

NOAA Coastal Services Center Update

North Atlantic CZM Partners Meeting

Betsy Nicholson

Adrienne Harrison

Darlene Finch

November 17, 2008

Mystic, CT



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Outline

- **NOAA North Atlantic Regional Team (NART)**
- **Regional Ocean Governance Efforts**
- **CSC Projects in the Region**
 - Coastal Zone 09
 - Training Opportunities
 - Multipurpose Marine Cadastre
 - Digital Coast
 - Community Resilience and Vulnerability Assessment Toolkit (CRVAT)
- **Other CSC Activities**



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North Atlantic Regional Team: FY 2009 Priorities

We are committed to leveraging NOAA's capabilities to better meet the broad range of needs and challenges facing the North Atlantic region.

- **Hazard Resilient Coastal Communities**
 - Chesapeake Inundation Prediction System
 - Coastal Inundation and Visualization Pilots in New England
 - Leveraging Inundation Work for Climate Change
 - Impacts of Climate Change on Marine Mammals in NE
 - Regional Resilience Workshop in New England
- **Integrated Ecosystem Assessments (IEA)**
 - Pilot IEA in the Chesapeake Bay
- **Integrated Water Resources**
 - Engage Susquehanna River Basin Partners
 - Support Stream Gauge Network in the Potomac River
- **Collaborating with NOAA's Regional Partners**
 - Focus Groups on Priority Issues (e.g., Climate Change, Hazard Resilience, Energy, Ecosystem-Based Management, Integrated Water Resources)
- **Solidifying the Team**
 - New Team Leadership
 - Regional Coordinator



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Another 15 ft surge simulation for Saco, Maine looking North and from above.

