

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
 - Learn 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.

DRAFT

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)

DRAFT

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
Tom Booth	URI/GEO	PROF EMERITUS	Tom_Booth2000@uri.edu	401-874-2265
Bryan Oakley	Eastern CT	Asst. Prof	oakley@easternct.edu	
Judith Johnson	USACOE	Biologist	judith.l.johnson@usacoe.army.mil	978-318-8138
Chris Hatfield	" "	Project Manger	christopher.l.hatfield@usace.army.mil	978-318-8580
John King	URI/GSO	Professor	jsking@mail.uri.edu	401-874-6182
Joseph Warner	Town of Charlestown	Building Official	jwarner@charlestownri.org	364-1215
Tom Grutz	"	Town Council	TRX@FUTLECOX.NET	527-7161
Mark Stankiewicz	"	Town Adm		
Michael Deluca	Town of Narrag.	CD Director	mdeluca@narragansettri.org	782-0602
Stephen McAuley	Town of Charlestown	GIS Specialist	smcmauley@charlestownri.org	364-1214
DAVID PRESCOTT	SAVE THE BAY	SOUTH COUNTY COAST GUARDIAN	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	401-822-2023
Bhavana Ramaswamy	CDMS	Geodesist	ramaswamyb@cdmsmath.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@southkingstown-ri.com	789 9331 x1248
John Kennedy	Cops of Aquineta	Chief Poly B-	John.R.Kennedy@usacc	918 313 8505
Kelly Knece	RPS ASA	Engineer	kknece@usascience.com	789-6224 AKM
Sarah Atkins	City of Newport	Grant writer	satkings@cityofnewport.com	202-262-4082 (cell)
Jess Stinson	RIEMA	State Haz. Mit. Officer	jessica.stinson@ema.ri.gov	462-7115
James Boyd	CKMC	Policy Analyst	jboyd@ckmc.ki.kal	401 783-3370
Bob Toxan	COVENTRY	Town Engineer	RTOXAN@COVENTRY	822-9182
Lauren Klonsky	CDM SMITH	Engineer	klonskyls@cdmsmith.com	617-452-6361
Debra Beck	CDM Smith	Pm	beckdfr@cdmsmith.com	617-452-6277
NATHAN VINHATEIRO	RPS ASA	OCEANOGRAPHER	nvinhateiro@asascience	789-6224
FRANMIE BUI	CDM SMITH	ENGINEER	BUIFA@CDMSMITH.COM	617 452 6288

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

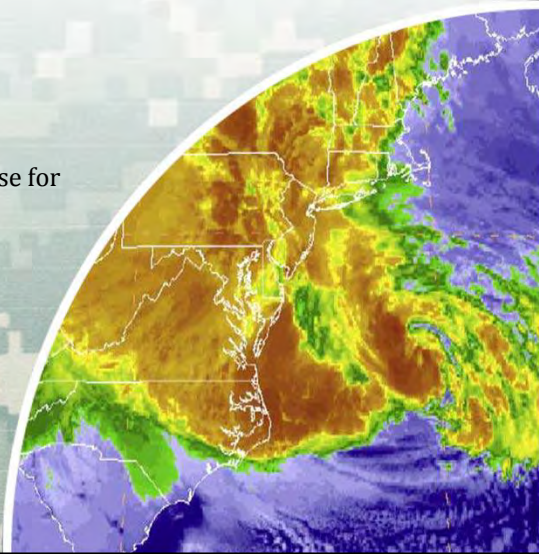
Attachment C

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 Klonsky



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

5

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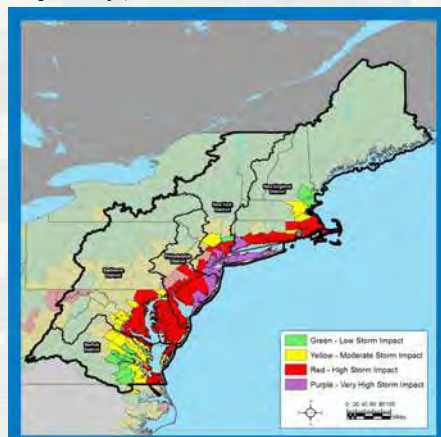
NACCS Background

“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.



6

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<u>Technical Teams</u>	<u>Products</u>
<ul style="list-style-type: none"> ❑ USACE Enterprise ❑ Agency Subject Matter Experts <ul style="list-style-type: none"> ▪ Engineering ▪ Economics ▪ Environmental, Cultural, and Social ▪ Sea Level and Climate Change ▪ Plan Formulation ▪ Coastal GIS Analysis 	<ul style="list-style-type: none"> ❑ Coastal Framework <ul style="list-style-type: none"> ▪ 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
	<ul style="list-style-type: none"> ❑ <u>Not a Decision Document</u> <ul style="list-style-type: none"> ▪ No NEPA ▪ No Recommendations
7	 BUILDING STRONG®

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



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8

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





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

North Atlantic Coast Comprehensive Study, Visioning Meeting
Coastal Rhode Island



Photo 1- Grover Fugate (CRMC) provides opening remarks



Photo 2 – Ginger Croom (CDM Smith) presents NACC'S background to the participants

North Atlantic Coast Comprehensive Study, Visioning Meeting
Coastal Rhode Island



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

North Atlantic Coast Comprehensive Study, Visioning Meeting
Coastal Rhode Island



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

North Atlantic Coast Comprehensive Study, Visioning Meeting
Coastal Rhode Island

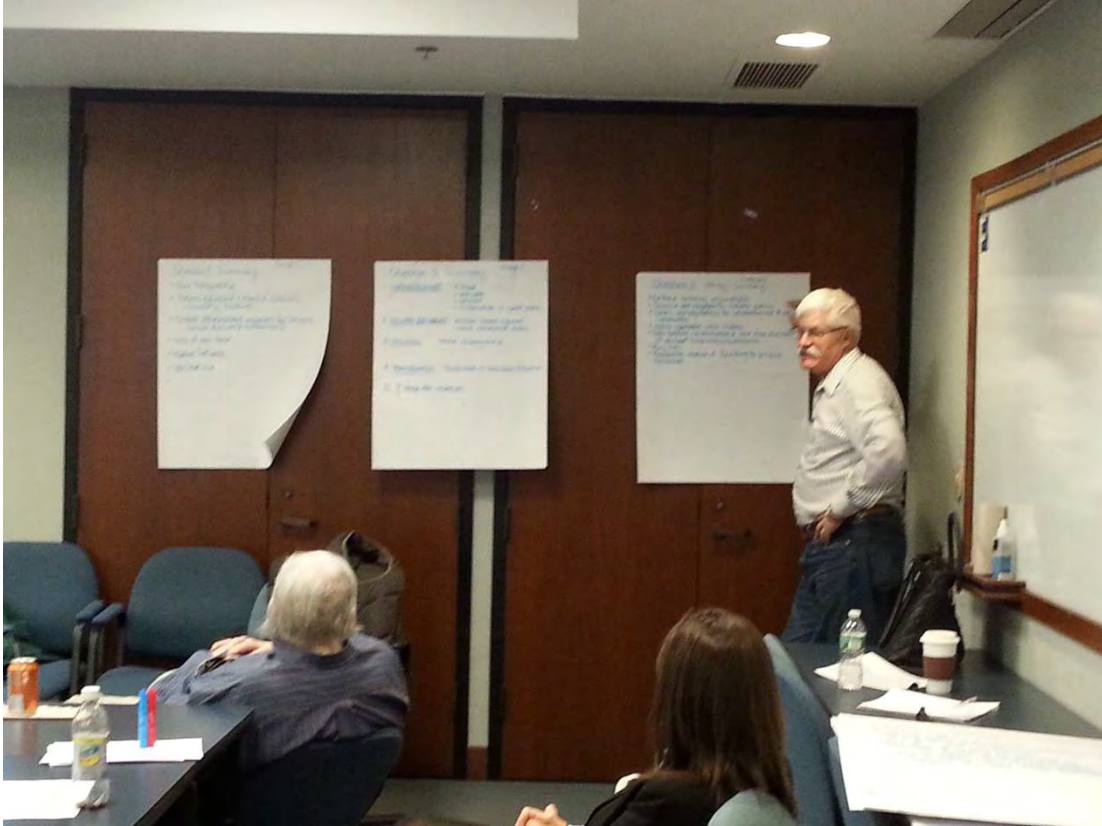


Photo 7 – Thomas Gentz (Town of Charlestown) presents the responses of Group C to the others



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: ~~saratkins@cityofnewport.com~~ saratkins@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
negli 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

~~water supply, power supply, Newport Harbor damage, vulnerable neighborhoods, economic pressure, social services, issues w/ bridges, access to supplies~~

P

**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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Jon Bartholomew*

EMAIL:

Organization: *USACE/RIED*

Jon.Bartholomew@usace.army.mil

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

USACE
Shoreline, AT Risk TO SCOUR - SURFACE EROSION
WASH, FLOODING, EROSION, INUNDATION
+ SEA LEVEL RISE

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd

EMAIL: jboyd@cruc.ki.gov

Organization: CRUC

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 DeLue

EMAIL: mdelue@
narragansett.ri.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, and 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
Organization: CRMC

EMAIL: gfugate@crmc.ri.gov

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!

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**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014**

Name: Tom Genti

EMAIL: TBGENT2@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 lowers Town infrastructure (Charlestown Beach Rd) and moves sand inland that either has to be removed or replaced. On Quoniam beach, homes are not raised but on CBR many homes have been raised due to our excellent building official and his education. Two Breezeways get filled in and rocks dislodged so dredging & rock replacement must be done. Ecological impacts of salt ponds & fish spawning are vulnerable.

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014**

Name: *Chris Hoffield*

EMAIL:

Organization: *USACE*

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

- I represent alot of communities. I think the largest risk is the low lying development that is really in trouble w/ increasing sea levels coupled w/ storms.

- People's mindset about shoreline change has to change.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Emilie Holland
Organization: RIDOT

EMAIL: emilie.holland@dot.ri.gov

Question 1: How is your ^{area of responsibility} community 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.

~~IMMEDIATE~~
LONG TERM

loss of infrastructure ~~roads, bridges, culverts~~

outdated design
due to ↑ development
& sea level rise

damage to other resources from improperly sized culverts.

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
Organization: GSOHRI

EMAIL: jwking@mail.uri.edu

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: Stephen McCallister
Organization: Town of Charlestown

EMAIL: SMcCallister@CharlestownRI.org

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Kate Michaud*
Organization: *Town of Tiverton*

EMAIL: *kmichaud@tiverton-ri.gov*

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

- drinking water supply vulnerable to storm surge / dam breach
- 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*
Organization: *TSK*

EMAIL: *v.murray@southkingstownri.com*

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
- neg impacts to seasonal + year round beach communities -
- eco-base impact - tax base impact (tourism)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Bryan Oakley
Organization: Eastern CT State Univ

EMAIL: oakleyb@easternct.edu

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

Westerly, RI

- Surge inundation (Pawcatuck, Misquamicut, Watch Hill etc...)
- Frontal erosion - barriers + beach guards
(Building collapse)
- Tree damage → infra structure
→ power
→ phone
→ travel
- ↳ River flooding, for 'wet' storms
↳ travel

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PRESLOTT

EMAIL: DPRESLOTT@SAVEBAY.ORG

Organization: SAVE THE BAY

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

COASTAL EROSION
SLR / COASTAL FLOODING / INUNDATION
RIVERMINE FLOODING
ECONOMICS / TAX BASE / DEVELOPMENT
SALT MARCH LOSS
SWW INTRUSION

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Sam RubinoFF

EMAIL:

Organization: RI Sea Grant

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

- Development along the shore, by private property owners, makes development decisions lot by lot, with solutions to flooding, erosion etc ~~different~~ different + often erratic.
- Each town has their own visions, plans, boards + politics that play out locally.
- difficult to implement regional land-based solutions.
(not impossible)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Marilyn Shellman

EMAIL: mshellman@wastecorp.org

Organization: Town of Westerly

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

We are a town.

