

Water – Oceans and Coasts Theme Update

Tony LaVoi

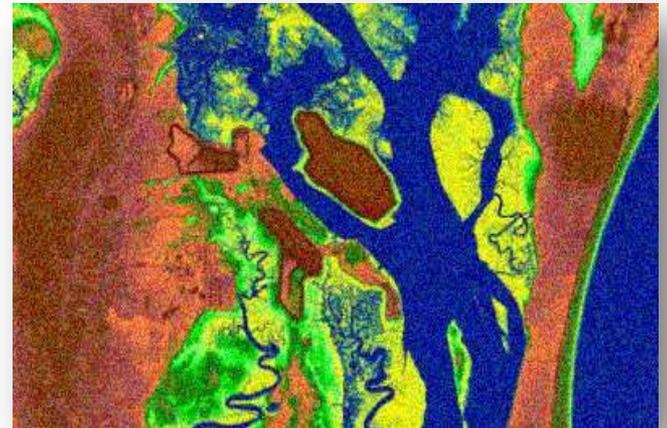
*Water – Oceans and Coasts Theme Lead
NOAA Geospatial Information Officer (GIO)*

September 29, 2016

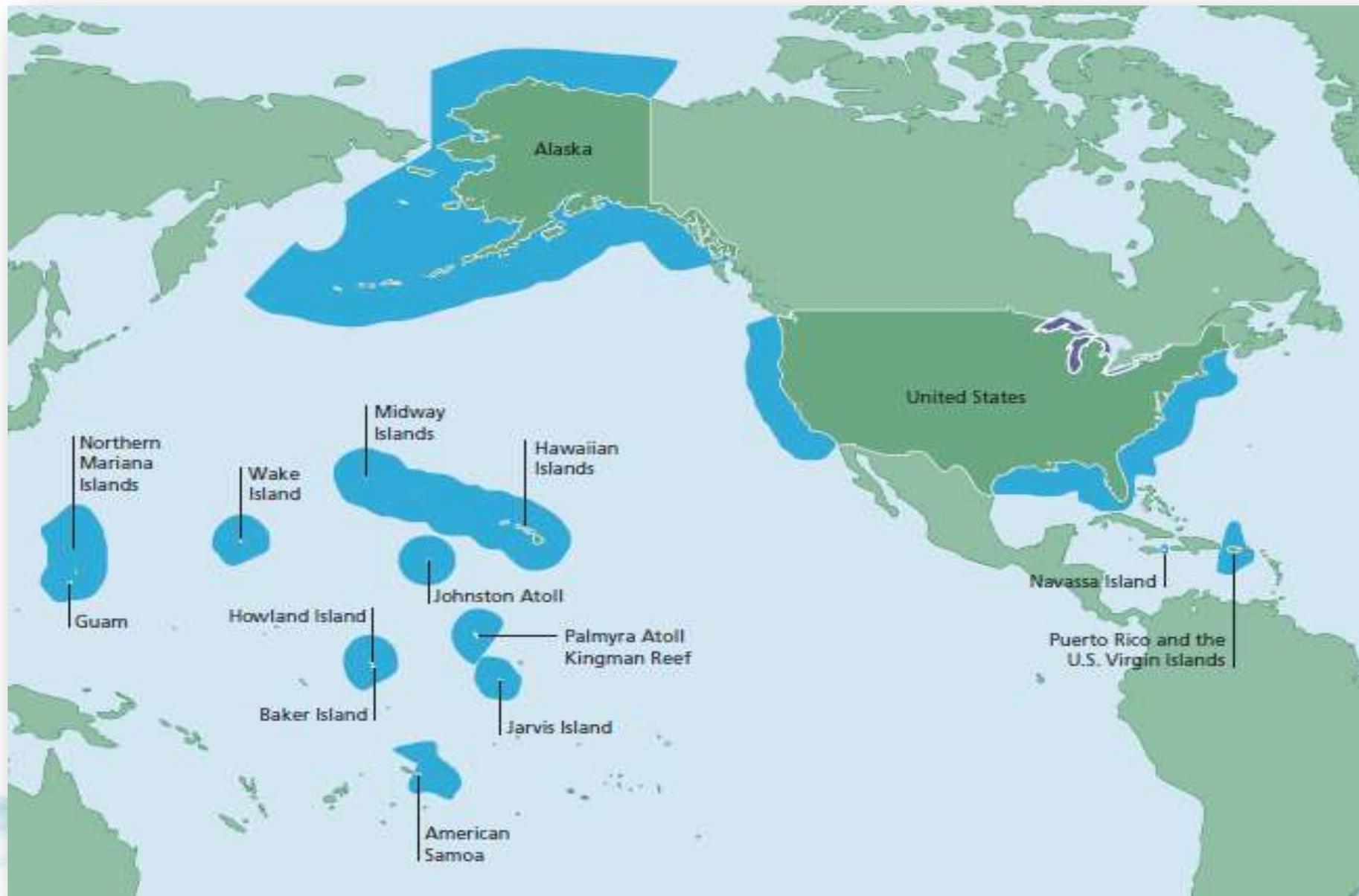


Presentation Outline

- Geographic and Societal Context
- Drivers for a Coastal and Marine NSDI
- The Basics: Water – Oceans and Coasts (W-O&C) Theme and A-16 Compliance
- Coastal and Marine Geospatial Coordination