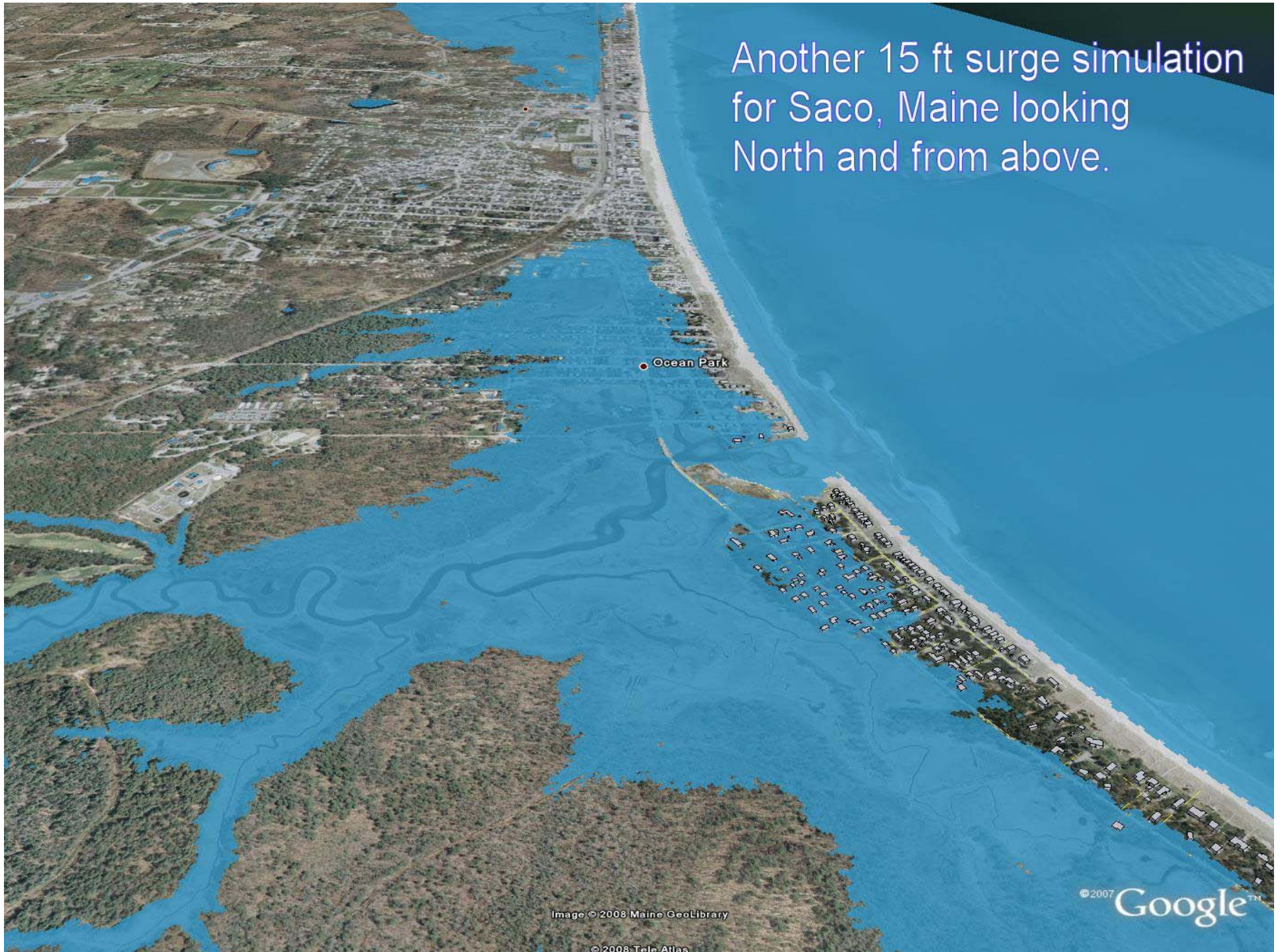
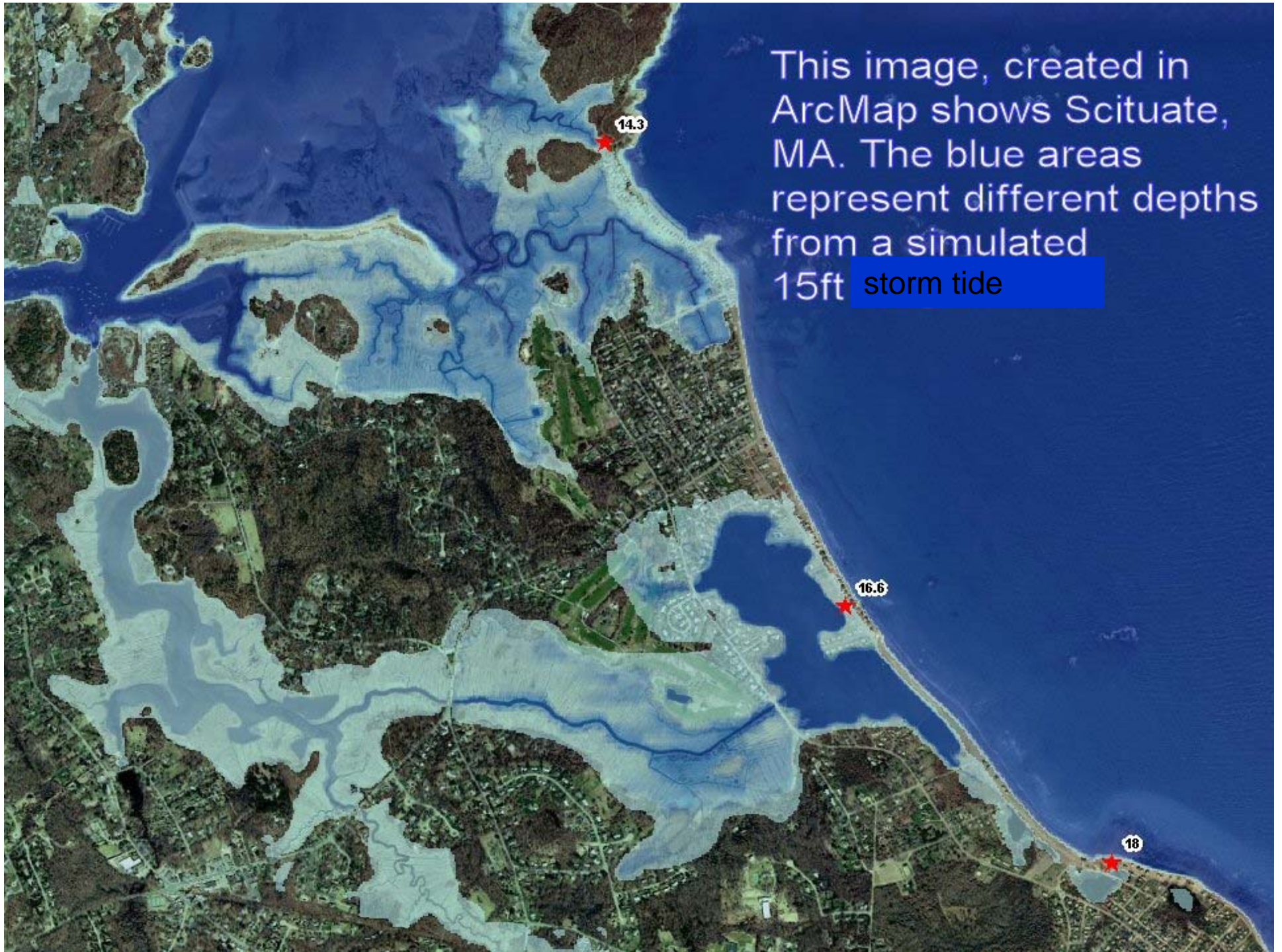


Image © 2008 Maine GeoLibrary

© 2008 Tele Atlas

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This image, created in ArcMap shows Scituate, MA. The blue areas represent different depths from a simulated 15ft storm tide

