



**NOAA
FISHERIES**

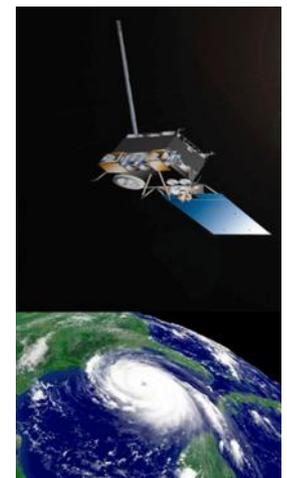
Science &
Technology

Remote Sensing Tools and Applications for Coastal Habitats

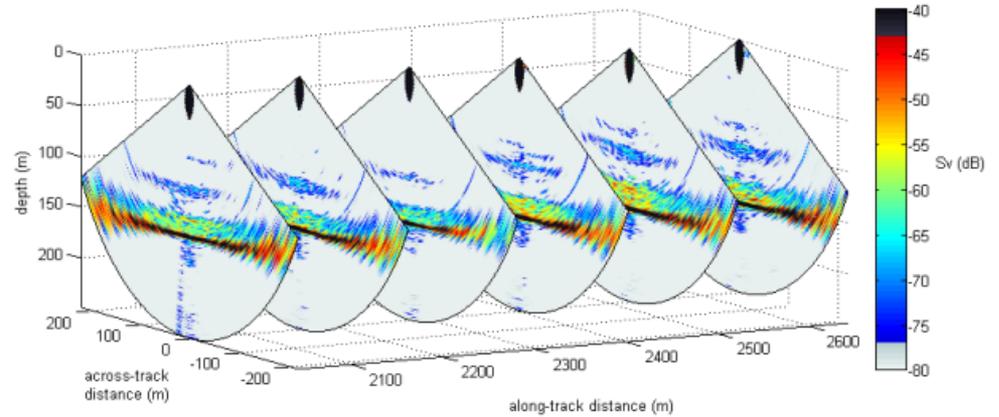
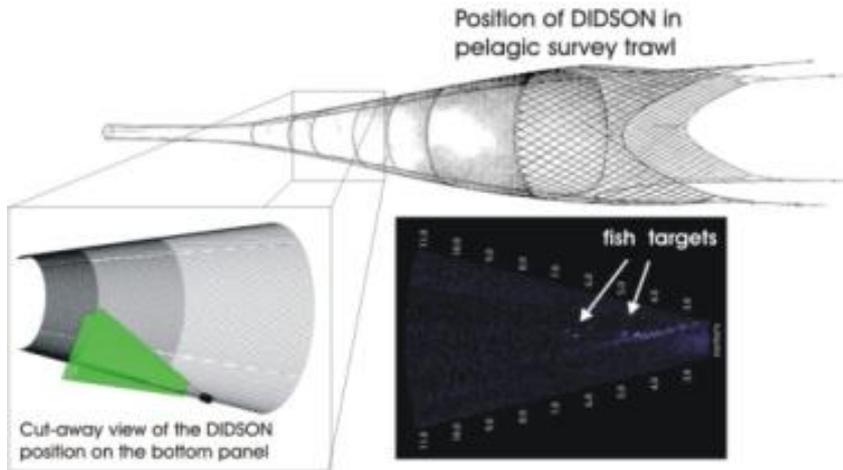
Kristan Blackhart
NOAA Fisheries Office of Science and Technology

