussion Topics

a. Vulnerability
b. Potential Solutions
c. Policy and Institutional Barriers

VI. Closing Remarks/Adjourn

List of Handouts

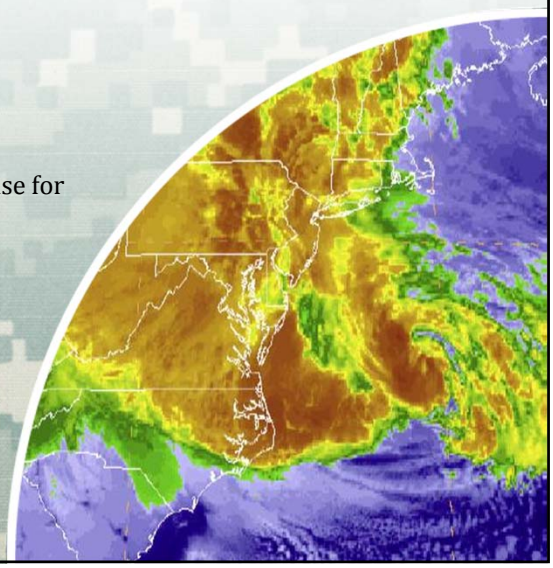
Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

Coastal Connecticut Visioning Meeting



U.S. Army Corps of Engineers
National Planning Center of Expertise for
Coastal Storm Risk Management

28 February 2014

Introductions

Connecticut Department of Energy and Environment (DEEP)

- Macky McCleary
- Peter Francis
- Brian Thompson

USACE New England District

- John Kennelly
- Chris Hatfield

CDM Smith – USACE Contractor

- Ginger Croom
- Debra Beck
- Frannie Bui
- Jamie Lefkowitz

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS Overview**
- **IV. Other Updates**
- **V. Facilitated Discussion** (small groups)
- **VI. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015

Sandy Overview

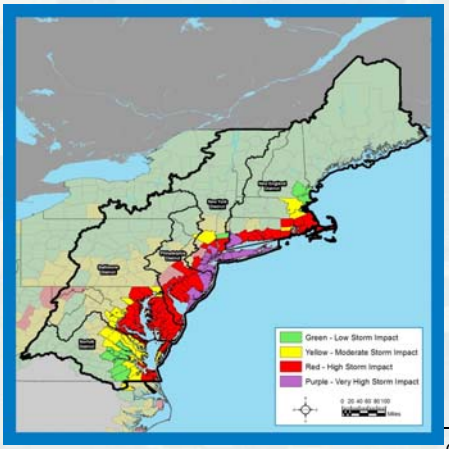
- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  24 States from Florida to Maine; New Jersey and New York to Michigan and Wisconsin
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

NACCS Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

NACCS Next Steps
(Six Month Snapshot)

Early March 2014: Interagency release of the draft analyses

March 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

NACCS Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses currently ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

QUESTIONS

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS Overview
- **IV. Other Updates**
- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Other Updates

- **USACE**
  - ► Recovery Efforts
  - ► Coastal Investigations
- **CT DEEP**
  - ► State Recovery Efforts

USACE Upcoming Recovery Efforts (P.L. 113-2)

Dredging

- Little Narragansett Bay - 10/1/2014
- New Haven Harbor, CT - Ongoing, expected completion 4/30/2014
- Guilford Harbor – 10/1/2014

Breakwater/Jetty Repair

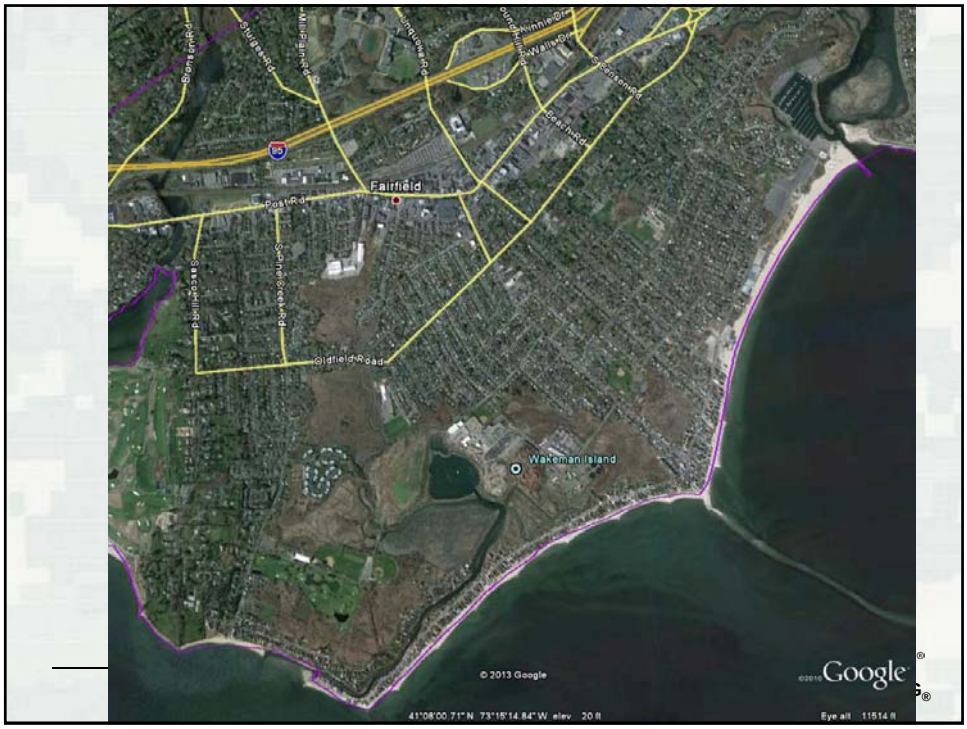
- Bridgeport Harbor - 6/1/2014
- New Haven Harbor – Summer 2014

Beach Restoration

- Prospect Beach, West Haven – Fall 2014
- Woodmont Beach, Milford– 4/1/2014

USACE Coastal Storm Damage Investigations Initiated (P.L. 113-2)

- Fairfield Beach, Fairfield – 1/6/14
- East Broadway Beach, Milford – 1/13/14
- Bayview Beach, Milford – 1/13/14
- Morris Cove, New Haven – existing study, reinitiated with City in February 2014
- Cosey Beach, East Haven – TBD
  - ► Initial appraisals at 100% Federal cost
  - ► Feasibility Studies Shared 50/50 with local sponsor


Fairfield
Post Rd
Oldfield Road
Wakeman Island
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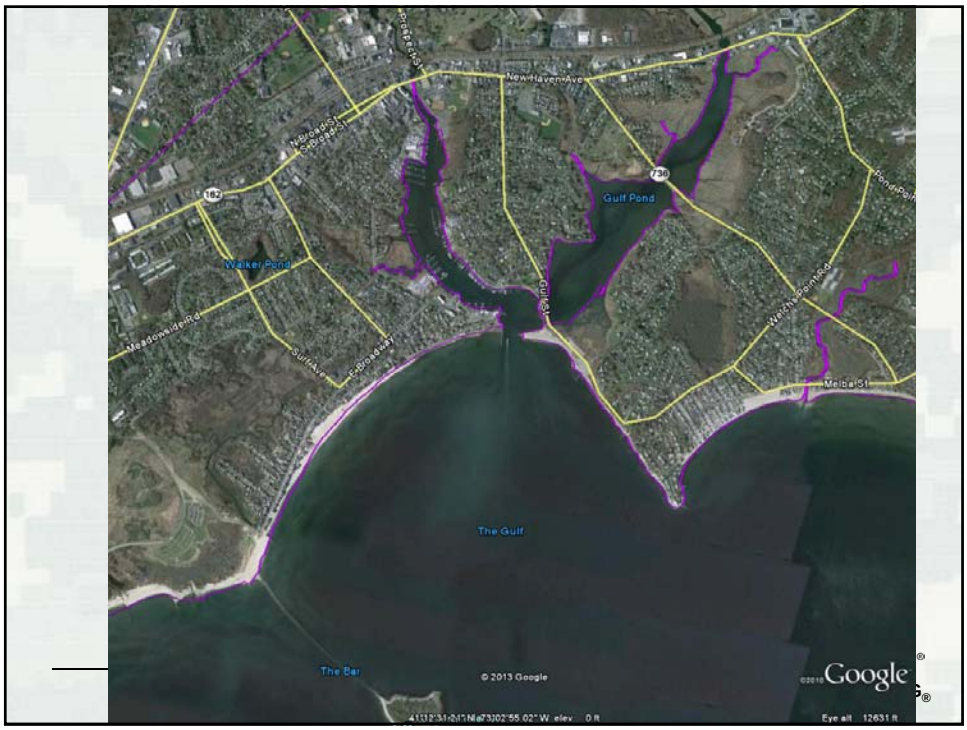
New Haven Ave
Gulf Pond
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The Gulf
The Bar
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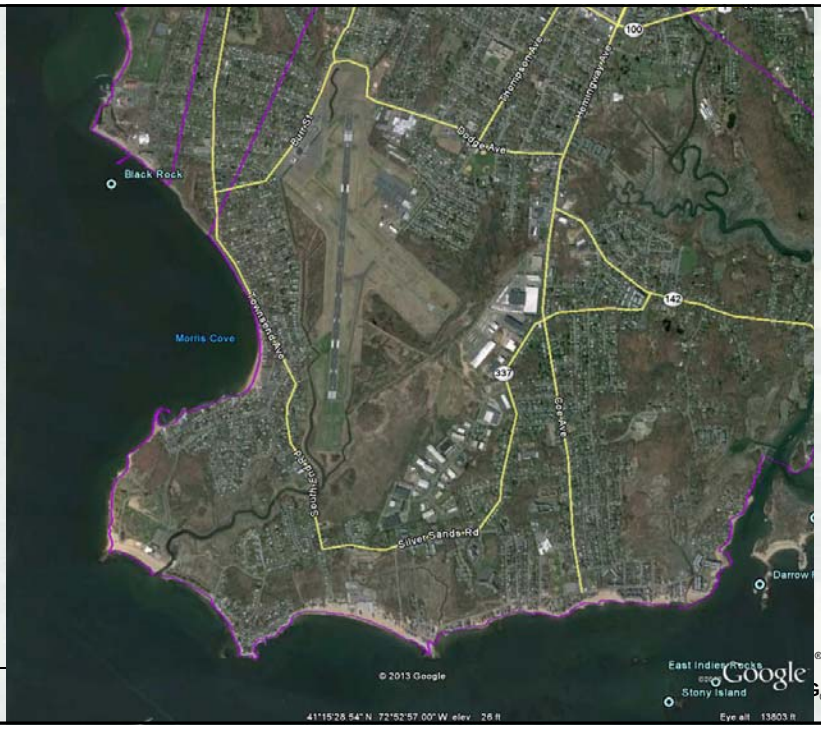


Other Recovery Efforts

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS Overview
- IV. Other Updates
- **V. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Solutions*
  - *c. Institutional/Policy Challenges*
- **VI. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, C or D based on name tag**
    - Group A: Ginger Croom
    - Group B: Frannie Bui
    - Group C: Jamie Lefkowitz
    - Group D: Debra Beck
- **Discussion Topics**
  - ***Vulnerability***
  - ***Potential Solutions***
  - ***Institutional or Policy Challenges***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

1. How is your community most vulnerable to coastal storm risk?
2. Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?
3. What is the most prominent policy change or legislative solution that could improve coastal resilience?

Small Group Report-Out

- Group A
- Group B
- Group C
- Group D

Contact Information

- **Chris Hatfield - USACE New England District**
  - Christopher.L.Hatfield@usace.army.mil
  - 978-318-8520 (phone)
- **John Kennelly - USACE New England District**
  - John.R.Kennelly@usace.army.mil
  - 978-318-8505 (phone)

Attachment D

Photograph Log

Photo 1-The presentation is projected onto a large screen in the front of the auditorium

Photo 2 – Macky McCleary (CT DEEP) provides opening remarks

Photo 3 – Ginger Croom (CDM Smith) presents a summary of the NACCS to the audience

Photo 4 – Chris Hatfield (USACE) provides a summary of USACE recovery efforts

Photo 5 – Brian Thompson (CT DEEP) presents a summary of state-wide recovery efforts to the group

Photo 6 – Emily Pysh (DEMHS) presents a summary of the responses from Group A

Photo 7 – Jennifer O'Donnell (Coastal Ocean Analytics) presents a summary of the responses from Group B

Photo 8 – George Bradnor (CID) presents a summary of the responses from Group C

Photo 9 – Peter Francis (CT DEEP) presents a summary of the responses from Group D

Attachment E

Breakout Session Responses

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: James Albis **EMAIL:** james.albis@cga.ct.gov
Organization: CGA

Question 1: ***How is your community most vulnerable to coastal storm risk?***

The Cozy Beach area of East Haven is very densely developed - a few homes are literally on top of the mean high tide. It is a low lying area that is incredibly vulnerable to storm surge. Yet people do not want to leave, and the town has a vested interest in keeping the homes there because of the property-tax revenue they bring in. As more people build up on pilings they must acquire variances that disrupt their neighbors' view. Residents of the community cannot come to consensus on the best or most appropriate type(s) of protection, whether it be beach replenishment, living shoreline, seawall, revetment, etc.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Blatt **EMAIL:** david.blatt@ct.gov
Organization: DEEP-OLISP

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Biggest vulnerability comes from long-term sea level rise which will ultimately inundate entire neighborhoods and critical transportation infrastructure. There can be site-specific solutions to reduce risks from wave action, storm surge and wind, but SLR will eventually render these irrelevant.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Brandner **EMAIL:**
Organization:

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Storm Surge/Flooding coastal / Riverine ~~+ Riverine~~
- Severe Wind Loss
- Low income Housing / Disability
- Trees
- Power
- Economic / Business impacts Large + small Business
- uninsured Risk
- Grand List impacts / Tax Base
- WWST Treatment

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Nicolle Burnham **EMAIL:** nicolleb@miloncandmacbroom.com
Organization: Milone & MacBroom Inc

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Financial
- need $ for infrastructure resilience ✓
- homeowners need $ for structural

~~Regulatory~~ Technical
- lack of available data on impacts/benefits of living shorelines/marsh mgmt/nourishment

lack of regional coordination - impacts of armoring or other improvements

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: PAUL CORRENTO **EMAIL:** PAUL.CORRENTO@CT.GOV
Organization: CT DOT

Question 1: ***How is your community most vulnerable to coastal storm risk?***

LOW AREAS OF OVERTOPPING - State Routes + Rail Roads -
Most - is age Related -
Movable Bridges both State Routes + Rail Systems

LENGTH OF TIME under flow -

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: SYLVAIN DEGUISE **EMAIL:** SYLVAIN.DEGUISE @UCONN.EDU
Organization: CT SEA GRANT/UCONN

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- COASTAL RESIDENT HOMES
- INFRASTRUCTURE: ROADS, POWER, SEWAGE TREATMENT PLANTS (STORM SURGE/FLOODING)
- LOSS OF LIFE + PROPERTY
  - EVACUATIONS?
- WATER QUALITY RESULTING FROM FLOODING

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis
EMAIL: Peter.francis@ct.gov
Organization: CT DEEP

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Sea level rise and
Coastal erosion leading to property damage. In turn
this creates a perceived need to armor which then
creates resource impacts and unsustainable shorelines.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Tom Gormley **EMAIL:** TGormLey@NewFairfied.org
Organization: Town of New Fairfield CT
Also CT Association of Flood Managers

Question 1: ***How is your community most vulnerable to coastal storm risk?***

New Fairfield is not directly on the Coast However being home to the largest lake in CT and also rivers and stream we are vulnerable in many ways.
I am starting to see for the first time Elevation Certs which are now being pushed previously by Ins Co's
I feel most imp thing is mitigation but necessarily ~~Structures~~ which have in the past not always worked i.e. New Orleans.
Most Imp BW Act will possibly Keep more people from getting into sensitive areas. ~~Most mitigation~~. Forcing Home Owners to be above floodplain designation

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Michael Hogan **EMAIL:** michael.hogan@ct.gov
Organization: CT DOT

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Flooding - Road flooding-emergency access / evacuation
  Coordinating efforts statewide?
- Inland Flooding associated with Precipitation from coastal storm events.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Diane Ifkovic **EMAIL:** diane.ifkovic@ct.gov
Organization: CTDEEP

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Infrastructure - Inundation of roads, utilities, water treatment plants, etc.

Economics - Flooding creates economic issues. Residents + businesses out of their homes + businesses. Loss of revenue, taxes. Cost of repairs to infrastructure + homes. Long recovery time.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Thomas Lane **EMAIL:** tlane@waterfordct.org

Organization: Waterford

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Shore erosion of beaches, dunes and bluffs
destruction of hard armoring and manmade erosion controls
seawalls. Infrastructure damage roads, utilities, sewers
destruction of residential homes
Isolation issues for milstone dtrp & UI loss of plant
from flooding

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Mike Letteri **EMAIL:**

Organization: DEEP

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Zoning (out dated, inappropriate
- Flooding
- Out dated infrastruce
- Lack of planning (long term recovery) include communication
- Emergency response equipment
- Data collection (damage related economic impact)
- Clearly identified coast weakness/weak points
-

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Kevin Magee **EMAIL:** mageek@ci.guilford.ct
Organization: Town of Guilford Environmental Planner

Question 1: ***How is your community most vulnerable to coastal storm risk?***

1) Low lying properties along shorelines
2) Roads that get flooded out during storm tides
3) Loss of revenue due to damage of properties
4) Railroad located in flood area
5) Wave damage to coastal wetlands
6)

P

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Karen Michaels
Organization: CT DEEP

EMAIL: karen.michaels@ct.gov

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- flooding
- coastal area erosion
- degradation or complete loss of ecological sensitive areas
- infrastructure damage.
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Jennifer O'Donnell **EMAIL:** jodonnell@coastalocn.com
Organization: Coastal Ocean Analytics

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Environmentally - losing coast & intertidal area to hard structures
Economically - tax base & mitigation
Infrastructure - access & utilities
Knowledge - understanding impacts of future risks
- identifying best approach while dealing with conflicting priorities

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: JOHN D PLANTE **EMAIL:** jplante@langan.com
Organization: LANGAN ENGINEERING & ENVIRONMENTAL SERVICES.

Question 1: *How is your community most vulnerable to coastal storm risk?*

- LOSS OF SHORELINE (EROSION), IMPACT ON LAND AREA
  - IMPACT ON INFRASTRUCTURE
  - IMPACT ON PUBLIC ACCESS
  - IMPACT ON TAX BASE
  - IMPACT ON ECONOMIC DEVELOPMENT (DOWNTOWNS)
  - IMPACT ON SHORELINE QUALITY
- STORMWATER SYSTEM CAPACITY (CSO)
- PLAN FOR AMTRAK TO RELOCATE TO AN INLAND ROUTE
- GW RISE DUE TO SLR (SEPTIC SYSTEMS, ETC)

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Emily Pysh **EMAIL:** Emily.Pysh@CT.Gov
Organization: CT DEMHS

Question 1: ***How is your community most vulnerable to coastal storm risk?***

State Level

Low lying coastal areas + critical infrastructure w/in those areas may become inundated and/or isolated.

Developed barrier beaches will remain at risk.

Elevated homes — roads underwater
• Limited Access.

— Encouraged development ~~$~~ based on misconceptions — More homes behind flood barriers, etc.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Bonnie Reemsnyder **EMAIL:**
Organization: Town of Old Lyme breemsnyder@oldlyme-ct.gov

Question 1: ***How is your community most vulnerable to coastal storm risk?***

We are ~~surro~~ bordered on two sides by water - LI Sound to South and CT River on west. We also have rivers that are affected by sea rise. We have many homes along the shoreline. After Sandy, we had approx. 275 homes removed from grid until assessment of damages and certified by electricians/BO. Lots of cost to Town for PW recovery, first responders, etc.
We did not have interruption of government, but that is a risk. Loss of life is certainly big concern as well.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: DAVID SUTHERLAND **EMAIL:** dsutherland@tnc.org.

Organization: THE NATURE CONSERVANCY

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Q1 - STAGGERING AMOUNT OF DEVELOPMENT AT RISK FROM STORMS.

SEPTIC SYSTEMS THAT ARE VULNERABLE TO SEA LEVEL RISE, NEVER MIND STORMS.

~~PROPOSE~~
LOW-LYING ROADS THAT WILL BE INUNDATED, BLOCKING ACCESS TO NEIGHBORHOODS THAT WILL REMAIN DRY.

LACK OF PLANNING FOR HOW TO RELOCATE HOMES + BUSINESSES FROM HAZARDOUS AREAS.