- Rivers on 2 sides
- central 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.ORG

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Jess Stinson
Organization: RISMA

EMAIL: jessica.stinson@ema.ri.gov

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, Charles Town, Narragansett, etc) and West Bay island communities for access issues
- infrastructure + vulnerable structures to storm surge inundation

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
- Hills 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@CITY OF NEWPORT.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 PEG

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~~ areas

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: JOM BOOTHBY EMAIL:

Organization: USACE/CRD

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd

EMAIL: jboyd@crnk.ri.gov

Organization: CRNK

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

- relocate vulnerable infrastructure to inland locations
- assist coastal wetlands by accommodating migration/transition to upland areas
- educate public on storm surge dangers/vulnerabilities
- elevate at risk structures above BFE (Freeboard 2+ feet)
Subsidize construction costs to offset coseismic exposure

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014**

Name: *Grover Fugate*
Organization: *CRMC*

EMAIL:

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

I wish I knew

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Gent

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?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Chris Hatfield*
Organization: *USACE*

EMAIL:

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

local
• I know ~~state~~^{local} / Federal agencies are aware and working to make better policy regarding developing/rebuilding in the coastal region.
• I know the feds are building sea level rise into the projects wise building.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Enilia Holland

EMAIL: enilia.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. .SM migration
- Sh Rise
- 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 LID. may help offset some
of the damage that would otherwise
accompany ↑ development

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: BOB JOYAL

EMAIL: RJOYAL@

Organization: TOWN OF COVENTRY

COVENTRYRI.ORG

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: John King
Organization: FSO RI

EMAIL: jking@wotf.usace

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Stephen McCandless

EMAIL: SMcCandless@CharlestonRI.org

Organization: Town of Charleston

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 unnatural influences

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Kate Michaud*
Organization: *Town of Tiverton*

EMAIL: *kmichaud@tiverton.ri.gov*

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

- *Adapt or retreat w/ coastal infrastructure/development
(allow for marsh migration)*
- *Plan new development based on data:
vulnerability forecasts/assessments*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Vin Murray
Organization: TSK

EMAIL: vmurray@SouthKingstownRI.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

↳ can neck rd

→ Residential → by attrition? via Digger/Water?

② Elevate existing structures

Again, town/state set examples!

Redize that the line in the sand is
not a solid line & is not
sustainable!

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PUGSLEY

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

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 ^{vulnerable} shore - 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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: MARILYN SHELLMAN EMAIL: mshellman@westafg.org
Organization: TOWN OF WESTPORT

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

- Stop financing reconstructions & move humans out.
- Restore natural environmental so humans can't manipulate it, relocate commercial nodes to safer locations.

~~B~~
C

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014**

Name: Mark Stankowitz

EMAIL:

Organization: CHARLESTOWN

MSTANKOWICZ@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*
Organization: *RIEMA*

EMAIL: *jessica.stimson@ema.ri.gov*

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

Infrastructure

- mitigation efforts to ^{inadequate} upsize culverts
- elevation of roadways
- bridge assessments & reinforcements

elevation or acquisition of res. or commercial structure 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 Vardi (?)

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 withstand the increasing number of storms and associated wind & wave damage.

~~To address~~

Stop allowing to ~~build~~ build in flood zones.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: N. VINTHATHIRAN

EMAIL: nvintathirano@assurance.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 reforms
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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Sarah Atkins*
Organization: *City of Newport*

EMAIL: *saratkins@cityofnewport.com*

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.) ~~the~~ alternate power sources
AS THE OCEAN STATE

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 CHMC permits)

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 buyouts of vulnerable properties in groups to preserve open beach areas

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Tom Costantino* EMAIL:

Organization: *USACE/ASD*

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

*1) enforce stronger flood
& budgets*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Michael DeLuna

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 ~~the~~ specific criteria that may actually prohibit further reconstruction of damaged properties.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Groves Fugate
Organization: CRMC

EMAIL: g.fugate@ccmc.riga

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Tom Gente

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 & scientific facts &

All the retreat, overrun and let nature take its course will conflict w politicians listening to only those effected.

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 NPIP reform go thru - no grandfathering on subsidized rates
- Don't reward (through incentives) 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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Emilie Holland*

EMAIL: *emilie.holland@dot.ri.gov*

Organization: *RI DOT*

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 acceptance that some action NEEDS to be taken

*→ increasing coordination between
state agencies
 *planning
 data sharing
 resource sharing**

→ developing a ^{coordinated} plan to reduce vulnerability and implement prioritized mitigation actions.

→ I ♥ Biggert Waters

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: BOB JOYAL
Organization: COVENTRY

EMAIL: RJOYAL@
COVENTRYRI.
ORG

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

PROHIBIT CONSTRUCTION IN
AREAS SUBJECT TO ^{REPETITIVE} STORM
DAMAGE.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: John King
Organization: ESOLURI

EMAIL: jsking@mail.uri.edu

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Stephen McCandless

EMAIL: smc@address@charlottesville.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

~~- Allow more frequent~~

In areas that are somewhat permanently altered by structures allow more accessible maintenance

- use maintenance efforts for replenishment

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)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Vin Atkinson*
Organization: *TSK*

EMAIL:

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

- PUBLIC EDUCATION ON CONT. BASIS TO gain consensus on COASTAL Resiliency planning, Policies Programs and needs.
-
- Adequacy of resources to implement efforts to address

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?

- ① Local scale
↳ relax building codes so coastal properties can elevate to account for storm-surge + sea level rise (elevation + setback)

- ② State/Fed scale → focus on requiring plans to relocate damaged infrastructure + plan for future storms + SLR on future construction
i.e. Conan Neck Rd, Block Island

③ [Make engineers think like a geologists!]

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: DAVID PRESOTT

EMAIL: DPRESOTT@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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Pam Rubinoff
Organization:

EMAIL:

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: MARLENA SULLIVAN

EMAIL: msullivan@usace.army.mil

Organization: W&A

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

Reduce repetitive losses. Claims
Only provide \$ for

1. Replacement \$ to elevate
2. If destroyed again
3. Buyout \$ only. or
4. Use your own \$ to rebuild

**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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Jess Stimson*
Organization: *RIEMA*

EMAIL: *jessica.stimson@ema.ri.gov*

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

More stringent development ^{Standards} ~~requirements~~
- higher freeboard
- stronger building code
- limit rebuilding in vulnerable areas

The NFIP should continue ~~all~~ along BW-12 track.

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 ~~as~~ in high-hazard, repeat-impact locations (create incentive to NOT rebuild, or penalize rebuilding)

enforceable 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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: NATHAN VINHATEIRO

EMAIL: nvinhateiro@ascsumi.com

Organization:

RPS ANA

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

Short-term

Actuarial risks in Flood zone
- restrictions on rebuilding after ^{storm} events

Mid-term

Rolling easements

Long-term

Carbon tax / cap + Trade

~~to~~ End to energy subsidies or shift subsidies

to non-GHG energy sources

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Joe Warner
Organization: Town of Charlestown

EMAIL: j.warner@charlestown
ri.org

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

- Flood Insurance such as the BWI2 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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Jon Boothroyd*

EMAIL:

Organization: *USACE/RI*

Jon.Boothroyd@USACE

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

SUB SITE 1, 2, 3

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: James Boyd
Organization:

EMAIL:

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

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 including CRC at URI Bay Campus and the Statewide Planning Program.

Could the 3 organizations correspond to share their work?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: Grover Euzade
Organization: CERMZ

EMAIL: geuzade@cermc.ri.gov

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 technical capability to deal with these issues.

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 x1244
vmurray@southkingstownri.com*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Rhode Island / February 27, 2014

Name: *Sam Robinson* EMAIL:
Organization: *R1 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)

DRAFT

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 Kennedy	USACE	Chief of Party	John.Kennedy@USACE.mil	978-318-8205
Chris Hatfield	USACE	Project Manager	christopher.hatfield@usace.army.mil	978-318-8520
Brian Thompson	CT DEEP	Director USFS	brian.thompson@ct.gov	860-424-3650
DAVE Williams	Private	ME	GPA.DAVE@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
Nicole Burnham	Milone & MacBroom	PM	nicoleb@miloneandmacbroom.com	203-271-1773
SALVAIN DEGRASSE	UCONN	DIRECTOR CTSG	SALVAIN.DEGRASSE@UCONN.EDU	860-405-9138
Cary Wassmer	City of Milford	CITY Engineer	gwassmer@ci.milford.ct.us	203-283-3261
PAUL CORRENTI	CTDOT	TSP	PAUL.CORRENTI@ct.gov	860-594-2932
James Albis	CGA	State Rep	james.albis@rga.ct.gov	203-435-8577
Tom Gorman-Lay	TN New Fairfield CT	ZISO CFM	TGormanLay@NewFairfield.org	203-405-1893
Jon Manson	USGS	Hydrologist	JManson@usgs.gov	860-291-6761
Diave Ifkovic	CT DEEP	EA III	diave.ifkovic@ct.gov	860-424-3537
Karen 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	860-422-9000
Emily Pys h	DEMHS	SHMO	Emily.Pysh@ct.gov	860-770-5442
JOHND PLANTE	LANGAN	MANAGING PRINCIPAL	jplante@langan.com	203-562-5771
Michael Lettieri	DELO	CO Director	michael.letteri@ct.gov	860-70-8128
George Bradno	DOI	Director	george-bradno@ct.gov	810-297-3866
Walter Smith	Old Saybrook	CONS. COMM.	WSMITH@scg.com	—
David Blatt	DEEP OLISP	Supervising Coastal Planning	david.blatt@ct.gov	860-424-3610
ADAM Wheelchel	The Nature Conservancy	Director of Science	awheelchel@tnc.org	860-970-8412
Mackey McCleary	CT DEEP	Deputy Commissioner	mackey.mccleary@ct.gov	860-424-3060
Bonnie Reimsnyder	Old Lyme	First Selectwoman		
Jennifer O'Donnell	Coastal Ocean Analytics	CEO	jodonnell@coastaloc.com	860-961-2467
Reun Mase	Guilford	Environmental Plan	maseel@ci.guilford.ct.us	203-453-8074
Rosary Wiestnick	CT DEEP	Bureau Chief		
FRANNIE BUI	CDM SMITH	ENGINEER	BUIFA@CDM SMITH.COM	0174526288
JAMIE LEFKOWITZ FRANNIE BUI	CDM SMITH	ENGINEER	LEFKOWITZ@CDM SMITH.COM	0174526288
GAIN GEE ORLOOM	CDM SMITH	PROJECT MANAGER	ORLOOM@CDM SMITH.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

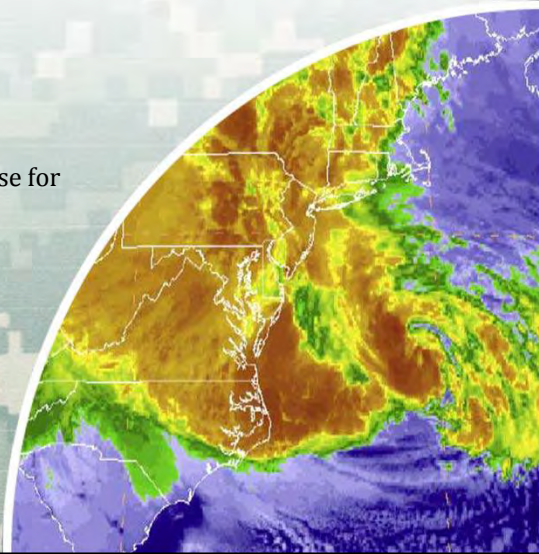
Attachment C

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

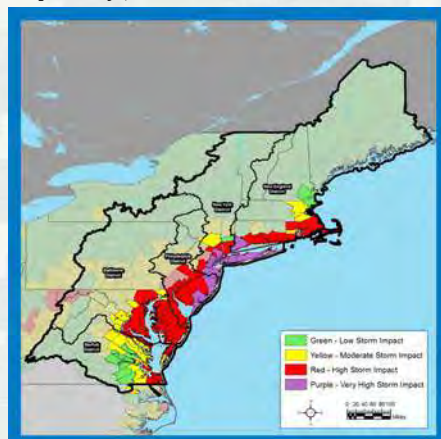
5

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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.



