

Tools for Visualizing Coastal Flood Impacts

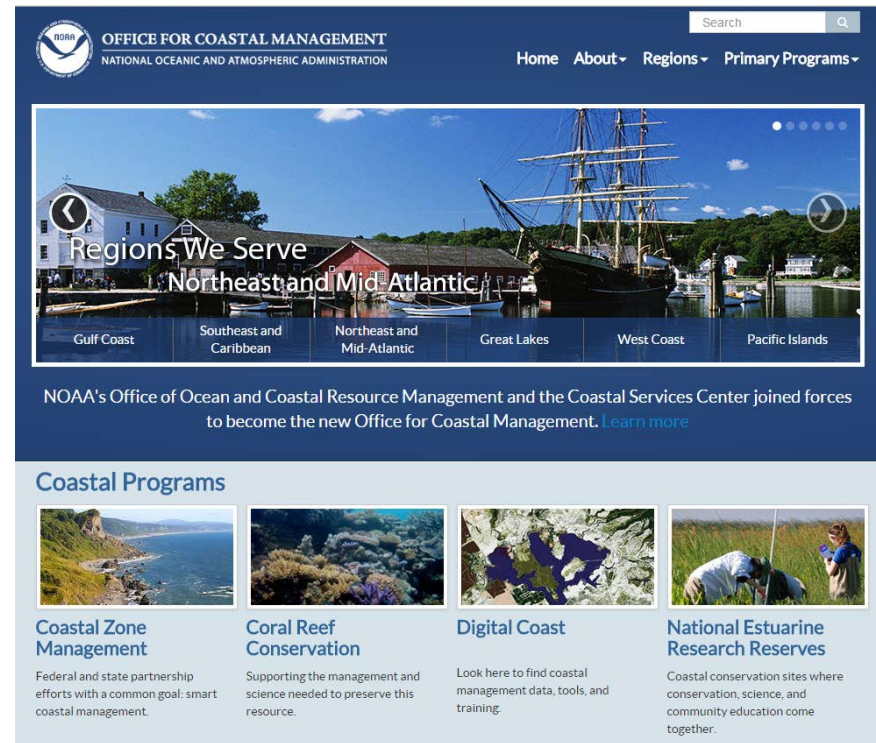
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NOAA Office for Coastal Management



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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

NOAA/NOS Office for Coastal Management

The Office provides the technology, information, and strategies used by local, state, and national organizations to understand, manage, and protect coastal resources.



<http://coast.noaa.gov/>



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Coastal Communities Are at Risk



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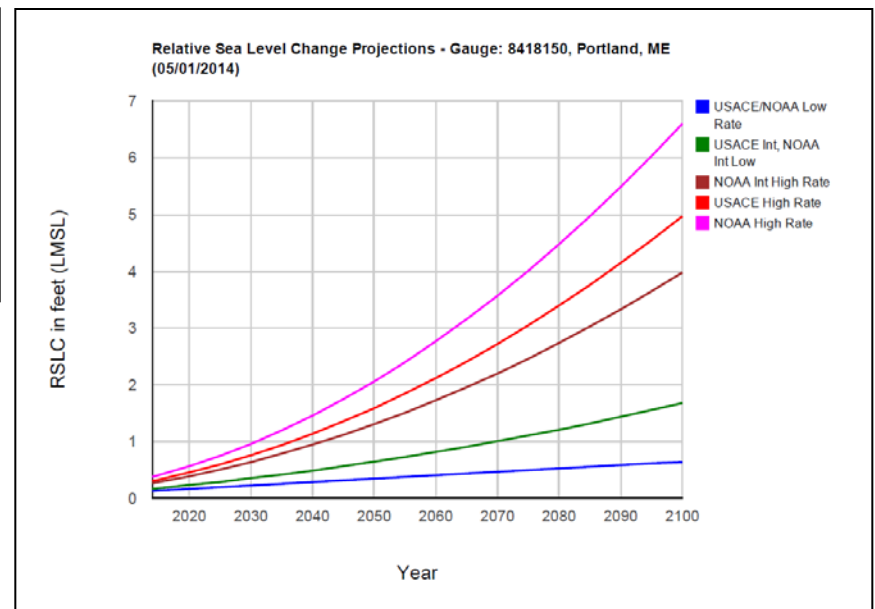
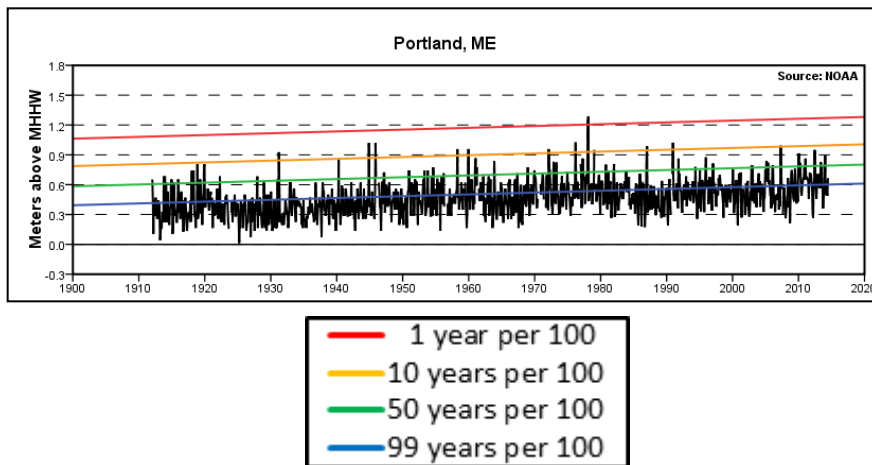
Agenda