TIDAL MARSHES WILL HAVE NOWHERE TO MIGRATE

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: WALTER SMITH **EMAIL:** WSMITH48@GMAIL.COM

Organization: TOWN OF OLD SAYBROOK
CONSERVATION COMMISSION

Question 1: ***How is your community most vulnerable to coastal storm risk?***

1. EXTENSIVE SHORELINE : LONG ISLAND SOUND + CT RIVER
2. NUMEROUS BEACH COMMUNITIES : INFRASTRUCTURE
3. POTENTIALLY DEVASTATING ECONOMIC + SOCIAL + ENVIRONMENTAL RISK — SUSTAINABILITY IN QUESTION
   a. TAX CONSEQUENCES
   b. HUMAN HEALTH
   c. SHORELINE BUFFER
4. FLOODING & SLR : IMMEDIATE VS. LONG TERM
5. AWARENESS

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Brian Thompson **EMAIL:** brian.thompson@ct.gov
Organization: CT DEEP

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- Bluff erosion affecting shoreline residential properties
- ✓ Beach erosion "
- Flooding of low lying coastal areas - residential/infrastructure especially in areas around tidal wetlands may or may not have tide gates
- Erosion / loss of coastal marshes
- Rain surge flooding -
  Need for expanded / modify stormwater systems

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Gary Wassmer
Organization: City of Milford

EMAIL: gwassmer@ci.milford.ct.us

Question 1: ***How is your community most vulnerable to coastal storm risk?***

- 17± miles of Shoreline along LIS with little or no extended beaches to reduce wave action
- Way too many homes directly adjacent to LIS with essentially no protection from storms
- Low lying streets ± elevation 3 which is Mean High Water
  - behind a tide gate but still flood on severe high tides
- Residents lack of quality ~~Res~~ decision making regarding evacuation during/before storms
- Community Outreach and presidents inability to understand that neither Irene nor Sandy were the "design storm"

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: ~~Adah~~ ADAM Whelchel **EMAIL:** awhelchel@tnc.org

Organization: The Nature Conservancy

Question 1: ***How is your community most vulnerable to coastal storm risk?***

Through our Coastal Resilience Program I have had the privelge of facilitating 20 coastal and inland Community here in Connecticut through a Vulnerablity/strength assessments alongside a HAZARDS and Community Resilience Workshops Process. The most Common vulnerability Concerns include impacts ~~t~~ ; ~~i~~

=> Infrastructure - age and Capacity
Bridges; Emergency Facilities; ~~e~~ electric
WAste Water system
ROADS;

=> Social services = sheltering capacity People + Pets

=> loss of Natural Defenses - WEtlands; Beach/Dunes
and public amenities Floodplains;

=> Poor Land use Management that has placed structures and people at risk.

=> Impacts on Economic growth, Quality of Life, loss of Natural resources

C.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: DAVE Williams **EMAIL:** gpadave@mac.com

Organization: private

Question 1: ***How is your community most vulnerable to coastal storm risk?***

INUNDATION, Downtown, RAILS, Roads, Homes, Buildings, utilities

Evacuation Planning - Knowledge, shelters
cooperation coordination, communication

Process - NIMS, ICS NRF
City, Town, State Regions
Authority

Recovery support, lead? Money?
rebuild vs Retreat

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Blatt **EMAIL:** david.blatt@ct.gov
Organization: DEEP-OLISP

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Planning for long-term managed retreat from vulnerable areas is the only practical way to address SLR

Bio-art options should be available for vulnerable properties

Better communication (mandatory notification) of flood hazard risks to residents, realtors and local officials is a necessary first step.

C

Home rule

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Bradner **EMAIL:**
Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

All to environment

- Fortified construction / stronger Bld codes
- Land use policies
- Community planning + capacity Bld

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Nicole Burnham **EMAIL:** nicole.be@milone and macbroom.com

Organization: Milone & MacBroom

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

~~$ for~~

+ planning / mapping of vulnerable areas w/ long term mitigation planning
+ regional planning for resilience / marsh restoration / ~~regional planning~~ nourishment

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Paul Carente **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Education on the real risk to the infrastructure
data of unknowns

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: SYLVAIN DEGUISE **EMAIL:** SYLVAIN.DEGUISE@UCONN.EDU
Organization: UCONN – CT SEA GRANT

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- LIVING SHORELINES, WHERE APPROPRIATE, INCREASE HUMAN + ECOLOGICAL RESILIENCE
  - NEEDS SCIENCE + MONITORING (INFRASTRUCTURE)
- VULNERABILITY ASSESSMENT TO IMPROVE PREPAREDNESS + RESPONSE (+MAPPING)

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis
EMAIL: peter.francis@ct.gov
Organization: CT DEEP

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Need a statewide policy supporting buy-outs, managed retreat, and long term approach on adaptive strategies for ~~[illegible]~~. Sea level rise.

- Improve designs and encourage use of living shoreline approaches

P

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Tom Gormley **EMAIL:** TGormley@newfairfield.org

Organization: Town of New Fairfield, CT
Also CT Association of Flood Managers

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

1. Move people out of harms way
2. Discourage Building of Structures in Sensitive areas
3. Purchase areas convert to open Space - protect sensitive flood plains

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Michael Hogan **EMAIL:** michael.hogan@ct.gov

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Designing infrastructure so that it is more resilient to potential impacts from ~~coastal~~ extreme storm events
- Coordination of emergency evacuation/access routes community and statewide
- Need for reliable design data - flood elevation stream flow (gage stations), precipitation data

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Diane Ifkovic **EMAIL:** diane.ifkovic@ct.gov
Organization: CTDEEP

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Tougher regulatory standards coupled with fed/state funding to acquire land and restore shoreline back to natural function.

Stronger federal + state policies / Minimum standards on SLR / rebuilding after storms, etc. → Get serious about addressing these issues + how we are spending state + federal $ on mitigation

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Thomas Lane **EMAIL:** tlane@waterfordct.org

Organization: Town of Waterford

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

loss of life, property & infrastructure
educate Public & gov. as to dangers and need to plan ahead
provide a concise response and coordinate and lead

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Mike Lotfi **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Zoning
- Planning
- Communication

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Kevin Magee **EMAIL:** mageek@ci.guilford.ct.us
Organization: Town of Guilford Environmental/Planning

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Elevation and Relocation of ~~[illegible]~~ building further from the shoreline
- Elevation of Roads & increasing size of culverts to facilitate drainage of wetland areas
- Reserve areas for septic system above the flood area increased back areas from wetland
- Elevation or Relocation of Electrical substation out of Flood Zones
- Educating Public

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Karen Michaels **EMAIL:** karen.michaels@ct.gov
Organization: CT DEEP

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- proactive hazard mitigation planning, implementation, evaluation, monitoring & updating.
- acquisition / demolition of strategic structures for the development of more open in SFHAs
- effective floodplain management & the pursuance of more non-intensive low impact uses of floodplain resources rather than high intensive uses.
- integrating hazard mitigation planning & activities into other local planning & capital planning budgets in a more comprehensive manner.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Jennifer O'Donnell **EMAIL:** jodonnell@coastalea.com
Organization: Coastal Ocean Analytics

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Research- ID high priorities to solve
interdisciplinary approach to balance conflicting concerns
outreach/educate stakeholders
→ biologists, town planners, engineers, residents, economists, political policy, insurance agencies, landscape architects, geologists, and so on

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: JOHN O PLANTE **EMAIL:** jplante@langan.com
Organization: LANGAN ENGINEERING

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

ECONOMIC IMPACT

COMPREHENSIVE REGIONAL ASSESSMENTS.

- IDENTIFY POTENTIAL LARGE SCALE FLOOD/STORM SURGE PROTECTION SOLUTION
- COASTAL REGION. ZONING (THRU CAM)
- MUNICIPAL & PRIVATE GRANTS TO UPGRADE INFRASTRUCTURE & FACILITIES.

(HUD – REBUILD BY DESIGN ?)

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Emily Pysh **EMAIL:** Emily.pysh@CT.gov
Organization: CT DEMHS

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Planned Retreat from Coast
- Adoption of stronger Building Codes
  - ASCE 24-05

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: B Reenwade **EMAIL:**

Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Continued preparedness / drills
Mitigation Plans through Zoning / Planning
Plans for continuity of government
Protection of natural buffers / creation of appropriate buffers.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: WALTER SMITH **EMAIL:** WSMITH46@GMAIL.COM

Organization: TOWN OF OLD SAYBROOK
CONS. COMMISSION

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- ZONING – INCREASED DENSITY FOR TAX BASE
  RETREAT – INCREASE NATURAL BUFFER

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Sutherland **EMAIL:** dsutherland@tnc.org
Organization: The Nature Conservancy

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Towns, Regions, and specific neighborhoods need to engage in intensive planning for how their coastal areas will and should look over the next 20-30 years + need to reach consensus on what measures need to be implemented to prepare for the reality that some areas will not be habitable in 20 years. Towns need to prepare for the impacts on their grand list, disaster preparedness, and roads.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Brian Thompson **EMAIL:**
Organization: CTDEEP brian.thompson@ct.gov

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

Green infrastructure / LID to reduce stormwater flood impact.

Softer shoreline protection strategies
e.g. Living Shorelines – need research + demonstration projects to establish credibility

Financial mechanisms / incentives to discourage development in vulnerable areas and encourage reclamation of existing developed vulnerable areas.

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Gary Wassmer **EMAIL:** gwassmer@ci.milford.ct.us
Organization: City of Milford

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

- Acquisitions of vulnerable properties
- Mitigation of Borderline structures

- Both will help CRS and lower insurance rates for all participants in ~~NFIP~~ community with flood insurance

- Acquisitions are nearly impossible to get elected Officials to buy into.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Adam Whelchel **EMAIL:** awhelchel@tnc.org

Organization: The Nature Conservancy

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

=D Comprehensive All-hazards Workshops that brings Communities together to originate Proactive Risk Reduction projects, actions and policies.

=D Regional Resiliency Framework established to assist and roll-up Collective mitigation actions within and across Communities

=D More Mitigation = Less response/recovery

=D Recognition and incorporation of natural defenses Consisting Existing + Future + restored/Degraded

=D Higher Freeboard standards and regulation of Coastal A zones a V zones

=D Further restrictions of development adjoining Floodplains redevelopment

=D more Buy-outs with State Funding for 25% match

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: DAVE Williams **EMAIL:** gpadave@mac.com
Organization:

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?***

PLAN
- TRAining + Exercises
- Retreat or Harden
- Awareness + adapt
- PLAN for Future
- FACE Reality, Retreat or Rebuild

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Blatt **EMAIL:** david.blatt@ct.gov

Organization: DEEP-OLISP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Goal: Align costs & benefits of adaptation temporally and distributionally (those who benefit should pay - ~~tax~~)

No more subsidies for flood insurance or reconstruction in vulnerable areas

property values should reflect risk

protection of property should cause no net loss to wetlands & beaches over life of structure

Create authority & funding to rebuild dunes, wetlands, oyster reefs & other natural protections

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Bradner **EMAIL:**
Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

~~Legislation~~
- Legislation - Adopting 2012 International NO Δ's From Code Bldg Standards + Fortified Bld Std in Vulnerable areas
- Funding to Assist Towns/Regions in Region - State + Federal
- Tax incentive to encourage residents to ~~Towns~~ mitigate for wind + water
- Federal For state to be eligible for ~~Stafford Act~~ FEMA Assistance + Fund must Adopt Fortified construction Techniques much like Town needs to be part of NFIP

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Nicolle Burnham **EMAIL:** nicollebemilone@macbroom.com

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Prohibit or reduce building in coastal V zones by eliminating flood insurance subsidies - basically - support Biggert Waters
- Delegate coastal flood mapping to states + pass down federal mapping funding
- Develop reserve funds to compensate homeowners for loss in property value

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Paul Corrente **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Cost/Risk Benefit before any Federal or State funds can be used with a 50 yr minor 75 yr Major change

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: SYLVAIN DEGUISE **EMAIL:** SYLVAIN.DEGUISE @UCONN.EDU
Organization: CT SEA GRANT/UCONN

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

PROVIDE
- TRUSTED THIRD PARTY INFORMATION/ GUIDANCE (GOV. NOT TRUSTED)
- LEVERAGE LOCAL ENTHUSIASM
- NEW, TRUSTED KNOWLEDGE

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis
EMAIL: peter.francis@ct.gov
Organization: CT DEEP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

State + federal
Policies to provide incentives for managed retreat
stronger laws
and ^ for prevention of coastal armoring.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Michael Hogan **EMAIL:** michael.hogan@ct.gov

Organization: CT DOT

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- More funding for meaningful project and studies
- Coordination of studies
- Education / mindset

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: (1) Diane Ifkovic **EMAIL:** diane.ifkovic@ct.gov
Organization: CTDEEP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Stop spending state + federal funds $ on useless mitigation. This requires a real action plan.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Thomas Lane **EMAIL:** tlane@waterfordct.org

Organization: Town of Waterford

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Provide a stringent set of guidelines that ensure natural features along shorelines and extend to upland inundation areas, are uncompromised and manmade solutions are designed on the basis of impacts no only on one area but take into account the surrounding areas done by policy & laws

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Mike Lettiere **EMAIL:**

Organization: DEEP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Not allowing building/re-building along the coast
- Standardized building codes and rebuilding to more resilient standards
- Require recovery planning
-

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Karen Michaels **EMAIL:** karen.michaels@ct.gov
Organization: CT DEEP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Would like to see the possible development of minimum planning standards/requirements + possibly financial resource support for hazmit planning efforts to encourage improvements in local & state haz mit planning activities.
- comprehensive assessment of all fragmented coastal resilience / haz mit efforts throughout state govt + subsequently local govt's levels.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Kevin Magee **EMAIL:** mageekeci.guilford.ct.us
Organization: Town of Guilford Environmental Planner

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- State or regulatory policy Regards Rebuilding after Storms, and c

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Jennifer O'Donnell **EMAIL:** jodonnell@coastalea.com
Organization: Coastal Ocean Analytics

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Setbacks - statewide or regional
Revising BW12

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: JOHN D PLANTE **EMAIL:** jplante@langan.com
Organization: LANGAN ENGINEERING

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

REGIONAL PLANNING AUTHORITY TO ?

"METROPOLITAN RESOLUTION" (BROOKINGS) APPROACH TO REGIONAL P³ SOLUTIONS

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Emily Pysh **EMAIL:** EMILY.PYSH@CT.GOV
Organization: CT DEMHS

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Prioritization of funding based on greatest benefit rather than Politics.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: B Reensnyder **EMAIL:**

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Some local Zoning Regs

Compensation

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: WALTER SMITH **EMAIL:** WSMITH78@GMAIL.COM

Organization: TOWN OF OLD SAYBROOK

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

PRIORITY SETTING @ STATE — CONSISTENCY

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Sutherland **EMAIL:**
Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- REFINING AND REVISING, BUT NOT REPEALING, THE FLOOD INSURANCE REFORMS IN FEDERAL BIGGERTS-WATERS LEGISLATION.
- FUNDING FOR VOLUNTARY BUYOUT INCENTIVES AND LIVING SHORELINE INITIATIVES
- RESTRICT ANY NEW DEVELOPMENT IN VULNERABLE AREAS.

B

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Brian Thompson **EMAIL:** brian.thompson@ct.gov
Organization: CT DEEP

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Planning to avoid development in flood prone areas

Comprehensive vulnerability assessment & implementation

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Gary Wassmer **EMAIL:** gwassmer@ci.milford.ct.us
Organization: City of Milford

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Legislative Solution:

Educate ~~legista~~ legislators on the cost Benefit analysis and show how infrastructe resiliency projects are much more beneficial then individual home owners.

D

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Adam Whelchel **EMAIL:** awhelchel@tnc.org

Organization: The Nature Conservancy

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

CT has already modified state statute to define Sea Level Rise and accelerated sea level Rise as well as ~~defin~~ enabling the use of nonstructural solutions for erosion control (Living shorelines). Wetlands, etc...

⇒ State Banding for Buyouts (25% Match for Fema HMGs) (Voluntary)

⇒ Financy Incentives to encourage or direct smarter development and undevelopment.

⇒ Higher Freeboard standards (2'-3') state minimal requirement

⇒ Increase Funding for Open space protection (Risk Reduction and Natural Defenses)

⇒ State Categorization of Risk along Coastline + Rivers Categories - must define types and extent of development

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Dave Williams **EMAIL:** gpadave@mac.com
Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

1) FEMA Repeated loss, review modify (No ~~tax~~ $ to - flood zone rebuilding)

2) Flood insurance real rates

3) Land use, business / Private local, State, Feel

4)

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: ADAM WHELCHEL **EMAIL:** awhelchel@tnc.org

Organization: The NATURE Conservancy

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

⊙=D As Far as this NA Coast Comprehensive study &

1) Cost/Benefit of current Corps projects in the context of risk - Today and over several decades (Life of Project)

2) Comprehensive assessment that evaluates the cost effectiveness of alternative structural and non-structural approach to Coastal erosion control.

☐→D Review the approach provide through the Caribbean Catastraphic Risk Insurance Facilities (SwissRe)

☐→D Review the disaster Risks assesent For Gulf of Mexico - (Entergy/SwissRe) "Building a resilent Gulf Coast

please see back side:

3) NEED To Connect Regional approaches/ studies such as sediment Management to the work on Regional Ocean planning (NROC; MARCO

4) ⊙ => There is a need to ensure that all Corps projects are conducted in the context of a "Regional Resilience Framework" For Connecticut. Of course, there is a need for a state-based Framework which is provided to some extent in the state NHMP and Plan of Conservation and Development.

⊡-> By placing Corps projects within the context of regional resilience the overall "Risk Profile" For Connecticut can be Reduced.

-> Dredging projects; Restoration Projects; etc...

⊡-⊡ Move From Singular projects to singularly but Linked project within a regional Resilience Framework

Comprehensive - Integrated = Local to State

5) ⊙ => Finally, Regional Sediment Management is a crucial Element of Comprehensive Risk Reduction along the Coast of Connecticut.

Appendix F: City of Baltimore Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area
Visioning Meeting
Meeting Notes

March 6, 2014

10:00 AM – 12:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Thursday, March 6, 2014, the U.S. Army Corps of Engineers (USACE) Baltimore District conducted an in-person visioning meeting with representatives from the City of Baltimore, other federal and state agencies including representatives from the State of Maryland Silver Jackets team, local communities, non-profit organizations, and CDM Smith to discuss the NACCS with specific focus and dialogue concerning coastal flood risk and resilience in the Baltimore Metropolitan Area.

Major themes discussed during the meeting included the impacts to aging public and private infrastructure, emergency operations, and communicating vulnerabilities to certain populations. In addition, an expressed need for risk analysis, communication, and supporting data collection was discussed, as well as the role of natural and nature based features in coastal flood risk management. A high level of collaboration was evident among state and federal agency staff as well as local communities and NGOs represented at this meeting.

Thirty people attended the two hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agencies:
Federal Emergency Management Agency (FEMA)
National Oceanic and Atmospheric Administration (NOAA)
USACE
U.S. Fish and Wildlife Service (USFWS)
U.S. Geological Survey (USGS)

State Agencies:
Maryland Department of the Environment (MDE)
Maryland Department of Natural Resources (DNR)
Maryland State Highway Authority (SHA)
Maryland Transportation Authority (MDTA)

NGO:
The Conservation Fund

Communities: Anne Arundel County
Baltimore County
City of Baltimore
Harford County

Other: CDM Smith (meeting facilitation team)

Location: USACE Baltimore District: 10 South Howard Street, 11th Floor Conference Room 11240, Baltimore, MD 21201

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. Larry Eastman, Deputy Chief of the USACE Baltimore District Planning Division, offered welcoming remarks to convene the meeting. The first segment was driven by Dave Robbins and Karla Roberts (USACE) who presented an overview of the North Atlantic Coast Comprehensive Study (NACCS) and an update of the current progress. Ginger Croom (CDM Smith) presented an overview of the Focus Area Analysis performed for the Baltimore Metropolitan Area. Photographs from the meeting are included in Attachment D.

Following the presentation, attendees were divided into three small groups for facilitated brainstorming sessions. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

How is your community most vulnerable to coastal storm risk?

- Critical infrastructure- Vulnerable to inundation flooding and aging
    - Utilities
    - Transportation systems (including navigation channels)
    - Power grid
    - Wastewater treatment plants
    - Other facilities
    - Communication systems
    - Stormwater systems
    - Military facilities
    - Conowingo Dam
- Stormwater and interior flooding
- Lack of flood risk management projects
- Wind impacts
- Uncertainties associated with weather forecasting, sea level change, and associated impacts
- Natural resources/systems
    - Services they provide are compromised
    - Systems are impacted by storm events and can become a liability
- Social considerations
    - Public safety

    - Communities, vulnerable populations
    - Hospitals/schools
    - Emergency response system/access/communication
    - Food supply and resiliency planning after a hazard event
- Economic losses/impacts
    - Impacts to business/tourism
    - Cost of road detours
    - Underfunded operations and management budgets compared to capital improvements
    - Flood insurance/mapping changes
        - Uninsured residents in special flood hazard areas without a mortgage requiring a flood insurance policy

Based on one vulnerability noted above, what are 1-2 promising solutions to address this vulnerability?

- Infrastructure
    - Evaluate existing infrastructure
    - Maintain access to public infrastructure without increasing risk
    - Identify high risk areas and critical assets
    - Identify backup facilities
- Future planning
    - Consider future scenarios and conditions for infrastructure design and operations
    - Floodplain management and mitigation
    - Identify areas of natural protection
    - Develop a better understanding of risks and vulnerabilities
    - Collaboration across agencies / communities / NGOs / jurisdictions (example: Silver Jackets)
    - Education/outreach
    - Pre-position assets and continue future planning instead of retroactively
        - Use of historic events (i.e., Hurricane Isabel) as a baseline assessment for flood risk management
    - Incorporation of sea level change criteria
- Environmental
    - Improve mapping/modeling to inform solutions and identify high risk areas
    - Improve storm risk management technique effectiveness information
- Communication
    - Move to analysis of a range of scenarios vs. one scenario when communicating risk
    - Early warning and emergency plan systems
    - Develop a common language to communicate risk
    - Dissemination of flood depth grids
    - Public outreach and education
        - Safety, evacuation, preparedness
        - Uninsured property owners currently in the floodplain
- Risk assessment
    - Support data collection to inform future planning and design efforts to limit risk
    - Support science to improve forecasting and warning systems
    - Enhance state-mandated rebuilding regulations
    - Identify all risks-coastal, riverine, etc.
        - Inventory of exposed areas
        - Determine risk sensitivity of structure

        - Adaptive capacity

What is the most prominent policy change or legislative solution that could improve coastal resilience?