6

BUILDING STRONG®


<u>Technical Teams</u>	<u>Products</u>
<ul style="list-style-type: none"> ❑ USACE Enterprise ❑ Agency Subject Matter Experts <ul style="list-style-type: none"> ▪ Engineering ▪ Economics ▪ Environmental, Cultural, and Social ▪ Sea Level and Climate Change ▪ Plan Formulation ▪ Coastal GIS Analysis 	<ul style="list-style-type: none"> ❑ Coastal Framework <ul style="list-style-type: none"> ▪ 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
	<ul style="list-style-type: none"> ❑ <u>Not a Decision Document</u> <ul style="list-style-type: none"> ▪ No NEPA ▪ No Recommendations
7	 BUILDING STRONG®

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



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8

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

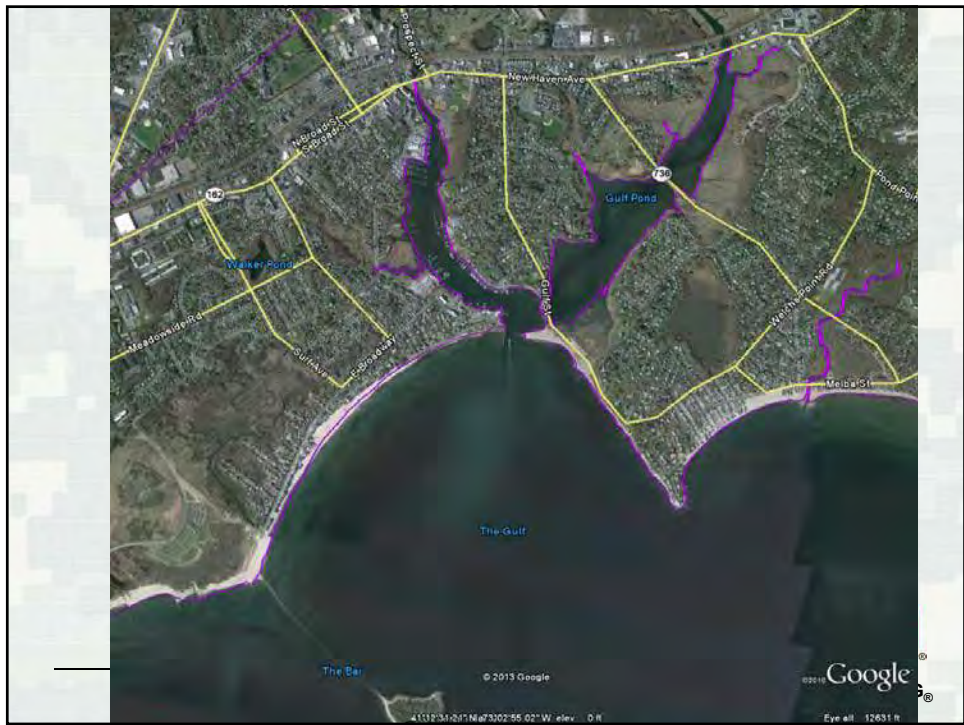
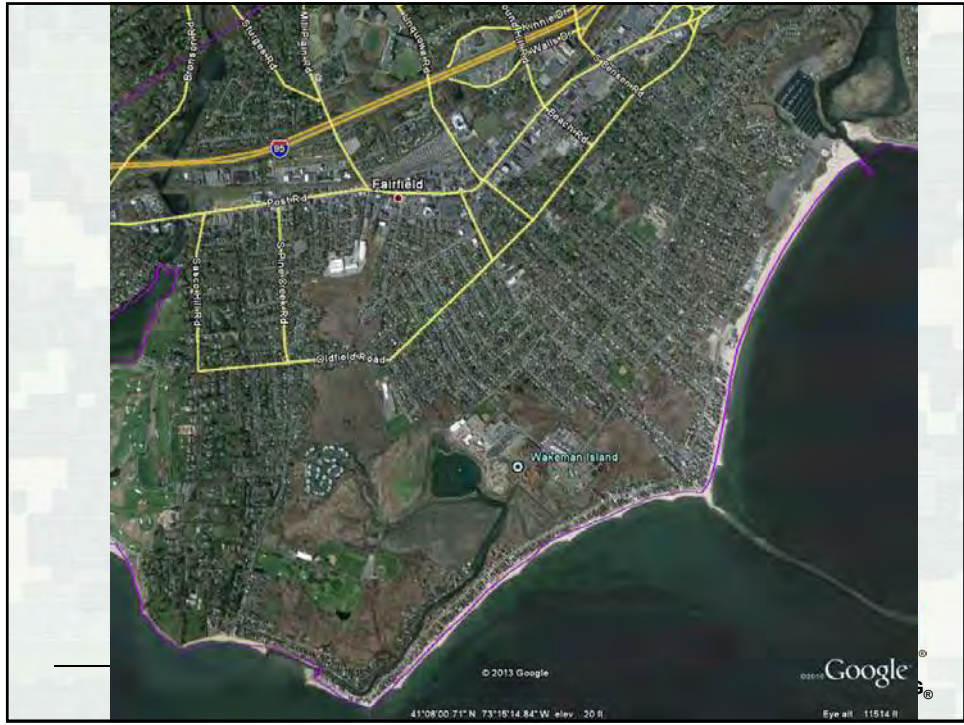
- Prospect Beach, West Haven - Fall 2014
- Woodmont Beach, Milford - 4/1/2014

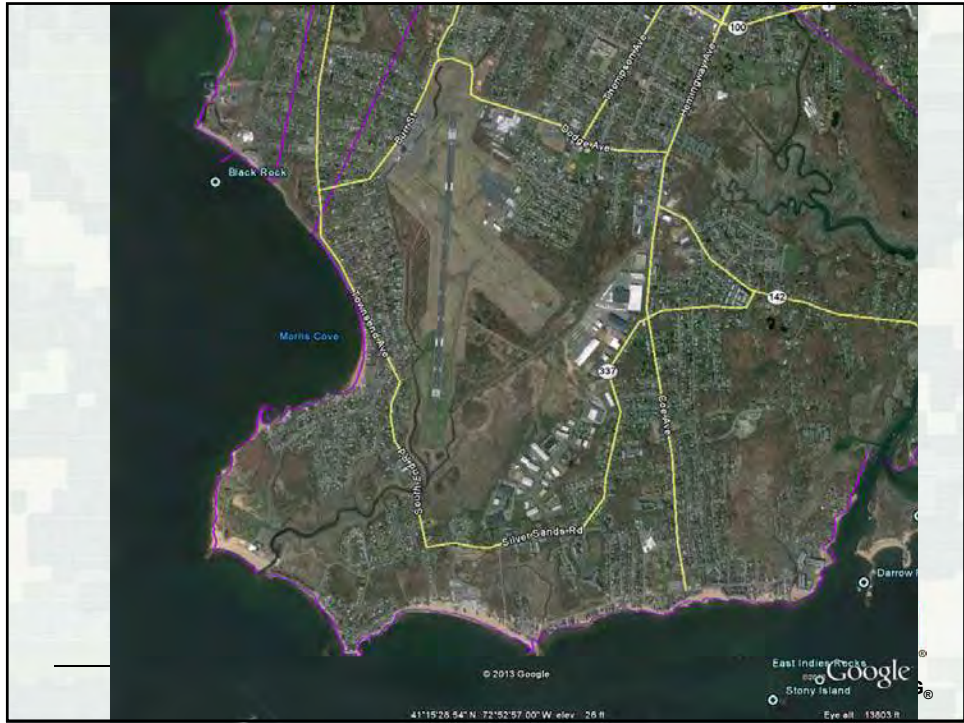


USACE Coastal Storm Damage Investigations Initiated (P.L. 113-2)

- 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







Other Recovery Efforts



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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

North Atlantic Coast Comprehensive Study
Coastal Connecticut



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

North Atlantic Coast Comprehensive Study
Coastal Connecticut



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

North Atlantic Coast Comprehensive Study
Coastal Connecticut



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

North Atlantic Coast Comprehensive Study
Coastal Connecticut



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

North Atlantic Coast Comprehensive Study
Coastal Connecticut



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
Organization: CGA

EMAIL: james.albis@cgact.gov

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

The Coxy 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 many 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.

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**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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Brandner
Organization:

EMAIL:

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

- Storm surge / Flooding coastal ^{Riverine} ~~Riverine~~
- Sewer WIND LOSS
- Low income Housing / Disability
- Trees
- Power
- Economic / Business impacts Large + small Business
- uninsured Risk
- Ground LIST impacts / Tax Base
- ~~WAST Treatment~~

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Nicole Burnham

EMAIL: nicolleb@miloneand
macbroom.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/harshment

lack of regional coordination - impacts of armoring or other improvements

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: PAUL CORRENTI
Organization: CT DOT

EMAIL: PAUL.CORRENTI@CT.GOV

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 System
LENGTH OF TIME under flow -

0

**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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis
Organization: CT DEEP

EMAIL: Peter.franis@ct.gov

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@NewFairfield.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 streams we are vulnerable in many ways.

I am starting to see for the first time elevation certs which are now being pushed primarily by Ins Cos. I feel most inf thing is mitigation but necessary structures which have in the past not always worked i.e.

New Orleans.

most inf way that will possibly keep you people from getting into sensitive areas. High 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
Organization: CT DOT

EMAIL: michael.hogan@ct.gov

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

- Flooding - Road Flooding-emergency access/evacuation
Coordinating efforts state wide?
- Inland Flooding associated with Precipitation from coastal storm events.

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Thomas Lane*
Organization: *Waterford*

EMAIL: *tlane@waterfordct.org*

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, sewer
destruction of residential homes
Isolation issues for military camp & UI loss of plant
from flooding*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Mike Lettier
Organization: OELW

EMAIL:

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

- Zoning (out dated, inappropriate)
- Flooding
- Out dated infrastructure
- Lack of planning (long term) ~~that~~ include communication
- Emergency response equipment
- Data collection (damage related economic impact)
- Clearly identified coast weakness/weak points
-

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Kevin Magee

EMAIL: mageek@c.townofguilford.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 damaged properties
- 4) Railroad located in flood area
- 5) Wave damage to coastal wetlands
- 6)

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@coastaloc.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

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 SOLUTIONS

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 ~~THE~~ AMTRAK TO RELOCATE TO AN INLAND ROUTE
- GW RISE DUE TO SLR (SEPTIC SYSTEMS, ETC)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Emily Pysh*
Organization: *CT DEMHS*

EMAIL: *Emily.Pysh@CT.GOV*

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 under water
• Limited Access.