- Navigating NOAA's Digital Coast
- Visualizing sea level rise impacts
- Assessing exposure to flood hazards



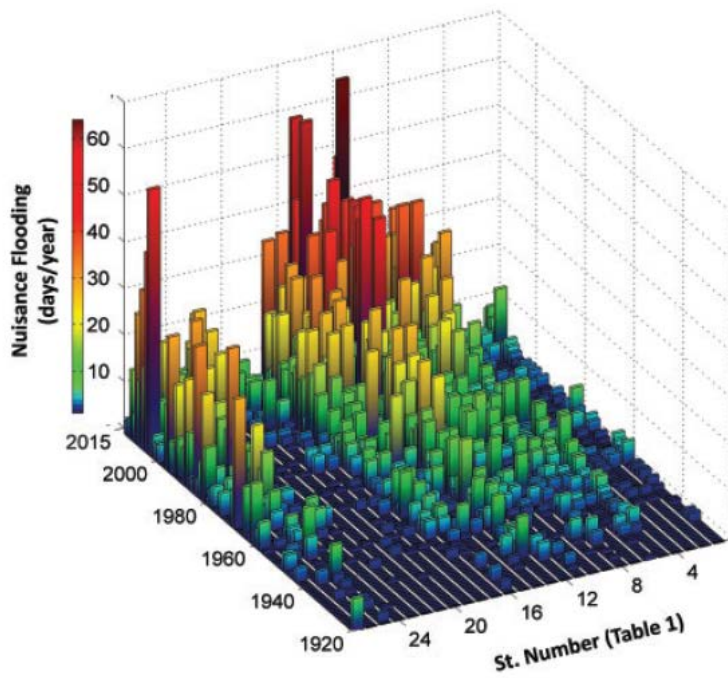
Rising Sea Levels

- Portland's tide gauge record indicates a rise of ~7 inches over past 100 years
- Portsmouth's record is similar (based on Wake et al., 2011)
- Future scenarios seem to track the intermediate-high curve