- Flood management
    - Easier process for buy-outs and floodplain restoration
    - Develop new long-term design standards
    - Consider implementation of systemic, redundant approaches to minimize "down time"
    - Mandate flood insurance to consider sea level rise and other projected future conditions
    - Changes to zoning and planning to account for inundation risk
    - Pay for your risk
    - Improve incentives for floodplain restoration including wildlife habitat
    - Consideration of multiple future scenarios to inform planning and design and warning statements
    - Limit support to current properties in floodplains
- Enhanced agency, stakeholder, and policy maker communication and coordination
- Coordinate interagency Memorandums of Understanding (MOU) to facilitate action
- Risk assessment
    - Funding for forecasting improvements
    - Education of risk

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area
Visioning Session - Facilitated Breakout Groups

Name	Organization
Group A	
Lauren Klonsky	CDM Smith
Kevin Gambrill	Anne Arundel County
Zoe Johnson	DNR
Matthew Teitt	MDTA
Jason Elliott	NOAA
Ken Widelski	NWS
Erik Meyers	The Conservation Fund
Stacey Underwood	USACE
Genevieve LaRoche	USFWS
Jonathan Dillow	USGS
Group B	
Frannie Bui	CDM Smith
Steve Welzant	Baltimore County
Molly Kaput	FEMA
Kevin Wagner	MDE
Melissa Williams	MDTA
Patricia Wnek	NOAA
Michel Sheffer	SHA
Michael Schuster	USACE
Karla Roberts	USACE
Chris Penney	USACE
Group C	
Ginger Croom	CDM Smith
Kristin Baja	City of Baltimore
Justin Mannion	Harford County
Darlene Finch	NOAA
Sasha Pryborowski	NOAA
William Tardy	SHA
Dave Robbins	USACE
Dan Bierly	USACE
Other	
Marisa Lewis	USACE
Martha Newman	USACE

NACCS Visioning Session

Baltimore Metropolitan Area - 3/6/2014

Name	Community/Agency	Title	E-Mail	Telephone
FRANNIE Bui	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.COM	617 452 6288
Karla Roberts	USACE	Study Manager	Karla.a.roberts@usace.army.mil	410-962-3065
Martha Newman	USACE	Environment	martha.newman@usace.army.mil	410 962 4590
Ginger Croom	CDM Smith	PM	croomgl@cdmsmith.com	617 452 6594
Lauren Klonsky	CDM SMITH	Engineer	klonskyls@cdmsmith.com	617.452.6361
Patti Wnek	NOAA NWS	Service Coord Hydrologist	patricia.wnek@noaa.gov	814 231 8129
Molly Kaput	FEMA	Mitigation Planner	molly.kaput@fema.dhs.gov	215 931 5746
Dan Bierly	USACE	Engineer/Planner	daniel.m.bierly@usace.army.mil	410-962-6139
SASHA PRYBOROWSKI	NOAA IOCM	deputy coordinator	SASHA.PRYBOROWSKI@NOAA.GOV	301-713-2702 x111
MELISSA WILLIAMS	MDTA	Plng Mgr.	mwilliams9@mdta.state.md.us	4105375650
MATT TEITT	MDTA	Env. Mgr.	mteitt@mdta.state.md.us	4105375680
Steve Welzant	Balt. Co. OEM	Emer. Mgr.	swelzant@baltimorecountymd.gov	410-887-5997
David Robbins	USACE	Project Manager	David.w.robbins@usace.army.mil	410 962 0685
Kevin McGanfeld	AACO - P+Z	STRATEGIC PLANNER	pzgamb35@aacounty.org	410.222.7432
Justin Mannion	Harford County DES	Planner	jmmannion@harfordpublicsafety.org	443 619 1805

NACCS Visioning Session
Baltimore Metropolitan Area - 3/6/2014

Name	Community/Agency	Title	E-Mail	Telephone
Kristin Baja	City of Baltimore (BOS)	Climate + Resilience Planner	Kristin.Baja@baltimorecity.gov	410-396-5917
Michael Schuster	USACE - Balt.	Planning + Environmental Services Chief	Michael.J.Schuster@usace.army.mil	410-962-3160
Erik Meyers	The Conservation Fund	Vice President	emeyers@conservationfund.org	703-908-5801
Zoe Johnson	MD DNR	Program mgr	zjohnson@dnr.state.md.us	410 260 8774
Michel Shaffer	MD SHA	GIS coordinator	mshaffer@sha.state.md.us	410 545 5557
Marisa Lewis	USACE NAB	Environmental Protection Spc	marisa.n.lewis@usace.army.mil	4109622928
Ken Widelski	NWS	ERS-MET	kenneth.widelski@noaa.gov	703-996-2201
Jon Dillow	USGS	SOPV. HYDROLOGIST	jjdillow@usgs.gov	443 498-5524
Genevieve LaRouche	USFWS	Field Supervisor	genevieve_larouche@fws.gov	410-573 4573
Darlene Finch	NOAA	Mid Atlantic Coord.	darlene.finch@noaa.gov	410-280-7391

NACCS Visioning Session
Baltimore Metropolitan Area - 3/6/2014

Name	Community/Agency	Title	E-Mail	Telephone
STACEY UNDERWOOD	USACE	Silver Jackets PM	stacey.m.underwood@usace.army.mil	410-962-4977
KEVIN WAGNER	MDE	NATURAL RESOURCES PLANNER	Kevin.wagner@maryland.gov	301-689-1495
Will Tardy	MDOT / SHA	Environmental Analyst	Wtardy@sha.state.md.us	410-545-8565
Chris Penny	USACE	Program Manager	Christopher.Penny@usace.army.mil	410-962-2941
Jason Elliott	NWS	Senior Service Hydrologist	jason.elliott@noaa.gov	703-996-2234

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area

USACE Baltimore District
10 South Howard Street
11th Floor Room 11240
Baltimore, MD 21201

March 6, 2014
10 am – 12 pm

I. Welcome and Introductions

II. Agenda Overview and Meeting Purpose

III. USACE North Atlantic Coast Comprehensive Study (NACCS)
a. Update
b. Focus Area Analysis

IV. Facilitated Discussion Topics -
a. Topic 1 - Vulnerability
b. Topic 2 – Solutions
c. Topic 3 – Policy/Institutional
d. Report Outs

V. Closing Remarks/Adjourn

List of Handouts

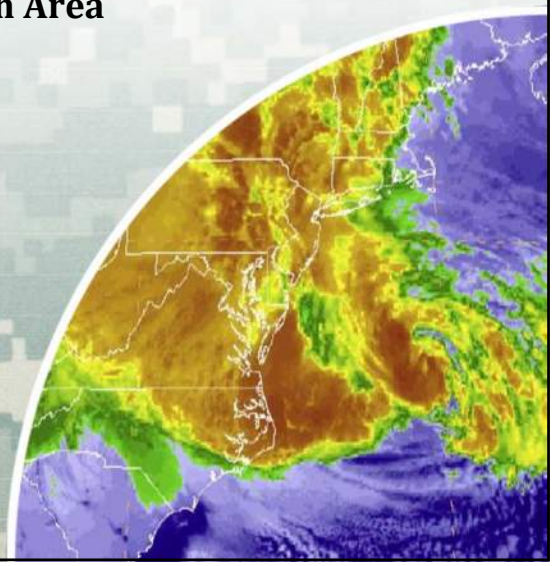
Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

Meeting Presentation

North Atlantic Coast Comprehensive Study

Baltimore Metropolitan Area Visioning Session



U.S. Army Corps of Engineers
National Planning Center for
Coastal Storm Risk Management

6 March 2014

Introductions

- Larry Eastman, USACE
- Dan Bierly, USACE
- Dave Robbins, USACE
- Karla Roberts, USACE
- Martha Newman, USACE
- Marisa Lewis, USACE
- Stacey Underwood, USACE

- Ginger Croom, CDM Smith
- Frannie Bui, CDM Smith
- Lauren Klonsky, CDM Smith

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS**
  - ►**Update**
  - ►**Focus Area Analysis**
- **IV. Facilitated Discussion** (small groups)
- **V. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015.

Sandy Overview

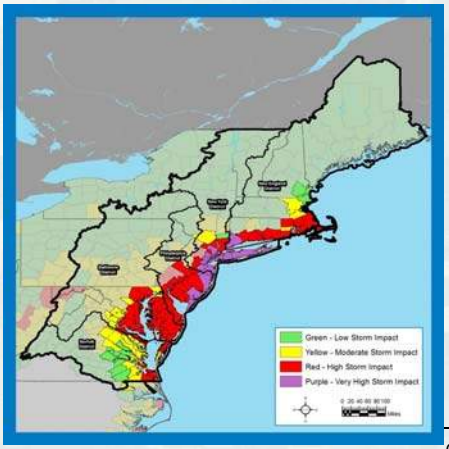
- Hurricane/Post-Tropical Cyclone Sandy moved to the U.S. Atlantic Ocean coastline 22-29 October 2012
- Affected entire east coast:
  24 States from Florida to Maine; New Jersey to Michigan and Wisconsin
- Areas of extensive damage from coastal flooding: New Jersey, New York, Connecticut
- Public Law 113-2 enacted 29 January 2013

Photo credits unknown

NACCS Background

"That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles
- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

NACCS Current Status

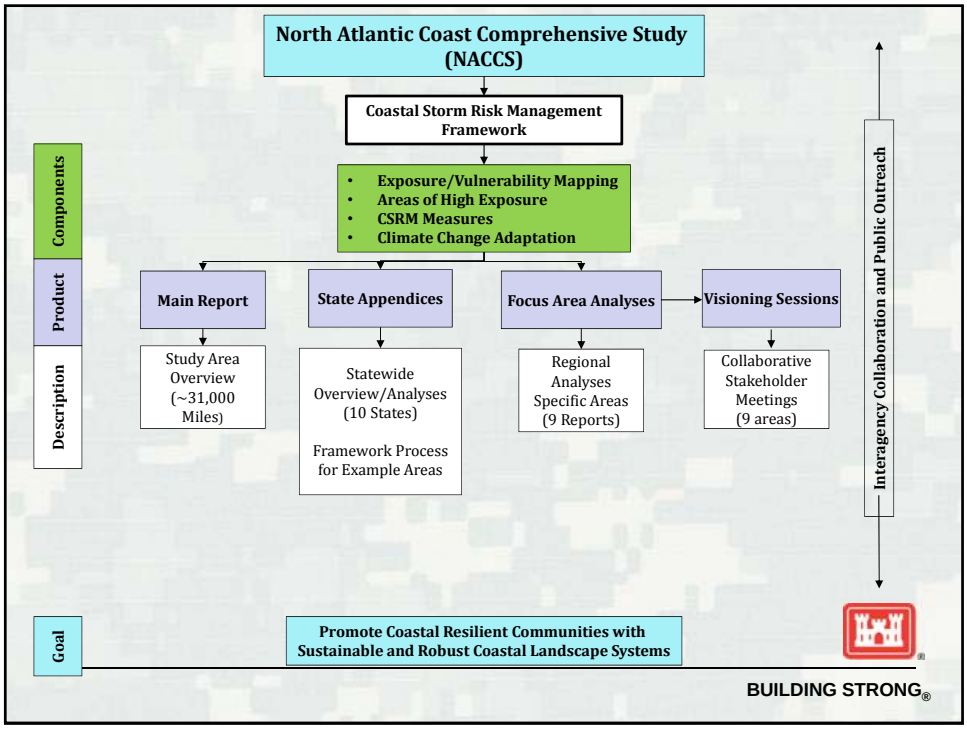
- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

NACCS Next Steps
(Six Month Snapshot)

March 2014: Interagency release of the draft analyses

March/April 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process



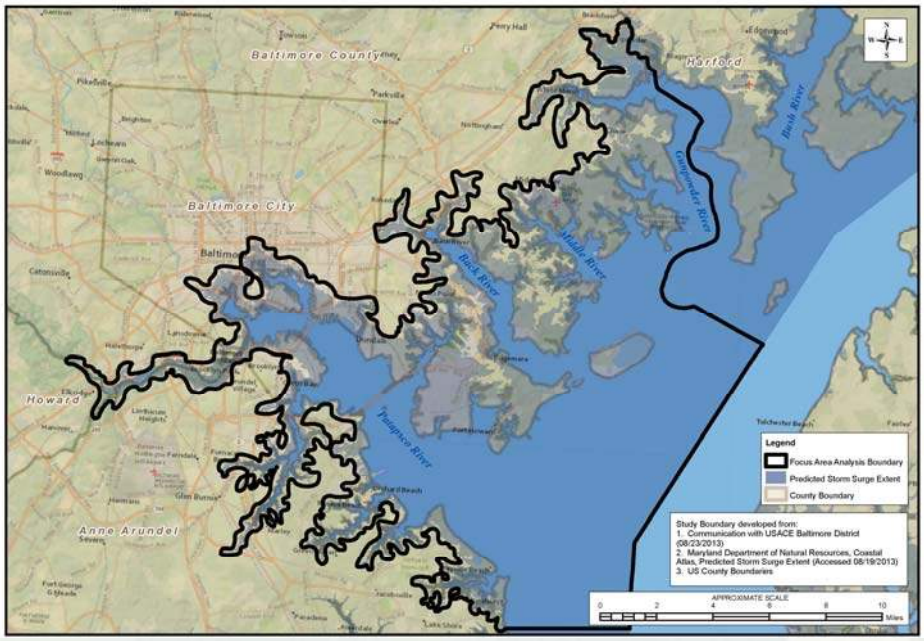
BUILDING STRONG®

Focus Area Analysis

Baltimore Metropolitan Area

Focus Area Analysis

- Specific language within PL 113-2, the Disaster Relief Appropriate Action of 2013 states, "…*as a part of the study, the Secretary shall identify those activities warranting additional analysis by the Corps*
- Determine if there is a Federal, (USACE) interest in participating in a cost-shared feasibility phase study



Feedback Requested (Fall 2013)

- 1. Problem identification for your area:
  - ► Did your area experience storm surge?
  - ► Specify particular areas and water bodies within your jurisdiction that experienced storm surge.
  - ► What factors, if any, exacerbated damages from storm surge?

Feedback Requested (Fall 2013)

- 2. Description of damages for your area:
  - ►Provide a narrative including the types of infrastructure damaged or temporarily out of use, structure (building) damages, personal injuries/fatalities.

Feedback Requested (Fall 2013)

- 3. Prior related studies or projects (local, state, federal) in the damaged area
- 4. Measures that your jurisdiction has considered to address the problem

Stakeholder Information

- Meeting with Baltimore City Staff
- Meeting with Baltimore County Staff
- Meeting with Maryland Port Administration Staff
- Anne Arundel County Curtis Creek E-mail response

Stakeholder Identified Problems

- Flooding by coastal storms
  - ►Storm surge
  - ►Wave action
  - ►Erosion
- Stormwater runoff
- Aging infrastructure
- Climate adaptation

Stakeholder Identified Measures

- Improve existing flood risk management measures
- Develop integrated flood risk management systems
- Incorporate nature-based measures for flood risk management
- Elevate roads in flood prone areas
- Identify and acquire or elevate flood prone structures
- Floodproof or retrofit infrastructure
- Enhance waterfront zoning and permitting
- Review and enhance coastal area design guidelines

QUESTIONS

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS
  - Update
  - Focus Area Analysis
- **IV. Facilitated Discussion** (small groups)
  - *a. Vulnerability*
  - *b. Potential Changes*
  - *c. Institutional/Policy Challenges*
- **V. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, or C based on name tag**
    - Group A: Lauren Klonsky
    - Group B: Frannie Bui
    - Group C: Ginger Croom
- **Discussion Topics**
  - ***Vulnerability***
  - ***Potential Solutions***
  - ***Institutional or Policy Challenges***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

1. How is your community or agency/ organization most vulnerable to coastal storm risk?
2. Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?
3. What is the most prominent policy change or legislative solution that could improve coastal resilience?

Small Group Report-Out

- Group A
- Group B
- Group C

Contact Information

- Dave Robbins – USACE Baltimore District
  - David.W.Robbins@usace.army.mil
  - (410) 962-0685 (office)

Attachment D

Photograph Log

Photo 1- Larry Eastman (USACE) provides opening remarks

Photo 2 – Dave Robbins (USACE) presents the meeting agenda

Photo 3 – Karla Roberts (USACE) presents an overview of relief efforts associated with Sandy

Photo 4 – Dave Robbins (USACE) returns to the podium to give further information on NACCS

Photo 5 – Ginger Croom (CDM Smith) presents an overview of the Focus Area Analysis for the Baltimore Metropolitan Area

Photo 6 – Ginger Croom (CDM Smith) explains the objectives of the facilitated discussions

Photo 7 – Frannie Bui (CDM Smith) documents responses from Group B during the breakout session

Photo 8 – Zoe Johnson (MD DNR) presents a summary of responses from Group A

Photo 9 – Mike Scheffer (MD SHA) presents a summary of responses from Group B

Photo 10 – William Tardy (SHA) presents a summary of responses from Group C

Attachment E

Breakout Session Responses

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KRISTIN BAJA **EMAIL:** KRISTIN.BAJA@BALTIMORECITY.GOV

Organization: CITY OF BALTIMORE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

SURGE
PRECIP.

OLD + AGING INFRASTRUCTURE
STORMWATER / DRAINS BLOCKED / SINKHOLES

- HOUSING + INFRASTRUCTURE ALONG WATERFRONT
- CRITICAL FACILITIES - SUBSTATIONS, RADIO TOWERS, STEAM FACILITY
  OFFICES + DOWNTOWN BUILDINGS
- OLDER BUILDINGS W/ OLD BASEMENTS OR CRAWL SPACES (OR ILLEGAL BASEMENTS)
- SOCIAL CONSIDERATIONS - ELDERLY + LOW-INCOME COMMUNITIES
  DON'T HAVE THE RESOURCES TO PREPARE OR RESPOND
- IMPACTS TO ECONOMY - PORT SHUT DOWN, RAIL LINES, BLOCKED ROADS, WORKERS NOT GONNA IN
- POWER GRID DISRUPTIONS - LOSS OF POWER, POWER LINES, LOW LAYING UTILITIES
- NATURAL SYSTEMS - TREES DOWN, POOR SOILS DON'T ABSORB PRECIPITATION
  EROSION
  FLOODING ON WATERSHEDS, WETLANDS ON WATERFRONT
- SERVICES DISRUPTIONS
- TRANSPORTATION - LIGHTRAIL, BUS (↑ % OF POPULATION WITHOUT CARS)
  RED LINE (NEW)
- INSURANCE (POST-STORM), RESPONSE (SERVICES)
  RECOVERY (BUILD BACK BETTER OR AT ALL?)
- MAINTENANCE ISSUES WITH ALL

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Dan Bierly **EMAIL:**

Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- USACE has many coastal erosion protection projects. Many of these are in the form of recreational beaches so continual maintenance is required in addition to emergency repairs. These structures require O/M also.
- Navigation can be disrupted through damage to infrastructure and loss of stability during storm events
- Although we don't own military infrastructure, we do service these users and they have vulnerabilities.
- In coastal areas especially Chesapeake Bay, we have ecosystem projects (i.e. wetlands) that are vulnerable

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jon Dillow **EMAIL:** jdillow@usgs.gov
Organization: USGS

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- Damage to tide- and stream-monitoring equipment in the coastal zone
- Developed urban and suburban areas on the coastline, or in nearby areas of low relief, are prone to storm-surge and wind-driven inundation associated with the passage of coastal storms
- Return flow from urban or industrial areas can carry contaminants into local estuarine environments and the Chesapeake Bay (as a "slug" to the system)
- Damage to recreational resources (marinas, nature areas, etc.)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jason Elliott **EMAIL:** jason.elliott@noaa.gov
Organization: NOAA/National Weather Service

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

As the agency responsible for warning the public and providing support to decision makers, our biggest vulnerability is knowing exactly what assets will be affected, and at what impact levels. Without that knowledge, it becomes difficult to provide specificity regarding a risk level when coastal storms impact the region.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Darlene Finch **EMAIL:** darlene.finch@noaa.gov
Organization: NOAA Coastal Services Center

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

Agency vulnerabilities:
- implementation of resource management responsibilities w/o consideration (e.g. fisheries)
- supporting investments that will be damaged by storms (e.g. CELP)
- pursuing comprehensive planning efforts that don't consider ~~fut~~ future storm risk
- coastal facilities and development of new facilities

Implement
1. Resource management responsibilities
2. planning (community) – current and future
3. Facilities and properties →

A

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KEVIN M. GAMBRILL **EMAIL:** pzgamb356 aacounty.org

Organization:
ANNE ARUNDEL Co. - Ofc. of PLANNING + ZONING

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

1a • INDIVIDUAL / PRIVATE PROPERTY DAMAGE

2 • TEMP. INUNDATION OF PUBLIC UTILITIES STORM DRAINS + SWM - PUMPING STATIONS + WATER LINES + SEWER forced MAIN.