- Theme Strategic Goals
- Challenges, Opportunities, and Next Steps



The U.S. is an Ocean Nation



Healthy Coasts – Critical to Nation's Vitality

>50% of U.S. population lives in <20% of U.S. land area

23 of 25 most densely populated counties

19 of 20 major cities

45% of GDP and 51 million jobs

9 of 10 most costly storms



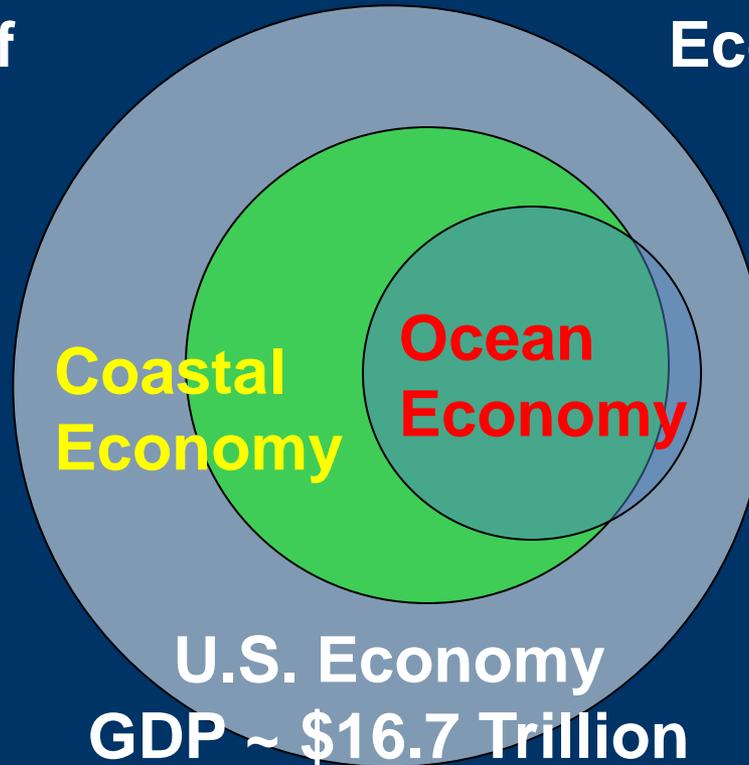
The Coastal and Ocean Economies Compared to the U.S. Economy