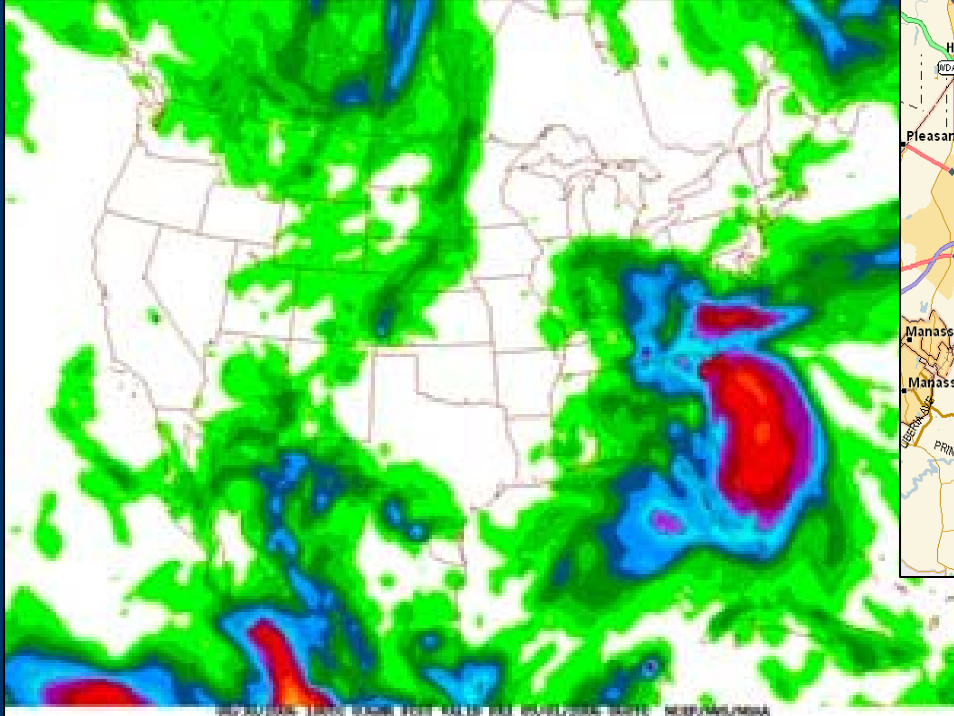


Chesapeake Inundation Prediction System (CIPS)



*Predicting the Next Storm Surge Flood:
A Regional Prototype for a National Problem*