— Encouraged development ~~is~~ 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 ~~also~~ 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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: DAVID SUTHERLAND

EMAIL:

Organization: THE NATURE
CONSERVANCY

dsutherland@tnc.org

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.

~~Roads~~
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

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 & SUR :- IMMEDIATE VL. LONG TERM
5. AWARENESS

USACE North Atlantic Coast Comprehensive Study (NACCS)

Visioning Session

Connecticut / February 28, 2014

Name: Brian Thompson

EMAIL: brian.thompson@ct.usace.army.mil

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Gary Wassner
Organization: City of Milford

EMAIL: gwassner@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 ~~the~~ decision making regarding evacuation during/before storms
- Community Outreach and residents 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: ~~Adam~~ ADAM WHELCKIEL

EMAIL: awhelckiel@nac.org

Organization: The Nature Conservancy

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

Throughout our Coastal Resilience Program I have had the privilege of facilitating 20 coastal and inland Community here in Connecticut through a Vulnerability/strength assessments alongside a HAZARDS and Community Resilience Workshops process. The most common vulnerability concerns include impacts to:

⇒ Infrastructure - age and capacity
Bridges; Emergency facilities; electric waste water systems
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, IIRF
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
Organization: DEEP-OLISP

EMAIL: david.blatt@ct.gov

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

Buy-out 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.

Home rule

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Bradner
Organization:

EMAIL:

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Nicole Burnham

EMAIL: nicole.burnham@miloneandmacbroom.com

Organization: Milone & MacBroom

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

\$L for

- + planning / mapping of vulnerable areas w/ long term mitigation planning
- + regional planning for resilience / marsh restoration / ~~regional plan~~ marsh restoration

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Paul Corrente
Organization:

EMAIL:

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
at a of unknowns

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: SYLVAIN DEGUIRE

EMAIL: SYLVAIN_DEGUIRE@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
 (+ MAPPING)
IMPROVE PREPAREDNESS + RESPONSE

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis

EMAIL:

Organization:

peter.francis@ct.gov

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 ~~the state~~. Sea level rise.
- Improve designs and encourage use of living shoreline approaches

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 ~~the~~ ^{an} Associate 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 harm's way
2. Disincentivize building of structures in sensitive areas
3. Purchase areas convert to open space - protect sensitive flood plains

D

**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 (gauge stations), precipitation data

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Diane Ifkovic
Organization: CTDEEP

EMAIL: diane@ifkovic
ct.gov

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

Tougher regulatory standards coupled with ^{fee/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*
Organization: *Town of Waterford*

EMAIL: *tlane@waterfordct.org*

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 Lettieri*

EMAIL:

Organization:

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

- Zoning
- Planning
- communication

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Kevin Magle

EMAIL: maseek@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 ~~prop~~^{building} further from the shoreline
- Elevation of Roads + increasing size of culverts to facilitate drainage of upland areas
- Reserve areas for septic system above the flood area increase setback areas from wetlands
- 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*
Organization: *CT DEEP*

EMAIL: *karen.michaels@ct.gov*

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 presence 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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Jennifer O'Donnell

EMAIL: jodonnell@coastalca.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 approaches to balance conflicting concerns
outreach/educate stakeholders
→ biologists, town planners, engineers, residents, economists,
political policy, insurance agencies, landscape architects,
geologists, and so on

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 REGIONAL ZONING (THRU CAM)
 - MUNICIPAL & PRIVATE GRANTS TO UPGRADE INFRASTRUCTURE & FACILITIES.
- (HOO - REBUILD BY DESIGN ?)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Emily Pysh*
Organization: *CT DEMHS*

EMAIL: *Emily.pysh@ct.gov*

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*
 - o *ASCE 24-05*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *B. Reemsnyder*

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.

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 - INCREASE DENSITY FOR TAN BAY
RETREAT & INCREASE NATURAL BUFFER

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Brian Thompson*
Organization: *CTDEEP*

EMAIL: *brian.thompson@ct.gov*

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

Green infrastructure / UFD 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.

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 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 ~~the~~ community with flood insurance
- Acquisitions are nearly impossible to get elected officials to buy into.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Adam Whelchel

EMAIL: awhelchel@nrc.org

Organization: The Nature Conservancy

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

- => Comprehensive All-hazards Workshops that brings Communities together to originate Proactive Risk Reduction projects, actions and policies.
- => Regional Resiliency Framework established to assist and roll-up collective mitigation actions within and across Community
- => More Mitigation = Less response/recovery
- => Recognition and incorporation of natural defenses conserving Existing + Future + restored/Degraded
- => Higher Freeboard standards and regulation of Coastal A zones & V zones

- => Further restriction of development adjoining Floodplains ^{redesignated}
- => more Buy-outs with State Bonding for 25% match

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *DAVE Williams*
Organization:

EMAIL: *gpadave@mac.com*

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

- PLAN*
- *TRAINING + Exercises*
 - *Retreat or Harder*
 - *Awareness + adapt*
 - *Plan for Future*
 - *Face Reality, Retreat or Rebuild*

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Blatt

EMAIL: david.blatt@ct.gov

Organization: DEEP-OLSP

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 = ~~is~~)

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

~~Goal~~ Create authority & funding to rebuild dunes, wetlands, oyster reefs & other natural protections

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: George Bradner
Organization:

EMAIL:

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

- ~~Legislati~~
- Legislation - Adapting 2012 International ^{NO Δ'S} ~~From Code~~
Bldg Standards + Fortified Bldg STD
in valuable areas
- Funding to assist towns / ^{Region} ~~in~~ Resilience
Program -
state + federal
- Tax incentive to encourage residents to ~~towns~~
mitigate for wind + water
- Federal For states to be eligible for
~~STAFF~~ ^{FEMMA} Act Assistance + funds must
Adopt Fortified construction Techniques
much like towns need to be PART of NACCS

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Nicolle Burnham*

EMAIL: *nicolke@milone + macbram.com*

Organization:

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

- *Prohibit^{nor 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*

A

**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



USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: SYLVAIN DEGUISE EMAIL: SYLVAIN.DEGUISE
Organization: CTSEA GRANT/UCONN @UCONN.EDU

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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Peter Francis
Organization: CT DEEP

EMAIL: peter.francis@ct.gov

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.

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014**

Name: Michael Hogan
Organization: CT DOT

EMAIL: michael.hogan@ct.gov

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: Diave Ifkovic
Organization: CTDEEP

EMAIL: diave.ifkovic@ct.gov

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.

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 not only on one area but take into account the surrounding areas done by policy & laws

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Mike Lettieri

EMAIL:

Organization: OECW

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

- Not allowing building/re-build along the coast
- Standardized building codes and rebuild to more resilient standards
- Require recovery planning
-

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 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 bay mit planning efforts to encourage improvements in local & state bay mit planning activities.
- comprehensive assessment of all fragmented coastal resilience / bay mit efforts throughout state gov & subsequently local gov's levels.

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 Planner

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

= State or regulatory policy regards Rebuild after storms, and c'

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014**

Name: Jennifer O'Donnell

EMAIL: jadonnell@coastalca.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 BWI2

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 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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: *Emily Pysh*
Organization: *CT DEMHS*

EMAIL: *EMILY.PYSH@CT.GOV*

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: B Reemnyder

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: wsmith48@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

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: David Sotheland
Organization:

EMAIL:

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.

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 area
Comprehensive vulnerability assessment & implementation #

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Gary Wassmer
Organization: City of Milford

EMAIL: gwassmer.e
ci.milford.ct.us

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

Legislative Solution:
Educate ~~legists~~ legislators on the cost benefit analysis and show how infrastructure resiliency projects are much more beneficial than individual home owners.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: Adam Whelchel

EMAIL: awhelchel@trc.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 ~~define~~ enabling the use of nonstructural solutions for erosion control (Living shorelines, Wetlands, etc...)

⇒ State Bonding For Buyouts (25% Match For FEMA HMAs) (Voluntary)

⇒ Financial Incentives to encourage or direct smarter development and redevelopment.

⇒ 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 - that define types and extent of development

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 mod. by
(no tax \$ for flood zone rebuilding)
- 2) Flood insurance real rates
- 3) Land use, business / private
local, state, Fed
- 4)

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Connecticut / February 28, 2014

Name: ADAM WHELCHER

EMAIL: awhelcher@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.

⊙⇒ 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 approaches to coastal erosion control.

□⇒ Review the approach provided through the Caribbean Catastrophic Risk Insurance Facilities (Swiss Re)

□⇒ Review the disaster risk assessment for Gulf of Mexico - (Entropy/Swiss Re)
"Building a resilient 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.

D ⇒ By placing Corps projects within the context of regional resilience the overall "Risk Profile" for Connecticut can be reduced.

→ Budgeting projects; Restoration Projects; etc...

D ⇒ Move From Singular projects to singularly but linked project within a regional Resilience Framework

Comprehensiveness - 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)

DRAFT

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 Gambrell	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	BUIFAC@CDMSMITH.COM	617 452 6288
Karla Roberts	USACE	Study Manager	Karla.a.roberts@usace.army.mil	410-962-3865
Martha Newman	USACE	Environment	Martha.newman@usace.army.mil	410 962 4590
Ginger Croom	CDM Smith	PM	croomgl@cdmsmith.com	617 452 4594
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 Birch	USACE	Engineer/Planner	daniel.m.birch@usace.army.mil	910-962-6139
SASHA PRYBOROWSKI	NOAA IOCM	PM deputy coordinator	SASHA.PRYBOROWSKI@NOAA.GOV	301-713-2702 X111
MELISSA WILLIAMS	MDTA	PLNG MGR.	mwilliams9@mdta.state.md.us	410 537 5650
MATT TETT	MDTA	Emr. Mgr.	mtett@mdta.state.md.us	410 537 5680
Steve Welzant	Balt. Co. OEM	Emer. Mgr.	swelzant@baltimorecountymd.gov	410-887-5997
David Libbins	USACE	Project Manager	David.W.Libbins@usace.army.mil	410 962 0685
Kevin M. Gambill	AACO - PTZ	STRATEGIC PLANNER	kgambill@acoaccounty.org	410-222-7482
Justin Mannion	Harford County DES	Planner	jmannion@harfordpublicsafety.org	443 619 1805

**NACCS Visioning Session
Baltimore Metropolitan Area - 3/6/2014**

Name	Community/Agency	Title	E-Mail	Telephone
Kristin Bata	CITY OF BALTIMORE (BOS)	CLIMATE + RESILIENCE PLANNER	KRISTIN.BATA@BALTIMORE.GOV	410-396-5917
Michael Schuster	USACE - BALT.	PLANNING + ENVIRONMENTAL SERVICES CHIEF	MICHAEL.J.SCHUSTER@USACE.ARMY.MIL	410-962-8160
Erik Meyers	THE CONSERVATION FUND	VICE PRESIDENT	emeyers@conservationfund.org	703-906-5801
Zoe Johnson	MD DNR	Program mgr	zjohnson@dpr.state.md.us	410 266 8774
Michel Sheffer	MD SMTA	GIS coordinator	msheffer@the.state.md.us	410 5455557
Marisa Lewis	USACE NAB	Environmental Protection Sp.	marisa.n.lewis@usace.army.mil	410 962 2926
Ken Widelski	NWS	ERS-MET	kenneth.widelski@noaa.gov	703-996-2201
Jon Dillow	USGS	SOPV. HYDROLOGIST	jdillow@usgs.gov	443 498-5524
Genevieve LaRouche	USFWS	Field Supervisor	genevieve-larouche@fws.gov	410-573 4573
Darlene Finch	NOAA	N. Atlantic Coord. - xpr	darlene.finch@noaa.gov	410-280-2391