14 February 2014

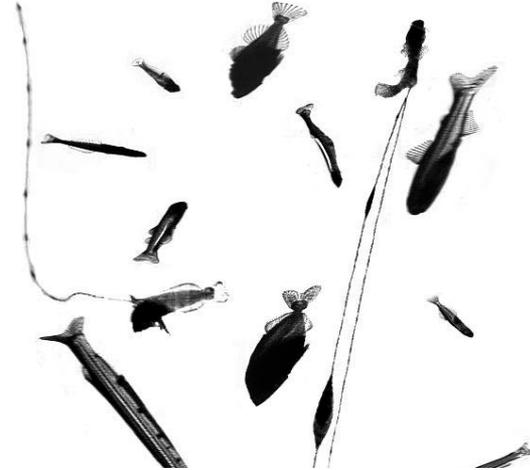
Platforms



Acoustic Sensors



Optical Sensors



HabCam



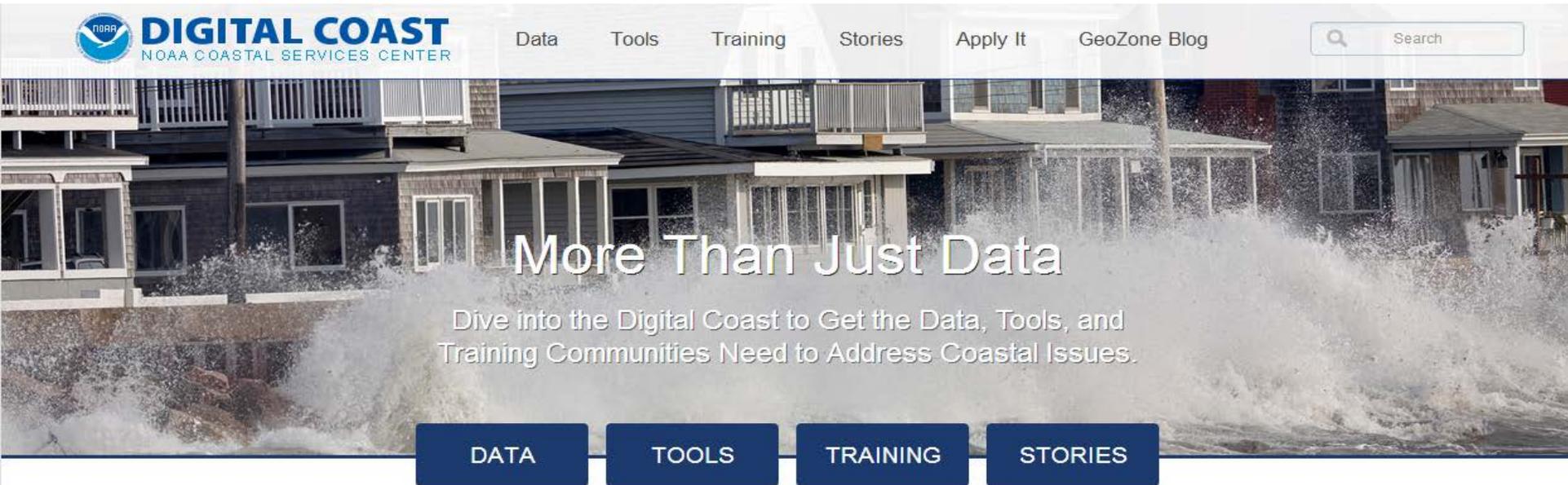
ISIIS



Cam-Trawl

