

Insights into Coastal Management Needs

Results from the 2014 NOAA Customer Survey

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DIGITAL COAST

Purpose and Background

- Coastal Resource Managers Survey
 - Assess the needs of coastal resource managers in order to guide strategic planning, professional development, and delivery of future products and services
- Performed (approximately) every three years
- Integration of NOAA Coastal Services Center and Office of Ocean and Coastal Resource Management

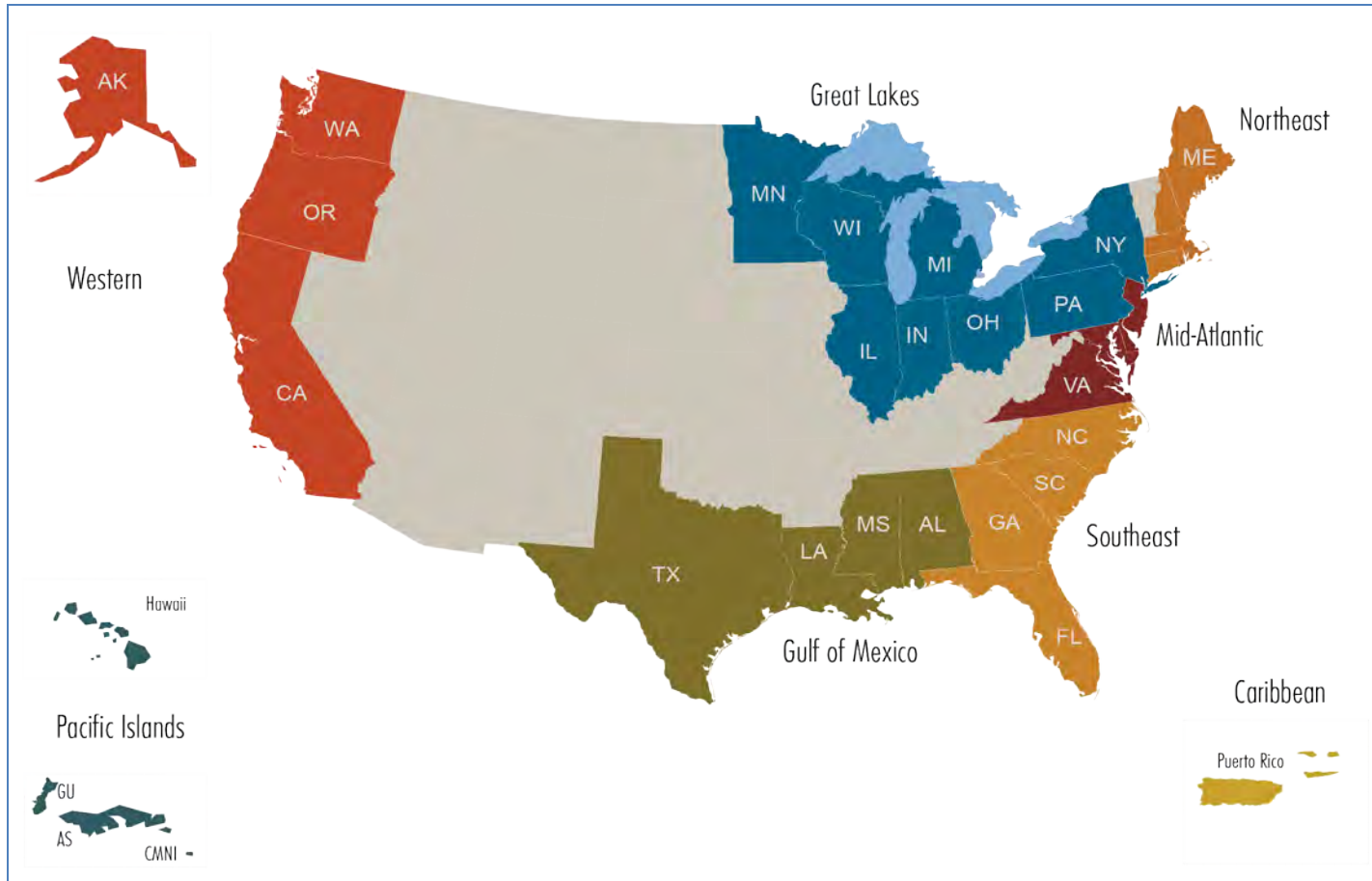


Methodology and Responses

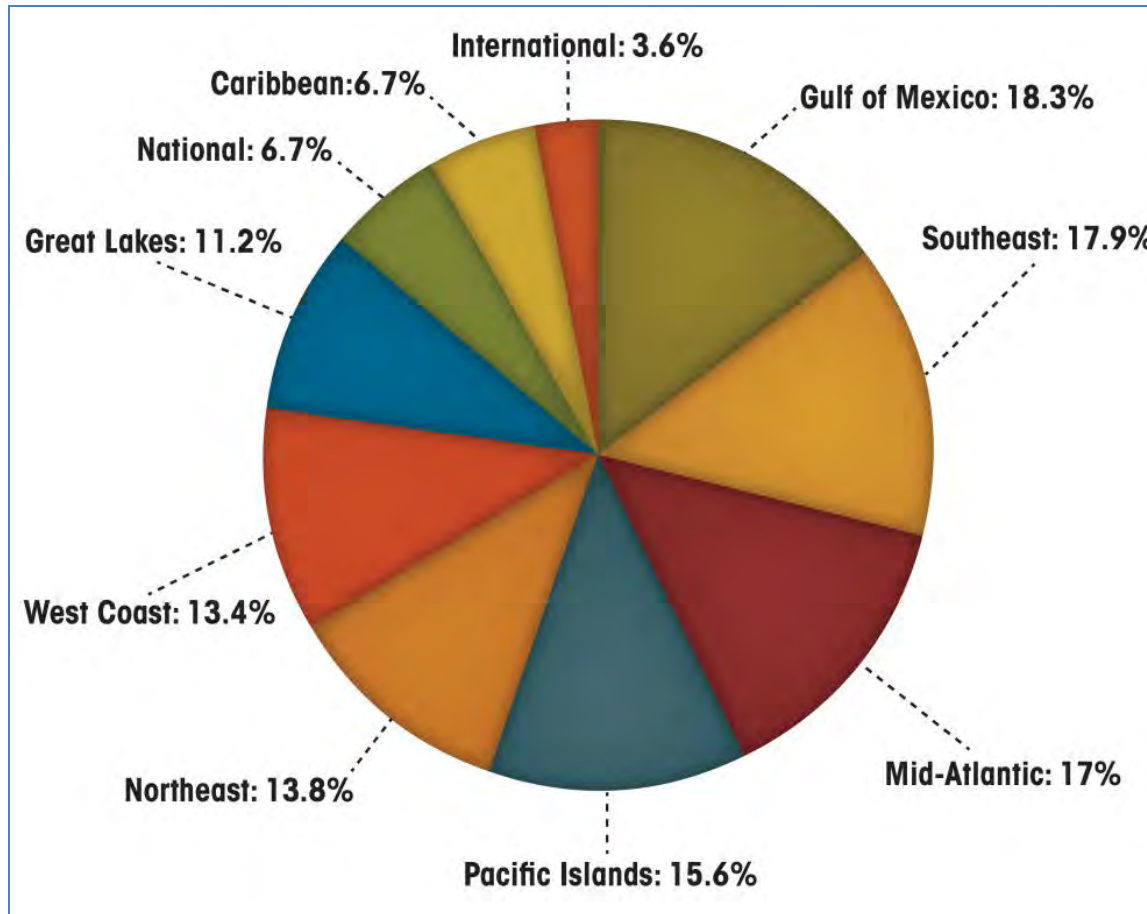
- List of 610 emails from multiple sources
 - 585 emails were successfully sent
 - 224 total responses (38 percent response)
- Multiple communications with potential respondents (11-4-2013 to 12-2-2013)
 - Pre-notification
 - Survey mail-out
 - Two reminders
- Follow up interviews