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

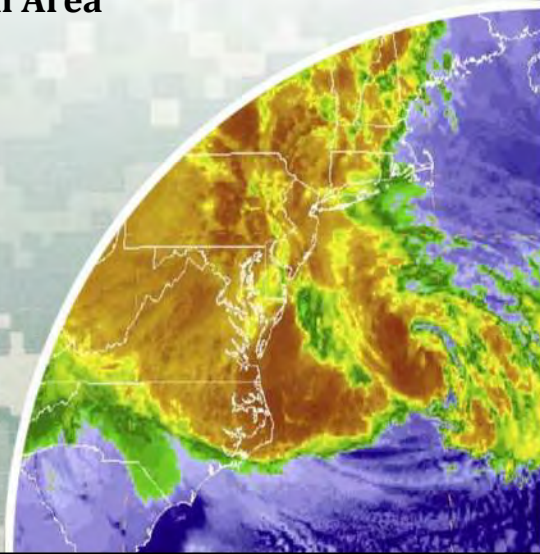
Attachment C

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

5

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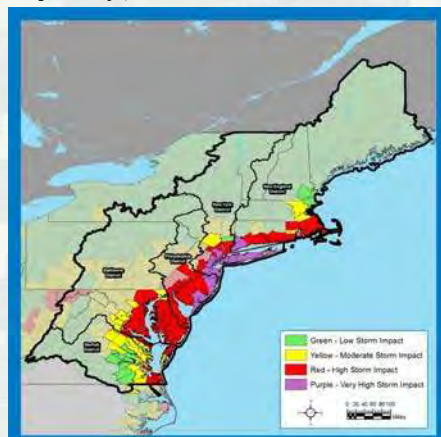
NACCS Background

“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.



6

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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



7

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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)



8

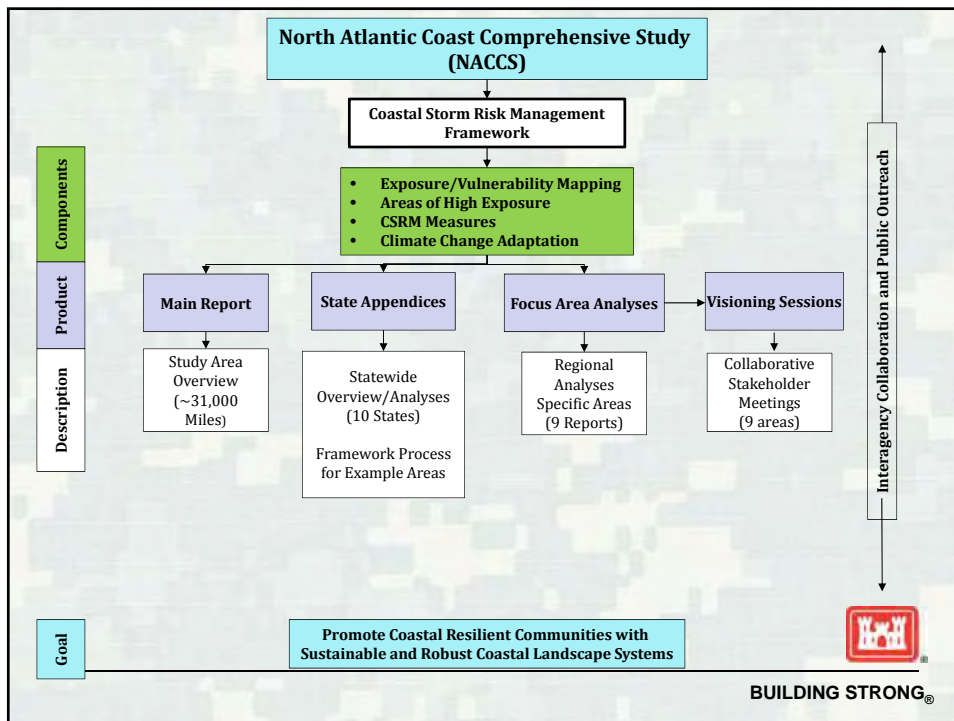
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NACCS Next Steps (Six Month Snapshot)

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



Focus Area Analysis

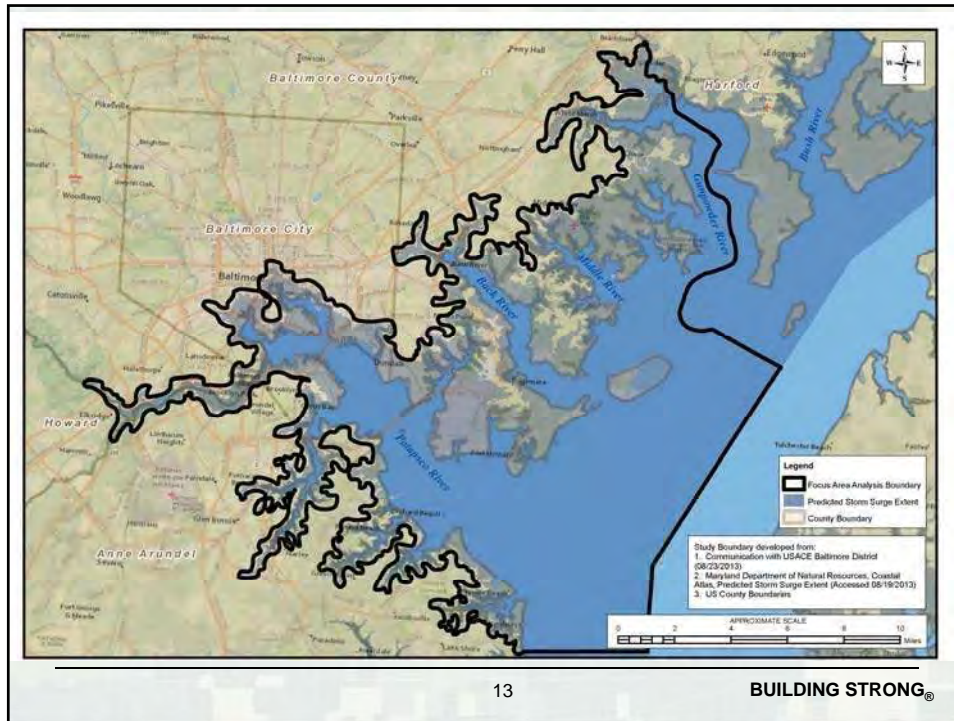
Baltimore Metropolitan Area



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

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area



Photo 1- Larry Eastman (USACE) provides opening remarks



Photo 2 – Dave Robbins (USACE) presents the meeting agenda

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area



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

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area



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

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area



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

North Atlantic Coast Comprehensive Study
Baltimore Metropolitan Area



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 - PART SHUT DOWN, RAIL LINES, BLOCKED ROADS, WORKERS NOT COMING 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 (1% OF POPULATION WITHOUT CARS)
PEO 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 Bivally

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 structural 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 low stability during storm events
- Although we don't own military infrastructure, we do service these areas and they have vulnerabilities.
- In coastal areas especially Ave. Bay, we have ecosystems projects (ie wetlands) that are valuable

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Jon Dillow
Organization: USGS

EMAIL: jdillow@usgs.gov

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
- REVID ✓ - 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)
- ZOE ✓ - 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 Finck EMAIL: darlene.finck@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 ~~to~~ consideration (e.g. fisheries)
- supporting investments that will be damaged by storms (e.g. CERP)
- pursuing comprehensive planning efforts that don't consider ~~the~~ future storm risk
- coastal facilities and development of new facilities

- ① Implement Resource management responsibilities
- ② community planning — current and future ③
- ③ Facilities and properties →

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014**

Name: KEVIN M. GAMBRILL

EMAIL: pzgamb35@accountry.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 + W/ PUMPING STATIONS + WATER LINES + SEWER FORCED MAIN.
- 1b. • TEMP INUNDATION OF PRIVATE SEPTIC + POT 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: 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/communities/developers to protect + restore identified key habitats.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Justin Mannon

EMAIL: jmmannon@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 substantiated, 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
- detection/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 compromised
- projects USACE is responsible for, like Ocean City dune protection, are ~~at~~ vulnerable to damage. ~~the~~ 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.pryborowski@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.

Integrated Ocean + Mapping

~~Agency~~ Part of NOAA I work in collect

Among other req ->

data after the storm to aid fed / state / local planners ; interested in coordinating 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/invasion

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 NAUIGATIONAL CHANNELS THAT USACE IS RESPONSIBLE FOR MAINTAINANCE
- 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*
Organization: *MD SHA*

EMAIL: *mSheffer@DelawareState.us*

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 proactive 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 abutment 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. ~~Sub~~ 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 TEIT

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 ~~and~~ 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/ FFM
Navigation channels + ecosystem restoration projects
are vulnerable

No actual USACE FFM projects in Baltimore
area that I am aware of

In general -

- Bldg + infrastructure damages - many are vulnerable
- sea level rise
- lack of protection, FFM 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, FROSTBURGH, 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@

Organization: Balt. Co. OEM

baltimorecountymd.gov

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

EMAIL:

Organization: MDTA

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
Nico => 301 (DC)
Q95 => FSK bridge
I-95 - Hwy - Tydings
845 - Tunnels
25
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~~ 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
Organization: CITY OF BALTIMORE

EMAIL: KRISTIN.BASA@BALTIMORECITY.GOV

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 (FELS POINT)
 - PROACTIVE PLANNING

 - COORDINATION W/ ^{ALL} AGENCIES, NAOS, STATE, FEDERAL
- PUBLIC SERVICES**

 - PROACTIVE PREPAREDNESS EDUCATION + COORDINATE W/ COMMUNITIES + INDIVIDUALS / FAMILIES. GAIN UNDERSTANDING OF EVACUATION ROUTES, SHELTERS, FOOD / WATER BACKUP, EMERGENCY KITS, EMERGENCY SERVICES

 - BUILDS UPON REVERSE 911
- NATURE RESOURCES**

 - PROACTIVE + THOUGHTFUL PLANTING - SPECIES THAT TOLERATE SALT WATER, SUBMERSION
- OUT OF CEM. REG.**

 - UTILITY LINES UNDERGROUND - AWAY FROM WATERFRONT
 - ZONING / FLOODPLAIN REGS - FLOODPROOFING + FREEBOARD STANDARDS

FLOOD LEGISLATION - ZONES - INSURANCE REQ.

2-D RINGING, MODURNG, FLOOD DEPT CRISIS

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 Birby

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 tide but the increase in design wave height
- movement away from hard structures and toward more natural solutions (NINBF)

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014**

Name: Jan 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
	(post-SANDY)
	- IN-PROGRESS INCREASES TO DATA-COLLECTION RESOURCES WILL PROVIDE MORE SPATIAL DATA FOR VARIOUS STORM SCENARIOS TO ALLOW IMPROVED MODEL ACCURACY AND
STAGE	LOCAL SURGE/INUNDATION FORECASTING, AND
QW	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@naccs.usace.army.mil

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.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Darlene Finch
Organization: NOAA Coastal
Services Center

EMAIL: darlene.finch@noaa.gov

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 reforms
2. incentives to implement at least consistent w those scenarios to take precautions

- Risk communication that is effective and targeted

⊕ including assessment of most vulnerable and early notification

other impacts of climate change

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Kevin M. GAMBELL

EMAIL: kgamb35@accounty.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?