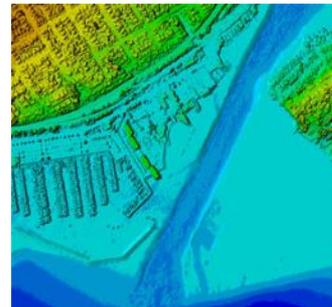
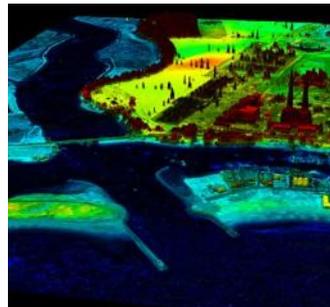
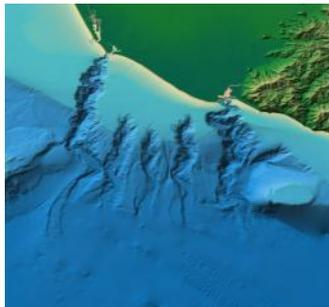
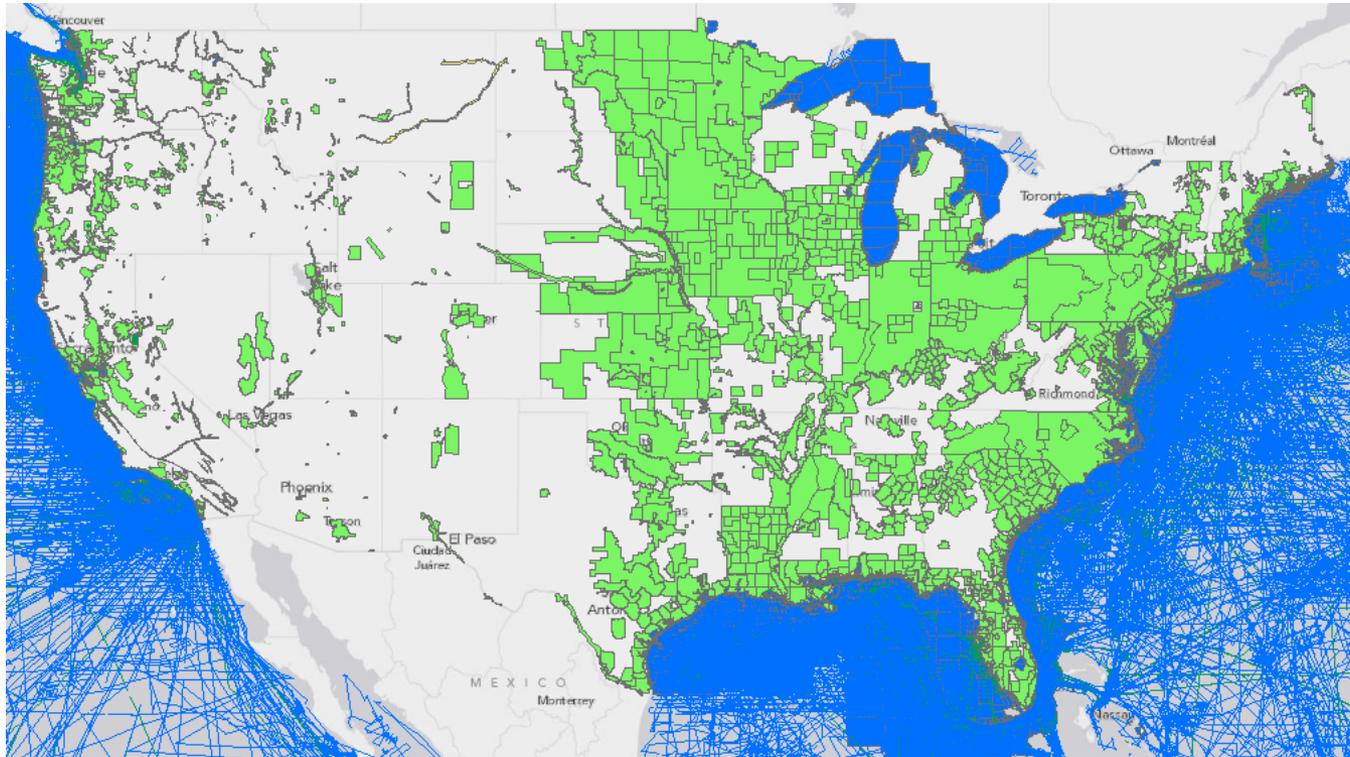
Digital Coast