1b • TEMP INUNDATION OF PRIVATE SEPTIC + PVT WELLS.

3. • TEMP ISOLATED / CUT-OFF ACCESS OF PENINSULA COMMUNITIES.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Zoe Johnson **EMAIL:** zjohnson@dnr.state.md.us
Organization: MD Dept. of Natural Resources

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

maryland DNR is responsible for managing and protecting the state natural resources for future generations. We also provide both technical + financial assistance to coastal communities to help them plan + prepare for coastal hazards + climate change. Natural resources, such as wetlands, SAV, beaches, bluffs, are extremely vulnerable to SLR + coastal erosion + the impact of severe coastal flooding has had damaging impacts to coastal communities throughout MD's coast. Of most concern is loss of tidal wetlands, shoreline erosion, water quality impacts from extreme rainfall events + submergence of low lying lands + damage to coastal infrastructure.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Molly Kaput
Organization: FEMA
EMAIL: molly.kaput@fema.dhs.gov

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

regional office in Philadelphia, which is affected by coastal flooding along the Delaware

FEMA Region III encompasses U.S. coastline in DE, MD, VA, and small portions of PA
→ coastal storms have impacts in:
disaster response/recovery
insurance (flood)
floodplain management
that all touch what FEMA does

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Genevieve LaRouche **EMAIL:**
Organization: USFWS

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

1. Loss of valuable (and rare) wildlife habitat - that also serves as a buffer for humans

2. improved information + techniques to determine where to protect + restore natural functions - forested wetlands (e.g. restore hydrology to forested wetlands)

3. improved incentives for landowners/ counties/ developers to protect + restore identified key habitats

Rachel Larson

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Justin Mannion **EMAIL:** jmmannion@harfordpublicsafety.org

Organization: Harford County DES

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

Harford county has shore line along the Bay. Edgewood/Abingdon area has communities at risk. If flooding is substantial, the route 40 corridor could be affected. Havre de Grace also has potential to be affected significantly. Housing/ Economic Loss.

Depending on how severe a storm is, the Conowingo Dam could be affected, smaller creeks such as Broad creek where cabins are located.

Potential Power Failures can affect ~~special~~ vulnerable populations such as special needs/older pop.

- County Transportation & public safety response
- Coordination between our agencies
- sheltering
- detination/Evacuation windows
- AP6 Infrastructure

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Chris Penney **EMAIL:**
Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- disaster response and general operations/ mission execution may be comprimised
- projects USACE is responsible for, like Ocean City dune protection, are [redacted] vulnerable to damage. [redacted] public expectation of protection that is tied to the project

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: SASHA PRYBORowski **EMAIL:** Sasha.prybrowski@noaa.gov
Organization: NOAA

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

Agency works to prepare communities for hazards + adapt to risks / become more resilient.

~~Agency~~ Part of NOAA I work in (collects coastal integrated ocean + mapping data after the storm to aid fed/state/local planners; interested in coordinating among other rep in this effort. Interested in needs of stakeholders to help shape future response planning.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: David Robbins **EMAIL:** David.W.Robbins@usace.army.mil

Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

1) USACE infrastructure
   - NED projects → optimized as opposed to design level

2) Navigation
   - port/economic development (National/Regional)
     - shoaling of channels

3) ecosystem restoration
   - Ecosystem restoration projects damaged by storms/erosion

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Karla Roberts **EMAIL:**

Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- coastal projects (Poplar Island, ~~others~~) that USACE has
- keeping levees safe + functioning properly
  → dealing w/ any breaches

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MICHAEL SCHUSTER

EMAIL: MICHAEL.S.SCHUSTER@USACE.ARMY.MIL

Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- IMPACTS TO NAVIGATIONAL CHANNELS THAT USACE IS RESPONSIBLE FOR MAINTAINCE

- BEACH EROSION - IMPACTS TO BEACH REHABILITATION PROJECTS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Mike Sheffer **EMAIL:** mSheffer@sha.state.md.us
Organization: MD SHA

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

1 AS SHA our infrastructure (roads, structures, facilities) are in areas that are at risk to inland flooding and coastal erosion, in order to maintain mobility we as an agency need to be both pro active in addressing and rapid responders once issues are identified for the safety of the public.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: William N. Tardy **EMAIL:** wtardy@sha.state.md.us
Organization: Maryland State Highway

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

A. Asset and system failure due to riverine & coastal inundation
   1. Economic loss resulting from detours
   2. Decrease public safety caused by road bed failure (washouts) and drainage system failure (culvert washouts/clogging, bridge abutement damage/ scour)

B. Wide scale drainage system failure due to increased rates of sedimentation.
   1. The creation of extremely large maintenance needs that overwhelm SHA's capacity to maintain system performance.

C. Utility Failure
   1. ~~Most~~ Substantial amounts of utility infrastructure runs along SHA's right of way, and therefore rely on SHA's ~~infrastructure~~ drainage systems for protection.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MATT TEITT **EMAIL:** Mteitt@mdta.state.md.us
Organization: MD Transportation Authority (MDTA)

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

MDTA owns and operates all the toll facilities in MD. This includes all 3 Baltimore Harbor Crossings (Key Bridge, Harbor Tunnel, Fort McHenry tunnel) Our mission is to provide safe and efficient passage to the traveling public. We are particularly vulnerable, to storm surge and coastal flooding in the vicinity of our approach roadways to bridges and tunnels. Additionally we have seen increased ~~xxxx~~ wind warnings and bridge closures due to high winds.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: STACEY UNDERWOOD **EMAIL:** stacey.m.underwood@usace.army.mil
Organization: USACE

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

USACE mostly assists communities w/ FRM
Navigation channels + ecosystem restoration projects are vulnerable
No actual USACE FRM projects in Balt. metro area that I am aware of

In general –
- Bldg + infrastructure damages - many are vulnerable
- sea level rise
- lack of protection, FRM plan (structural + non-structural)
- evacuation concerns

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KEVIN WAGNER **EMAIL:** Kevin.Wagner@maryland.gov
Organization: MARYLAND DEPT. OF THE ENVIRONMENT (MDE)

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

- I DON'T BELIEVE OUR AGENCY IS AT RISK, BUT THE PEOPLE EMPLOYED BY MDE MAY BE WHICH WOULD AFFECT SERVICES TO THE PUBLIC (REGULATED COMMUNITY).
- WE HAVE OFFICES IN BALTIMORE (HQ), BUT IT'S NOT NECESSARILY VULNERABLE TO COASTAL STORMS, FROSTBURG, HAGERSTOWN, CAMBRIDGE AND EASTON
-

MDE / WMA / W & WP / REGULATORY SERVICES DIVISION

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Steve Welzant **EMAIL:** Swelzant@baltimorecountymd.gov
Organization: Balt. Co. OEM

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

— We look to our most vulnerable communities and how to protect the residents / what protective actions to take / what alert + warning measures we need to take / we look at our evacuation routes + track storms + make sure our decision making is done in a timely fashion.. Also, mitigation actions.

Also, vulnerable populations.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MELISSA WILLIAMS
Organization: MDTA
EMAIL: mwilliams9@mdta.state.md.us

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

Evacuation routes ⇒ maintain
Bay Bridge
Rte ⇒ 301 (DC)
695 ⇒ FSK bridge
I-95 - Hwy - Tydings
895
95 ⇒ Tunnels
Hatem - 40

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Patti Wnek **EMAIL:** patricia.wnek@noaa.gov
Organization: NOAA National Weather Service, Middle Atlantic River Forecast Center

Question 1: ***How is your community or agency/organization most vulnerable to coastal storm risk?***

NWS is responsible for forecasting & issuing flood watches & warnings. So much uncertainty in our forecasts while storm is out at sea. Difficult to communicate the uncertainty.

Flooding can occur well-ahead of arrival of storm center. Difficulty communicating entire flood threat (riverine & coastal surge) & impacts.

How do you reach everyone at risk? How do you get them to act?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KRISTIN BASA **EMAIL:** KRISTIN.BASA@BALTIMORECITY.GOV

Organization: CITY OF BALTIMORE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

INFRAST.
- COMBINATION OF GREY/GREEN INFRASTRUCTURE PROJECTS
  - MULTIPLE USES FOR OPEN SPACES (PARK CAN BECOME A STORAGE AREA + FILTRATION FOR WATER) - NOT ALWAYS A GREEN PARK - CAN BE A GREY / SEMI-IMPERVIOUS AREA THAT HAS STORAGE UNDER - PUMPS. ESPECIALLY IN LOW LYING COMMUNITIES (FELLS POINT)
  - PROACTIVE PLANNING
    - COORDINATION W/ ALL AGENCIES, NGO'S, STATE, FEDERAL

PUBLIC SERVICES
- PROACTIVE PREPAREDNESS EDUCATION + OUTREACH W/ COMMUNITIES + INDIVIDUALS / FAMILIES. GAIN UNDERSTANDING OF EVACUATION ROUTES, SHELTERS, FOOD/WATER BACKUP, EMERGENCY KITS, EMERGENCY SERVICES
  - BUILDS UPON REVERSE 911

NATURAL RESOURCES
- PROACTIVE + THOUGHTFUL PLANTINGS - SPECIES THAT TOLERATE SALT WATER, SUBMERSION

OUT OF CITY REG.
- UTILITY LINES UNDERGROUND - PHASING FROM WATERFRONT
- ZONING / FLOODPLAIN REGS - FLOODPROOFING + FREEBOARD STANDARDS
  FLOOD LEGISLATION - ZONES - INSURANCE REQ.

2-D RIVERINE MODELING + FLOOD DEPTH GRIDS

STABILIZATION WETLANDS DETENTION RETENTION

NATURAL + NATURE BASED FEATURES

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Dan Brady **EMAIL:**

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- Coastal protection projects
  - USACE is developing SLR guidance to help design for future conditions better - this includes not only the depth of water at a given site but the increase in design wave height
  - movement away from hard structures and more natural solutions (NNBF)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jon Dillow **EMAIL:** jjdillow@usgs.gov

Organization: USGS

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

RISK ASSESSMENT, FORECASTING, AND COMMUNICATION

- IN-PROGRESS INCREASES (post-SANDY) TO DATA-COLLECTION RESOURCES WILL PROVIDE MORE SPATIALLY DISTRIBUTED DATA FOR VARIOUS STORM SCENARIOS TO ALLOW IMPROVED MODEL ACCURACY AND LOCAL SURGE/INUNDATION FORECASTING, AND BETTER DEFINITION OF CONTAMINANT LOADINGS TYPICALLY CAUSED BY THESE EVENTS

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jason Elliott **EMAIL:** jason.elliott@noaa.gov
Organization: NOAA/NWS

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- Development of detailed coastline mapping of potential inundation with elevation of critical assets noted
- Adding monitoring of water levels to assist in verifying and calibrating predictions.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Darlene Finch **EMAIL:** darlene.finch@noaa.gov
Organization: NOAA Coastal Services Center

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

Critical Infrastructure

1. develop agreed to planning scenarios for future coastal storms ! other impacts of climate change
2. incentives to implement at least consistent w those scenarios → to take precautions

- Risk communication that is effective and targetted
  - ① including assessment of most vulnerable and early notification

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KEVIN M. GAMBRILL **EMAIL:** pzgamb356@aacounty.org

Organization:
ANNE ARUNDEL CO. Ofc. of PLANNING + ZONING

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

PVT • INTEGRATE SLR/STORMSURGE DATA INTO DAILY PLANNING ACTIVITIES.
— TRACK PLANS/MANDATE ELEVATION DATA
T1

PUBLIC • LIMIT/REDUCE LONG TERM PUBLIC INVESTMENT IN PUBLIC INFRASTRUCTURE FACILITIES
EXPANDED → T

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Zoe Johnson
Organization: MD DNR
EMAIL: Zjohnson@dnr.state.md.us

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

(1) Federal + state requirements that SLR + coastal flood factors be considered in the siting + design of public infrastructure.

(2) Increased emphasis on the value of natural + nature-based infrastructure that it provides to protect coastal communities from storm impacts

(3) Living shoreline protection Act.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Molly Kaput
Organization: FEMA
EMAIL: molly.kaput@fema.dhs.gov

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

(1) stronger focus on floodplain management (especially with bigger storms & insurance reform) → more interest in CRS (safer, more resiliant communities) ↗ community rating system

(2) general awareness of the need to plan for climate change

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Genevieve LaRoche **EMAIL:**
Organization: US FWS

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- improved info on what is vulnerable - what techniques are useful e.g. when to do living shorelines vs. restoration

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Eric Meyer
Organization: TCF
EMAIL: emeyer@conservationfund.org

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

Improve mapping of coastal area's streamsheds affected by coastal storms to identify natural features / opportunities for enhancing or restoring natural features that
- store flood water
- convey/slow floodwater
- infiltrate rain/snow melt
- dampen storm surge
- buffer developed areas from immediate wave action
- slow erosion

↓

lead to improved planning

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Justin Mannion **EMAIL:** jmmannion@hartfordpublicsafety.org
Organization: Harford County DES

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- Identifying areas of "natural protection" and protecting them. Developing natural mitigation efforts.
- Preplanning & identifying back up facilities. Identifying secondary effects before hand.
- Community outreach/education
- MOUS / MOAs
- Continuing studies of mitigation efforts to vulnerable areas

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Chris Penney **EMAIL:**
Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- improve visability and communication of risk, both to public and political decison makers

- targeted investments to protect critical public infrastructure and economic interests

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: SASHA PRYBOROWSKI **EMAIL:** SASHA.PRYBOROWSKI@NOAA.GOV

Organization: NOAA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

(preplanning)

CT - NOAA has navigation response teams that are staged before storms + survey as soon as port is deemed safe/open to restore nav/commerce (existing)

mixed - coordination increasing (concepts seaslested)
↳ NOAA focused on making communities more resilient
↳ end to end communication + coordination

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: David Robbins

EMAIL: david.w.robbins@usace.army.mil

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

planning

- Identify risk, inventory of exposed, vulnerable, future conditions/risks,
- within decision making process

redundancy

- a combination of measures to reduce risk/risks to address failure
- contingency plan for recovery (scenario based planning)
  - access?
  - communications
  - recovery functions

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Karla Roberts **EMAIL:**

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- public safety → BW12 has brought more awareness to flooding
  → outreach, increase awareness (brochures, events like HWM initiative, nonstructural floodproofing workshops) → coordination w/ other agencies (Silver Jackets)
- infrastructure impacts
  → look into mitigation (nonstructural methods)
- uncertainty
  → HWM's and tide gages helping to get more accurate storm info to better modeling

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MIKE SCHUSTER **EMAIL:**

Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- FORECAST IMPROVEMENT + STORM SURGE ~~EDI~~ WATCHES + WARNINGS
- Public AWARENESS + OUTREACH ...

  START ~~AT~~ WITH THE CHILDREN...
  AWARENESS LESSONS IN ELEMENTARY SCHOOL...

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Mike Shefter **EMAIL:** mShefter@Sha.State.md.

Organization: MDSHA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

1. proactively identifying risk and modeling solutions or possible solutions to address said risk
2. updating design guidance and criteria to take into account sea level rise and severe storms
3. education and outreach to communicate risk and design changes

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Will Tardy **EMAIL:** wtardy@sha.state.md.us
Organization: Maryland SHA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

1. Drainage System failure
   A. Adaptive ~~de~~ Stormwater ~~design~~ System design, involving:
      - Precipitation Projections (2050/~~20~~2100) → Intensity-~~D~~Duration Frequency curves.
      - 2 dimensional riverine modelling
      - flood depth grids being distributed more widely
   B. Coast SMART Regulations (State bill 615?)
      - requiring design & siting considerations to be made when rebuilding or installing ~~as~~ infrastructure within the floodplain (or nearby)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MATT TEITT
EMAIL: MTeitt@mdta.state.md.us
Organization: MDTA

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

1) Early warning system for ~~xxxx~~ wind/ flooding / response implementation plan

2) Long range design standards for future development.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Stacey Underwood **EMAIL:** stacey.m.underwood@usace.army.mil
Organization: USACE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

Communication –
- Hurricane storm surge maps, help communicate risk and RiskMAP products
  - can help public + officials to make decisions + take actions to reduce damages
  - additional Flood Inundation Maps could be useful
- Silver Jackets team – various agencies working together to reduce risk for communities
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KEVIN WAGNER
EMAIL: Kevin.Wagner@maryland.gov
Organization: MDE

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- INTERNAL PLANNING / COOP (TELEWORK, REMOTE SITES) → FIELD OFFICES?
- COORDINATION W/ STAKEHOLDERS
- CROSS-TRAINING

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Steve Welzant **EMAIL:** swelzant@baltimorecountymd.gov
Organization: Balt. Co. OEM

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

Alert + Warning

- Self-registration - getting additional sign-up for emer. not. systems.

- enhancing social media capabilities

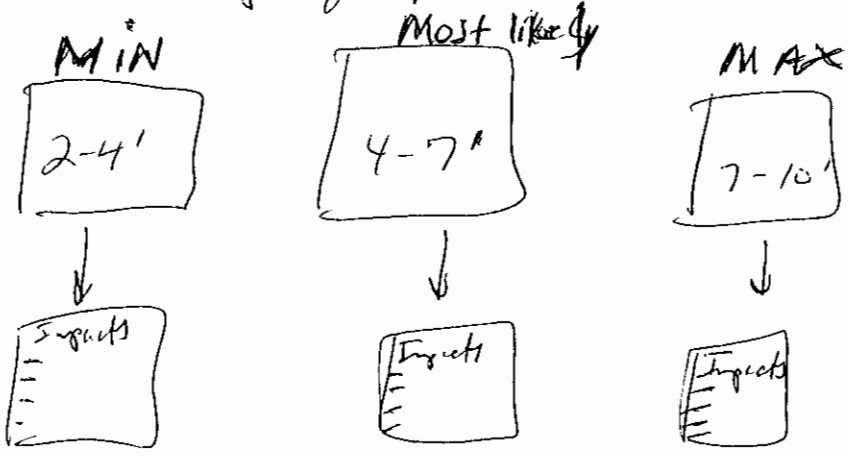
USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Ken Widelski **EMAIL:** Kenneth.widelski@noaa.gov
Organization: NWS: Baltimore/ Washington DC

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

(1) Move away from providing a single deterministic forecast of winds, storm surge & flooding & move toward providing planners with a RANGE of possible scenarios. [Communicating uncertainty]

(ex) If scenario (A) were to happen - here are a range of possible outcomes:



CONFIDENCE FACTOR

(2) Use projected impacts in flood statements so that specific threats can be communicated & action is taken. → FOR ALL DEMOGRAPHICS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MELISSA WILLIAMS
Organization: MDTA
EMAIL: mwilliams9@mdta.State.md.us

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

- Efforts to require design of <bridges / roads> to accommodate sea level rise.
- Efforts to restrict development/redevelopment of frequently flooded / difficult to mitigate locations.

Infrastructure

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Patti Wnek **EMAIL:** patricia.wnek@noaa.gov
Organization: NOAA NWS
Middle Atlantic
River Forecast Center

Question 2: ***Based on one vulnerability noted above, what are 1-2 promising changes to address this vulnerability?***

forecast uncertainty > ① trying to get wind component added to HEC RAS model to improve tidal river forecasts,

② Trying to tie river levels to meaningful impacts. (now we say 50kt winds (cat x or) → specific future we will say power outages, trees downed etc..) to improve people's response + action to our flood warnings. (flood inundation maps tied to forecasts + observations.)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KRISTIN BASA **EMAIL:** KRISTIN.BASA@BALTIMORECITY.GOV

Organization: CITY OF BALTIMORE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- HIGHER FREEBOARD STANDARDS FOR NEW + RE-DEVELOPMENT
- REGULATE DEVELOPMENT TO PREDICTED FLOODPLAIN/FLOOD LEVELS + STORM SURGE POTENTIALS W/ MED-LEVEL (2 FT SLR) SLR
- INCREASED STANDARDS FOR DEVELOPMENT + REDEVELOPMENT
- INCENTIVES FOR RETROFITS ON PROPERTIES (COASTAL / FLOODPLAIN)
  - → FLOOD PROOFING
  - → ELEVATING
  - → PUMPS / DRAINS
- LIMIT DEVELOPMENT IN FLOOD AREAS - SUPPORT FROM STATE + FEDS TO PURCHASE + PRESERVE PROPERTY @ LOCAL LEVEL (MORE $ $)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jon Dillow **EMAIL:** jjdillow@usgs.gov
Organization: USGS

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- CONTINUED, AND ENHANCE INSTITUTIONAL (AT ALL LEVELS, COORDINATED) SUPPORT FOR IMPROVED RISK-ASSESSMENT EFFORTS AND CULTURAL SHIFTS ASSOCIATED WITH IMPLEMENTATION OF PRACTICES TO INCREASE COASTAL RESILIENCE.