Coastal GDP ~ \$7.6T

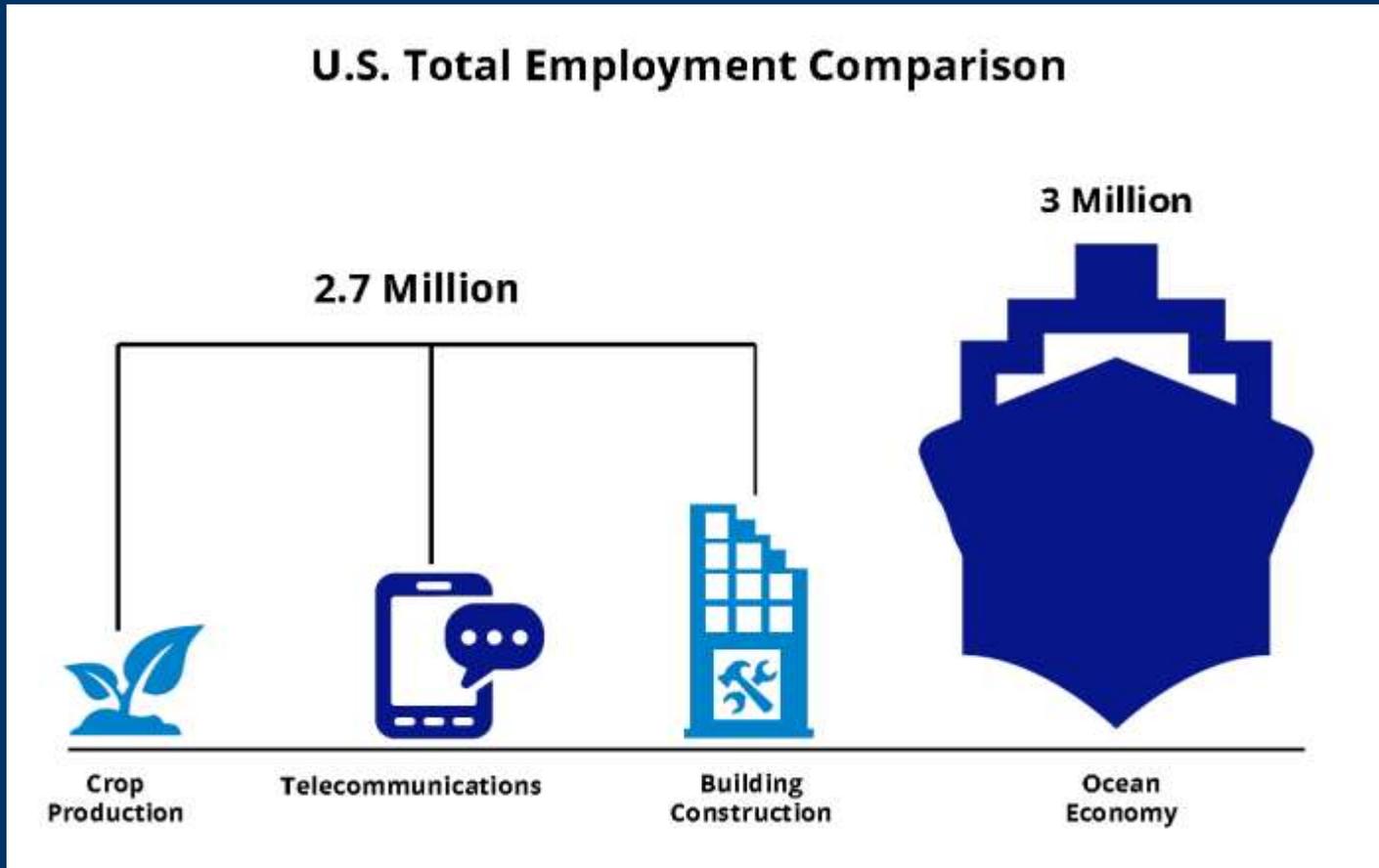
Total Economy of
Shore-Adjacent
Counties