- Access data
- Visualization tools
- Training
- Case studies



<http://www.csc.noaa.gov/digitalcoast/>

Digital Coast Data: Elevation



Digital Coast Data: Land Cover



1	Unclassified
2	Developed, High Intensity
3	Developed, Medium Intensity
4	Developed, Low Intensity
5	Developed, Open Space
6	Cultivated Land
7	Pasture/Hay
8	Grassland
9	Deciduous Forest
10	Evergreen Forest
11	Mixed Forest
12	Scrub/Shrub
13	Palustrine Forested Wetland
14	Palustrine Scrub/Shrub Wetland
15	Palustrine Emergent Wetland
16	Estuarine Forested Wetland
17	Estuarine Scrub/Shrub Wetland
18	Estuarine Emergent Wetland
19	Unconsolidated Shore
20	Bare Land
21	Water
22	Palustrine Aquatic Bed
23	Estuarine Aquatic Bed
24	Tundra
25	Snow/Ice
/ / /	No Data

2000

Digital Coast Tools

Airborne LIDAR Data Processing and Analysis Tools

Contributing Partners: [Florida International University](#)

Overview

Benthic Terrain Modeler

Contributing Partners: [View all Partners](#)

Overview

Environmental Response Management Application (ERMA)

Contributing Partners: [NOAA Office of Response and Restoration](#)

Overview

Coastal Resilience Decision-Support Framework

Contributing Partners: [The Nature Conservancy](#)

Overview

Sea Level Rise and Coastal Flooding Impacts Viewer

Contributing Partners: [NOAA Coastal Services Center](#)

Overview

In Action

Support

Get it Now

Being able to visualize potential impacts from sea level rise is a powerful teaching and planning tool, and the Sea Level Rise Viewer brings this capability to coastal communities. A slider bar is used to show how various levels of sea level rise will impact coastal communities. Additional coastal counties will be added in the near future. Maps are not available for Alaska due to elevation data accuracy and vertical datum transformation gaps.

Features

- **Displays** potential future sea levels
- **Provides** simulations of sea level rise at local landmarks
- **Communicates** the spatial uncertainty of mapped sea levels
- **Models** potential marsh migration due to sea level rise
- **Overlays** social and economic data onto potential sea level rise
- **Examines** how tidal flooding will become more frequent with sea level rise

Acknowledgements

The NOAA Coastal Services Center would like to acknowledge those organizations that provided direct content used in this tool or feedback, ideas, and reviews over the course of the tool's development. Specifically the Center would like to acknowledge the [following groups](#)



Videos

[Tool Overview](#)

[First Time Tips](#)

Digital Coast Webinar Series

[Mapping and Visualizing Sea level Rise and Coastal Flooding Impacts](#)
[View recorded webinar](#)

Related Training

- [Climate Adaptation for Coastal Communities](#)
- [Coastal Inundation Mapping](#)

This tool provides an auxiliary tool to understand the data.

Features

- **Process** interface
- **Separate** through files
- **Provides** points, as heights a

Version 3.0 (beta) and resource for ArcGIS 10.1. Alternatively, use that was available.

The BTM Tool calculates slope and calculates heights a

Features

- **Guides** users to create classification
- **Creates** base small scales either classification landscape
- **Creates** a "bumping" files in a use

Features

- **Aids** in mapping and visualization
- **Assists** in emergency response
- **Helps** in Resource
- **Visualizes** photos and information