FUT

• INTEGRATE SUR/STORM SOEGE DATA INTO DAILY PLANNING ACTIVITIES.
— TRACK PLANS/MANDATE ELEVATION DATA

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 sea + 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 shore line 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) ^{community rating system}

→ more interest in CRS (safer, more resilient communities)

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 debury structures vs. restoration

USACE North Atlantic Coast Comprehensive Study (NACCS)
 Visioning Session
 Baltimore Metropolitan Area/ March 6, 2014

Name: *Eric Meyer*
 Organization: *PCF*

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 forms 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: jmannion@harfordpublic
safety.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
- MOU/MDA
- 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
Organization: USACE

EMAIL:

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

- improve ^{and communication} visability of risk, both to public and political decision 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
Organization: NOAA

EMAIL: SASHA.PRYBOROWSKI@NOAA.GOV

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

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)

preplanning

Mixed

- coordination increasing (concepts sea sketch all)
↳ NOAA focused on making communities more resilient
↳ and to end communication + coordination

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: David Robbins
Organization: USACE

EMAIL: david.robbins@usace.army.mil

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

planning
- Risk, Mentoring of exposed, vulnerable, future conditions / risks
- return decision making process

Redundancy
- a combination of measures to reduce risk with 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 → BWA 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 ~~FOR~~ 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 Sheffer

EMAIL: mSheffer@Sheffer.com

Organization: MDSA

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
Organization: Maryland SMA

EMAIL: wtardy@sta.state.md.us

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

1. Drainage System failure
 - A. Adaptive ~~to~~ Stormwater ~~design~~ System design, involving:
 - Precipitation Projections (2050/~~20~~ 2100) → Intensity, Duration, Frequency covered.
 - 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 ~~infrastructure~~ infrastructure within the floodplain (or nearby)

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: *MATT TEITZ*
Organization: *MDTA*

EMAIL:
mteitz@mdta.state.md.us

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

- ① Early warning system for ~~water~~ 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
Organization: USACE

EMAIL: stacey.m.underwood
@usace.army.mil

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

Organization: MDE

EMAIL: Kevin.Wagner@
maryland.gov

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

- INTERNAL PLANNING / COOP (TELEWORK, REMOTE SITES)
 - COORDINATION w/ STAKEHOLDERS
 - CROSS-TRAINING
- ↓
FIELD OFFICES?

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Steve Welzant
Organization: Balt. Co. OEM

EMAIL: swelzant@
baltimorecountymd.gov

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. noti. systems.
- enhancing social media capabilities

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014**

Name: Ken Widelski

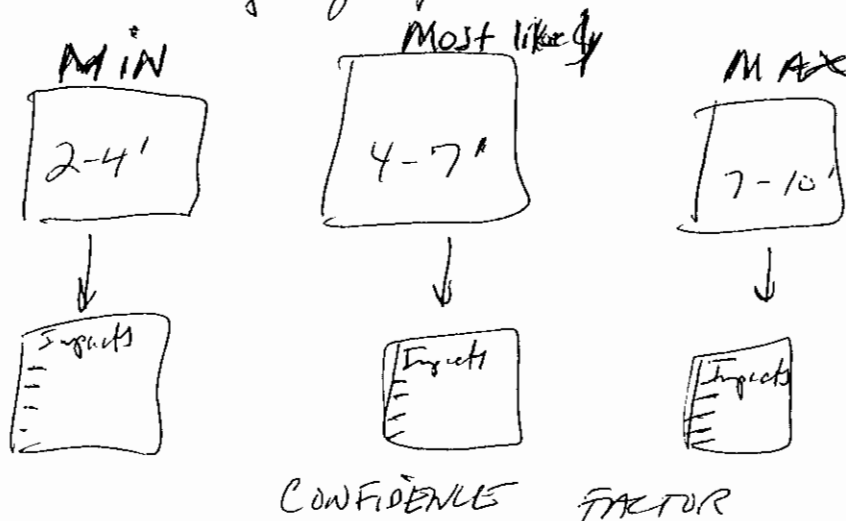
EMAIL: kenneth.widelski@noaa.gov

Organization: MWS: 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:



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: MELBA WILLIAMS

EMAIL:

Organization: MDTA

mwilliams4@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 ~~the~~ 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 ^{cat X or} 50kt winds _{specific} in 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 BASS

EMAIL: KRISTIN.BASS@

Organization: CITY OF BALTIMORE

BALTIMORECITY.GOV

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
Organization: USGS

EMAIL: jidillow@usgs.gov

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

AUDENHAAKE

- CONTINUED, 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@naccs.usace.army.mil

Organization: NOAA/NWS

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

development of a comprehensive collaborative database of critical ~~assets~~ coastal assets and impacts if affected.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Kevin M. Campbell

EMAIL: pzgamb35@accounty.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 INUNDATIONAL / 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
 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: *Erik Dreyer*
Organization: *TEF*

EMAIL: *edreyer@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 SLE => extreme storm events, in ~~design~~ public & private infrastructure ~~and~~ design and general development.

+ Requirement to offset impacts that increase off site 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
Organization: USACE

EMAIL:

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 PRYBORSKI*

EMAIL: *SASHA.PRYBORSKI@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.

**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

usace.army.mil

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

Standards for solutions

- 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 Sheffer*
Organization: *MDSAA*

EMAIL: *mshaffer@sha.state.md.us*

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 ~~adapting~~ & adaptation measures.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: *Matt Tefft*

EMAIL: *mttefft@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~~ ^{ambiguity} of "take climate
change into consideration"

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: STACEY UNDERWOOD
Organization: USACE

EMAIL: Stacey.m.underwood
@usace.army.mil

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
Organization: MDE

EMAIL: Kevin.Wagner@
maryland.gov

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 NEIP POLICIES?)

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014**

Name: Steve Welzant
Organization: Balt. Co OEM.

EMAIL: swelzant@
baltimorecountymd.gov

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@usace.army.mil

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 to plan for & take action to prevent loss of life & property.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: MELISSA WILLIAMS

EMAIL:

Organization:

mwilliams9@mdta.state.
md.us

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~~ 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 Festrctr

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
requirement for flood insurance
Goal -> Get people out of ^{the} floodplain + infrastructure

before ~~at~~ time of purchase

Attachment F

General Comments

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Baltimore Metropolitan Area/ March 6, 2014

Name: Erik Meyer EMAIL: emeyer@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 tides & storm surge can add more localized flooding & slow discharge 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. 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
Organization: MDE

EMAIL: Kevin.Wagner@
maryland.gov

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 MAKE UP. 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" ~~FOR~~ 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

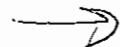
Overall Comments: Please use this space and the back if you have comments that you would like to convey to the NACCS team.

(Range & possible solutions)

① National Weather Service - Baltimore/Washington serves much of the MD Chesapeake Bay and our greatest challenges are forecasting water level rises & predicting what ~~the~~ 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 & communicate so that action can be taken by residents. (Proper communication & ACTION!)
Also - impacts from both fresh & saltwater flooding.

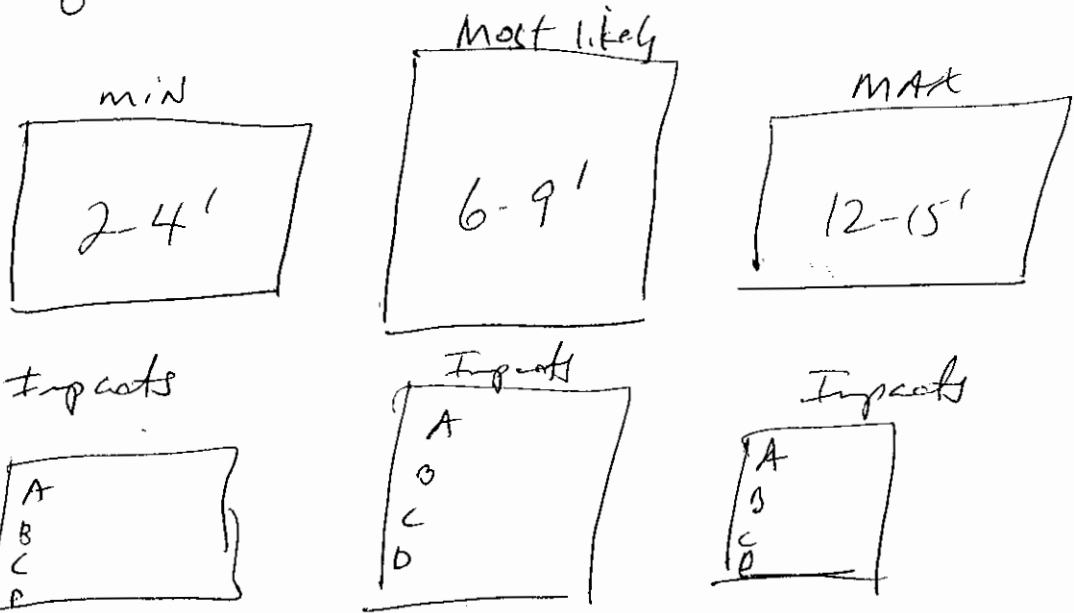
Bay is complex to forecast

* 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)

DRAFT

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
Karina 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	JHMU	Matthew.Wall@vdem.virginia.gov	804-897-4473
Anthony Farmer	NAUFAC	Structural Engr	anthony.farmer@navy.mil	757341.0150
Taura Huxley	NAVFAC Atlantic	Natural Resources Spec.	taura.a.huxley1@navy.mil	757-382-4754
Susan Conner	USACE	Deputy Chief, WRD	susan.l.conner@usace.army.mil	757-201-7390
Carol Conshine	ODU	Associate Professor	cconshin@odu.edu	757-683-7785
Scott Smith	NORFOLK	PROJECT MANAGER	Scott.Smith@norfolk.gov	757-823 4079
Brian Joyner	Moffatt ENRON	COASTAL ENGINEER	bjoyner@emoffattscholar.com	757-628-8222
ERIC SEYMOUR	NOAA/NWS	SERVICE HYDROLOGIST	eric.seymour@noaa.gov	757-899-6401
Robert Tajm	Norfolk	Senior Planner	Robert.Tajm@norfolk.gov	664-4784
Lenny Newcomb	Norfolk, Planning	Zoning Admin	lenny.newcomb@norfolk.gov	757-664-4164
Latoya Vaughn	Norfolk Emergency	Deputy Emergency Management Coordinator	latoya.vaughn@norfolk.gov	757-441-5598
Denise Thompson	Norfolk, PULKS	Env. Protection Agency Mgr	denise.thompson@norfolk.gov	664-4032
Emily Egginton	VIMS	Master's 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	757-201-7525
MARK DUNNING	CDM SMITH	Pm	DUNNINGCM@CDMSMITH	703-966-2398
Frannie Bui	CDM SMITH	Engineer	bui@cdmsmith.com	617-452-6288
Rachel Haug	USACE NORFOLK	planner	rachel.l.haug	757-201-2589
Michelle Hamor	USACE Norfolk	Chief, FPMS	michelle.l.hamor@usace.army.mil	757-201-7491
GEORGE ROBERTY	VDEM	Dir., Recovery Mit.	george.roberty@v-dem.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	757-823-4059
BEN McFARLANE	HRPD C	REGIONAL PLANNER	ben@hrcpa.gov	757-470-8300
JOE ATANZAN	USFF NORFOLK	Physical Scientist	joe.atanzan@navy.mil	757-836-2927
Brian Ballard	NAVFAC JEBLLFS	Community Plans Liaison Officer	brian.p.ballard@navy.mil	462-8421
Richard Broad	City of Norfolk PW	Asst. Director	richard.broad@norfolk.gov	757 359-0659