Ocean GDP ~ \$359B

Economic Activities
Using Ocean
Resources as an
Input

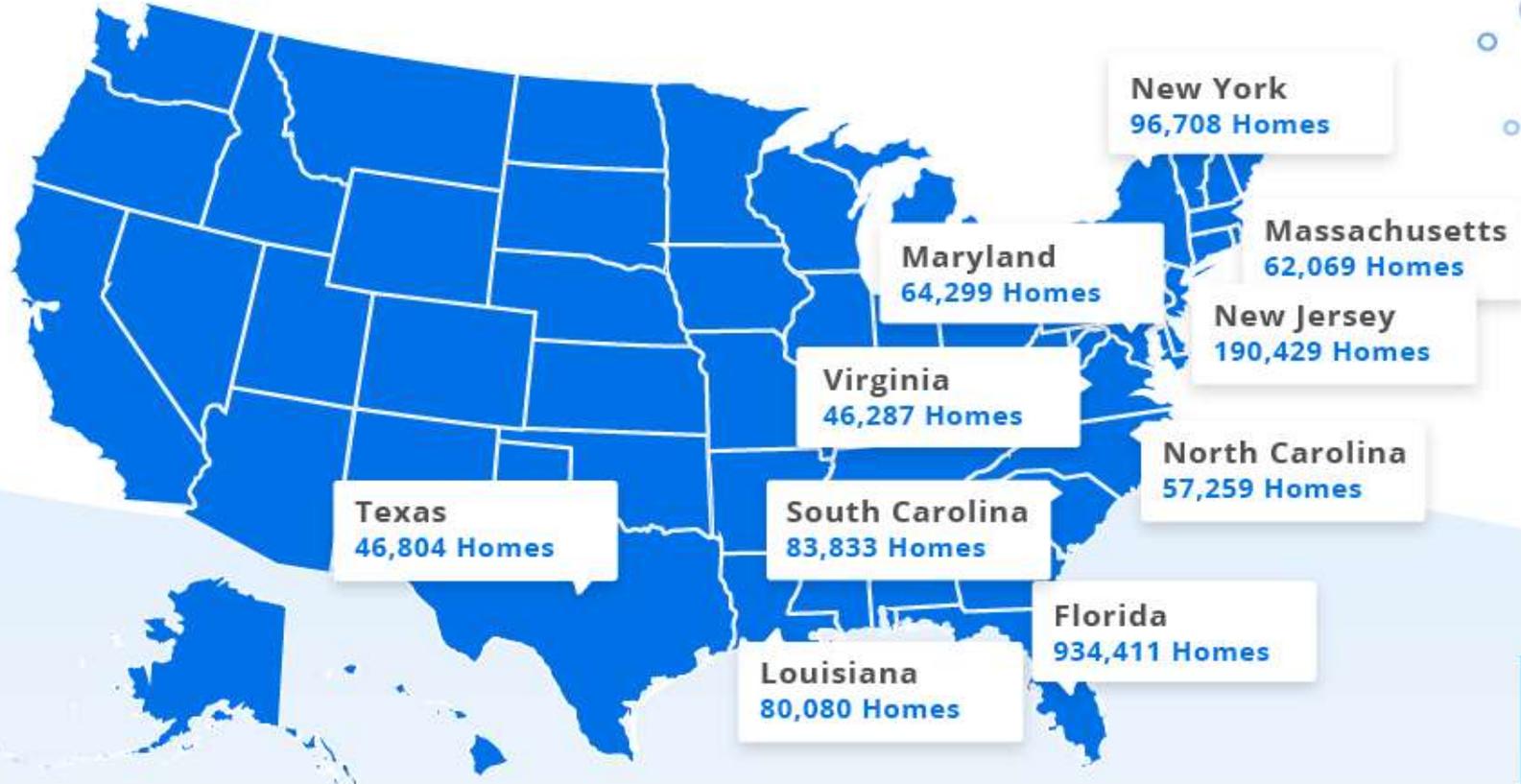


Relative Size of the U.S. Ocean Economy



Rising Water

How many homes would be under water if the oceans **rose 6 feet**?*
Nationally, 1.9 million homes worth **\$882 billion**.

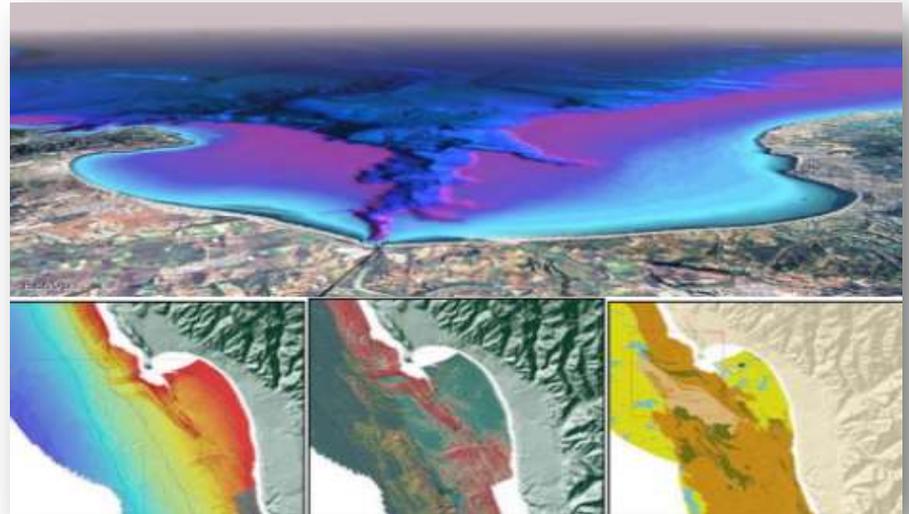


*A new study found oceans could rise 6 feet by 2100.