The Coastal Resilience hazards. The framework

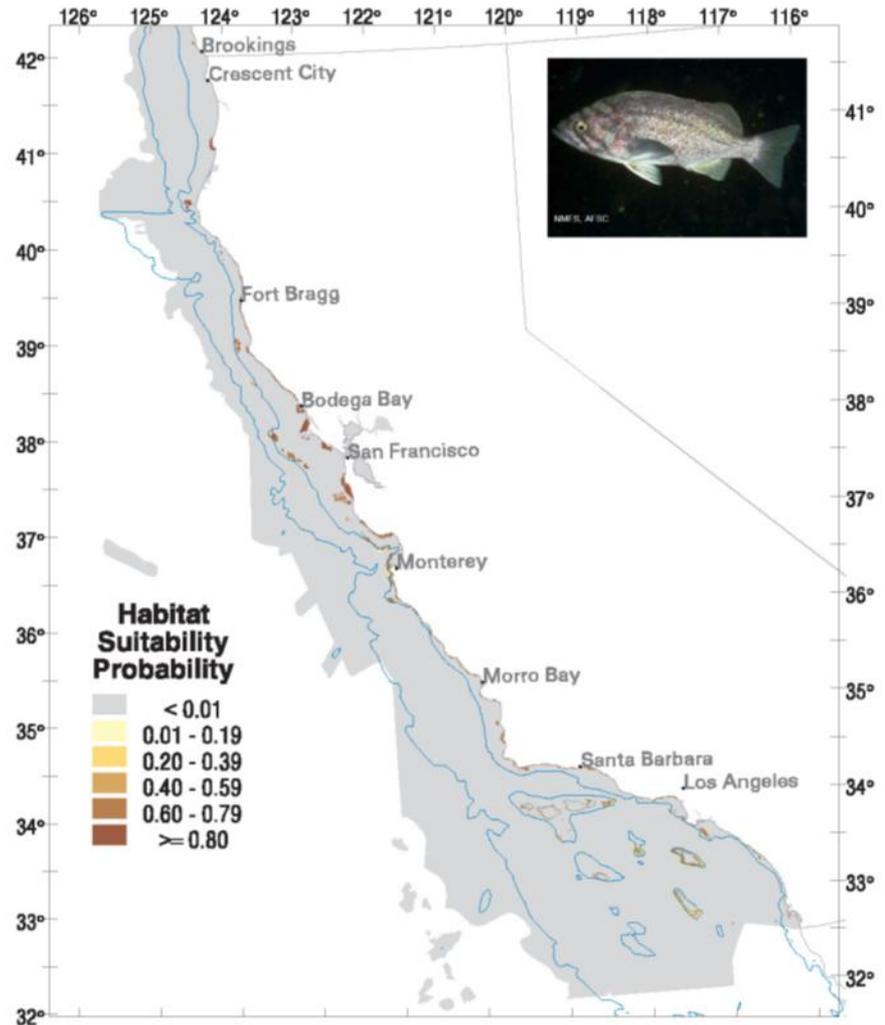
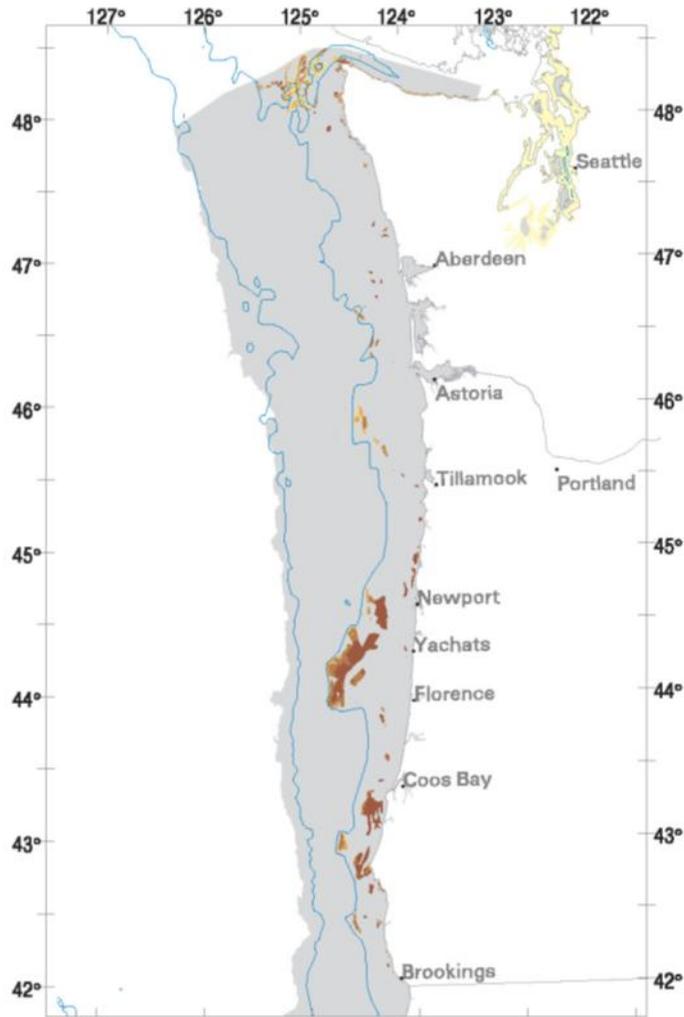
- **Raise Awareness** mapping and visualization
- **Assess Risk** - future storms and
- **Identify Choice** systems; provide
- **Take Action** - H