(OPTIMAL LANDUSE & INFRASTRUCTURE DISTRIBUTION WILL NECESSARILY BE CONSTRAINED BY THE CERTAINTY OF ~~PERIODIC INUNDATION TO VARIOUS~~ A RANGE OF MAGNITUDE & FREQUENCY OF INUNDATION)

(INTRODUCTION INTO LONG-TERM LOCAL DEVELOPMENT & ZONING PLANNING OF THE IDEA THAT:

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jason Elliott **EMAIL:** jason.elliott@noaa...
Organization: NOAA/NWS

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

development of a comprehensive collaborated database of critical coastal assets and impacts if affected.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Kevin M. Gambrill **EMAIL:** pzgamb35@aacounty.org

Organization:
Anne Arundel Co. Ofc. of Planning + Zoning

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Require MIA to mandate that FIS incorporate inundation models into underwriting standards for the NFIP – for those properties that seek bldg permits (new / expansion)

- Depending on amount of land w/ potential local scale benefit, funding for land acquisition to mitigate impacts from inundation / storm events

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Zoe Johnson **EMAIL:** zjohnson@dnr.state.md.us.
Organization: MD Dept. of Natural Resources.

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

(1) Future climate impacts, such as SLR be factored into the ~~benefit~~ benefit/cost analysis for a public infrastructure project.

(2) Future conditions be added to regulatory floodplain + storm surge mapping products.

Need better/new products

(3) Discourage or restrict new development in most vulnerable low-lying coastal areas. through zoning or regulatory measures.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Molly Kaput
Organization: FEMA
EMAIL: molly.kaput@fema.dhs.gov

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

popular or not:
true risk insurance ratings are affecting people's choices

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Justin Mannion **EMAIL:** jmmannion

Organization:

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Governmental incentives for mitigation efforts, specifically large scale

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Eric Meyers
Organization: TCF
EMAIL: emeyers@conservationfund.org

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Requirement to consider climate change impacts, particularly SLR ⇒ extreme storm events, via ~~[illegible]~~ public ⇒ private infrastructure ~~[illegible]~~ design and general development.

+

Requirement to offset impacts of ~~[illegible]~~ increase offsite flooding (mitigation for impervious surface coverage / removal of water storage / conveyance / buffering capacity)

& from permitted development ⇒ infra projects

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Chris Penney **EMAIL:**
Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Public ownership of their risk.
Make it "less easy" for people
to live in the most vulnerable areas.
They need to take more responsibility.
Could lead to less development pressure
and less population living in these areas.
not enough deterrent right now

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Sasha Pyburchi **EMAIL:** sasha.pyburchi@noaa.gov

Organization: NOAA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- continued + increased communications across fed/state/local agencies + interest groups.
- incentives to promote planning + adaptation to SLR/coastal hazards.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: David Robbins

Organization: USACE

EMAIL: david.w.robbins@usace.army.mil

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Standards for [illegible]

- Standardization of solutions to align Federal/State

- manage open space

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Karla Roberts **EMAIL:**

Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- funding for mitigation measures + forecast improvements
- more interagency coordination

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MIKE SCHUSTER **EMAIL:**

Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- MORE RESTRICTIVE COASTAL ZONING
- PUSH NATURE BASED MEASURES
- PUSH COST/RESPONSIBILITY SHARE ... PRIVATE, PUBLIC, PARTNERSHIP

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Milly Shaffer **EMAIL:** mshaffer@sha.state.md.us
Organization: MDSAA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- updated and expedited regulatory process / permitting
- Communication of "real world" risk to citizens and policy makers tied to regulatory process
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Will Tardy **EMAIL:** wtardy@sha.state.md.us
Organization: Maryland State Highway Administration.

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

1. Revised ~~Climate Change~~ Precipitation and Hurricane Modelling / Scenarios ~~development~~ that allow agencies & local gov'ts to develop their own ~~adaptive~~ & adaptation measures.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Matt Tett **EMAIL:** MTett@mdta.state.md.us
Organization:
MDTA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Expand critical area / buffers, redefine Mean High Water, Redefine 100/500 yr events. Remove ambiguity of "take climate change into consideration"

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: STACEY VNDERWOOD **EMAIL:** Stacey.M.Underwood@usace.army.mil
Organization: USACE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- Make process of buy-outs + floodplain restoration easier and more beneficial to communities + homeowners

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: KEVIN WAGNER **EMAIL:** Kevin.wagner@maryland.gov
Organization: MDE

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

- LONG-TERM COMMITMENT (#, STAFFING)
  - E.O. START, BUT NEED LEGISLATION TO REQUIRE AGENCIES TO ADDRESS COASTAL VULNERABILITY WITH ANNUAL BUDGET.
  - COULD BE SPECIAL TAX FOR VULNERABLE AREAS (SURCHARGE TO NFIP POLICIES?)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Steve Welzant **EMAIL:** swelzant@baltimorecountymd.gov
Organization: Balt. Co OEM.

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Limiting coastal development.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Ken Widelski **EMAIL:** Kenneth.widelski@noaa.gov
Organization: NWS Baltimore/Washington DC

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

make it mandatory to include a range of possible scenarios for a potential storm & provide known impacts for each demographic. Use the known impacts for Warnings, & other statements so that those affected know specific hazards & plan for & take action & prevent loss of life & property.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MELISSA WILLIAMS **EMAIL:** mwilliams9@mdta.state.md.us
Organization: MDTA

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Δ permitting requirements ⇒ MDE new SWM guidelines. don't abide, don't get your permit.

Flood insurance ↦ Δ requirements/ limits

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Patti Wnek **EMAIL:** patricia.wnek@noaa.gov
Organization: NOAA NWS Middle Atlantic River Fcstr Ctr

Question 3: ***What is the most prominent policy change or legislative solution that could improve coastal resilience?***

Require flood risk communication to individual residents + businesses before time of purchase.
requirement for flood insurance.
Goal → Get people out of the floodplain + infrastructure

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Eric Meyers **EMAIL:** emeyers@conservationfund.org
Organization: The Conservation Fund

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Question 1

Coastal storms in the greater Baltimore area present greatest risk via regional / localized flooding that is driven by heavy precipitation over land & overwhelmed streamsheds & storm sewers drain into immediate bay/ Inner Harbor area where high tide/storm surge can add more localized flooding & slow drainage of inland streams causing further flooding.

My comments are specific to water aspects - precipitation, storm surge etc. & not wind damage aspects of which I know much less re. localized flooding of infrastructure including water utilities & electrical supply can cause more issues

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Kevin Wagner **EMAIL:** Kevin.Wagner@maryland.gov
Organization: MDE

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

- There also needs to be consideration of the socio-economic makeup. For example, MD has many wealthy folks living in vulnerable areas who choose to be there. While others are poorer and have no place else to go. Their families have always been there.

- There needs to be a certain level of responsibility for living in a vulnerable area. For example, a "risk fee" ~~fee~~ in order for the state and local government to be able to provide services.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Ken Widelski **EMAIL:** Kenneth.widelski@noaa.gov
Organization: NWS Baltimore/Washington

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

(RANKED to possible solution)

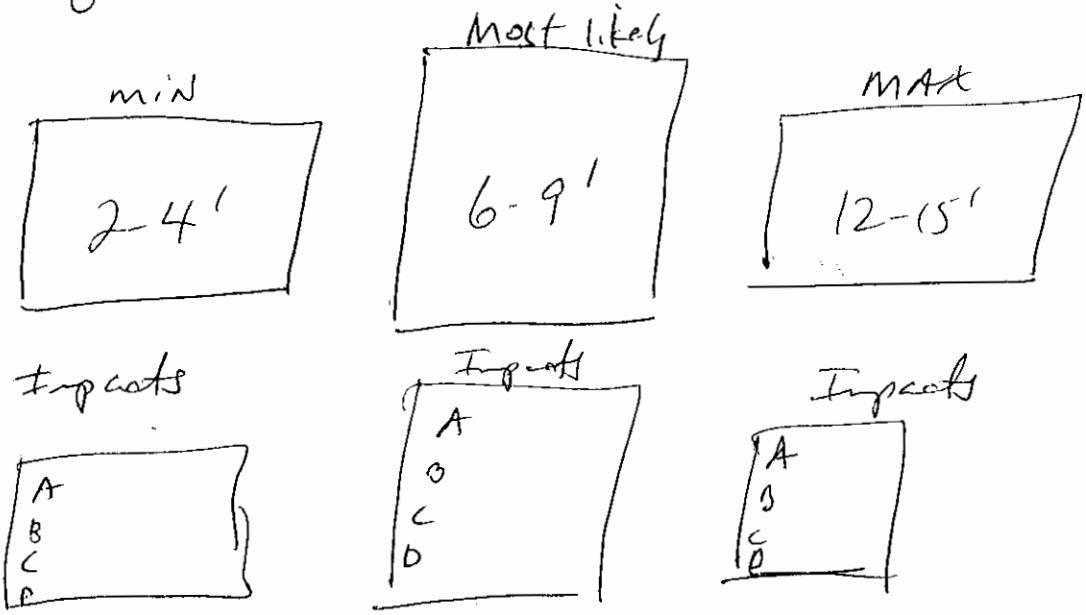
(1). National Weather Service - Baltimore/Washington services much of the MD Chesapeake Bay and our greatest challenges are forecasting water level rises & predicting what ~~those~~ the impact of the rises will be. Challenges to good forecasts include consistency in modeling, understanding what the real ground truth impact is to local communities & developing ways to communicate hazardous threats to communities so that action can be taken by residents. (PROPER communication & ACTION!) ALSO - impacts from both fresh & saltwater flooding.

| flooding is complex to forecast | & what is the impact from certain predictions (ex) 7' surge - what does that mean to AA, Baltimore (etc).

→

(2). move away from a single deterministic surge forecast and move toward providing a range of possible solutions....

(ex) if (A) happens here are the range of scenarios.



Appendix G: City of Norfolk Visioning Meeting Interim Deliverable

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
City of Norfolk
Visioning Meeting
Meeting Notes

March 11, 2014

10:00 AM – 12:00 PM

A series of visioning meetings are being held throughout the region in support of the North Atlantic Coast Comprehensive Study (NACCS). On Tuesday, March 11, 2014 the U.S Army Corps of Engineers (USACE) Norfolk District conducted an in-person visioning meeting with representatives from the City of Norfolk, other State and Federal agencies, the Commonwealth of Virginia, non-government organizations (NGOs), and CDM Smith to discuss the North Atlantic Coast Comprehensive Study (NACCS) with specific focus and dialogue concerning the City of Norfolk.

In general, a high level of collaboration was evident among city and federal agency staff as well as state representatives and NGOs attending the meeting. There was significant dialogue regarding how information being developed as part of the NACCS is being coordinated with stakeholders, as well as how information obtained during the visioning session would be incorporated into the NACCS. A main theme of the visioning session was to continue efforts with an emphasis on future implementation of flood risk management measures.

Thirty-one people attended the two hour meeting (see Attachment A), including individuals from the following organizations:

Federal Agencies:	U.S. Army Corps of Engineers (USACE) Naval Facilities Engineering Command (NAVFAC) National Oceanic and Atmospheric Administration (NOAA)
State Agencies:	Virginia Department of Emergency Management (VDEM) Virginia Department of Health (VDH)
NGOs:	Hampton Roads Planning District Commission (HRPDC) Old Dominion University (ODU) Virginia Institute of Marine Science (VIMS)
Community:	City of Norfolk
Other:	CDM Smith (meeting facilitation team)

Location: City of Norfolk, Half Moone Cruise and Celebration Center

Presentation: The meeting agenda, included as Attachment B, consisted of two main parts. The first segment was driven by a presentation of an overview of NACCS provided by Rachel Haug (USACE), with opening remarks provided by Eddie DuRant (USACE) and Mark Dunning (CDM Smith). Holly Carpenter (USACE) presented the overview of the Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette and the reconnaissance-level report that listed potential strategies for the City of Norfolk. Holly reviewed the City of Norfolk's current USACE flood risk management projects, including the Willoughby Spit project that is designated as "Authorized, but Unconstructed" as part of the Hurricane Sandy Supplemental Bill.

Following the presentation, several questions and discussion topics were raised.

Questions/Discussion:

- Questions regarding NACCS
    - A member of the audience asked what happens after the report is completed and sent to Congress. Rachel Haug (USACE) responded that the results of the analysis will be used as a tool to help communities, such as the City of Norfolk, prepare and plan for more effective response to future coastal flooding events.
    - A member of the audience asked about how social vulnerability and impoverished populations were considered in the analysis. Rachel Haug (USACE) responded that certain socio-economic factors derived from census block data were included in the analysis and used to determine which populations were less adaptable to future storm risk.
    - A member of the audience asked about how the forecasted timeline for project planning with regard to sea level rise was determined for the NACCS. Rachel Haug (USACE) responded that the future sea level change scenarios were 2018, 2068, 2100, and 2180. These snapshots are based on the USACE planning periods as well as the NOAA sea level change adaptation analysis.
    - A member of the audience asked if the NACCS focused on the application of specific sea level change scenarios to inform a project, and asked how the 2018 sea level change projection can be used to inform project planning, since any project initiated now would not be completed by 2018. Rachel Haug (USACE) responded that all scenarios are intended to be used for future planning purposes.
    - A member of the audience asked what impacts the study has on the implementation of projects considering that the NACCS is not a decision document. Rachel Haug (USACE) responded that the NACCS provides a framework to allow projects to move forward as well as incorporate future conditions.
    - A member of the audience commented that the NACCS seems to provide a set of strategies, but not specific project recommendations. He stated that USACE should move away from continual studies to more action. He also asked whether streamlining of the permitting process was considered. Rachel Haug (USACE) responded that the results from the NACCS will not impact the USACE planning process or the permitting

process. Eddie DuRant (USACE) added that current discussions at the Norfolk District and USACE HQ may be shifting towards a more user-friendly planning process.

- Questions regarding Norfolk-specific efforts
    - A member of the audience asked if the private sector was involved in scoping or identification of projects or measures. Holly Carpenter (USACE) responded that Moffat & Nichol, Fugro, and other consulting engineering firms that developed studies and that were contracted by the City of Norfolk or other communities were involved. She commented that no public/private partnerships were initiated as part of the reconnaissance-level efforts.
    - A member of the audience commented that future sea level change was part of the initial charrette, but inquired whether storm frequency and ferocity were also considered as part of the technical evaluation. Holly Carpenter (USACE) responded that sea level change was considered for a 50 year project planning period. Since the reconnaissance-level analysis was not scoped for that level of detail, it did not include the technical analysis of future storm frequency or ferocity. Further analysis of storm frequency may be performed as part of a future feasibility study.
    - A member of the audience asked about the status of the Continuing Authorities Program (CAP) studies and projects. Holly Carpenter (USACE) responded that as part of the process, USACE must first determine the level of federal interest to ensure the project's economic viability, following which the project will move into a feasibility stage. Two projects have approved Determination of Federal Interest reports and are currently scoping the feasibility stage, while others just received funding to evaluate federal interest. Currently, there are no signed agreements.

The second part of the Visioning meeting was a facilitated discussion aimed at surfacing participant insights on the vision for coastal storm risk management, including vulnerable areas, potential solutions and policy and institutional barriers to coastal storm risk management. At the conclusion of the question and answer period, attendees were divided into three groups for brainstorming sessions. Photographs from the meeting are included in Attachment D. Each participant was asked to provide their ideas on a worksheet (Attachment E). The following section presents a summary of the primary themes addressed among the attendees from the small group discussions.

Summary of Primary Themes from Facilitated Discussion:

What are the major institutional barriers that limit comprehensive coastal planning?

- Problems with planning processes
- Lack of funding
- Lack of communication and unified message
    - Jurisdictional boundaries inhibit regional planning (local, state, regional)
    - No regional authority for coastal risk management
    - Dillon Rule: local authority is limited by state
    - Conflicting agendas and authorities
    - Duplication of effort
    - Private sector not at table with local government
    - Lack of guidance
    - Science and politics clash

- No common risk data, guidance, or research
- Wetland services (and other natural systems) diminished by state and federal policy
- Flood insurance program issues

What are prominent policy changes or legislative solutions that could improve coastal resilience?

- Find ways to address repetitive flood losses
- Engage local stakeholders in process and provide accurate information to the public
- Local land use policies, constraints on development
- Authority
  - Give more authority to agencies that do technical work and longer-term funding
  - Give local authority to do comprehensive planning
  - Provide/determine a lead for information dissemination and information credibility
  - Have one group/agency in charge of a study
- More funding (public/private)
  - Short-term/mid-term/long-term
  - Incremental, sustained effort
  - Incentives to promote desired behavior
  - Creative solutions for financing
- Legislative change on a commonwealth level
  - One common future condition to plan/design to
  - Priorities for state and local
  - Address policies which limit natural feature capabilities
  - State leadership when working together

What management strategies/approaches are currently working to reduce risk from coastal storms?

- Natural and nature based / green infrastructure
  - Dune restoration
  - Beach nourishment
  - Regulatory protection of wetlands and dunes
- Comprehensive floodplain management
  - Norfolk Emergency Planning and Response Models
- Elevate structures/utilities/property zoning
  - Identify land use for risk
  - Relocation of coastal development
  - Building and floodplain regulations (freeboard)
- Collaborative efforts amongst agencies
  - Short-term/small scale mitigation projects
  - Define/understand work at federal and regional levels
- Awareness (and funding from Sandy)
- Local projects
- Flood insurance associated with risk
- Communication to public in order to avoid complacency

What strategies should be implemented to reduce risk from coastal storms?

- More comprehensive strategy
  - Use of money for biggest positive impact
  - Include private industry

    - Must be multi-level, multi-tiered approach
- Improve communication of risk
    - Use graphics
    - Risk identification with home sales and planning decisions
- Well defined egress and evacuation routes
- Compare physical barriers vs. economics cost of relocation of major cities
- Uniform guidance and data assets
- Flood insurance actuarial rates
- Funding for attending regional forum discussions
- Regional approach to generator locations
    - Solar charging stations for cell phones [public]

What is an acceptable level of risk?

- Who should bear risk?
    - Risk varies depending on location and use
    - Insurance premiums should reflect level of risk
    - Reaction or pro-action
    - Scope of risk local, city, regional
- No risk is ideal
- General development
    - 100 year
- Critical infrastructure
    - 500-1000 year
- Planning
    - 50 years forward
- Heavily influenced by local level
- Communicative probabilities of impact over long-term, not just a return period

At the conclusion of the group discussions, one volunteer from each group stood and presented their groups' findings. A general comment card was distributed to participants requesting their feedback on the overall process. Their responses are included in Attachment F.

List of Attachments

Attachment A – List of Meeting Attendees and Sign-in Sheets

Attachment B – Meeting Agenda and List of Handouts

Attachment C – Meeting Presentation

Attachment D – Photograph Log

Attachment E – Breakout Session Responses (to be further summarized in final deliverable)

Attachment F – General Comments (to be further summarized in final deliverable)

Attachment A

List of Meeting Attendees and Sign-in Sheets

North Atlantic Coast Comprehensive Study
City of Norfolk
Visioning Session - Facilitated Breakout Groups

Name	Organization
Group A	
Mark Dunning	CDM Smith
Richard Broad	City of Norfolk
Robert Tajan	City of Norfolk
Latoya Vaughn	City of Norfolk
Brian Ballard	NAVFAC
Eric Seymour	NOAA
Edward DuRant	USACE
Matthew Wall	VDEM
George Roarty	VDEM
Group B	
Frances Bui	CDM Smith
Peter Garner	City of Norfolk
John Keifer	City of Norfolk
Ben Mcfarlane	HRPDCVA
Joe Atangan	NAVFAC
Taura Huxley	NAVFAC
Anthony Farmer	NAVFAC
Carol Considine	ODU
Rachel Haug	USACE
Michelle Hamor	USACE
Karinna Nunez	VIMS
Group C	
Lauren Klonsky	CDM Smith
Kevin DuBois	City of Norfolk
Scott Smith	City of Norfolk
Leonard Newcomb	City of Norfolk
Denise Thompson	City of Norfolk
Brian Joyner	Moffat & Nichol
Holly Carpenter	USACE
Susan Connor	USACE
Carl Hershner	VIMS
Brian Knight	VDH
Other	
Emily Egginton	VIMS

NACCS Visioning Session
Norfolk - 3/11/2014

Name	Community/Agency	Title	E-Mail	Telephone
Matt Wall	VDEM	SHMO	Matthew.Wall@vdem.virginia.gov	804-897-9973
Anthony Farmer	NAVFAC	Structural Engr	anthony.farmer@navy.mil	757.341.0150
Taura Huxley	NAVFAC Atlantic	Natural Resources Spec.	taura.a.huxley1@navy.mil	757-322-4754
Susan Conner	USACE	Deputy Chief, WRD	susan.l.conner@usace.army.mil	757-201-7390
Carol Considine	ODU	Associate Professor	cconsidi@odu.edu	757-683-3780
Scott Smith	NORFOLK	PROJECT MANAGER	Scott.Smith@Norfolk.gov	757-823-4089
BRIAN JOYNER	~~M~~ MOFFATT & NICHOL	COASTAL ENGINEER	bjoyner@moffattnichol.com	757-628-8222
ERIC SEYMOUR	NOAA/NWS	SERVICE HYDROLOGIST	eric.seymour@noaa.gov	757-899-6401
Robert Tajan	Norfolk	Senior Planner	Robert.Tajan@norfolk.gov	664-4758
Henry Newcomb	Norfolk, Planning	Zoning Admin	henry.newcomb@Norfolk.gov	757-664-4764
Latoya Vaughn	Norfolk Emergmgt	Deputy Emergency Management Coordinator	latoya.vaughn@norfolk.gov	757-441-5598
Denise Thompson	Norfolk, PW/S	Env. Protection Prgms Mgr	denise.thompson@norfolk	664-4032
Emily Egginton	VIMS	Masters Student	emily@vims.edu	914-960-1455