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

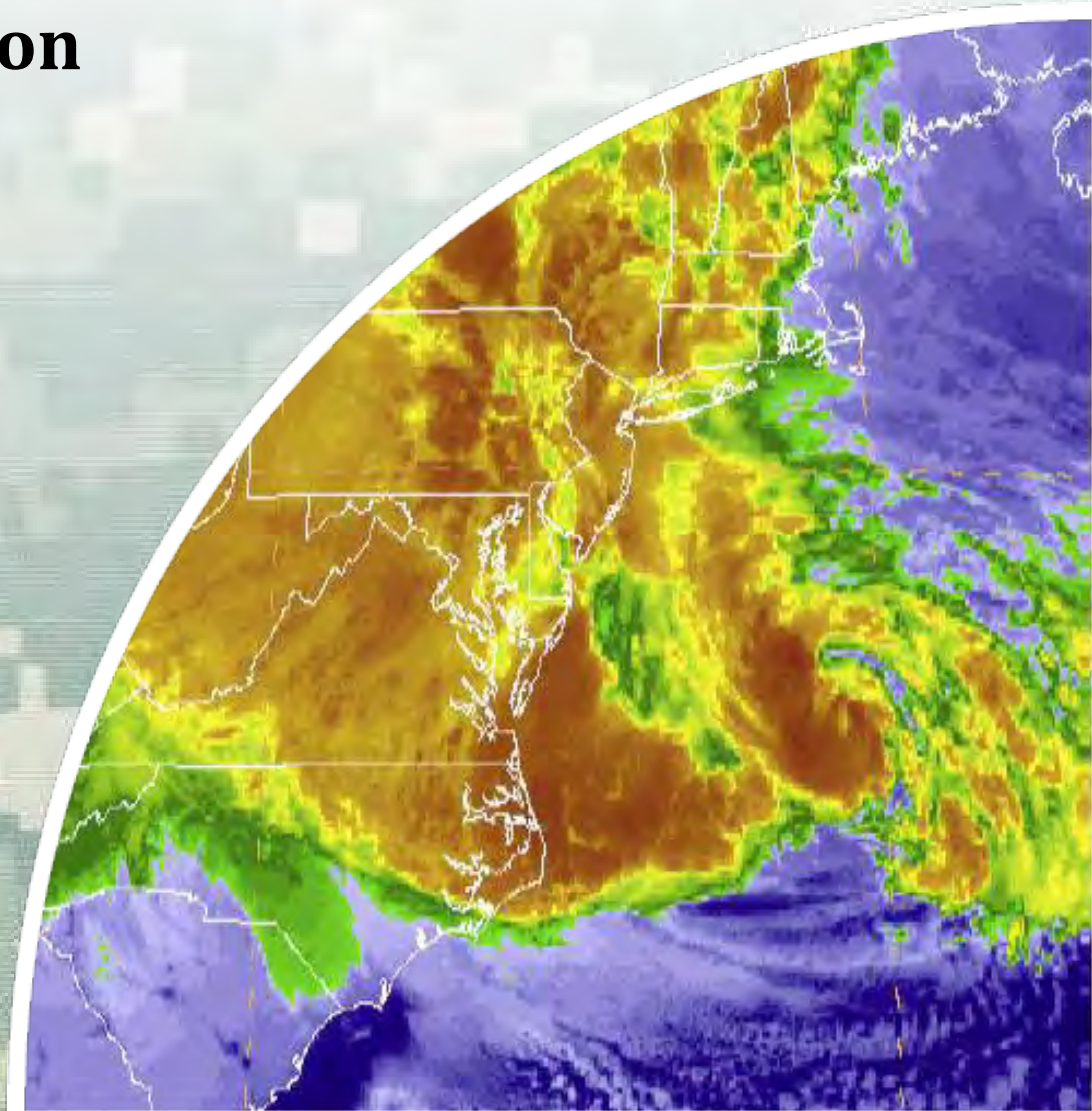
Attachment C

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.

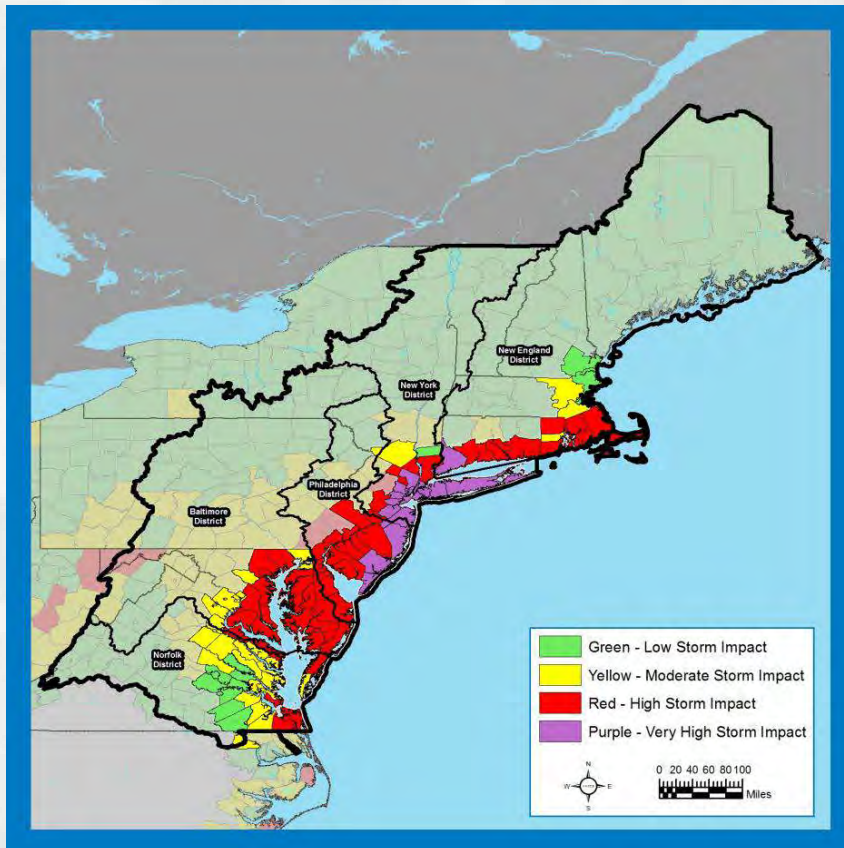


USACE NACCS



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)



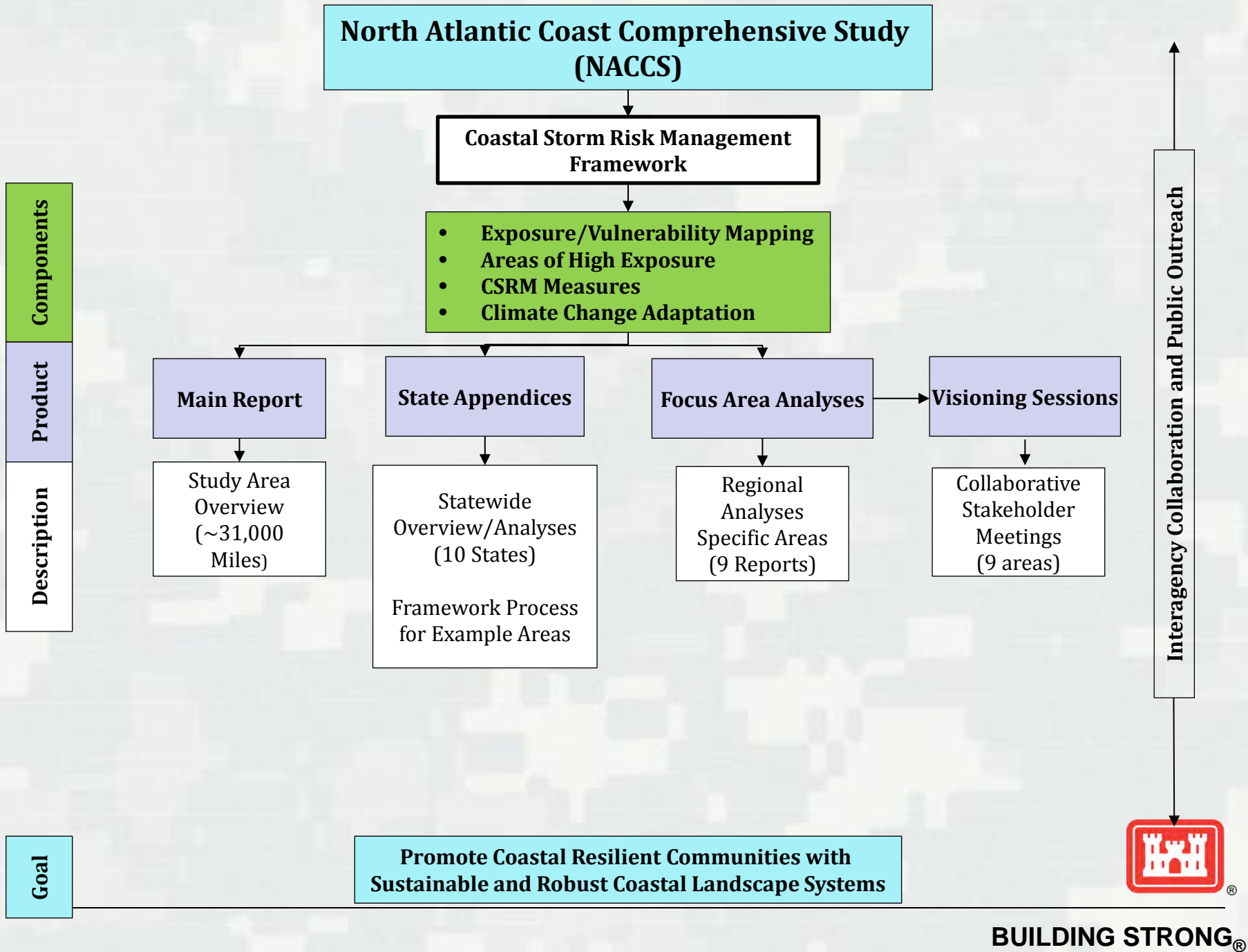
NACCS Next Steps (Six Month Snapshot)

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





QUESTIONS



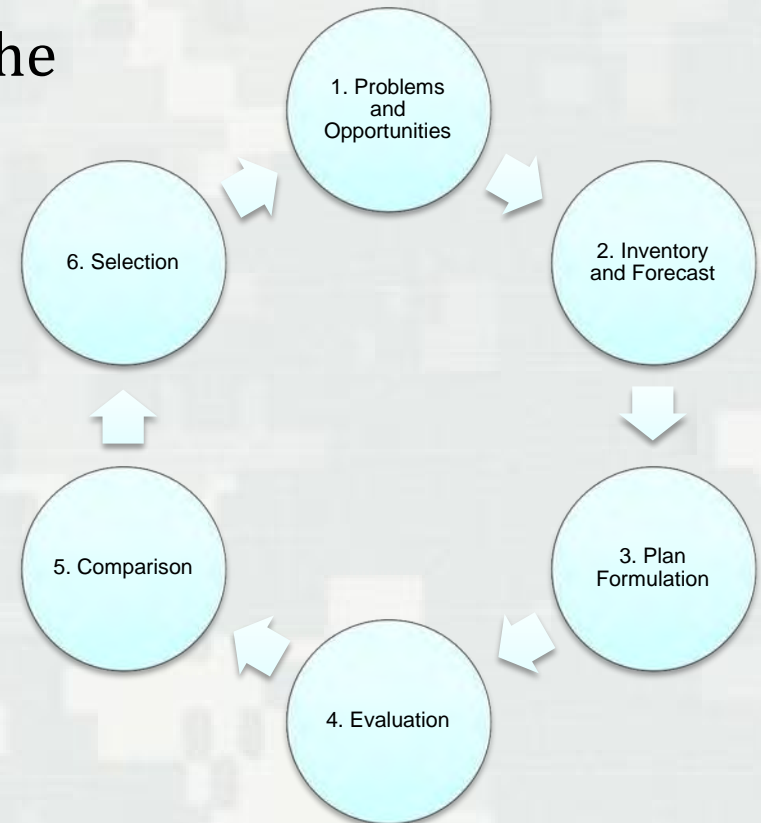
Norfolk Specific Efforts

- **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	Restore Natural 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

North Atlantic Coast Comprehensive Study, Visioning Meeting
City of Norfolk



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

North Atlantic Coast Comprehensive Study, Visioning Meeting
City of Norfolk



Photo 3 – Rachel Haug (USACE) fields questions from the attendees



Photo 4 – Mark Dunning (CDM Smith) explains the topics of the facilitated discussions

North Atlantic Coast Comprehensive Study, Visioning Meeting
City of Norfolk



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

North Atlantic Coast Comprehensive Study, Visioning Meeting
City of Norfolk



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 Bellard (?) 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 resilience
- 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?)