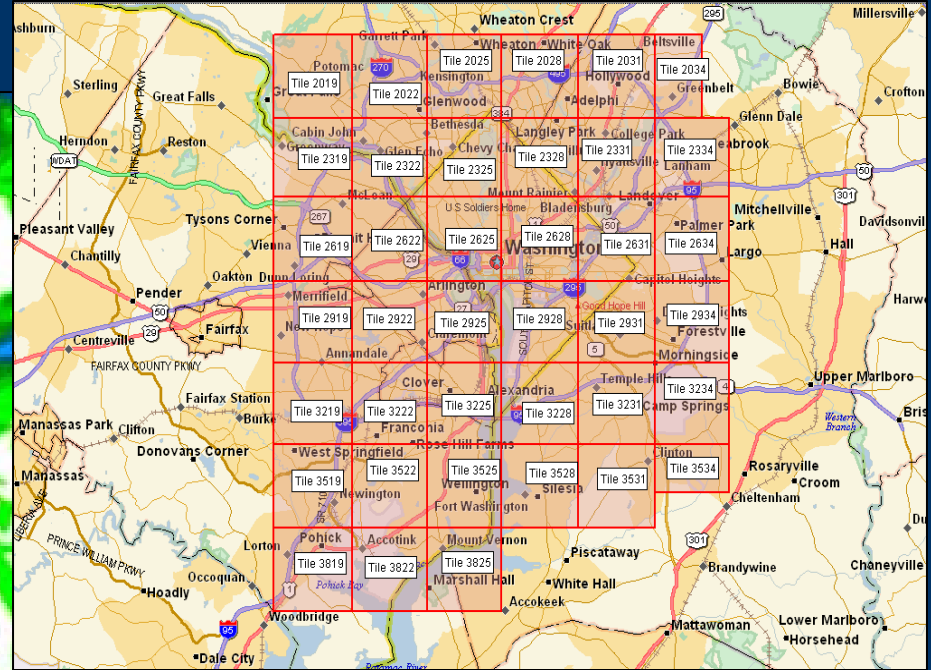
WRF Wind Field for Modeling



NOAA National Weather Service
Wakefield, VA

Horizontal grid
resolution improves from
12 km to 4 km

Washington, DC LIDAR



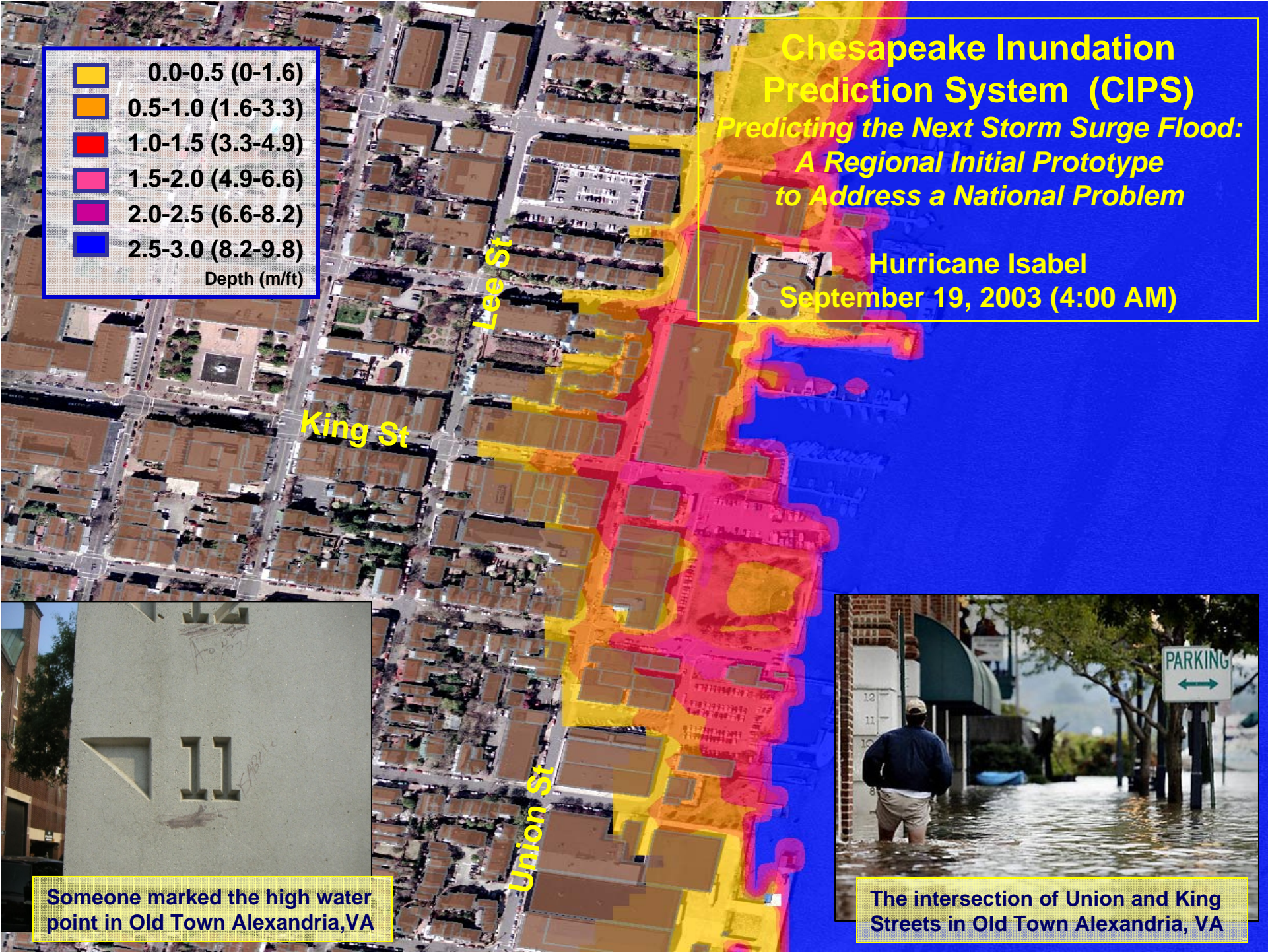
District of Columbia Government

Horizontal: 1 meter (0.5 m
acc.)

Vertical: 0.5 meter (0.1-0.2 m
acc.)



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Regional Ocean Governance

- **Northeast Regional Ocean Council**

- Work plans finalized in December
- Leadership moves to Maine/EPA state-fed team



- **Mid-Atlantic Regional Ocean Forum**

- Baltimore, Dec 1-2

- **State-led Ocean Management Initiatives (ME, MA, RI, NY...)**



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Coastal Zone 09 Conference

- **When: July 19-23, 2009**
- **Where: Boston, MA**
- **Call for Abstracts due Friday, November 21**
- **Tracks:**
 - Coastal communities adapting to changing conditions
 - Conservation in the face of change
 - Ocean and Great Lakes planning for changing human uses
- **Spotlight on North Atlantic**



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Regional Training Opportunities

Hudson River NERR:

Public Issues & Conflict Management December 2-3,
March 3-4;

Negotiating for Coastal Resources March 5-6

What's New?

Coastal Community Planning and Development – now!

Coastal Inundation Mapping – now!

Ecosystem-based Management – Spring 09

Planning for Meaningful Evaluation – Summer 09



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Why is this Project Important?

There are many individual places one can go to see these data layers. **BUT:**

- Single data portal
- Integrated system for improved decision making
- Venue to resolve and modernize boundaries
- Relevant to state ocean planning issues



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MMC - Data Themes

Core Cadastral Data:

Limit of 8(g) Zone
Submerged Lands Act
Contiguous Zone
Territorial Sea
Exclusive Economic Zone
Shoreline
National Estuarine Research Reserves
National Marine Sanctuaries
National Forests
National Park Service
Indian Lands
National Wildlife Refuge
MMS Protraction Diagrams
Outer Continental Lease Blocks

Supporting Data:

Coastline/Shoreline
Sand Borrow Sites
Pipelines
Fiber Optic Cables
Artificial Reef Sites
Shipping Fairways
Anchorage Areas
Military Restricted Areas
Platform Locations
Bathymetry
Wind, Wave, and Tidal Energy Sites
Archeological Sites
Aquaculture Sites
MMS Leases
Liquid Natural Gas (LNG) Sites
Benthic Data