NACCS Visioning Session
Norfolk - 3/11/2014

Name	Community/Agency	Title	E-Mail	Telephone
Lauren Klonsky	CDM Smith	Engineer	klonskyls@cdmsmith.com	617-452-6361
Holly Carpenter	USACE Norfolk	Env. Engineer	holly.a.carpenter@usace.army.mil	757-201-7825
MARK DUNNING	CDM SMITH	PM	DUNNINGCM@CDMSMITH	703 966-2398
Frannie Bui	CDM Smith	Engineer	buifa@cdmsmith.com	617-452-6288
Rachel Haug	USACE NORFOLK	planner	rachel.l.haug	757-201-7589
Michelle Hamor	USACE Norfolk	Chief, FPMS	michelle.l.hamor@usace.army.mil	757-201-7491
GEORGE ROARTY	VDEM	DIR., RECOVERY & MIT.	georg.roarty@vdem.virginia.gov	804-897-9960
EDDIE DURANT	USACE Norfolk	Chief, Planning & Policy	edward.durant@usace.army.mil	757.201.7539
Pete Garner	City of Norfolk, PW	Operations Mgr	peter.garner@norfolk.gov	757-823-1059
BEN MCFARLANE	HRPDC	REGIONAL PLANNER	bmcfarlane@hrpdcva.gov	757-420-8300
JOE ATANGAN	USFF NORFOLK	PHYSICAL SCIENTIST	joe.atangan@navy.mil	757-836-2927
Brian Ballard	NAVFAC JEBLCFS	Community Plans Liaison Officer	brian.p.ballard@navy.mil	462-8421
Richard Broad	City of Norfolk PW	Asst. Director	richard.broad@norfolk.gov	359-0659

NACCS Visioning Session
Norfolk - 3/11/2014

Name	Community/Agency	Title	E-Mail	Telephone
John Keifer	City of Norfolk	Director of Public Wks	John.Keifer@norfolk.gov	757 664 6414
Kevin DuBois	" " "	Dept. Planning	kevin.dubois@norfolk.gov	621-2564
KARINNA NUNEZ	VIMS	gis analyst	karinna@vims.edu	804-6847273
CARL HERSHNER	VIMS	CCRM director	carl@vims.edu	804 684 7387
BRIAN KNIGHT	VDH	EH SUPERVISOR	BRIAN.KNIGHT@VDH.VIRGINIA.GOV	757-355-5658

Attachment B

Meeting Agenda and List of Handouts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
City of Norfolk, VA

Half Moone Cruise Facility
1 Waterside Drive
Norfolk, VA

March 11, 2014
10 am – 12 pm

I. Welcome and Introductions

II. Agenda Overview and Meeting Purpose

III. USACE North Atlantic Coast Comprehensive Study (NACCS)

a. Update
b. Q&A

IV. Norfolk Specific Efforts

a. Summary/Outputs from Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette
b. Current USACE Flood Risk Management Studies/Projects
c. Q&A

V. Facilitated Discussion Topics

a. Institutional Barriers and Policy Challenges
b. Reducing Risk from Coastal Storms

VI. Closing Remarks/Meeting Adjourn

List of Handouts

Agenda
Slide Deck handouts
8.5 x 11 map of the Focus Area Analysis boundary
North Atlantic Coast Comprehensive Study (NACCS) Study Synopsis

Attachment C

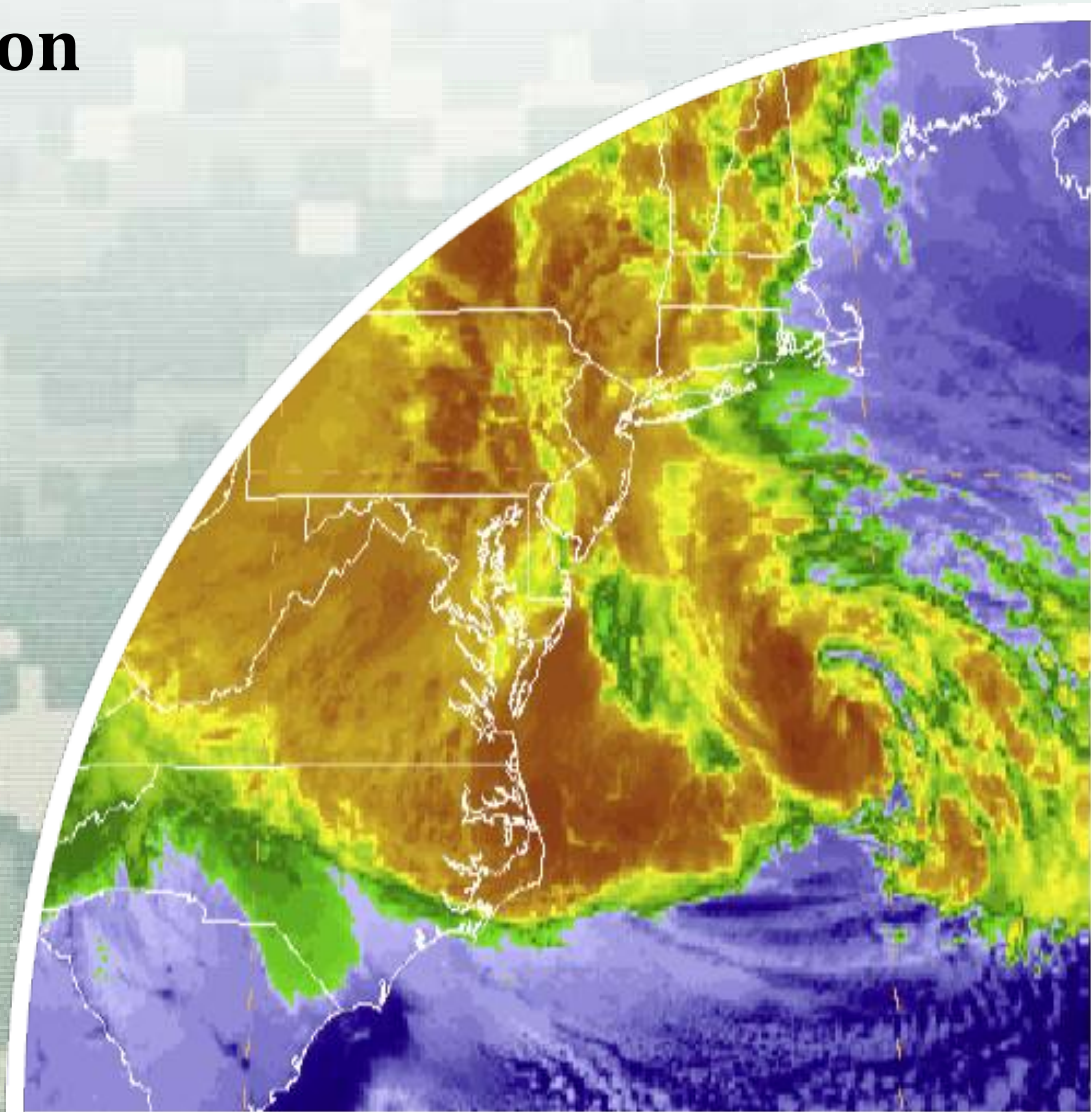
Meeting Presentation

North Atlantic Coast Comprehensive Study

Norfolk Visioning Session

U.S. Army Corps of Engineers
National Planning Center for
Coastal Storm Risk Management

11 March 2014



Introductions

- Name and Organization

Agenda

- I. Introductions
- **II. Agenda Overview and Meeting Purpose**
- **III. USACE NACCS**
  - ►**Update**
  - ►**Q&A**
- **IV. Norfolk Specific Efforts**
- **V. Facilitated Discussion** (small groups)
- **VI. Closing Remarks/Adjourn**

Meeting Purpose

- **Meeting focus:** Continued dialog with State and local stakeholders to develop a shared vision for resiliency in response to risk and exposure
- **Meeting outcomes:** Feedback received from this meeting will be incorporated into the USACE NACCS report to Congress in January 2015.

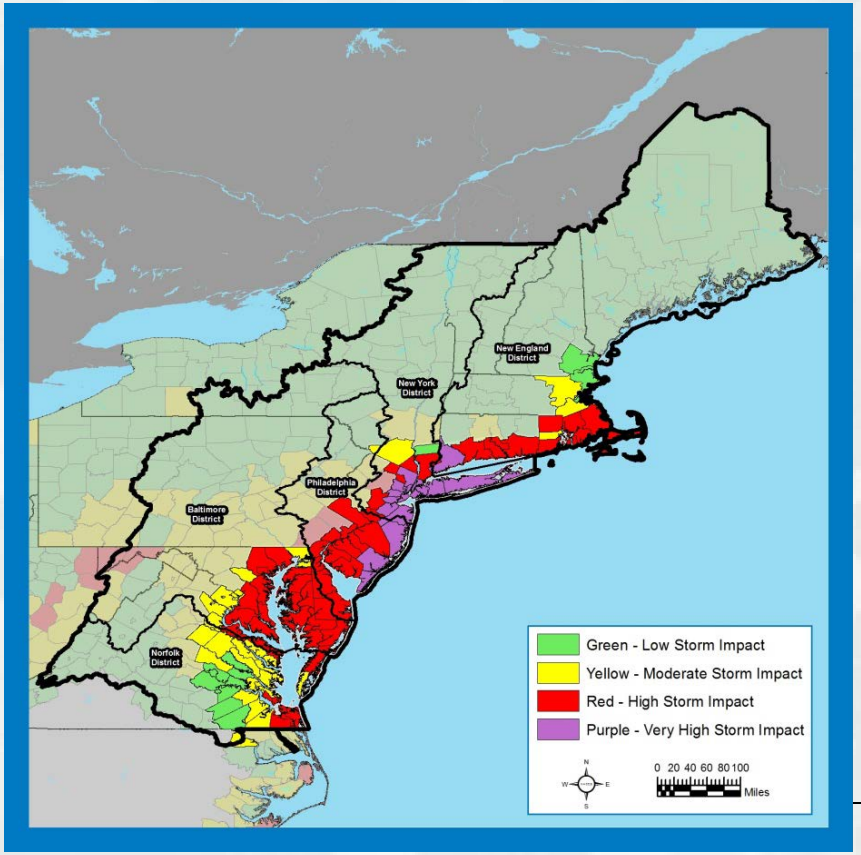
USACE NACCS

NACCS Background

- Public Law 113-2 enacted 29 January 2013 in response to Hurricane Sandy

  "That using up to $20,000,000* of the funds provided herein, the Secretary shall conduct a **comprehensive study** to address the flood risks of **vulnerable coastal populations** in areas that were affected by Hurricane Sandy within the boundaries of the North Atlantic Division of the Corps…" (*$19M after sequestration)

- Complete by Jan 2015



Goals:

- Provide a Risk Reduction Framework , consistent with USACE-NOAA Rebuilding Principles

- Support Resilient Coastal Communities and robust, sustainable coastal landscape systems, considering future sea level rise and climate change scenarios, to reduce risk to vulnerable population, property, ecosystems, and infrastructure.

Technical Teams

- **USACE Enterprise**
- **Agency Subject Matter Experts**
  - Engineering
  - Economics
  - Environmental, Cultural, and Social
  - Sea Level and Climate Change
  - Plan Formulation
  - Coastal GIS Analysis

Products

- **Coastal Framework**
  - Regional scale
  - Collaborative
  - Opportunities by region/state
  - Identify **range of potential solutions** and parametric costs by region/state
  - Identify activities warranting additional analysis and social/institutional barriers
- **Not a Decision Document**
  - No NEPA
  - No Recommendations

NACCS Current Status

- Draft Analyses Completed in September 2013
- Internal Review of Draft Analyses ongoing
- Five/Six Webinars in the Collaboration Series Completed
- Public website offers information and status updates (www.nad.usace.army.mil/compstudy)

NACCS Next Steps
(Six Month Snapshot)

March 2014: Interagency release of the draft analyses

March/April 2014: Series of webinars to discuss/present the draft analyses with interagency partners

April-June 2014: Incorporation of input and finalization of the report for full review process

North Atlantic Coast Comprehensive Study (NACCS)

Coastal Storm Risk Management Framework

Components

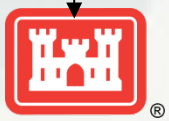
- **Exposure/Vulnerability Mapping**
- **Areas of High Exposure**
- **CSRM Measures**
- **Climate Change Adaptation**

Product	Description
Main Report	Study Area Overview (~31,000 Miles)
State Appendices	Statewide Overview/Analyses (10 States) Framework Process for Example Areas
Focus Area Analyses	Regional Analyses Specific Areas (9 Reports)
Visioning Sessions	Collaborative Stakeholder Meetings (9 areas)

Interagency Collaboration and Public Outreach

Goal

Promote Coastal Resilient Communities with Sustainable and Robust Coastal Landscape Systems



BUILDING STRONG®

QUESTIONS

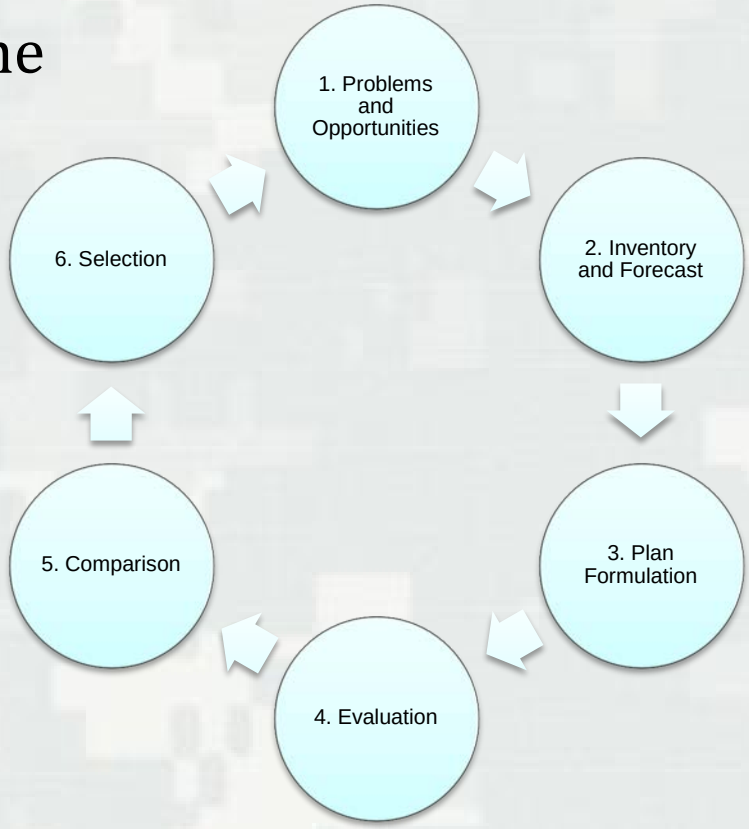
Norfolk Specific Efforts

- **Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette** (August 2013)
  - Summary and Outputs

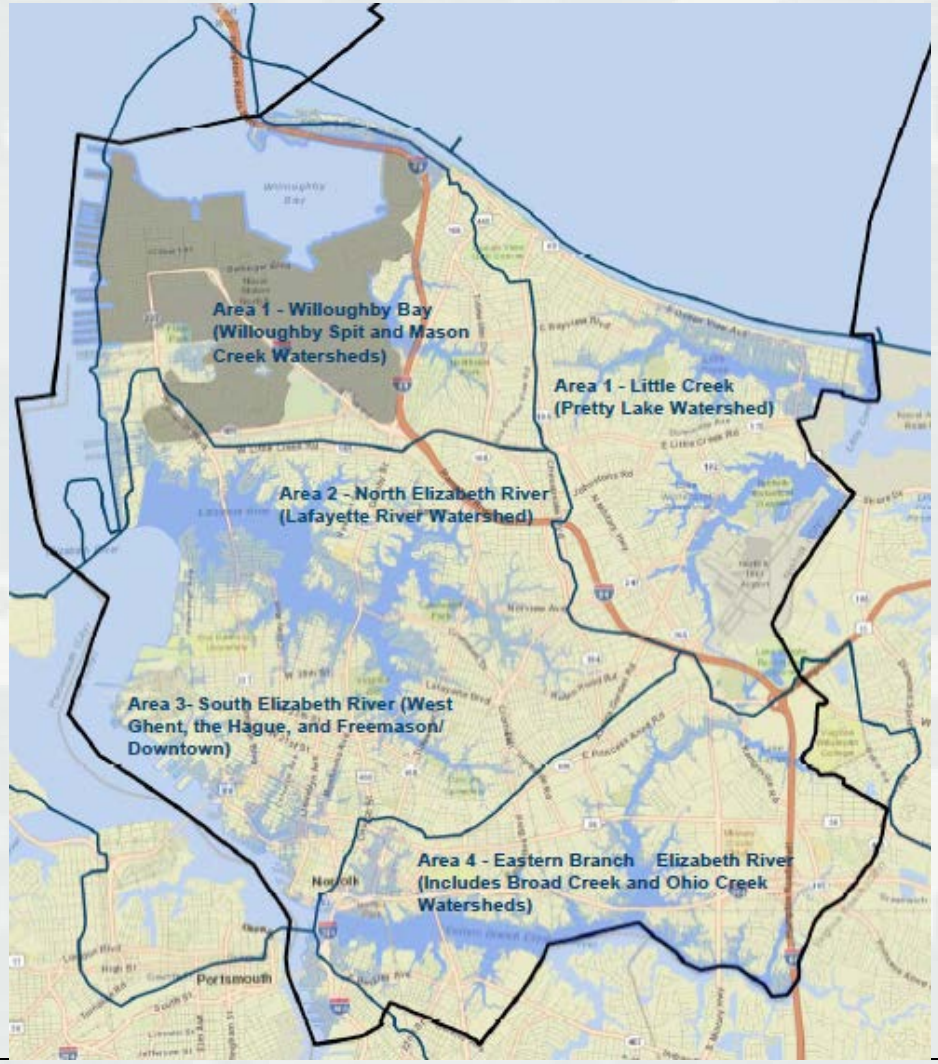
- **USACE Flood Risk Management Studies/Projects**

Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette

- **Purpose:** to develop information/coordination for the Initial Report for the city of Norfolk as a part of NACCS
- **Reviewed** USACE Planning Process and SMART Planning
- **Developed and Discussed:**
  - Problems and Opportunities
  - Objectives and Constraints
  - FRM Measures
- 4 Groups focused on specific areas of the City



Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette



Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette

- **Sample Problem:** Industries that must be located on the major waterways, such as ports and shipyards, are in the areas most susceptible to damage from tidal flooding or storm surge events. If these businesses do not prepare for future storm events, their viability and the economy of Norfolk that relies upon them may be jeopardized.

- **Sample Opportunities:** Develop tools that will allow residents, including "at risk" communities, to mitigate the risk of flooding to their property.

Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette

- **Sample Objective:** Provide adaptive and sustainable solutions for future development of the city of Norfolk that account for future changes, such as sea level rise and land subsidence, during the period of analysis.

- **Sample Constraint:** Avoid additional degradation of water quality, which would put additional stress on the aquatic ecosystem and increase the amount of water quality improvements required to meet the pollutant loading limits set forth by the Chesapeake Bay Total Maximum Daily Load (TMDL).

Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette

- **Measures:**
  - ***Structural:*** Berms/Levees, Floodwalls/Bulkheads, Flood/Tide Gates, Road/Rail/Light Rail Raises, Shoreline Protection Features, Stormwater System Improvements
  - ***Non-Structural:*** Building Codes and Zoning, Buyouts and Relocations of Homes, Emergency Plans/Hazard Mitigation Plans, Flood Warning Systems, House Raising, Increase Storage, Low Interest Loans to Citizens, Public Outreach and Education, Relocating Utilities and Critical Infrastructure, Tax Incentives for Redevelopment, Wet and Dry Flood proofing

- **Alternative Strategies:** Measures are grouped into 6 general strategies

Norfolk Comprehensive Flood Risk Management Analysis Scoping Charrette

Table 5.2 Measures for Each Area

Area	Structural Measures							Non-Structural Measures			Comments
	Beach Replenishment	Berm, Levee	Floodwall, Bulkhead	Flood or Tide Gate	Road Raise	Shoreline Protection	Stormwater Improvements	Buyouts/Relocation	House Raising	Natural Restore Storage	
Area 1	X	X	X	X	X		X	X	X		
Bay Shoreline	X										
Pretty Lake			X	X	X		X	X	X		
Mason Creek			X	X			X	X	X		Improve existing tide gate.
Lake Whitehurst		X	X		X						Protect freshwater in lake from outside flooding sources.
Area 2			X	X	X	X	X	X	X	X	
Watershed Protection			X	X	X		X	X	X	X	
Localized Neighborhoods			X			X	X	X	X	X	
Lamberts Point						X					Erosion protection from storm surge events.
Area 3		X	X	X	X		X	X	X		
West Ghent		X	X				X	X	X		
Fort Norfolk			X				X				
The Hague (Ghent)			X	X	X		X				
Freemason			X				X				
Downtown Norfolk			X				X				Increase level of protection existing Floodwall.
Area 4			X	X	X		X	X	X	X	
Tidewater Dr.			X		X		X	X	X	X	
Ohio Creek			X	X	X		X	X	X	X	
Broad Creek			X	X	X		X	X	X	X	
Berkley and Campostella			X		X		X	X	X	X	

Current USACE Flood Risk Management Studies/Projects

- **Limited Revaluation Report:** Willoughby Spit and Vicinity Coastal Storm Risk Management Project

- **Continuing Authorities Program, Section 205 Studies:**
  - The Hague
  - Pretty Lake
  - Ohio Creek
  - Mason Creek
  - Freemason Area

QUESTIONS

Agenda Check-in

- I. Introductions
- II. Agenda Overview and Meeting Purpose
- III. USACE NACCS
  - Update
  - Focus Area Analysis
- IV. Norfolk Specific Efforts
- **V. Facilitated Discussion** (small groups)
  - *a. Institutional/Policy Challenges and Potential Solutions*
  - *b. Reducing Risk from Coastal Storms*
- **VI. Closing Remarks/Adjourn**

Small Group - Instructions

- **Group Assignments**
  - **Groups identified as A, B, or C based on name tag**
    - Group A: Mark Dunning
    - Group B: Frannie Bui
    - Group C: Lauren Klonsky
- **Discussion Topics**
  - ***Institutional or Policy Challenges***
  - ***Reducing Risk from Coastal Storms***
- **Complete Individual Response Forms**
- **Develop Summary**
- **Report-out**

Discussion Topics

1. Institutional barriers and policy challenges
   - What are the major institutional barriers that limit comprehensive coastal planning?
   - What are prominent policy changes or legislative solutions that could improve coastal resilience?