Increasing Coastal Flooding

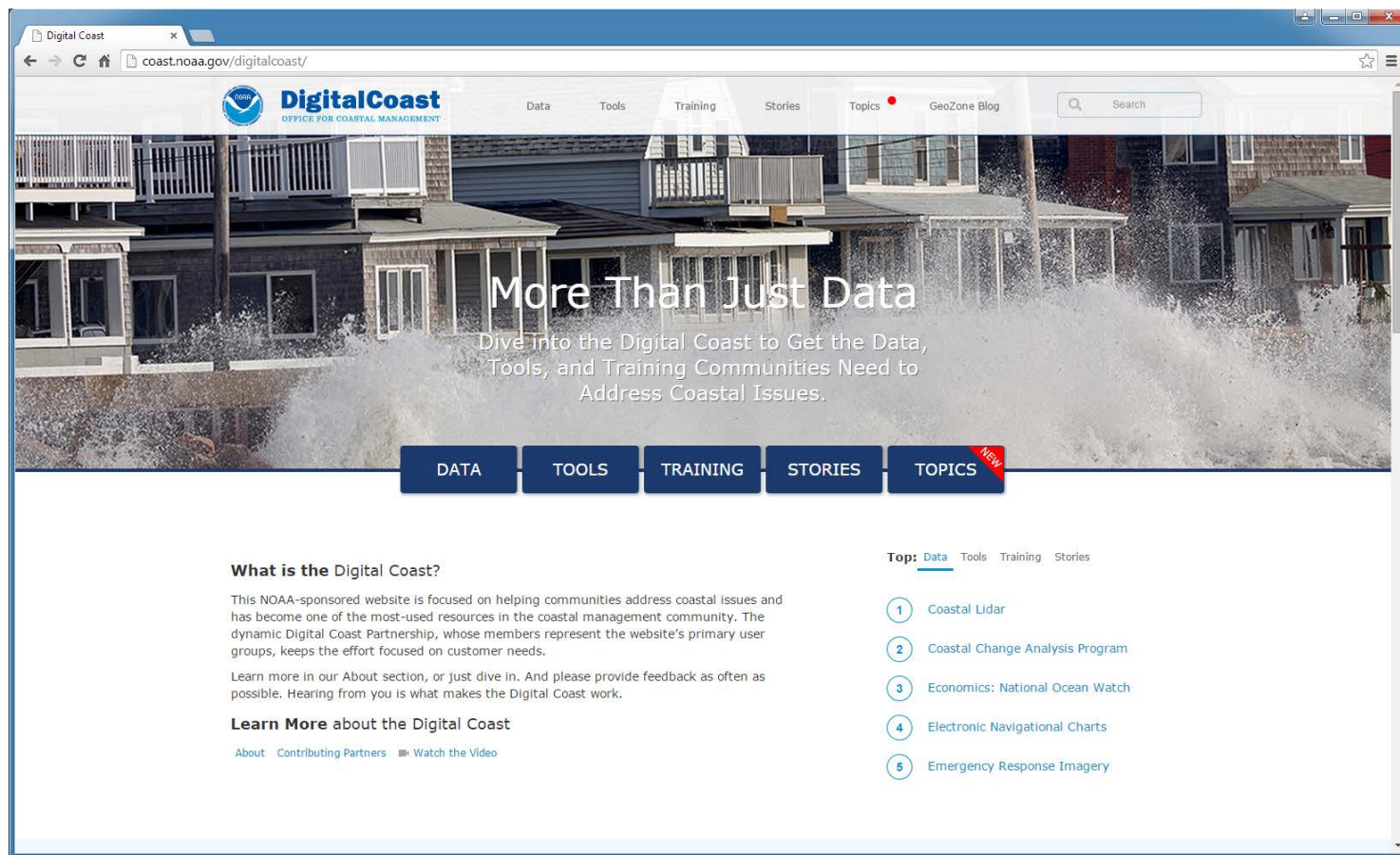
- Minor coastal flooding events are increasing in frequency and duration
- What is now a 1-in-10 year coastal flooding event in the Northeast U.S. is expected to occur once every 3 years



Coastal flooding in Portland, ME



Digital Coast



<http://coast.noaa.gov/digitalcoast/>



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Assessing Coastal Community Exposure to Flood Hazards

A banner for the Coastal Flood Exposure Mapper tool. The background is a blue map of the United States with white outlines of the states. On the left is the NOAA logo. The title 'Coastal Flood Exposure Mapper' is in a large, white, serif font. Below the title is a paragraph of text. A green button with white text is in the center. At the bottom is a line of small text. On the right side, there are two circular inset images: the top one shows a person in a black shirt looking at a white car in floodwater, and the bottom one shows a flooded area with a white building and various objects floating in the water.

 *Coastal Flood Exposure Mapper*

Help start your community discussions about hazard impacts with maps of your area that show people, places, and natural resources exposed to coastal flooding.