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MMC - Viewers

Web-based and client-side

ArcIMS

ArcReader

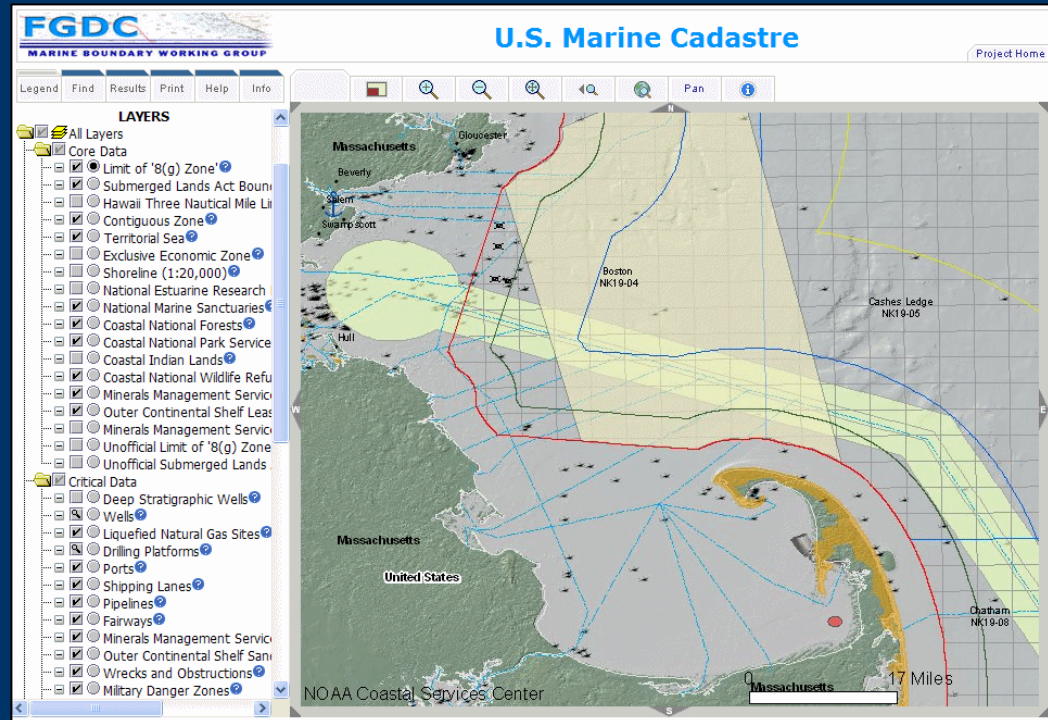
Google Earth

Provides access to data

Map-making functionality

Used for decision support

Driven by partner needs



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MMC – Partners and Providers

Current Partnerships

- Minerals Management Service (lead)
- NOAA Coastal Services Center (technical lead)
- NOAA Office of Coast Survey
- NOAA National Marine Sanctuaries
- NOAA Marine Protected Areas
- NOAA Fisheries
- U.S. Fish and Wildlife Service
- National Park Service
- The Nature Conservancy
- California Coastal Conservancy

Potential Partnership Opportunities

- DOD
- Coast Guard
- FERC
- Department of Energy
- Massachusetts CZM
- Rhode Island CRMC
- South Carolina OCRM
- NROC
- Other States



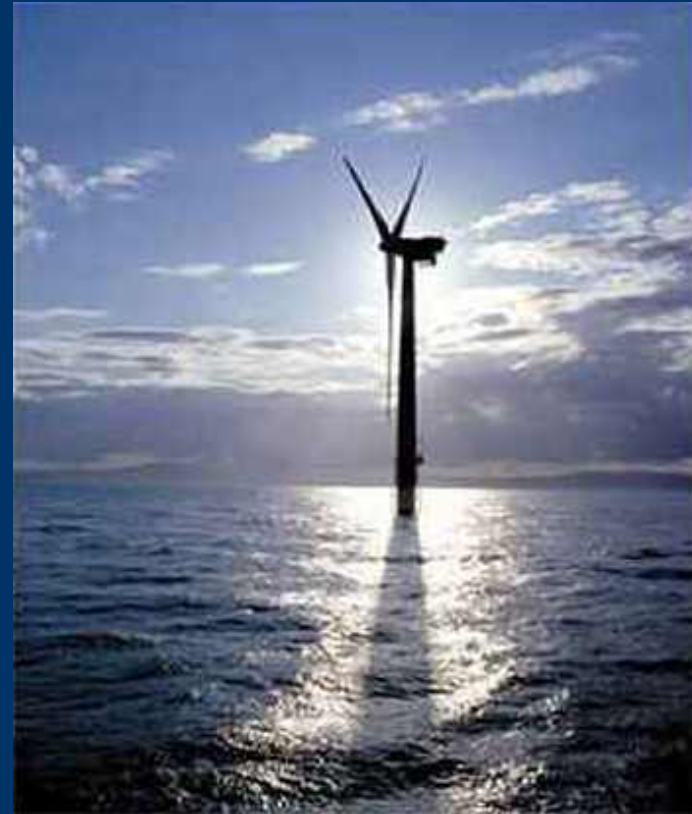
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Demonstration