Discussion Topics

2. Input on reducing risk from coastal storms
   - What management strategies/approaches are currently working to reduce risk from coastal storms?
   - What strategies should be implemented to reduce risk from coastal storms?
   - What is an acceptable level of risk?

Small Group Report-Out

- Group A
- Group B
- Group C

Contact Information

Greg Steele

USACE Norfolk District

Acting Chief, Water Resources Division

Email: Gregory.c.steele@usace.army.mil

Phone: 757-201-7764

Attachment D

Photograph Log

Photo 1 – Mark Dunning (CDM Smith) presents opening remarks and the meeting agenda to the attendees

Photo 2 – Rachel Haug (USACE) presents an overview of the North Atlantic Coast Comprehensive Study

Photo 3 – Rachel Haug (USACE) fields questions from the attendees

Photo 4 – Mark Dunning (CDM Smith) explains the topics of the facilitated discussions

Photo 5 – Frannie Bui (CDM Smith) records responses from participants in Group B

Photo 6 – Mark Dunning (CDM Smith) records responses from participants in Group A

Photo 7 – Matthew Wall (VDEM) presents the responses of Group A to the others

Attachment E

Breakout Session Responses

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: JOE ATANGAN **EMAIL:** joe.atangan@navy.mil

Organization: U.S. NAVY FLEET FORCES COMMAND

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- ACCEPTING CHANGES TO THE "VIEW SCAPE" REQUIRED TO MITIGATE RISK
- ~~CHANGES IN~~ BALANCING NEED TO CHANGE STRUCTURAL CODES WITH WHAT IS REASONABLE COSTS ASSOCIATED WITH THESE CHANGES

- LIMITING WHAT CAN BE BUILT IN RISK AREAS.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Brian Ballard (?) **EMAIL:**
Organization: NAVFAC

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Limited instructions/guidance @ the local/installation level to implement adaptation measures and build coastal resiliance
- Limited funds for existing infrastructure sustainment needs let alone for adaptation retrofits
- No specific local/installation risk/vulnerability assessments/data to base potential adaptation measures (even if you have guidance and funding where do you implement the measures to maximize the reduction of risk?)

- recognize @ policy and legislative level that the problem(s) exist
- give authority @ local level to implement solutions that fit the specific issues (bottom up) and share best practices that work

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Richard Broad **EMAIL:** richard.broad@norfolk.gov
Organization: Norfolk Public Works

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

① Funding - localities cannot fund the changes they need to make to their infrastructure to become even moderately resilient without state and federal funding.
② State attention to issue of sea level rise - see above
③ Planning & Zoning that needs to balance developer + public interests.
④ Economy - no appetite for any tax of fee increases that will likely be needed to fund resilience upgrades
⑤ Politics - identifying vulnerabilities locally can create big backlash by property owners

① Pass along costs to coastal residents - incentivize actions to improve resilience rather than have government pay. individuals
② Set up revenue sharing funding programs @ fed/state level to help localities fund resiliency improvements to infrastructure.

Group C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Holly Carpenter
Organization: USACE Norfolk

EMAIL: holly.a.carpenter@usace.army.mil

~~**Overall Comments:** *Please use this space and the back if you have comments that you would like to convey to the NACCS team.*~~

Topic #1

Q-1
- USACE funding bills / ability to gain a 'new start' project
- USACE timely/costly review process
- State development of guidance + programs to assist in coastal projects / to help split cost of implementation with coastal localities
- Limitations of VA law to implement regulations / tax districts to help fund projects
- limitations of jurisdictional boundaries when planning/implementing a project. Difficult for multiple localities to work together when no state program is available to join + assist them

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Susan Conner
Organization: USACE
EMAIL: susan.l.conner@usace.army.mil

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

1. funding streams → various and different execution schedules
2. differing priorities/missions => environmental vs. health/safety vs. economic
3. differing institutional policies for analysis at federal agency level → USACE vs. NOAA vs. FEMA
4. funding of studies

Policy Changes or legislative solutions:

1. funding of large comprehensive studies
2.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Carol Considine **EMAIL:** cconsidi@odu.edu
Organization: ODU

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

Individual city governments.
For Hampton Roads the lack of a regional coordinated effort inhibits comprehensive coastal planning. All cities share borders & exposure to risk. The actions of one could impact another. Funding levels might improve if regional initiatives were put forward.

State funding / recognition of SLR / climate change.
State leadership in solutions to climate change.
Comprehensive regional planning so that cities are not duplicating efforts / research, planning, risk analysis, etc.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Kevin DuBois **EMAIL:** kevin.dubois@norfolk.gov
Organization: Norfolk Environmental Services

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

1. FEMA CRS credits are not available for wetland projects unless it can be guaranteed that they will never be filled or built upon (even though regulations severely limit this activity). The guarantee would normally come in the form of some type of conservation easement or restrictive covenant. This is a burden. I would like to see CRS credits be available for wetland restoration projects w/o the ~~of~~ existing ~~guarantee~~ guarantee frameworks and something easier to use.

2. Currently, VADEQ VMRC and the USACOE allow for residential mowing of freshwater and tidal wetlands. all agencies should work

storm/flood protection

together to stop or severely restrict this practice.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

either Edward DuRant (USACE) or Emily Eggington (VIMS)

Name: **EMAIL:**

Organization:

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

1. Understanding of impacts / Belief that it is happening
2. Political
3. Incentivizing implementation of planning efforts b/c of costs / economic restrictions
4. Regulatory restrictions / limits
5. Now vs. future impacts
6. Funding
7. Other priorities
8. Will planning make ~~of~~ a difference

---

1. "Consistent authorities at Federal, State Local levels
2. Identify "vulnerable" areas using consistent / common terms, methods of analysis
3. Continued outreach / seek input from all sectors
4. Regionalize planning & implementation efforts

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Anthony Farmer **EMAIL:** anthony.farmer@navy.mil
Organization: NAVFAC Mid-Atlantic

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

no one lead organization,
a lot of groups/agencies looking at issue
- States - USACE - VIMS - SERDP - Regions - NGO
- NOAA - ODU - TFCC - cities/counties - private sector

no uniform strategy or design/planning guidance or code
multiple/inconsistent projections
no funding, funding barriers

uniform guidance needed
Funding needed
need consistent SLR projections

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Pete Garner **EMAIL:** peter.garner@norfolk.gov

Organization: City of Norfolk

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Conflicting interests
- Conflicting reports / forecasts / estimates
- Competing agencies working issues
- Focused awareness → coastal vs. inland

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Michelle Hamor **EMAIL:**

Organization: Norfolk District

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- [redacted] As USACE, we require a request from a Sponsor to initiate a project. ~~pursue it~~ From a Comprehensive, Commonwealth perspective, that initial analysis should be at the state level with the [redacted] option to partner locally for implementation. There will never be enough $ to implement everything. We need "Creative" solutions for financing. Private-public partnerships
- Commonwealth is and should take an aggressive lead in the Comprehensive approach w/ input from localities.
- Changes in building code - Flood insurance impacting real estate / building.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Rachel Haug **EMAIL:**
Organization: USACE Norfolk District

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

State / municipal boundaries – coastal flooding, watersheds, implementation of measures for coastal risk reduction do not necessary arrange measures within these boundaries

Needs to be collaboration despite independent entities.
- funding?
- regulatory considerations?
- local needs + priorities vary from neighborhood, city, state, region.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: CARL HERSHNER **EMAIL:** carl@vims.edu
Organization: VIMS

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Dillon rule = limits to local authority
- regional cooperation occurs only through consensus → no required coop
- lack of state level data sets that can support local planning
- legal liabilities for proactive risk mitigation
- lack of accepted planning horizons & scenarios (time period & risk probabilities)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Taura Huxley **EMAIL:** taura.a.huxley1 @ navy.mil

Organization: NAVFAC Atlantic

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

Missions (requirements) of the DoD can at times result in conflicts or obstacles to comprehensive coastal planning. Ability to maintain vessels and assets, and rapidly deploy them as needed can limit options for sustainable / lower risk development.

Navy, Marine Corps, and Coast Guard (DHS, not DoD, but still...) are at the center of this challenge. By very nature, we need to be located in the most vulnerable locations, and infrastructure requirements dont always align with lower risk development.

- lack of regional, inter-city focus + leadership; lack of interdepartmental cooperation
- duplication of effort
- no uniform design guidance
- problem doesn't respect jurisdictional boundaries
- no 'teeth' in policies
- insufficient buy in from state govt (or involvement)
- changes in codes -vs- whats affordable
  - Standardized planning for a region; common data / info. source
  - flood insurance subsidies
  - land use policies dont constrain development in vulnerable areas
  - property rights -vs- zoning

USACE North Atlantic Coast Comprehensive Study (NACCS)
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Name: BRIAN JOYNER **EMAIL:** bjoyner@moffattnichol.com
Organization: MOFFATT & NICHOL

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Congressional approval / funding of [each] specific project is a major schedule barrier. Congress / CBO seem to limit even what technical recommendations can be officially made. Suggest put more project authorization & decision making at USACE level. With Congress authorizing annual-to-decadal funding levels.

- Like all else, coastal planning + related items (coastal development, insurance, sea level rise) are used as political footballs + bargaining chips. Need to agree on some fundamental directions + get past the study / initial planning circle.

USACE North Atlantic Coast Comprehensive Study (NACCS)
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Name: John Keifer (?) **EMAIL:**
Organization: City of Norfolk

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Flood insurance rates vs market
- Long regulatory process
- Lack of funding
- Different political entities: cities, state, federal
  Minimal State of Va involvement

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Brian Knight **EMAIL:** Bking002@vdh.virginia.gov
Organization:
VDH

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- money
- corporation change investors
- unknown
- Health

- Saving
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: BEN MCFARLANE **EMAIL:** bmcfarlane@hrpdcva.gov
Organization: HRPDC

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

A)
1) Policies that incentivize or do not constrain development in coastal areas

2) Strong private property rights that limit gov't authority in riparian or intertidal areas.

3) Regulations that constrain planning ~~&~~ such as confining a study area to a single jurisdiction (ex. the Norfolk studies).

B) 1) Reforming the NFIP to take actual risk into account.

2) Planning by watershed or other geographic features instead of jurisdictional boundaries.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Lenny Newcomb **EMAIL:** lenny.newcomb@norfolk.gov
Organization: City of Norfolk, Planning, Zoning, Flood Insurance

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Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Lack of clear legislative commitment at infrastructure state & Federal levels. – Politics – Priorities.
- lack of clear funding paths as well as funding sources.
- Peerpendence to Overstudy the matter.
- Lenght of time required to conduct studies and to transition in to Action
- Sandy Initiative. $20,000,000
- lack of Urgency.
- levels of bureaucracy.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: KARINNA NUNEZ **EMAIL:** Karinna@vims.edu
Organization: VIRGINIA INSTITUTE OF MARINE SCIENCE (VIMS)

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

We currently have several agencies and institutions working on sea-level rise, recurrent flooding and coastal resilience. One of the major limitation to apply all these findings is the lack of a common venue, where the public, and in particular by local governments can reference to (in order to increase credibility). We need to have a "shared vision" in order to successfully apply a comprehensive coastal planning. A multidisciplinary and common effort need to be achieved, among all localities. We need to be aware that not all the localities can afford the same level of risk.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Georgi Roarty
Organization: VDEM

EMAIL: georgi.roarty@vdem.virginia.gov

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

1A
- Authorities - (e.g. taxing)
- Interface of government organizations
- Sector goals - (environ. ; econ) - conflicting / competitive
- Jurisdictional boundaries
- Lack of guidance, funding, data

1B -
- Zoning
- Sustained funding mechanism & sector investment funding
- Phased strategy - short, intermediate long-term

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: ERIC SEYMOUR **EMAIL:** ERIC.SEYMOUR@NOAA.GOV

Organization: NOAA/NWS

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- The understanding or knowledge of what data sets are available or being used to define flooding or water levels

- How are we communicating the threat of flooding and what areas will be impacted.

- Relocation - ability to move/ relocation of people/areas of repeat flood events

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Scott Smith **EMAIL:** Scott.Smith@norfolk.gov.

Organization: Norfolk - Public Works

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

(1) Funding, coordination of Funding

(2) Structured Process / Schedule - Manage Expectations

(3) Agency coordination.

(4) Duplication of effort - Re-inventing wheel

(5) STREAMLINE - Permitting / Funding / Process
Allow agencies to complete work/studies that will be incorporated. Versus agency having to duplicate effort.

(6) Identify Stakeholders and have them present during initial scoping / coordination mtgs to Target Concerns.

(7) Dillon Rule

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Bobby Tajan **EMAIL:** Robert.Tajan@norfolk.gov
Organization: City of Norfolk

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Funding hurdles on projects that are "shovel ready".
- Lack of clear direction for what scenarios to plan for.
- Expectations that land is supposed to stay.

- Provide direct guidance for what scenario to plan for.
- Clear direction to agencies to collaborate.
- Empower HRPC to deal at a regional basis.
- Creative fund sourcing that does not ~~stay~~ hinder already

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Denise Thompson **EMAIL:** denise.thompson@Norfolk.gov
Organization: City of Norfolk
Dept. of Public Works

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

B • Lack of consensus re: rate of sea level rise (science changes, too) } Same as Carl's

B • Private sector (business/industry) generally not at the table w/ local, state & Federal government.

LS • State needs to take leadership role re: above barrier.

B • No sustainable source of funding has been identified for projects in the national interest.

• Who benefits/who pays re: flood insurance is inequitable across the U.S.

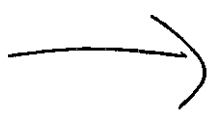
•

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Matthew Wale
EMAIL: matthew.Wale@vdem.virginia.gov
Organization: VDEM

Topic 1: ***What are the major institutional barriers that limit comprehensive coastal planning? What are prominent policy changes or legislative solutions that could improve coastal resilience?***

- Conflicting Agendas & Authorities
- VERY slow processes
- Inability to articulate ~~supp~~ single definitions or accept hazards (goals)
- Federal/State/Local separation of powers
- Ability to influence private entities
- Measures of effectiveness (consolidate source of info)
- Funding (~~cost~~ understanding that the economic risk is for all)



1) Require all federal agencies to utilize the same datum & info in their processes

2) "Single Stop" Clearance for permitting

3) Develop incentives for Private Investment
   - Bring them to the table

4) Regulatory process that is incentivized initially

5) Clear fit in w. other Federal plans

6) Input from the states

7) Regional efforts using existing mechanisms

8) Economic Analysis studies to show resources of infrastructure

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: JOE ATANGAN **EMAIL:** joe.atangan@navy.mil

Organization: U.S. NAVY FLEET FORCES COMMAND

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- DUNE RESTORATION
- UPDATED BUILDING CODES
- WELL DEFINED EXIT/EGRESS ROUTES
- CAN NOT QUANTIFY LEVEL OF RISK WITH DEFINITE WHAT'S AT RISK.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Brian Woodard (?) **EMAIL:**

Organization: NAVFAC

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- Engage the private sector on risks to offer business perspective to policy makers
- Require flood policy holders to pay real costs of risk
- Engage insurance agencies - what do their models say about risk and rates?

  (lack of insurance coverage or increased rates provide a big incentive to dealing with the issue more proactively)

- Engage w/ major utility providers (e.g. water, sewer, electric infrastructure)

How are they addressing this issue and how can we collaborate?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Richard Broad **EMAIL:** richard.broad@norfolk.gov

Organization: City of Norfolk
Public Works

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

① Buyouts + Structure elevating (works on individual level, but not necessarily for community as a whole).

② Local planning/mitigation efforts – Flood Executive Committee in City of Norfolk.

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① Do much more to educate public to do more to be prepared and protect their own property rather than depending on goverment to protect/rescue them

② Link risk reduction/resilience to concrete economic benefits

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A true 100-year event is an acceptable level of risk for most people.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Holly Carpenter
Organization: USACE Norfolk
EMAIL: holly.a.carpenter@usace.army.mil

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- Some collaboration workshops have been developed on a regional basis, but funding for many agencies to participate is lacking - programatic funding to educate ~~staff~~ agency employees + allow for additional collaboration is ~~needed~~ needed at the local / State + Federal level

↓this could lead to agency/local govt employees that are well educated on the topic, including new or innovative solutions, which will help them make decisions + with public outreach + education

→ The Hampton Roads region + city of Norfolk specifically have worked to identify FRM projects - structural + non-structural to reduce flood risk already
they need State/Federal support to build these economically viable projects.

See Back

The current level of risk w/o a project is higher than what we would like, built projects reduce risk + can be supplemented to address residual risk

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Susan Conner **EMAIL:** susan.l.conner@usace.army.mil
Organization: USACE

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

A. recognition of issue
→ lots of small segmented efforts - beach nourishment, hard infrastructure, flood walls, etc → but need coordinated effort → socioeconomic → rich communities such as VA Beach better than Eastern Shore of VA

B: green infrastructure
→ equal attention to all coastal areas, not just damage from prior storm

C. ? 10 yr storm → not major damage
50-100 year storm → expect major damage

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Carol Considine **EMAIL:** cconsidi@odu.edu
Organization: ODU

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

(1) Building codes in some instances. 100 year flood
Norfolk raised freeboard to 3' above ~~BFW~~ FIRM but other cities are still @ 1'.
Infrastructure improvements - raising streets to protect properties.
(2) a. VDOT implementation of 64 evacuation strategies after Katrina reduced ~~risk~~ some risk.
~~Learning~~ Learning from past events on a national scale
@ SANDY & KATRINA

b. Sandy funding
Strategies to implement: Comprehensive planning
Green infrastructure / Public education / Hard protection.

Acceptable level of risk
100 year storm event general
property damage ↓ acceptable
human life unacceptable
infrastructure: major infrastructure ~~protected~~ protected (critical) 500 yrs
minor infrastructure ? RISK

Catastrophic risk management - ice sheet melt
How do we account for this.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Kevin Du Bois **EMAIL:** kevin.dubois@norfolk.gov
Organization: Norfolk Bureau of Environmental Services

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1. State preference for "Living Shoreline" erosion control
2. Regulatory protection of dunes & wetlands

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1. [redacted] implementation of flood insurance actuarial rates
2. Living Shoreline requirement where technically feasible

---

1. One that is [redacted]? defined and paid for by private individuals?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Anthony Farmer **EMAIL:** anthony.farmer@navy.mil
Organization: NAVFAC Mid-Atlantic

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- only existing codes/guidance, DoD has no uniform mgmt/strategies/approaches
- only on case-by-case basis if planners/designers are aware if CCSLR issues

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- need uniform, enforcable guidance
- need to evaluate vunerabilities & risk for future planning, relocation
- may be consideration factor in next [redacted]

- varying levels of Risk based on importance of facility, mission, national security

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Pete Garner **EMAIL:** peter.garner@norfolk.gov
Organization: City of Norfolk

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1. Strategies working
   - Flood Ins. maps
   - Many studies - thanks Sandy
   - Communication of issues
   -

2. Strategies needed
   - More cooperation/collaboration
   - Comprehensive plans/
   - Prioritize development

3. Acceptable level of Risk
   - Critical infrastructure
   - 100yr
   - People - unacceptable

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Michelle Hamor **EMAIL:**

Organization:

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- Multiple approaches / layers
  - Open space
  - elevating structures
  - floodwalls
  - wetland creation
  - beach fill
  - evacuation
  - outreach
  - land use / development
  - stormwater / TMDL
  - Buy down risk
  - Flood insurance
  - Comprehensive plans

Risk burden

~~[illegible]~~

Acceptable level of risk - different ~~from~~ levels based on location / infrastructure at risk.

i.e. utilities / critical facilities have a lower tolerance for risk vs. ~~an~~ a commercial area.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Rachel Haug **EMAIL:**
Organization: USACE Norfolk District

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

We all know that various non structural, structural, NNBF, policy/programmatic measures/strategies can be effective in reducing risk when planned / implemented well.

to further reduce coastal risk, these strategies need to be combined with each other and overlapped to work together to bring down risk more collectively than they would independently.

acceptable level of risk will vary by each group, locality, state, etc. not a quantitative measure - very qualitative and based on differing opinions of risk itself and, priorities for each group.
varying

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Carl Hershner **EMAIL:** carl@vims.edu
Organization: VIMS

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

(1) – outreach education
(2) – actuarial basis for flood insurance
– repetitive loss exclusions from coverage
– risk identification required in all home sales
– risk id required in all zoning decisions

(3) >500 yr event risk threshold for structural solutions

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Taura Huxley **EMAIL:** taura.a.huxley1@navy.mil
Organization: NAVFAC Atlantic

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

(2) strategies that should be implemented to reduce risk:

1) rezoning of [redacted] most vulnerable areas to limit development + population density
2) overhaul flood insurance program to dis-incentivize building + living in most vulnerable areas
3) [redacted] standardize and codify building codes & and data

(3)
- acceptable level of risk is too subjective to define in many ways; life? property? → individual!? → locality? → regional? → national? → global!?
- risk is acceptable only to the level that it doesn't place unfair burdens on "non-stakeholders"

learning from past events
layer measures
green infrastructure
habitat restoration
general awareness for citizens
planning egress routes

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: BRIAN JOYNER **EMAIL:** bjoyner@moffattnichol.com
Organization: MOFFATT & NICHOL

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

Things that work.