Drivers for a Coastal and Marine NSDI

- Large geographic area with unique challenges and opportunities
- Increasing population in the coastal zone
- Critical contributions to the U.S. economy
- Growing marine and coastal ecosystem impacts from development pressures
- High-risk communities on the front-lines of climate impact and resilience planning
- Strong national and international policy interests



W-O&C Theme: A-16 Compliance

- ✓ Executive Champion: Zack Goldstein, NOAA CIO
- ✓ Theme Lead: Tony LaVoi, NOAA GIO
- ✓ FGDC Subcommittee: Marine and Coastal Spatial Data
- ✓ 25 NGDAs selected for initial theme population
- ✓ Metadata for datasets verified and posted to GeoPlatform
- ✓ All 25 NGDA lifecycle assessments completed
- ✓ Theme community page updated on GeoPlatform
- ✓ Theme Strategic Plan completed
- ✓ Theme Implementation Plan (in progress)



W-O&C NGDAs by Topic

Boundary Information

- Submerged Lands Act Boundaries
- 200 Nautical Mile Limit
- Outer Continental Shelf Revenue Zone Boundaries
- Marine Protected Areas
- Maritime Limits and Boundaries (EEZ, Territorial Sea, Cont. Zone)

Nautical Charts (Electronic/Vector [ENCs] and Raster [RNCs])

Shoreline Products

Physical Oceanographic Data

- Sea Level Data
- Tides and Water Levels

Observational Data (data from buoys, gliders, and in-water platforms)

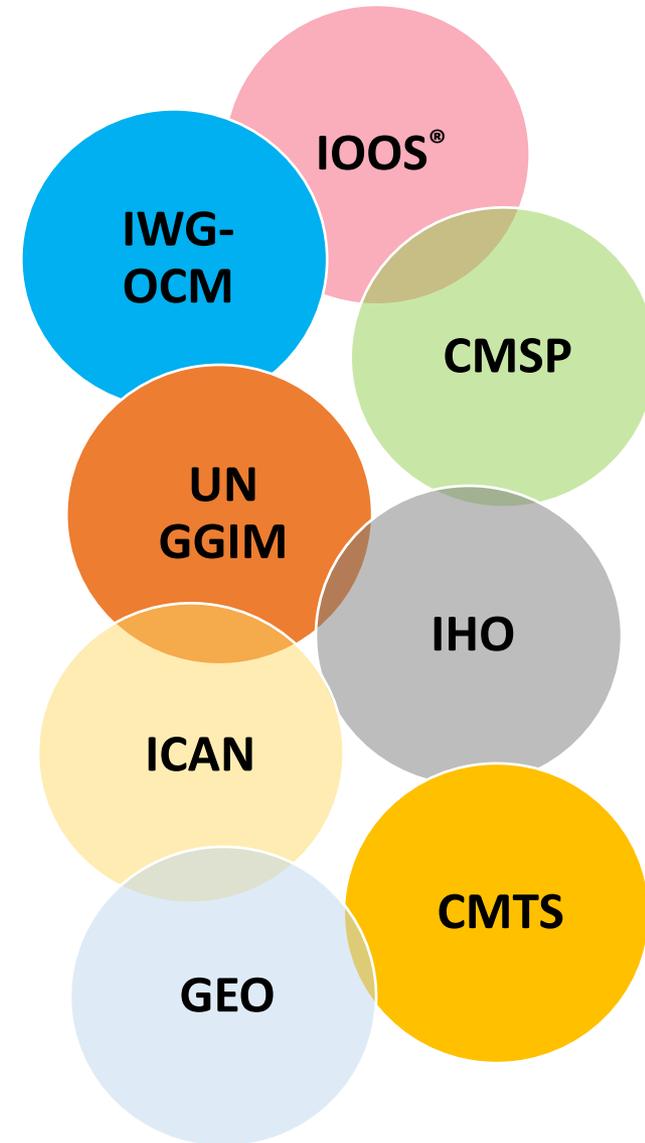


Marine NSDI NGDAs not Limited to W–O&C Theme

Theme	Sample datasets of interest	Water – Oceans and Coasts datasets
Biota	Environmental Sensitivity Index (ESI)	
Cadastre	Outer Continental Shelf datasets	Shoreline Products Outer Continental Shelf Boundaries
Elevation	Coastal Lidar Digital Elevation Models Multibeam Bathymetric Data	
Geology	Outer Continental Shelf Sand and Gravel Outer Continental Shelf Wells	
Governmental Units		Maritime Limits and Boundaries Marine Protected Areas Boundaries Lands Act Boundaries
Imagery	Coastal Mapping Remote Sensing Data	
Land Use – Land Cover	Coastal Change Analysis Program Data	
Transportation	Ports	Nautical Charts
Utilities	Outer Continental Shelf Pipelines	
Water - Inland	National Wetlands Inventory	