Scenario: Permit review or site selection for energy projects

Location: State and Federal Waters off of Massachusetts

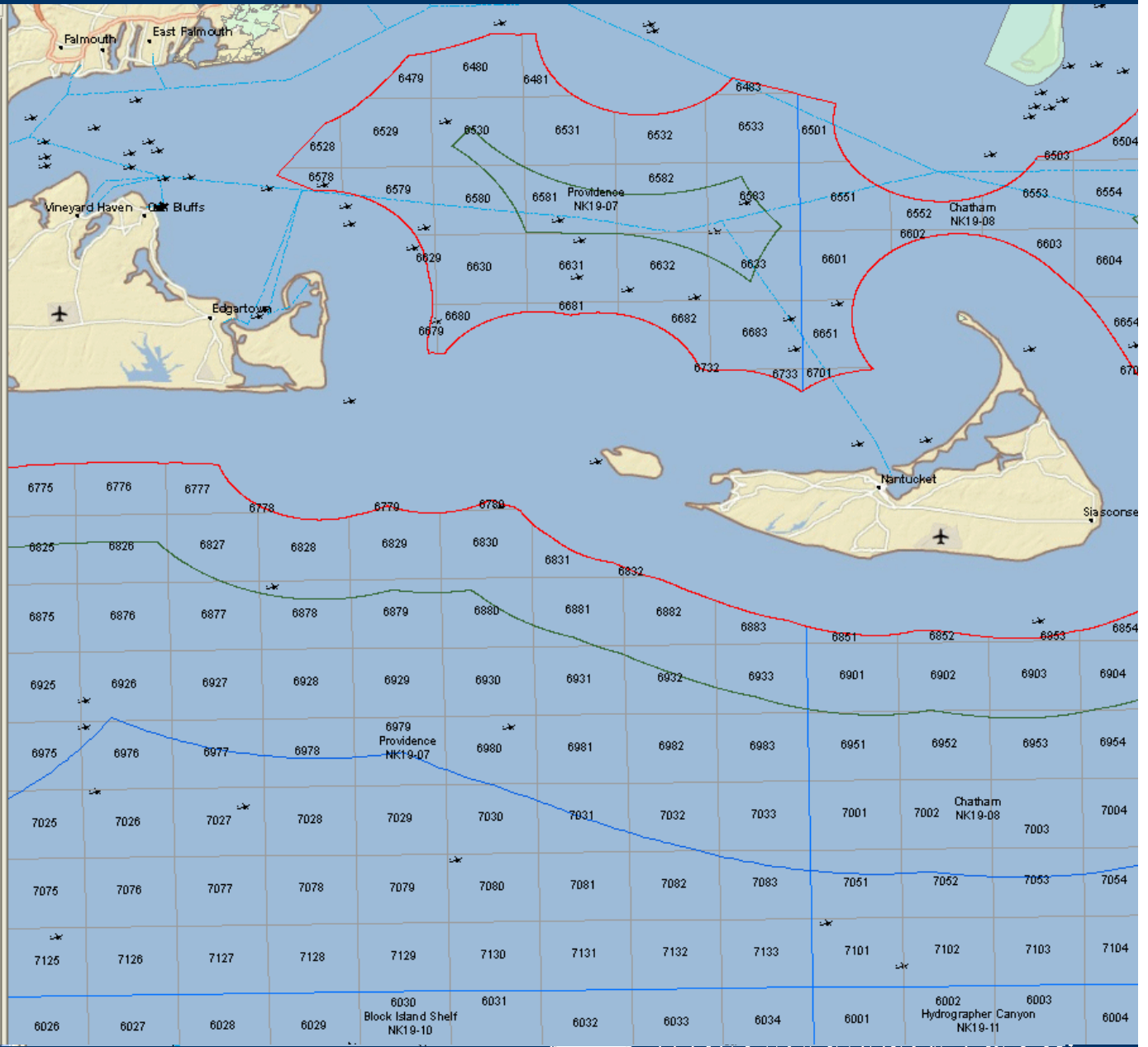
Users: Minerals Management Service , State Permitting Offices, private sector



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Layers

- Jurisdictional Boundaries and Limits
 - Submerged Lands Act Boundary
 - Limit of 8g Zone
 - Hawaii Three Nautical Mile Line
 - Contiguous Zone
 - Territorial Sea
 - Exclusive Economic Zone
 - National Estuarine Research Reserves
 - National Marine Sanctuaries
 - Coastal National Forests
 - Coastal National Park Service
 - Coastal Indian Lands
 - Coastal National Wildlife Refuges
 - Minerals Management Service Protraction Diagrams
 - Outer Continental Shelf Lease Blocks
- Minerals Management Service Planning Areas
- Unofficial Limit of 8g Zone
- Unofficial Submerged Lands Act Boundary
- Shoreline
- Offshore Infrastructure
- Raster Nautical Charts
- Base Layers
- ESRI_StreetMap_World_2D
- MGDS Global Multi-Resolution Topography (GMRT)



In Summary...

- MMC is issue driven
- Gaining momentum through case studies and partnerships
- Scalable and transferrable
- Products and support include:
 - Authoritative marine boundary and supporting data
 - Stand-alone and customizable data viewers
 - Templates for developing map viewers
 - Support on a case-by-case basis
 - <http://www.csc.noaa.gov/mmc>



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Vision

Coastal communities have easy access to organized and relevant data and tools needed to make more informed decisions