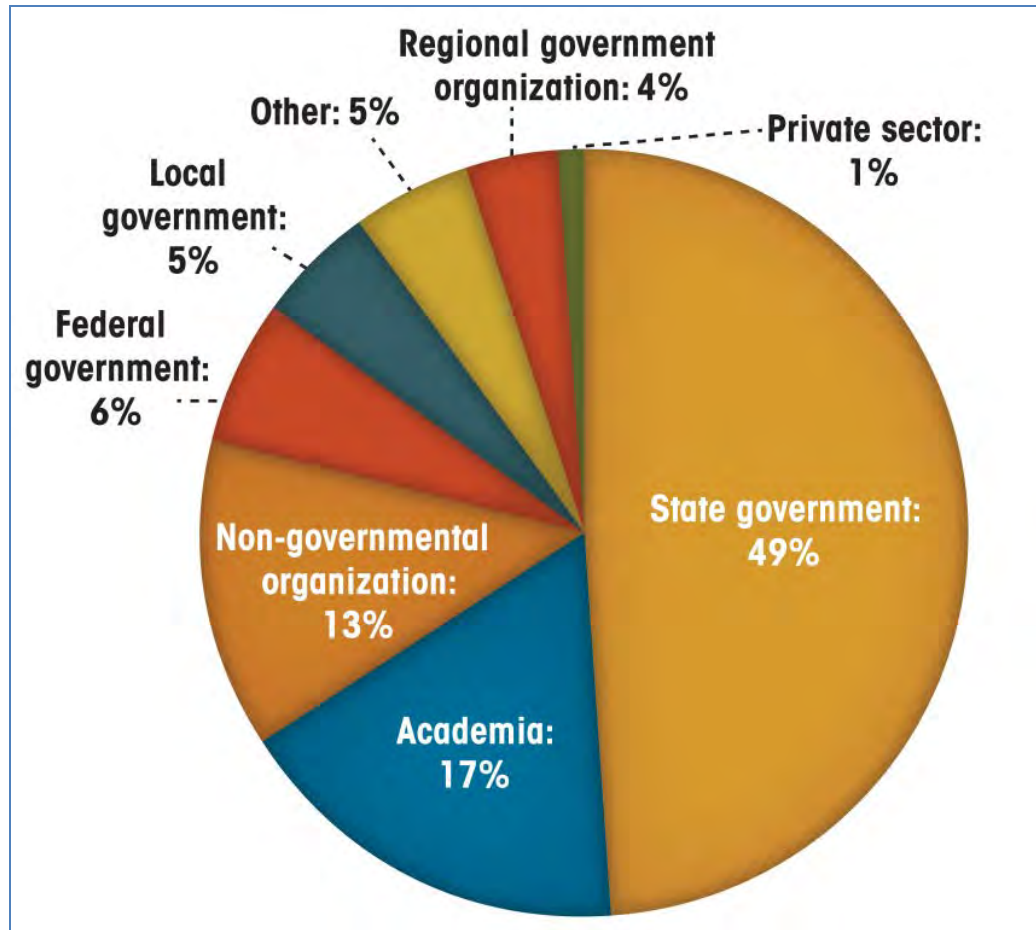
Coastal Regions



Response by Region



Response by Affiliation

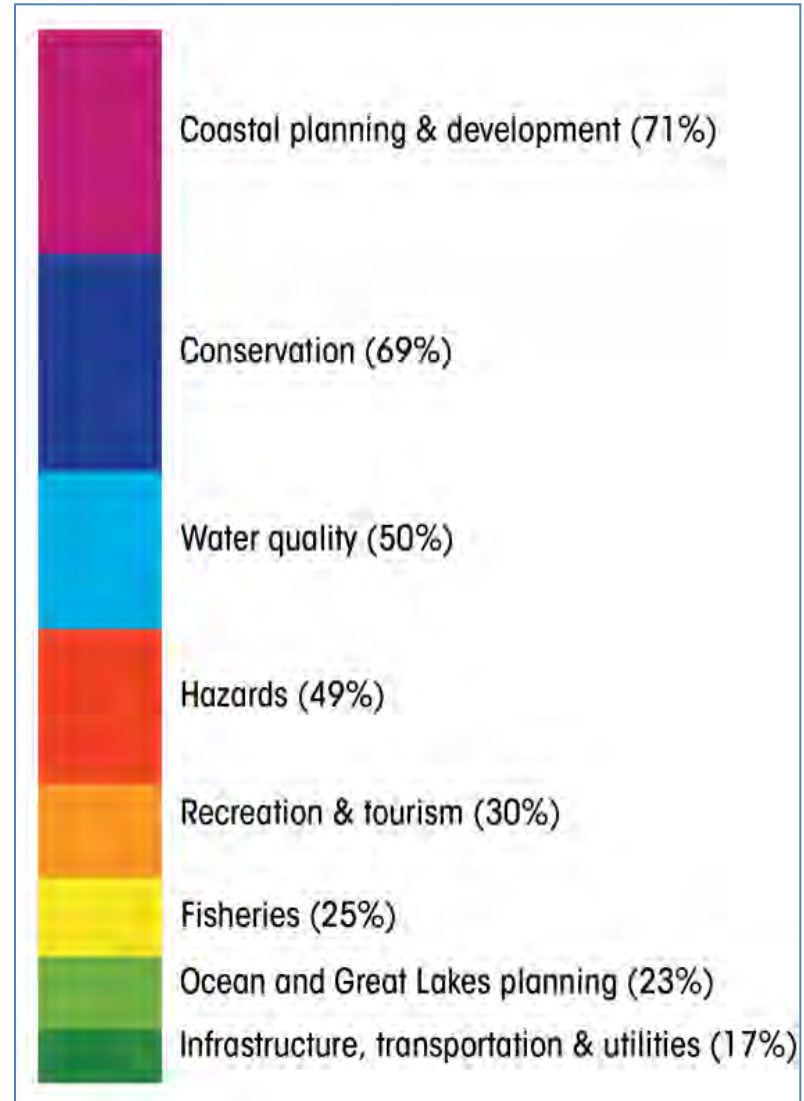


Response by Job Duties

	Count	Percent
Program administration and management	106	47.3%
Education and outreach	101	45.1%
Planning	77	34.4%
Conservation	72	32.1%
Policy	53	23.7%
Research and academia	50	22.3%
Natural resource site management	48	21.4%
Geospatial technology (GIS, remote sensing, or related field)	36	16.1%
Permitting and regulatory enforcement	29	12.9%
Floodplain management	24	10.7%
Human dimensions (sociology, anthropology, and economics)	23	10.3%
Other	10	4.5%
Emergency management	9	4.0%



Top Priority Issues



Priority Issues

- Coastal planning and development
 - Climate change impacts (70 percent)
 - Habitat loss and fragmentation (48 percent)