Start Collecting Maps

The information in this product is based on the [Roadmap for Adapting to Coastal Risk](#) approach to assessing coastal hazard risks and vulnerabilities.



Sea Level Rise and Coastal Flooding Impacts Viewer

- **Displays** potential flooding from sea level rise
- **Provides** simulations of flooding at local landmarks
- **Communicates** the spatial uncertainty of mapped SLR
- **Models** marsh migration
- **Overlays** flood scenarios on socio-economic data



Coastal GeoTools



- **Target audience:** coastal professionals interested in the development and application of geospatial technology for management of coastal resources
- **Location:** Embassy Suites in North Charleston, SC

<http://coastalgeotools.org/>



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Geospatial and Process-Based Training

Roadmap for Adapting to Coastal Risk

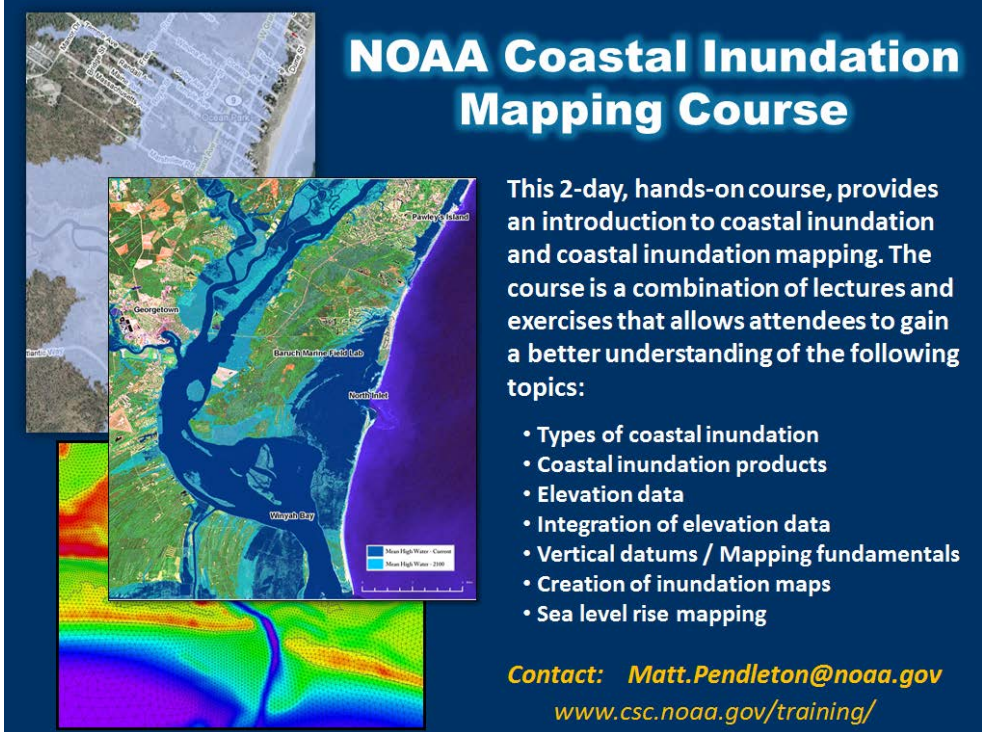
- Three-hour instructor-led online course

Climate Adaptation for Coastal Communities

- Three-day instructor-led
- April 2015

Coastal Inundation Mapping

- Two-day instructor-led
- April 2015



NOAA Coastal Inundation Mapping Course

This 2-day, hands-on course, provides an introduction to coastal inundation and coastal inundation mapping. The course is a combination of lectures and exercises that allows attendees to gain a better understanding of the following topics:

- Types of coastal inundation
- Coastal inundation products
- Elevation data
- Integration of elevation data
- Vertical datums / Mapping fundamentals
- Creation of inundation maps
- Sea level rise mapping

Contact: Matt.Pendleton@noaa.gov
www.csc.noaa.gov/training/

The graphic includes three maps: a top-left aerial map of a coastal town, a central map of a river delta with inundation overlays, and a bottom-left bathymetric map showing depth contours.



Thank You!

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