W-O&C Partnerships / Coordination

- Multi-sectoral coordination is essential: Fed/State/Local Gov't, Private, NGO, Academia
- Leverage existing coordination bodies
 - *IWG-OCM National Coastal Mapping Strategy*
 - *Follow-on to 3DEP NEEA task to study ROI of ocean and coastal mapping*
- Geographic scope of theme requires both national and international viewpoint



Vision for a U.S. Marine and Coastal NSDI

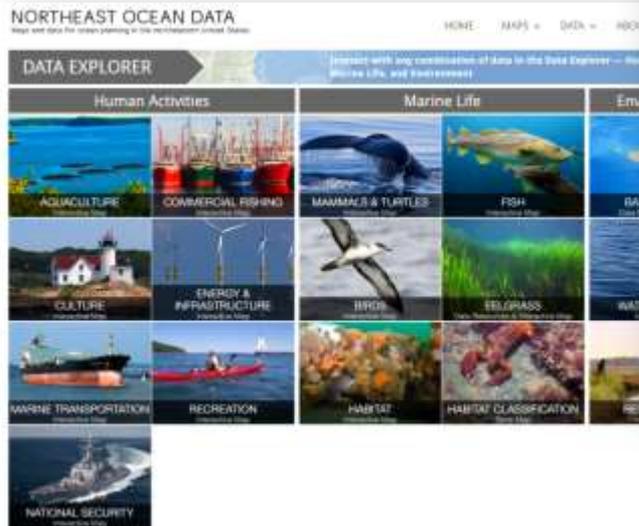
Current and accurate geospatial coastal and ocean data and tools will be readily available to contribute locally, nationally and globally to economic growth, environmental quality and stability, and social progress



Goal 1: Data – Collection & Access, *cont.*

PROMOTE THE COLLECTION AND DISTRIBUTION OF KEY COASTAL AND OCEAN DATASETS

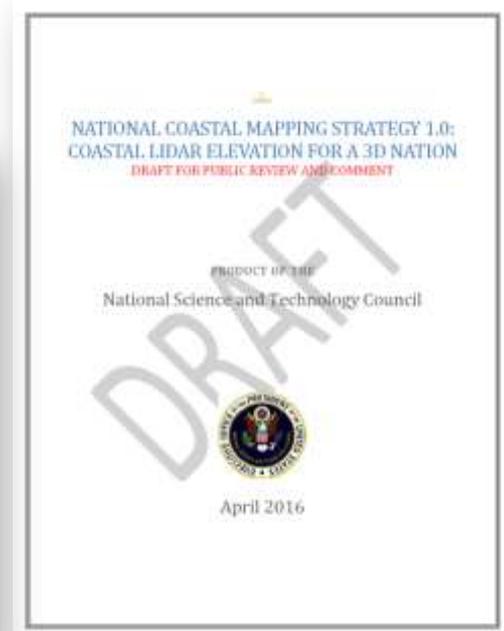
Data Requirements from Regional Ocean Portal Teams