 - Comprehensive land use planning (48 percent)
- Conservation
 - Habitat restoration and monitoring (54 percent)
 - Climate change impacts (51 percent)
 - Habitat loss and fragmentation (41 percent)
- Water quality



Priority Issues, Continued

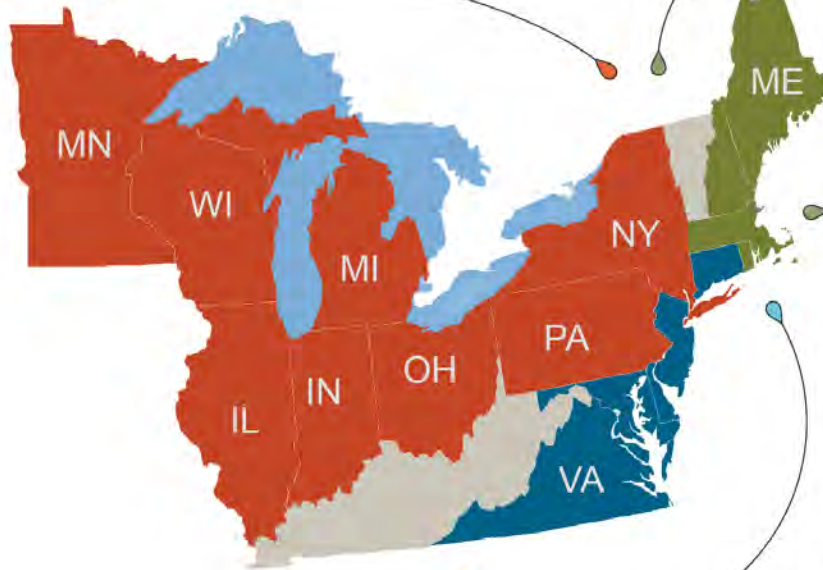
- Hazards
 - Climate change impacts (78 percent)
 - Flooding and inundation (70 percent)
 - Hurricanes and coastal storms (69 percent)
 - Shoreline change and erosion (65 percent)
- 71 percent of respondents indicated that climate change impacts are a priority for at least one of the topic areas most important to their work



Great Lakes

Highest priority at 84% was **coastal planning and development** with almost half selecting both **climate change impacts** and **comprehensive land use planning** as their most important issues within this category.