~~Handwritten signature~~

- recognize @ policy and legislative level that the problems exist
- give authority @ local level to implement solutions that fit the specific issues (bottom up) and share best practices that work

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/cheaply 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 action of one could impact another. Funding levels might improve if ~~regional~~ regional initiatives were put forward.

State funding/recognition of SRR/climate change.
State leadership in solutions to climate change.
Comprehensive regional planning so that cities are not duplicating efforts. Research, planning, ~~and~~ risk analysis, etc.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Kwin 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 existing ~~guarantee~~ guarantee framework and something easier to use.

2
storm protection

Currently, VADEQ, VMRC and the USACE allow for residential mowing of freshwater and tidal wetlands. All agencies should work

together to stop or severely restrict this practice.

USACE North Atlantic Coast Comprehensive Study (NACCS)
 Visioning Session
 Norfolk / March 11, 2014

Name: ^{either} Edward DuRant (USACE) ^{or}
 Emily Egerton (VIMS)
 Organization:

EMAIL:

 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 ~~out~~ 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@

Organization: NAUFAC Mid-Atlantic

navy.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?

no one lead organization,

a lot of groups/agencies looking at issue

- States - USACE - VIMS - SERDP - Regions - NGOs

- NOAA - OOU - 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?

- ~~As USACE~~ As USACE, we require a request to ^{Sponsor} ~~initiate a project~~ ^{initiate a project}
- From a Comprehensive, Commonwealth perspective, that initial analysis should be at the state level with the ~~ability to~~ option to partner locally for implementation.
- ~~There~~ 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 necessarily 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
Organization: VIMS

EMAIL: coarl@vims.edu

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?

Mission of the DoD can at times result in conflicts or obstacles to comprehensive requirements

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 don't 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 - what's affordable
 - standardized planning for a region; common data/info. source
 - flood insurance subsidies
 - land use policies don't constrain development in vulnerable areas
 - property rights - vs - zoning

USACE North Atlantic Coast Comprehensive Study (NACCS)
 Visioning Session
 Norfolk / March 11, 2014

Name: BRIM 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] ~~the~~ 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)
Visioning Session
Norfolk / March 11, 2014

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: BKnight02@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 businesses
- 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 inter-tidal 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
Norfolk / March 11, 2014

Name: Lenny Newcomb
EMAIL: lenny.newcomb@norfolk.gov
Organization: City of Norfolk, Planning, Zoning, Flood Insurance

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 state & Federal levels. - Politics - Priorities.
 - lack of clear funding paths as well as funding sources.
 - Dependence to Overstudy the matter.
 - length of time required to conduct studies and to transition in to Action
 - Sandy Initiative. \$20,000,000
 - lack of urgency.
 - levels of bureaucracy.
- Infrastructure

**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 ~~to~~ all these findings is ^{the lack of} a common venue, where the public, and ⁱⁿ particularly 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
 Norfolk / March 11, 2014

Name: *George Roarty*
 Organization: *VD&M*

EMAIL: *george.roarty@VD&M.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 - (univ. econ.) - conflicting/competitive*
 - *Jurisdictional boundaries*
 - *Lack of guidance, funding, data*

- 1B-*
- *Zoning*
 - *Sustained funding mechanisms & sector investment funding*
 - *Prosed 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 novel relocation of people / Areas & 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 - RIBCO 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 Expectation
- ③ Agency - involvement.
- ④ Duplication of EFFORT - RE INVENTING WHEELS
- ⑤ STREAMLINE - PERMITTING / FUNDING Issues
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 raise concerns.
- ⑦ Dillon Rule

USACE North Atlantic Coast Comprehensive Study (NACCS)
 Visioning Session
 Norfolk / March 11, 2014

Name: Bobby Tajan
 Organization: City of Norfolk

EMAIL: Robert.Tajan@norfolk.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?

- 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 source not saving that does not ~~also~~ hinder a locality

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Denise Thompson
Organization: City of Norfolk
Dept. of Public Works
EMAIL: denise.thompson@Norfolk.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?

- 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's 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

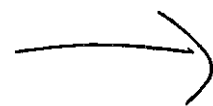
Name: MATTHEW WALL

Organization: VDEM

EMAIL: matthew.wall@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?

- Conflicting Agendas & Authorities
- VERY slow processes
- Inability to articulate ~~single~~ single definitions or accept hazards (goals)
- Federal/State/Local separation of powers
- Ability to influence private entities
- Measures of effectiveness (constitute source of info)
- Funding ~~case~~ understanding that the economic risk is for all



- 1) require all Federal agencies to utilize the same data & info in their processes
- 2) "Single Stop" Clearance for permitting
 - A) 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 measures 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 FORTRESS
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 DEFINING WHAT'S AT RISK.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Brian Mulford (?) 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.
-
- ① Do much more to educate public to do more to be prepared and protect their own property rather than depending on government to protect/rescue them
 - ② Link risk reduction/resilience to concrete economic benefits
-
- A true 100-year event is an acceptable level of risk for most people.

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

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 - programmatic funding to educate ~~agat~~ 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@

Organization: USACE

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?

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.

Norfolk raised freeboard to 3' above ~~100 year~~ 100 year flood but other cities are still @ 1'.

Infrastructure improvements - raising streets to protect properties.

② VDOT implementation of 64 evacuation strategies after Katrina reduced ~~the~~ some risk.

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
property damage: acceptable
human life: unacceptable
infrastructure: major infrastructure ~~protected~~ (critical) 500 yrs
minor infrastructure 7 RISK

Catastrophic risk management - ice sheet melt
How do we account for this.

USACE North Atlantic Coast Comprehensive Study (NACCS)
 Visioning Session
 Norfolk / March 11, 2014

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

1. ~~implementation~~ implementation of flood insurance actuarial rates
2. Living Shoreline requirement where technically feasible

1. One that is ~~defined and paid for by private individuals?~~ 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@

Organization: NAVFAC Mid-Atlantic

navy.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?

- only existing codes/guidance, DoD has no uniform mgmt/strategies/approaches
- only on case-by-case basis if planners/designers are aware of CCSLR issues

- need uniform, enforceable guidance

- need to evaluate vulnerability & risk ^{future} planning, relocation

- may be consideration factor in next ~~step~~

- 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 Insurance
 - ✓ - 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
Norfolk / March 11, 2014

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 burdens

~~Other strategies~~

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 residential~~ a commercial area.

**USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014**

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, NNBFF, 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, ^{varying} priorities for each group.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: CARL HERZNER

EMAIL: Carl.Herzner@vims.edu

Organization: VIMS

Topic 2: ¹What management strategies/approaches are currently working to reduce risk from coastal storms? ²What strategies should be implemented to reduce risk from coastal storms? ³What 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.huxley 1 @navy.mil

Organization: NAVFAC Atlantic

Topic 2: ¹What management strategies/approaches are currently working to reduce risk from coastal storms? ²What strategies should be implemented to reduce risk from coastal storms? ³What is an acceptable level of risk?

² strategies that should be implemented to reduce risk:

- 1) rezoning of ~~██████~~ most vulnerable areas to limit development + population density
- 2) overhaul flood insurance program to dis-incentivize building + living in most vulnerable areas
- 3) ~~██████~~ standardize and codify building codes and data

³ acceptable level of risk is too subjective to define in many ways; ^{life? property?}

→ risk ^{is acceptable} only to the level that it doesn't place unfair burdens on "non-stakeholders"

→ individual?
→ locality?
→ regional?
→ national?
→ global?

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
Norfolk / March 11, 2014

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 ~~and~~ ^{creation} + maintenance of these nature-based features. Sandy (and many prior storms) proved the value of ~~the~~ 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 Keifer (?) 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 requirements 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: bmf@hrpdca.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 to elevate or floodproof existing structure.
- ② Current, valid flood maps that guide localities to implement local Floodplain Regulations effective.
- ③ Outreach efforts to encourage citizens to plan, ~~and~~ prepare for storm damage. progressive Building codes.
- ④ Cooperation among governmental agencies to identify ~~and~~ risks and to craft solutions.
- ⑤ Private initiatives - Rockefeller Foundation's 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 / APPROACHES:

- * 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 ~~cannot~~ ^{could} assign levels of risk based on groups of features (social and geomorphic) that localities present in common. ~~these~~
- these need to be defined taking into account all the localities in the region.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: *Morgan Roarty*
Organization: *UDen*

EMAIL:

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, relocation, 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 forecasts of flooding, also more post storm assessment to improve impacts for future events
2. More detailed analysis to improve the location to be improved and enhanced ways to communicate the threat.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Scott Smith

EMAIL: Scott.Smith@nrfolk.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 areas at risk, adjust land use to more appropriate uses.
- Planning on broader strategies, not relying on a specific practice.
- floodwalls, pumps, living shorelines.
- Design to meet 100yr risk associated with storm
- 100yr storm - based on 50yr rainfall.

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: *Bobby Taylor*
Organization: *City of Norfolk*

EMAIL:

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
-

-
- City's 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

denise.thompson

Name: Denise Thompson

EMAIL: @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~~ ^{planning/response} model is effective
- (1) Needed → 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.

* 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 ~~DO~~ Floodplain mgmt
- Short term / small scale mitigation ; raising roads, elevating houses, stormwater infrastructure upgrades etc.
 - Educating public

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Matthew Well

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 / CMA / Beach Preservation

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 impediments to moving forward with implementation of resiliency measures are;

- ① Funding - the \$ needed for large-scale, high-impact resiliency 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
Organization: NAVFAC Atlantic

EMAIL: taura.a.huxley1@navy.mil

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: bmf@hrcpdcva.gov

Organization: HRCPDC

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, 2 yr, 10 yr?
- 2) Study will identify risks, what is the process
for implementation.
- 3) VA DEP, VTRMC Not Present, will be
important in future process

USACE North Atlantic Coast Comprehensive Study (NACCS)
Visioning Session
Norfolk / March 11, 2014

Name: Bobby Tajan
Organization: City of Norfolk

EMAIL: Robert.Tajan@norfolk.gov

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 Wepler – 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/Rensselaer 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 (Rensselaer 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 receptive 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---