Coastal and Marine Ecological Classification Standard



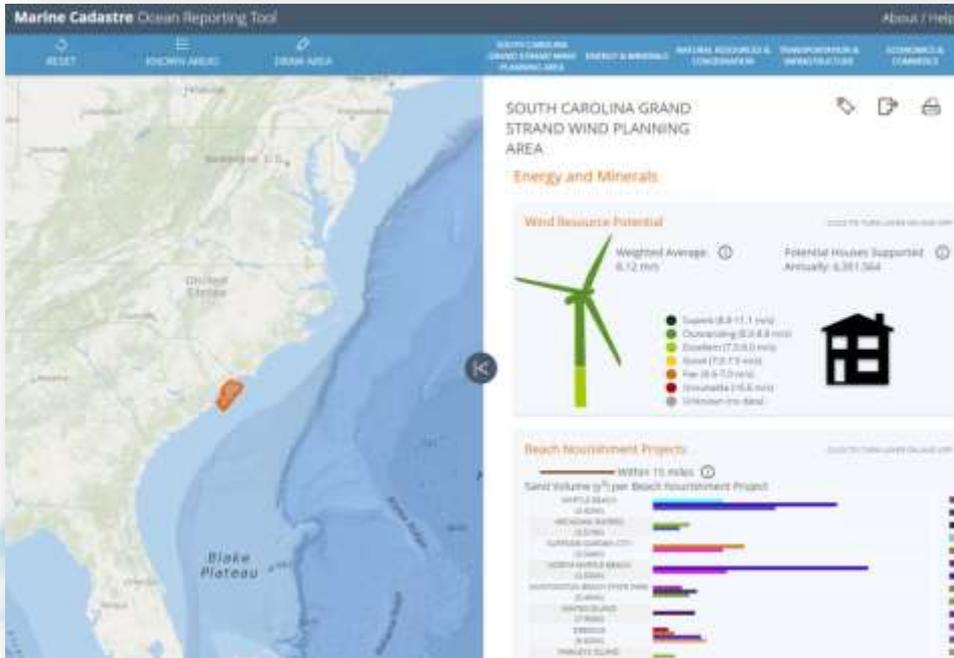
National Coastal Mapping Strategy



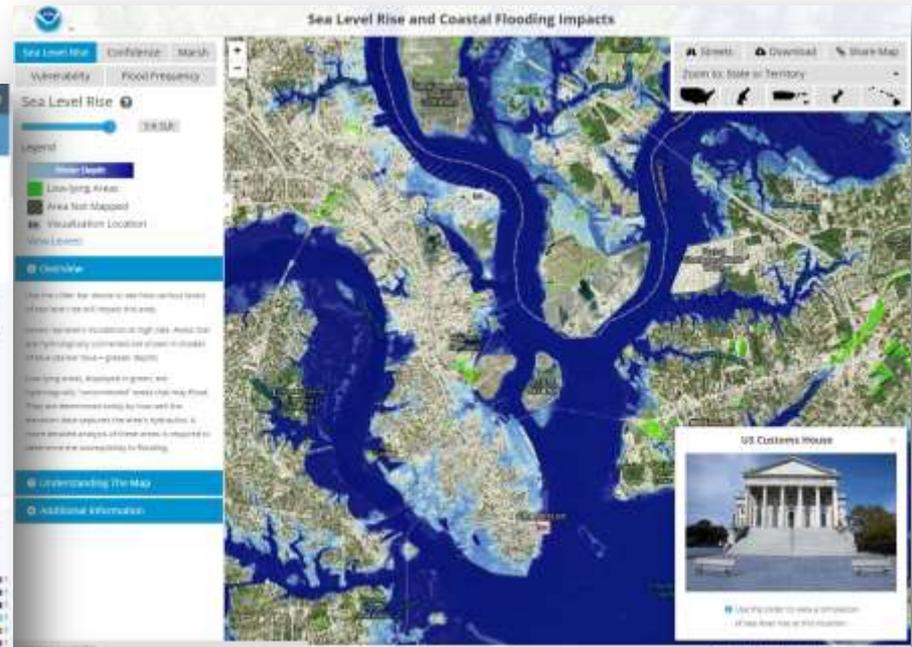
Goal 2: Tools and Visualizations

PROMOTE TOOLS THAT INCREASE THE USEFULNESS OF COASTAL AND OCEAN GEOSPATIAL DATA TO ADDRESS CRITICAL SOCIETAL ISSUES

*Ocean Reporting Tool
MarineCadastre.gov*



Climate Impacts and Sea Level Change Viewers

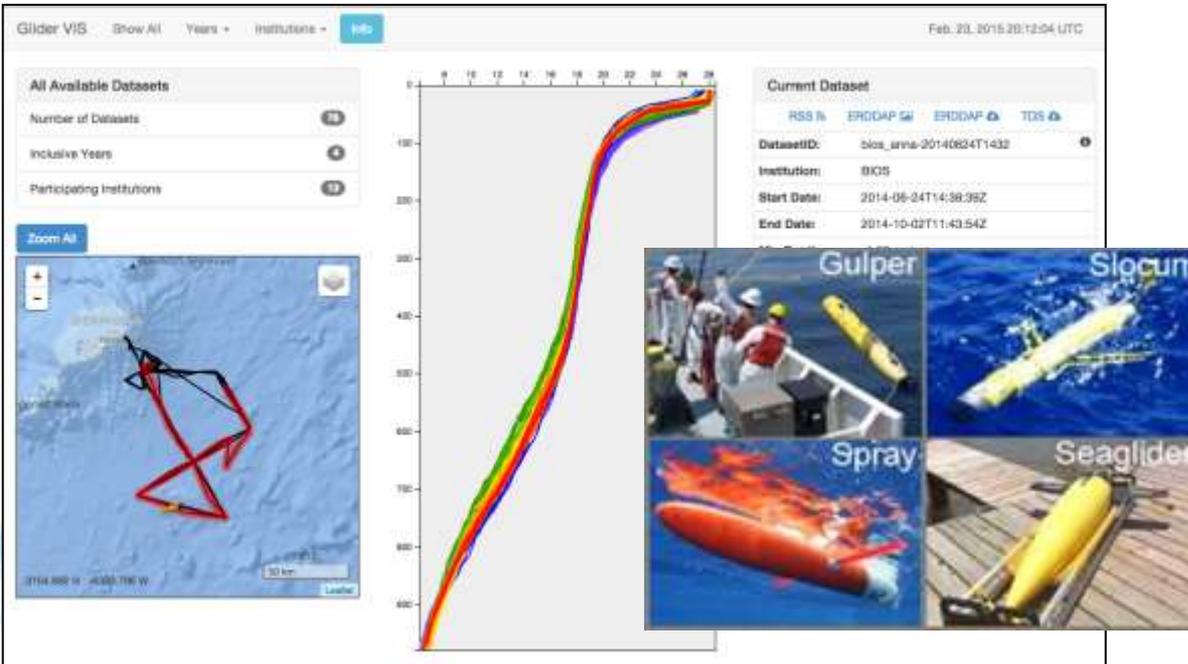


Goal 3: Innovation and New Platforms

INCREASE AWARENESS OF NEW GEOSPATIAL DATA, COLLECTION SYSTEMS, AND INNOVATIVE APPROACHES TO MANAGE AND SHARE THESE RESOURCES

*Innovations in Ocean Observations - Gliders
Data Assembly Centers*

*Data Synthesis Tools
Supporting Mobile Platforms*



Goal 4: Community Building

FOSTER THE GROWTH OF AN INFORMED AND PRODUCTIVE COASTAL & OCEAN GEOSPATIAL COMMUNITY

Online Training Resources



Conferences and Workshops



International Coordination UN GGIM



Challenges, Opportunities, and Next Steps

Challenges

- Wide diversity in datasets, types, and formats
- Multiple challenges in collecting certain critical marine datasets
- Extensive coordination inside the FGDC and externally

Opportunities

- Realize the vision for a U.S. Coastal and Marine NSDI
- Positively impact societal priorities in the coastal and marine environments

Next Steps

- Develop W-O&C Implementation Plan
- Ensure all NGDAs have appropriate mapping services
- Host Special Interest meeting at Coastal GeoTools Conference
- IWG-OCM beginning work on National Ocean Mapping Strategy V2