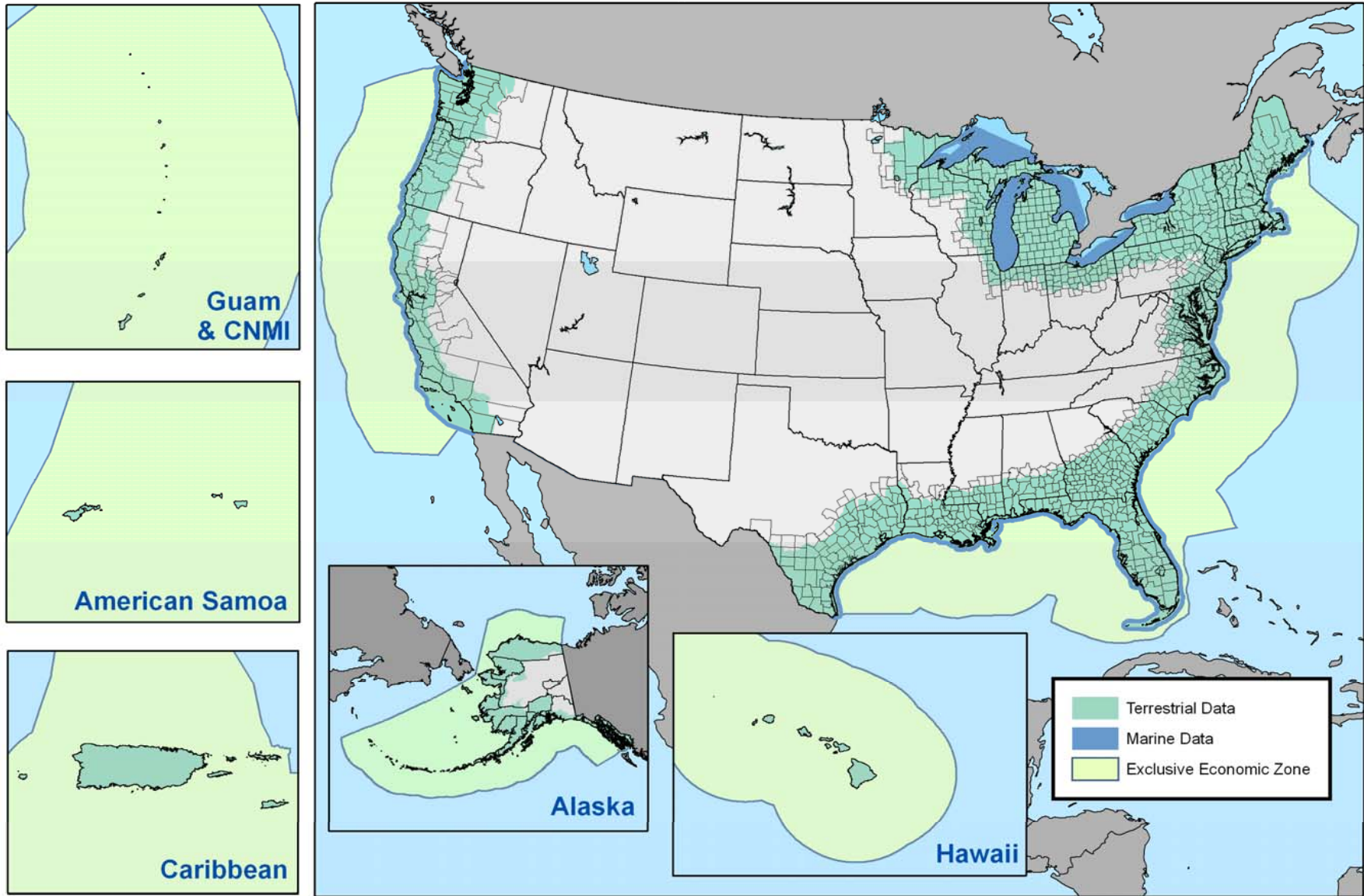
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Common Geospatial Needs

- **High resolution imagery**
- **Land cover and land use maps**
- **Integrated topo/bathy data**
- **Climate data and forecasts**
- **Shoreline and change rates**
- **Flood maps and prediction**
- **Data standards**
- **Data access**
- **Improved intergovernmental coordination**
- **Techie tools and non-techie tools**
- **Training**

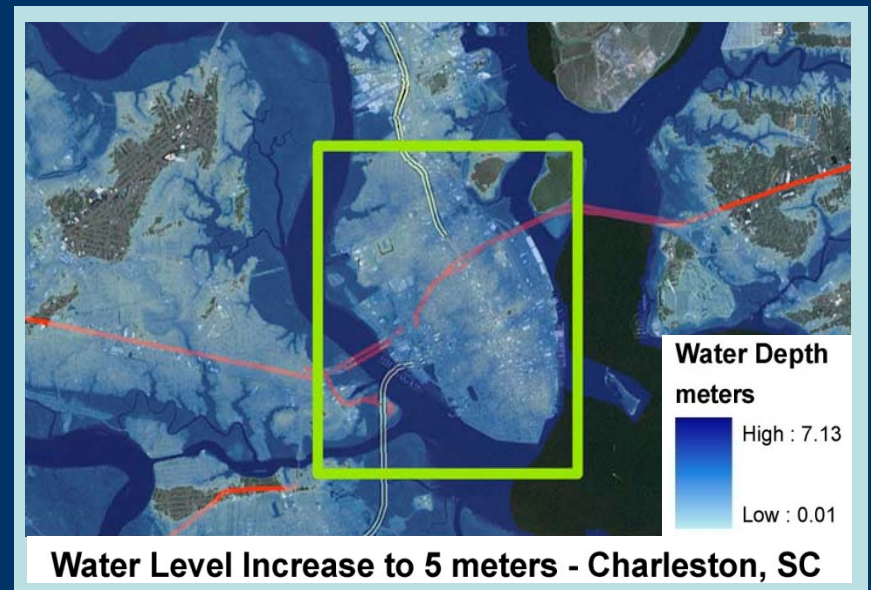


Digital Coast - Geographic Extent



Sample Applications

- Visualize sea level rise impacts
- Gather regional governance data
- Develop conservation plans
- Get public involved in planning
- Educate public about hazard risks
- Create runoff scenarios



DIGITAL COAST

[Home](#) [Data](#) [Tools](#) [Training](#) [In Action](#)

Building the Digital Coast

Phase one is now available; additional data and information will be available in phase two, which is scheduled for release in late fall.

[Learn more...](#)

Digital Coast Partnership

Phase two is being led by the Digital Coast partner network. These partners, who are either primary users of the system or content providers, will help NOAA prioritize the components that will be added during phase two and all future expansion efforts.

[Learn more...](#)

Data

Learn more about the kinds of data available and download data.

Tools

Use these tools to turn data into useful information your organization needs.

Training

Update your skills by participating in one of these training programs.

Digital Coast In Action

See how data and tools are used to address coastal management issues.

Digital Coast Data

Immediate access to data for the geographic region of your choice.

[Download Data](#)

About Digital Coast

Digital Coast is being built to provide the total package needed by state, local, and non-profit organizations not only offering easy access to downloadable data, but also the data-specific training, sample applications, and tools needed to address coastal issues.