With the interactive identify areas and provide This information is provided when making coastal is being advanced

Digital Coast Help

- Training: Online courses, live webinars, instructor-led classroom courses
- Stories from the Field: Case studies and projects using digital data
- Apply It: Use tools and data to answer your questions
- GeoZone Blog: What's new & interesting

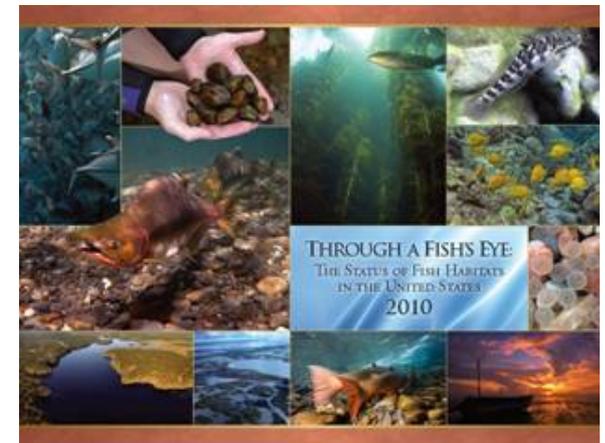
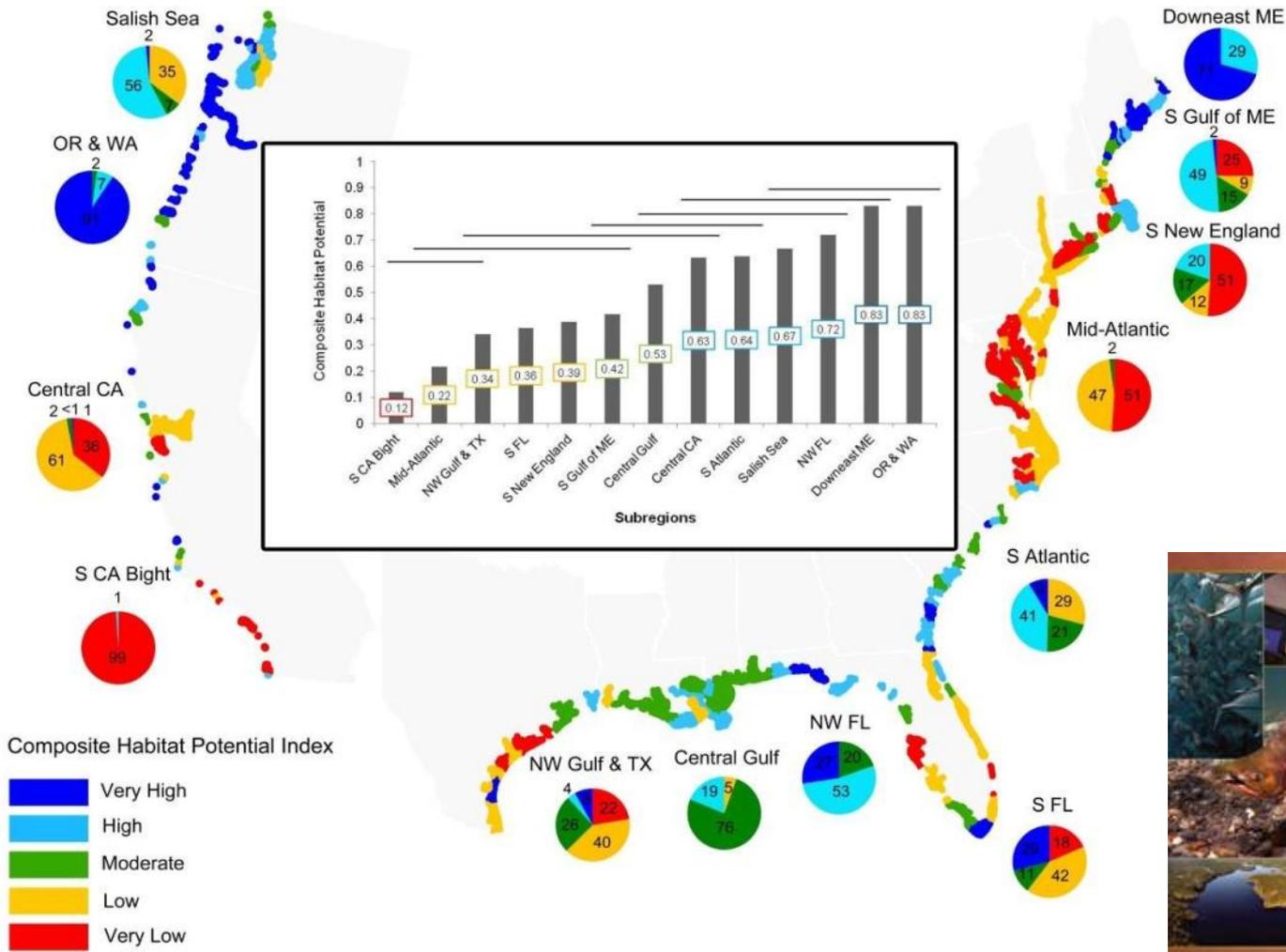
Applications: Habitat Suitability