W-O&C Community Webpage

WATER - OCEANS & COASTS THEME

Theme Lead Agency: National Oceanic and Atmospheric Administration (NOAA)

Theme Lead: Tony LaVoi (NOAA)



Overview

Water - Oceans and Coasts Theme

Definition: Features and characteristics of salt water bodies (i.e. tides, tidal waves, coastal information, reefs) and features and characteristics that represent the intersection of the land with the water surface (i.e. shorelines), the lines from which the territorial sea and other maritime zones are measured (i.e. baseline maritime) and lands covered by water at any stage of the tide (i.e. Outer Continental Shelf), as distinguished from tidelands, which are attached to the mainland or an island and cover and uncover with the tide.



Committees And Work Groups

FGDC Marine and Coastal Spatial Data Subcommittee

FGDC Wetlands Subcommittee

FGDC Marine Boundary Working Group

Interagency Working Group on Ocean and Coastal Mapping

Related Themes

- Biota
- Cadastre
- Elevation
- Government Units



Geospatial Standards

Classification of Wetlands and Deepwater Habitats in the United States (1996)

Metadata Profile for Shoreline Data (2001)

Geospatial Positioning Accuracy Standards, Part 5: Standards for Nautical Charting Hydrographic Surveys (2005)

Shoreline Data Content Standard - Public Review Draft (2007)

Coastal and Marine Ecological Classification Standard (2012)

NGDA Water Oceans And Coasts Community

Community Type: A-16

Sponsor: FDGC

Sponsor Email: geoplatform@fgdc.gov

You must register or login in order to subscribe to this community.