Water quality at 60% was the second highest identified priority.



Northeast

Highest priority at 68% was **conservation** followed by 61% identifying **coastal planning and development**.

Within these categories, **climate change impacts** at 68% and 90% percent, respectively in the categories, were the number one subconcern.

Mid-Atlantic

Highest priority at 79% was **coastal planning and development** with 80% worried about **climate change impacts**.

Hazards at 71% was the second highest identified priority with 85% selecting **climate change impacts** and **flooding and inundation**, as the highest concern within the category.

Gulf of Mexico

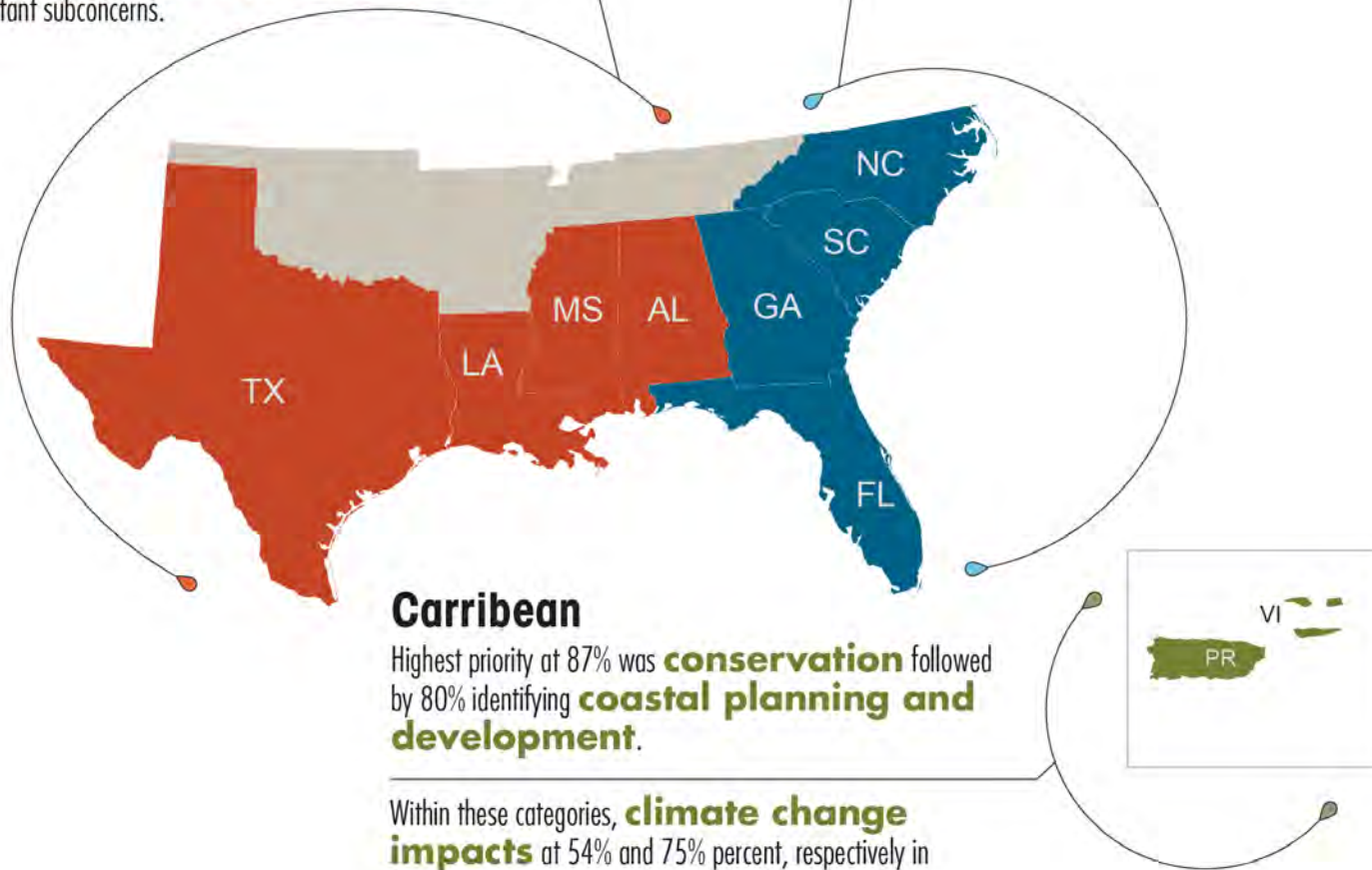
Highest priority at 78% was **conservation** with 69% selecting **habitat restoration and monitoring** and 59% percent chose **habitat loss or fragmentation** as their most important issues within this category.