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CSC Hazard & Climate Resilience Focus Areas

**Empowering the Adaptive Capacity
of Coastal Communities**

**Coastal Hazards
& Climate
Risk Information
& Visualization**

**Risk-Wise
Communication
& Behavior**

**Vulnerability
& Resilience
Assessment**

**Hazard
Mitigation &
Climate
Adaptation
Strategies**



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Community Vulnerability Assessment Tool (CVAT) Methodology

Pilot in New Hanover County, NC

Input

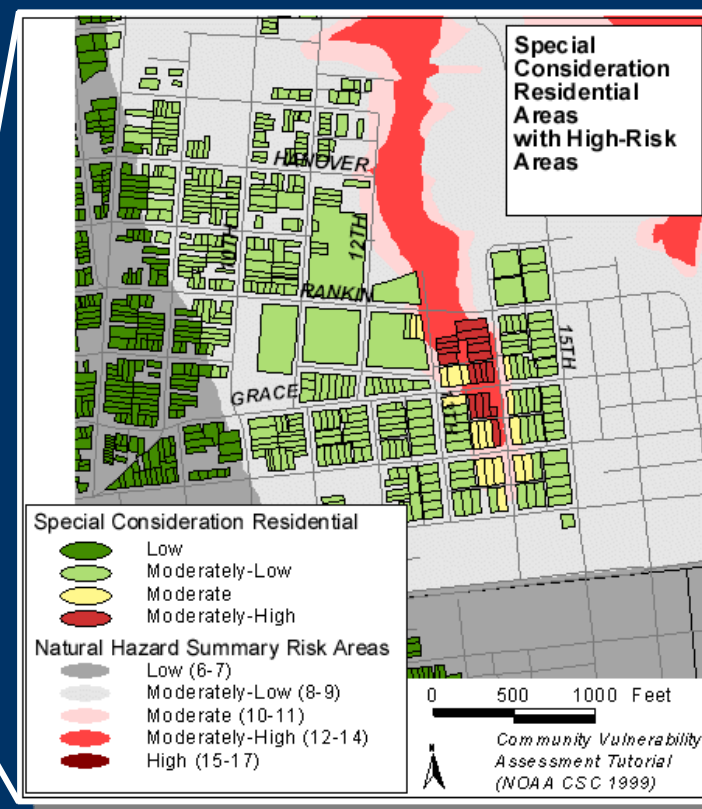
Risk Assessment

- Hazards ID and Analysis
- Vulnerability Assessment
- Critical Facilities
- Societal Consideration Areas
- Economic Assets
- Environmental Assets
- Mitigation Opportunities

Risk and Vulnerability Analyses

Output

- Vulnerable areas for mitigation prioritization
- Spatial representation of vulnerable community assets



Updating Methodology to include Components of Resilience



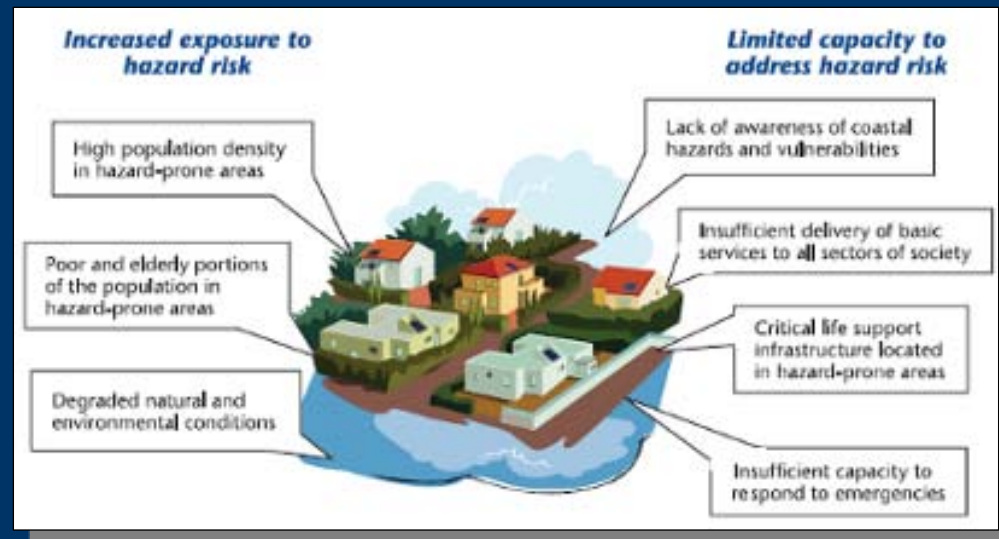
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Vulnerability and Resilience Assessment

- Community Resilience and Vulnerability Assessment Toolkit (CRVAT) – helping communities assess their vulnerability and resilience

- Assessment Categories

- *Exposure*
- *Vulnerability*
- *Resilience/Capacity*
- *Community*



- Contextual applications & resources – land use, conservation planning, climate adaptation, hazard mitigation



CSC Updates

- **Coastal Management Fellows**
- **Land cover mapping (all states) and higher resolution efforts (MD)**
- **Habitat Priority Planner pilot (NY and ME)**
- **Scenario planning tool for coastal conservation and hazard mitigation (NY)**
- **Legislative atlas (GOM & Southern NE)**



Contact Information

CSC New England

Betsy.Nicholson@noaa.gov

603-862-1205

Adrienne.Harrison@noaa.gov

603-862-4272

CSC Mid-Atlantic

Darlene.Finch@noaa.gov

410-267-5659

Chris.Kincade@noaa.gov

Sean.Corsen@noaa.gov



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