- Beach nourishment + dune creation + maintenance of these nature-based features. Sandy (and many prior storms) proved the value of properly-designed beaches + dunes in protecting infrastructure.
- [Financial] Incentives to raise, protect, or move vulnerable structures + infrastructure.
- FEMA floodplain management regulations, because they "force" communities to follow some risk-reduction practices.

Acceptable Level of Risk

- Should be defined, or at least strongly focused on, local visions by communities or small regions. Locals know best what kind of community, economic future they want to have. Federal / State ~~should~~ Should empower communities.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: John Keiter (?) **EMAIL:**
Organization: City of Norfolk

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

Awareness has allowed citizens to raise items prior to flooding and to relocate such things as ductwork & A/C to higher elevations

Need physical barriers. Cost vs abandonment of development: industry, business, residential.

City has increased elevation requirement for new construction

Raising houses, but can't redevelop sites if FEMA funds are involved. Should be able to raise sites & rebuild.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Brian Knight **EMAIL:** Brian.Knight@VDH.Virginia.gov
Organization:
VDH

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

Government
Beach Sand replenishing
Dunes

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: BEN McFARLANE **EMAIL:** bmcfarlane@hrpdcva.gov

Organization: HRPDC

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1) using green infrastructure (ex. wetlands restoration) instead of hardened shorelines in appropriate areas

2) comprehensive floodplain management (building standards, infrastructure decisions, zoning, etc.)

3) relocation of development / infrastructure out of vulnerable areas

4) acceptable: not vulnerable to a 100-year storm event (goal) for general development (maybe 1,000-year event or 500-year event for critical infrastructure)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Lenny Newcomb **EMAIL:** lenny.Newcomb@norfolk.gov
Organization: City of Norfolk, Planning, Zoning

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1. Federal funding of programs do elevate or floodproof existing structure.
2. Current, valid flood maps that guide localities do implement local floodplain Regulations effective.
3. Outreach efforts to encourage citizens to Building progressive codes. plan, and prepare for storm damage.
4. Cooperation among governmental agencies do identify risks and do craft solutions.
5. Private initiatives - Rockerfeller Foundations efforts for Resilient Cities.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Karinna Nunez **EMAIL:** Karinna@vims.edu
Organization: VIMS

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1) STRATEGIES / APPROCHES:

* multiscenario sea-level rise planning.
* collaborative efforts among agencies

2)
* find a "signature" to measure resiliency among the different localities.

3) ACCEPTABLE LEVEL OF RISK:

* we cannot "generalize" the level of risk because each locality has a different level of risk that can afford
* we could assign levels of risk based on groups of features (social and geomorphic) that localities present in common. these need to be defined taking into account all the localities in the region.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Georgia Coarty **EMAIL:**
Organization: VDEM

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

2a – Mitigation buyouts, relocations; green space; effective land-use policies; comprehensive planning.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Eric Seymour **EMAIL:** eric.seymour@noaa.gov

Organization: NOAA/NWS

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

1. Improve communication of the Risk to the public and private sectors through more detailed forecast of Flooding. Also more post storm assessment to improve impacts for future events

2. More detailed analysis to improve the location to be impacted and enhanced ways to communicate the threat.

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Scott Smith **EMAIL:** Scott.Smith@norfolk.gov

Organization: Norfolk Public Works

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- Identifying [illegible] at risk, adapting land use to more appropriate uses.
- Planning on layered strategies not relying on a specific practice.
- floodwalls, pumps, living shorelines.
- Design to meet 100 yr [illegible]
- [illegible] Storm - [illegible]

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
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Name: Bobby Taylor **EMAIL:**
Organization: City of Norfolk

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- City's efforts to increase minimum requirements for development in floodplain
- City's collaborative effort across departments
-

- Citys current projects identified mitigation efforts
- Strategic use of properties for floodplain Management

(1) energy preparedness

C

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Denise Thompson **EMAIL:** denise.thompson@norfolk.gov

Organization: City of Norfolk
Dept. of Public Works

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?****

Working

- The Team Norfolk emergency planning/response model is effective
- A regional (between/among States) interstate strategy for pre-placement of generators needs to be developed (in case of extended power outages)

(1) Needed

- A public system of solar charging stations for cell phones and other portable electronic devices needs to be designed & constructed.

(1) Needed

* No Risk would be good.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Latoya Vaughn
Organization: City of Norfolk
EMAIL: latoya.vaughn@norfolk.gov

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

- Local changes to ~~DRR~~ floodplain mgmt
- Short term/small scale mitigation; raising roads, elevating houses, stormwater infrastructure upgrades/e.
- Educating public

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Matthew Wells **EMAIL:**
Organization:

Topic 2: ***What management strategies/approaches are currently working to reduce risk from coastal storms? What strategies should be implemented to reduce risk from coastal storms? What is an acceptable level of risk?***

Mitigation Emphasis
Zoning - Buffer zones / CZMA / Beach Nourishment
Flood Insurance

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Richard Broad **EMAIL:** richard.broad@norfolk.gov
Organization: Norfolk Public Works

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

The biggest impedinents to moving forward with implementation of resiliency measures are;

① Funding – the $$ needed for large-scale, high-impact resiltency measures is beyond the capacity of localities to raise. We need cooperation from the State & Federal government.

② Clear goals – are we hardening our defenses or retreating?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Taura Huxley **EMAIL:** taura.a.huxley1@navy.mil
Organization: NAVFAC Atlantic

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

May consider revising the "what is an acceptable level of risk" question (if it is to be asked again in the future) to specify what is at risk (life? property? national defense? environment?) and/or scope of risk (local? individual people? regional? global?)

Otherwise, question is a little difficult to answer.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: BEN MCFARLANE **EMAIL:** bmcfarlane@hrpdcva.gov

Organization: HRPDC

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

MORE TIME FOR DISCUSSION TO FLESH OUT AND DEBATE IDEAS THAT ARE BROUGHT UP.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Scott Smith **EMAIL:** Scott.Smith@norfolk.gov

Organization: Norfolk, Public Works - Operations

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

Questions

1.) How do we get from framework to implementation
1 YR, 5 YR, 10 YR.

2) Study will identify risks, what is the process for implementation.

3) VA DEQ, VRMC not present, will be important in permitting process

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Bobby Tajan **EMAIL:** Robert.Tajan@norfolk.gov

Organization: City of Norfolk

Overall Comments: ***Please use this space and the back if you have comments that you would like to convey to the NACCS team.***

- There needs to be a clear use stated for the NACCS. There is belief there is money for projects at the end of study.
- Initiation for collaboration needs to happen at Fed level.

Appendix H: New York-New Jersey Harbor and Tributaries, New York City Partnering Meeting Memorandum for Record

North Atlantic Coast Comprehensive Study

New York – New Jersey Harbor and Tributaries

Memorandum for Record

Subject: Partnering Meeting to Discuss Furthering NYC's Coastal Storm Risk Management Efforts

On Monday, January 27, 2014 the U.S Army Corps of Engineers (USACE) conducted an in-person partnership meeting and teleconference call with representatives from New York State's Department of Environmental Conservation, the New York City's Mayor's Office of Long Term Planning and Sustainability, and CDM Smith to discuss the North Atlantic Coast Comprehensive Study (NACCS) with specific focus on the New York – New Jersey Harbor and Tributaries Area. 21 people attended the 2 hour meeting.

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
New York – New Jersey Harbor and Tributaries
Partnering Meeting

January 27, 2014

1:00 PM – 3:00 PM

Location: Jacob K. Javits Federal Building, 26 Federal Plaza, Room 2120, New York City, NY
1300 – 1500 Hours

Attendees:
Lynn Bocamazo – USACE New York District
Lisa Baron – USACE New York District
Olivia Cackler – USACE New York District
Steve Couch - USACE New York District
Donald Cresitello – USACE New York District
Dan Falt - USACE New York District
Joseph Forcina - USACE North Atlantic Division
Roselle Henn – USACE North Atlantic Division
Tom Hodson - USACE New York District
Frank Santomauro - USACE New York District
Jason Shea – USACE New York District
Joe Vietri – USACE North Atlantic Division
Peter Weppler – USACE New York District
Dan Zarrilli – City of New York Mayor's Office of Long Term Planning and Sustainability
Curtis Cravens – City of New York Mayor's Office of Long Term Planning and Sustainability
Jim Tierney - NYSDEC Assistant Commissioner of Water and Watersheds
Eileen Murphy - NYSDEC Congressional Legislation Office of Legislative Affairs
Al Fuchs – NYSDEC Bureau of Flood Protection and Dam Safety
Steve Zahn – NYSDEC Regional Natural Resources Supervisor
Ginger Croom – CDM Smith
Frannie Bui – CDM Smith

Meeting Minutes:

- Introductions

- Opening Remarks
    - **Jim Tierney (NYS)** provided opening remarks regarding the overarching goals of the partnership meeting. He said that it should be recognized that New York Harbor is in need of Feasibility Study to evaluate the human and economic risk in consideration with Sea Level Rise and Climate Change under a reasonable worst case scenario. He re-iterated that there currently are no USACE authorized projects for New York Harbor. He stated that a range of alternatives is needed in addition to balancing bi-state cooperation. He also stated that he hoped that other studies, such as the Hudson River Estuary Comprehensive Plan, could be used to expedite actions. He stated that his hope for the Comp Study (NACCS) is to establish a knowledge base and a request for appropriations from Congress as a result of this study and report.
    - **Joe Vietri (USACE NAD)** provided opening remarks regarding the overarching goals of the NACCS. One of the goals of the Comp Study is to consider the economic risk and the vulnerabilities. It is acknowledged that New York Harbor does not have existing authorities and currently there is no clear path for specific project authorities. Either through the passage of a WRDA Bill or flexibility from an Omnibus Bill could provide such path.

- Presentation
    - **Dan Zarrilli (NYC Mayor's Office)** presented an overview of PlaNYC's climate adaptation, restoration, and rebuilding efforts that were detailed in the NYC Special Initiative for Rebuilding and Resiliency (SIRR) Report.
    - **Dan** summarized the reasoning behind the integrated approach to coastal management and the types of initiatives that were being considered.

- Discussion
    - **Lynn Bocamazo (USACE NAN)** asked about the funding source from the initial initiatives outlined in the SIRR Report.
    - **Dan** responded that targeted funds include a combination of Community Development Block Grant (CDBG) Resiliency Efforts, FEMA Hazard Mitigation Grant Program funds, NYC local match, as well as USACE funds from the Sandy Supplemental (Disaster Relief Appropriations Act). The total funding needed to implement the SIRR plan is $20 billion for the 257 initiatives. The current gap in funding is approximately $4.7 billion gap for these initiatives.
    - **Lynn** asked about whether a regional storm surge barrier is being considered for a feasibility study through NYC, and stated that any future USACE study effort would have to at least consider some type of barrier in a feasibility study.
    - **Dan** responded that NYC recognizes that although a barrier is one potential solution, it was not a preferred solution due to the potential for induced flooding behind the barrier and monumental costs of such a measure. A

system of integrated flood risk management measures is the City's preferred alternative.

- **Jim** asked about whether or not further interest or analysis was being performed in the Tidal Hudson as referenced in the NYS2100 Report. He presented the example of Southern Nassau County that was studied and restudied. Considering that this area (New York Harbor) is a shared asset and requires bi-state cooperation, a study is warranted based on the inherent risks to the population.
- **Joe** stated that the NACCS includes state-specific appendices that describe the vulnerabilities and risk for specific reaches, and that it the NACCS is an opportunity to transition to future phases of study such as a feasibility study. Aside from funding the feasibility study through the passage of a WRDA bill, another option would be to get directive language from Congress to reprogram the money that was funded as part of the Sandy Supplemental Bill after the completion of the Flood Control and Coastal Emergencies (FCCE) and Operations & Maintenance (O&M) accounts in the case that not all funds were used.
- **Jim** stated that there are currently differences in resiliency standards and criteria for implementation of flood risk management strategies between FEMA at a 90/10 cost share and USACE.
- **Dan** agreed stating the Staten Island example where flood risk management measures are being undertaken, but that the influence to flood insurance rates and premiums are not being reflected.
- **Joe** acknowledged that different levels of risk management is defined by each agency and that it was acknowledged as an institutional barrier as part of the Comp Study.
- In order for ongoing collaboration between the States (including both New York and New Jersey), local stakeholders, and USACE to occur, it was decided that a letter addressed to USACE signed by appropriate parties/representatives was needed to demonstrate interest and need to initiate a feasibility-like study for Greater NY Harbor. All parties present agreed upon such action.

Adjourn 15:00

---End of Minutes---

Appendix I: New York-New Jersey Harbor and Tributaries, Hudson River Valley Partnering Meeting Memorandum for Record

North Atlantic Coast Comprehensive Study

New York – Upper Hudson Valley

Memorandum for Record

Subject: Partnering Meeting with NYSDEC

On Monday, March 17, 2014 the U.S Army Corps of Engineers (USACE) conducted a conference call with New York State's Department of Environmental Conservation (NYSDEC), to discuss the North Atlantic Coast Comprehensive Study (NACCS) with specific focus on the New York – Upper Hudson Valley area. 14 people participated in the 1-hour conference call.

US Army Corps of Engineers

North Atlantic Coast Comprehensive Study
New York – Upper Hudson Valley
Partnering Meeting
March 17, 2014

3:30 PM – 4:30 PM

Location: Jacob K. Javits Federal Building, 26 Federal Plaza, Room 2120, New York City, NY and Conference Call, 1530 – 1630 Hours

Attendees:
Lisa Baron – USACE New York District
Olivia Cackler – USACE New York District
Donald Cresitello – USACE New York District
Tom Hudson - USACE New York District
Jason Shea – USACE New York District
Peter Weppler – USACE New York District
Fran Dunwell - NYSDEC
Eileen Murphy - NYSDEC Congressional Legislation Office of Legislative Affairs
Al Fuchs – NYSDEC Bureau of Flood Protection and Dam Safety
Martin Brand – NYSDEC Region 3
Christian ? – NYSDEC Region 3
Bill Rutgz? – NYSDEC Region 3
Ginger Croom – CDM Smith

Meeting Minutes

Introductions

1) Discussion Topic #1 - Update on NACCS – USACE

- **Donald Cresitello** provided a status update of the NACCS
- USACE reached a major milestone last week to provide Draft Analyses to Interagency Partners for Review.
- USACE completed draft analyses in September 2013, and refined draft analyses based on internal review during the September 2013-March

2014 timeframe.

- USACE released draft analyses to Interagency Partners on Friday, 3/14
- March 2014 – several webinars will be conducted with stakeholders. March 17 overview webinar was cancelled, but March 19 webinar is being conducted to provide overview/update on NACCS.
- April-June 2014 – USACE will be incorporating input from interagency partners, and will use these inputs to finalize draft analyses
- June-December 2014 - USACE to prepare revised document for internal USACE review
- **Fran/NYSDEC** asked for clarification on 30-day comment period – when are comments actually due. *Note: Files available for download (see below) until April 11, 2014 and comments due April 2014, 2014).*
- **Eileen/NYSDEC** unsure of whether they received AMRDEC notice of file download for Interagency Review. *Note: email was sent to stakeholders Friday 3/14, 11:42 am. Email sent from: No-Reply@amrdec.army.mil and email subject was: AMRDEC Safe Access File Exchange Delivery Notice*
- Thus far, NYSDEC has received NY State Appendix for review.
- **Olivia Cackler** provided an update on what content is included in the NY State Appendix.
- **Olivia** provided clarification on northern extent of NACCS boundary - reach (NY5) – needed to be extended through Albany. USACE identified a problem area that extends through Albany/Rensselear County. Supporting documentation still needs to be gathered for this area.
- Environmental Exposure Analysis
- Climate Change and Adaptation discussion
- Incorporation of Rockefeller Foundation design efforts

2) Discussion Topic #2 - Background on Hudson River Valley and why it is unique

- Discussion on how to obtain feedback on problem areas for NY state appendix
- **Fran** asked whether now was the time/opportunity for the state to provide input/feedback on problem areas, and how should feedback be provided
- **Tom** mentioned that information on construction projects that are planned or are in process as a result of Sandy would be helpful to establish "existing, without project conditions"

- **Donald** – re-iterated purpose of the NACCS as framework to address Coastal Storm Risk Management and as such information on problems and opportunities in the region would be helpful, such as vulnerable areas.
- **Eileen** noted that request for information from Upper Hudson Valley communities in August 2013 was met with limited response
- **Ginger** noted that the request was sent to communities in August 2013 and a short suspense time also contributed to limited responses. *Note: Responses were received from Town of Cortlandt, Town of Stony Point (through NY Rising work) and then other information for the Focus Area Analysis was summarized from Hazard Mitigation Plans (Orange County, Rockland County, NY State) and the NYS 2100 Commission Report.*
- **Ginger** will re-send the stakeholder letter with request for information that was sent to Upper Hudson communities in August 2013.
- **Fran** noted that NYSDEC provided images to show Sandy's far-reaching impacts in the Upper Hudson
- **Olivia** noted that in the current NACCS Draft Analyses, there is reference to the National Hurricane Center Tropical Cyclone report for Sandy, showing impacts as far north
- **Fran** is working to get documentation from Castleton (Rensselear County) on Sandy impacts
- **Fran** – noted that NYSDEC and communities can give examples of what happened during Sandy, but noted that both tide and precipitation are also factors that would have exacerbated vulnerable areas
- **Fran** noted that NYSDEC has documentation from both Irene/Lee – rainfall impacts only. Many tributaries are tidal - Catskill Creek, Roundout creek, are tidal, both experience flooding during surge

3) **Discussion Topic #3 - State Coordination with municipalities within the Upper Hudson River Valley Region**
    - **Martin** may have information to discuss from a regional perspective – he is main POC for coordinating with municipalities
    - Regional office can assist Fran in reaching out to communities to get information
    - Municipalities are experience "storm-fatigue" – multiple requests for similar information
    - **Donald** reviewed intent of Visioning Sessions and described variability

in the topics discussed in these sessions – example, DC Visioning Session focused on Sea-Level Change

- **Fran** provided an overview of Sandy-related projects in Upper Hudson Valley
- Several few stream restoration projects – recovery for all 3 storms (Irene, Lee, Sandy)
- Sustainable shoreline projects – demonstration sites where NNBF are being incorporated
- Waterfront Resiliency Task Forces, 4 communities
    - Kingston, Piermont, Catskill (in process) Stony Point (just started) – waterfront resiliency task forces local officials appointed, task forces assess access to waterfront strategy selection – rate different options –conduct cost benefit analysis (Catalysis Adaptation Partners)
    - Kingston plan is completed – council adopted recommendations – has applied for funding to implement recommendations – locally driven efforts
    - **Donald** asked how are recommendations being incorporated? Fran responded either through municipal plans – master plan/zoning, but could be incorporated into Ulster County Hazard Mitigation Plan
    - Piermont and Catskill are still underway, Stony Point just started
    - Process: NYSDEC put out RFP – these are the communities that responded. There could be more, but dependent on funding
    - NYSDEC presented a suite of options to communities for strategies to consider, essentially mimicking NYC SIRR report/measures, at different scales.
    - Scenarios of strategies with criteria for selection process -
    - **Fran** provided example of measures being considered
        - Kingston – Strand area – evaluated raising road elevation, elevated bulkhead, evaluated buy-out scenarios
        - In general, these 4 communities are considering many measures being considered
        - **Donald** asked whether information gathered from these Task Forces could be provided to USACE.
        - **Fran** to provide Kingston task force report
- **Fran** noted that each community has different topography – Piermont –

at narrow base of mountain, other communities: large, broad/shallow waterfront; communities' topography highly varies along Hudson River shoreline

- **Donald** asked what is NYSDEC sense of communities understanding of coastal storm risk?
- **Fran** responded that in general, communities are reception to concepts of sea-level change and risks of storm surge during outreach meetings, and the concepts are not that controversial
- **Eileen** noted that all information that NYSDEC staff gather to send to USACE will be transmitted through her.

Adjourn 16:25

---End of Minutes---