Coastal planning and development at 73% was the second highest identified priority, with 67% identifying both **climate change impacts** and **habitat loss or fragmentation** as the most important subconcerns.

Southeast

Highest priority at 75% was **coastal planning and development** followed by 68% identifying **conservation**.

Within these categories, **climate change impacts** at 67% and 56% percent, respectively in the categories, were the number one subconcern.



Caribbean

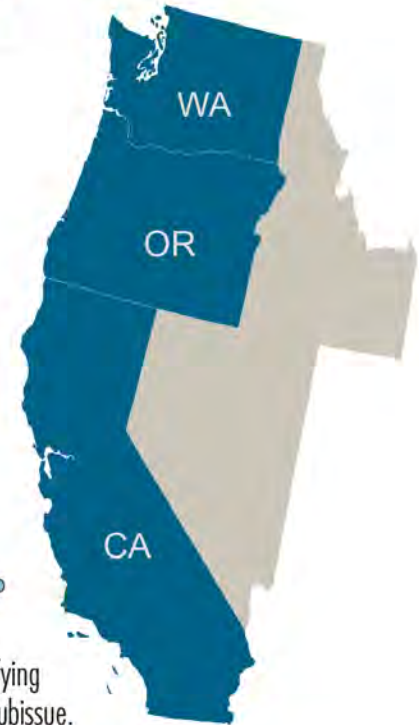
Highest priority at 87% was **conservation** followed by 80% identifying **coastal planning and development**.

Within these categories, **climate change impacts** at 54% and 75% percent, respectively in the categories, were the number one subconcern.

Western

Highest priority at 67% was **conservation** followed by 63% identifying **coastal planning and development**.

55% and 68% respectively selected **climate changes impacts** as an important concern, with 55% within conservation also selecting **habitat restoration and monitoring** as a priority subissue.



Pacific Islands

Highest priority at 77% was **conservation** with 63% identifying **coral reef management** as the most important subissue.

The priority issues within coral reef management are **fishing impacts** (53%), along with **education of public, stakeholders, and decision makers** (47%).

Coastal planning and development at 66% was the second highest identified priority, with 78% identifying **climate change impacts** as the highest subissue.



climate change



Product and Service Needs

- **GIS data** (46 percent) – Including GIS layers, applications, tools, and related products
- **Biological, physical, and social data sets** (40 percent) – Such as population attributes, wetland loss trends, and marine mammal migration paths
- **Remote sensing data** (37 percent) – Including both data and derivatives such as imagery, elevation, land cover, bathymetry, and mapping



Training Needs

Respondents were asked to indicate their desired level of proficiency with, and interest in, a list of tasks where proficiency was measured:

- **Aware** – I know about this, and want to learn more
- **Skill building** – I have some limited work experience with this and want to be able to apply it
- **Building proficiency** – I am applying this at work fairly regularly and want to improve my abilities
- **Not interested** – This topic is not relevant to my work at this time



Respondent Skill Level	Top Five Training Tasks	Percent
Interested Combines “aware” and “skill building” plus “building proficiency”	Integrating physical, biological, and social science data for decision making	93.3%
	Effectively engaging communities	92.9%
	Using visualizations effectively	89.7%
	Effectively communicating risk	89.3%
	Navigating relationships among local, state, and national players	89.3%
Aware I know about this and want to learn more	Using and selecting economic methods or tools to aid in decision making	39.7%
	Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives	32.6%
	Obtaining and using socioeconomic data or information	29.5%
	Understanding and implementing a range of green infrastructure approaches	27.7%
	Quantifying the risks of hazards and selecting effective mitigation and adaptation measures	27.2%
Skill Building I have some limited experience with this and want to be able to apply it	Understanding ecosystem services as criteria and considerations when choosing strategies	41.5%
	Using visualizations effectively	37.9%
	Understanding coastal habitat trends	37.1%
	Integrating physical, biological, and social science data for decision making	35.3%
	Obtaining and using socioeconomic data or information	34.8%
Building Proficiency I am applying this at work fairly regularly and want to improve my abilities	Developing strategic and management plans	39.3%
	Integrating physical, biological, and social science data for decision making	33.9%
	Effectively communicating risk	31.3%
	Prioritizing natural areas for protection using spatial approaches	30.8%
	Selecting the appropriate decision making tool under a given circumstance	28.1%