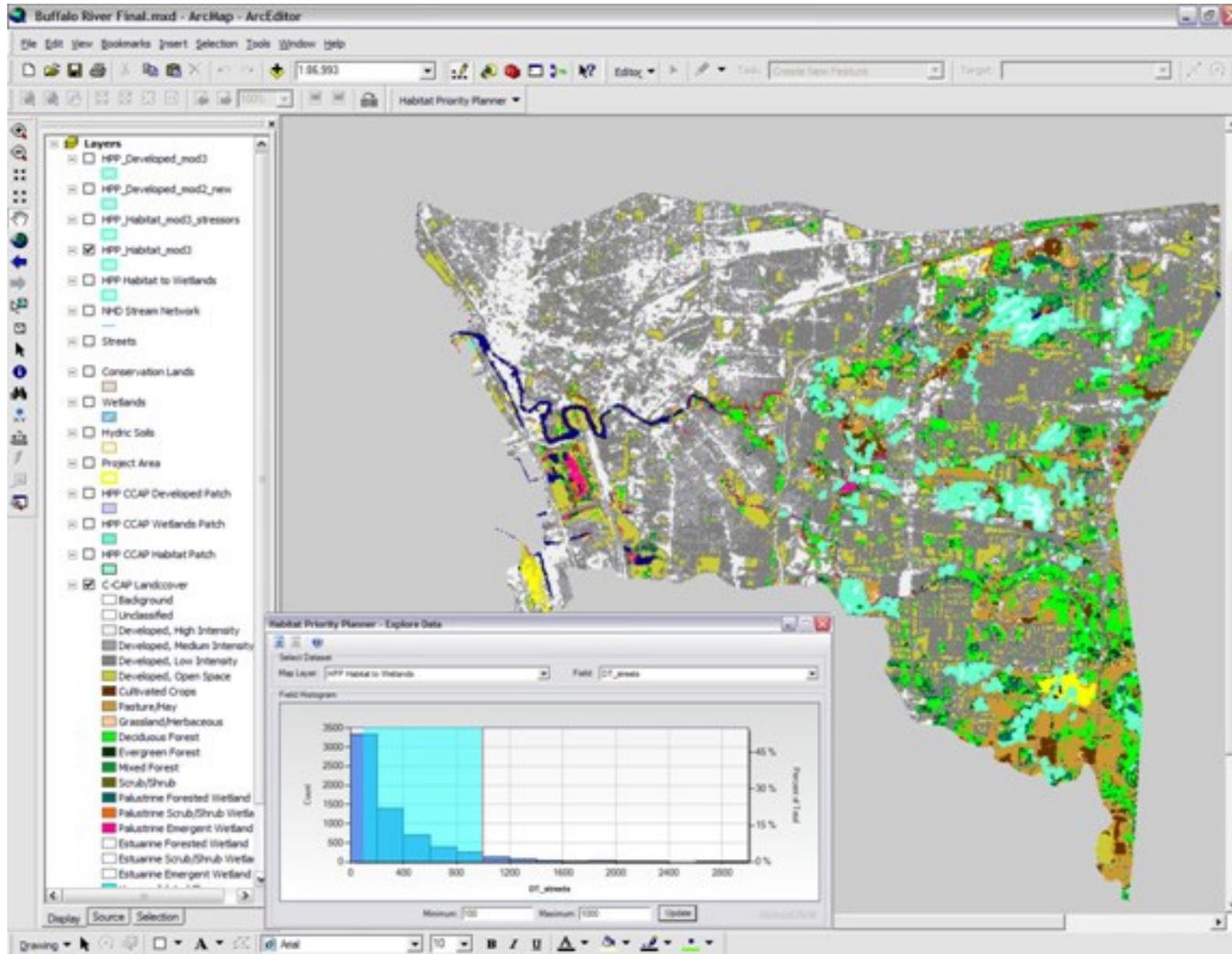
Applications: Habitat Vulnerability



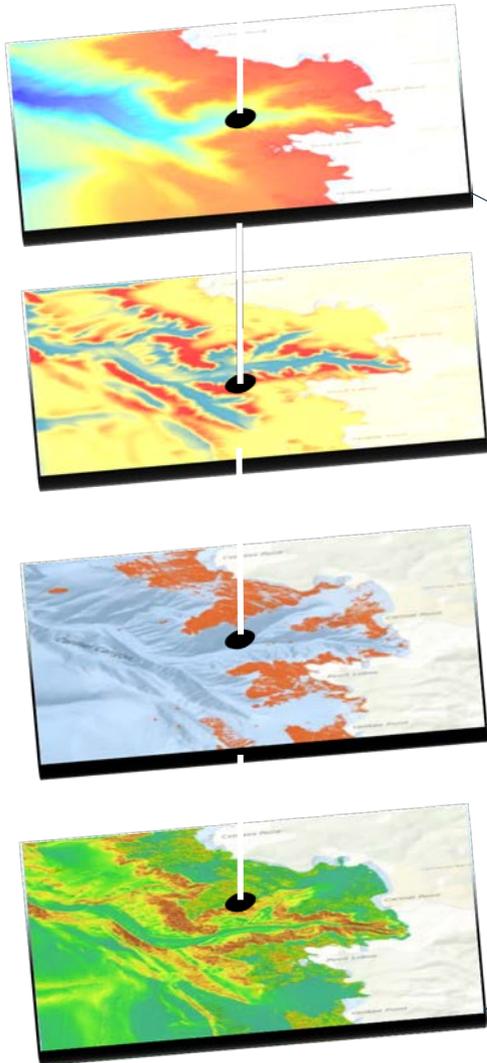
Applications: Habitat Condition



Applications: Restoration Planning



Applications: Visual Surveys



Coastal Classification



<http://www.csc.noaa.gov/digitalcoast/publications/cmecs>

Using CMECS



-  Unconsolidated
-  Unclassified



Thank you