Top Five Training Topics

Top five desired training or technical assistance topics:

- Integrating physical, biological, and social science data for decision-making
- Using and selecting economic methods or tools to aid in decision-making
- Effectively communicating risk
- Quantifying the risks of hazards and selecting effective mitigation and adaptation measures
- Adapting to the effects of sea level rise on community infrastructure



Top Data Needs

Survey respondents were asked to identify their level of use of certain data types. The following data types were most popular:

- Climate change and impacts data
- Wetlands data
- Human use data
- Land cover and change
- Socioeconomic data



Data Types	Frequency of Use			Not Applicable	No Response
	Frequently	Occasionally	Rarely		
Climate Change and Impacts	129 (57.6%)	62 (27.7%)	19 (8.5%)	11 (4.9%)	3 (1.3%)
Wetlands	112 (50%)	69 (30.8%)	16 (7.1%)	22 (9.8%)	5 (2.2%)
Human Uses	111 (49.6%)	73 (32.6%)	21 (9.4%)	12 (5.4%)	7 (3.1%)
Land Cover and Change	108 (48.2%)	76 (33.9%)	16 (7.1%)	17 (7.6%)	7 (3.1%)
Socioeconomic	100 (44.6%)	74 (33%)	26 (11.6%)	19 (8.5%)	5 (2.2%)
Hazards	95 (42.4%)	69 (30.8%)	25 (11.2%)	26 (11.6%)	9 (4%)
Living Marine Resources	95 (42.4%)	60 (26.8%)	27 (12.1%)	36 (16.1%)	6 (2.7%)
Topography	84 (37.5%)	67 (29.9%)	26 (11.6%)	38 (17%)	9 (4%)
Benthic Habitat	63 (28.1%)	55 (24.6%)	31 (13.8%)	58 (25.9%)	17 (7.6%)
Bathymetry	59 (26.3%)	63 (28.1%)	32 (14.3%)	56 (25%)	14 (6.3%)
Marine Infrastructure	38 (17%)	72 (32.1%)	43 (19.2%)	61 (27.2%)	10 (4.5%)
Offshore Energy	20 (8.9%)	49 (21.9%)	56 (25%)	85 (37.9%)	14 (6.3%)



Data Needs, Continued

For the people who use the data the most, in every category, at least 60 percent of the respondents need better or updated data. The following top data types are in need of improvement:

- Climate change and impacts data (86 percent)
- Bathymetry and socioeconomic data (83 percent each)
- Living marine resources data (82 percent)



Are Current Data Addressing Needs?

Data Types	Needs Addressed	Need Updated or Better
Climate Changes or Impacts	18 (14.%)	111 (86.%)
Bathymetry	10 (16.9%)	49 (83.1%)
Socioeconomic	17 (17.%)	83 (83.%)
Living Marine Resources	17 (17.9%)	78 (82.1%)
Land Cover and Change	20 (18.5%)	88 (81.5%)
Benthic Habitat	12 (19.%)	51 (81.%)
Offshore Energy	5 (25.%)	15 (75.%)
Hazards	24 (25.3%)	71 (74.7%)
Human Uses	29 (26.1%)	82 (73.9%)
Marine Infrastructure	11 (28.9%)	27 (71.1%)
Wetlands	40 (35.7%)	72 (64.3%)
Topography	33 (39.3%)	51 (60.7%)



Thoughts to Ponder: Future Surveys

- How to increase responses?
 - Leverage partners
 - Email lists, survey link on websites, social media
- More region-specific granularity?
 - Drop-down menus or follow-up focus groups
 - Regional differences, e.g., “conservation” and “resilience”
- Better linkage between priorities and needs?
- Standard questions for trends versus tailoring survey for emerging issues?



coast.noaa.gov/digitalcoast/publications/survey

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