FINAL REPORT

Insights into Coastal Management Needs:

Results from the NOAA Coastal Services Center and Office of Ocean and Coastal Resource Management Customer Survey

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National Oceanic and Atmospheric Administration (NOAA)
Coastal Services Center

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NOAA Coastal Services Center
LINKING PEOPLE, INFORMATION, AND TECHNOLOGY

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EXECUTIVE SUMMARY: 2013 COASTAL RESOURCE MANAGEMENT SURVEY

The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center (CSC) and the Office of Ocean and Coastal Resources Management (OCRM) are working together on strategies that improve the understanding of, as well as the ability to manage, protect, and utilize valuable coastal resources. In order to assess the needs of CSC/OCRMs partners and customers in the coastal resource management community (e.g., program administrators, educators, coastal planners) and to guide strategic planning, professional development, and delivery of future products and services, CSC/OCRM conducted a Coastal Resources Management (CRM) Customer Survey. The results are highlighted below.

PRIORITY ISSUES

CSC/OCRM asked coastal resource managers to indicate up to four of their most important priorities. The results are shown in Figure ES-1. Additionally, respondents were asked about their most important sub-issues in those topics. The results for the top priorities are as follows:*[1]

- Coastal planning and development
  - Climate change impacts (70 percent)
  - Habitat loss/fragmentation (48 percent)
  - Comprehensive land use planning (48 percent)
- Conservation
  - Habitat restoration and monitoring (54 percent)
  - Climate change impacts (51 percent)
  - Habitat loss/fragmentation (41 percent)
- Hazards
  - Climate change impacts (78 percent)
  - Flooding/inundation (70 percent)
  - Hurricanes/coastal storms (69 percent)
  - Shoreline change and erosion 65 percent)
- 71 percent of respondents indicated that **climate changes and impacts** are a priority for at least one of the topic areas most important to their work.

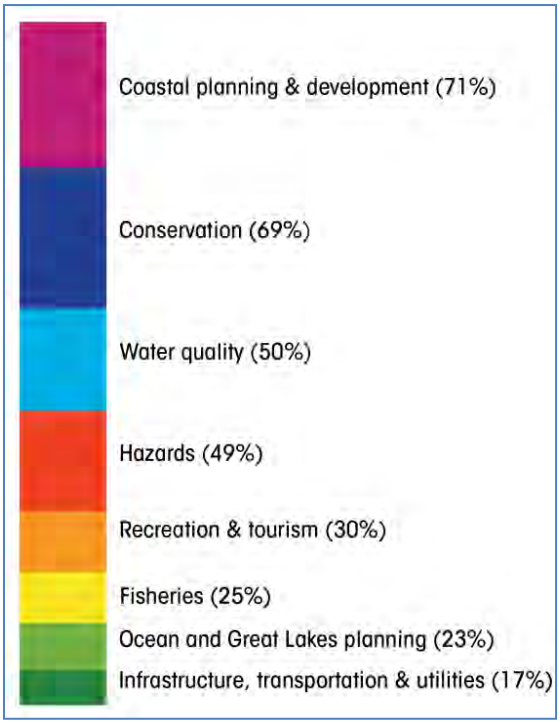

Figure ES-1: Distribution of responses regarding coastal management topics most important to one's work

The survey asked respondents to list the issues that would require the most attention in the future and respondents most frequently chose the following terms to describe those issues:

- Climate change
- Sea level rise
- Resilience

Other common words included "hazards," "spatial planning," "adaptation," "restoration," and "management."

[1] CSC/OCRM did not identify any sub-issues under water quality.

REQUESTED DATA, SERVICES, AND TRAINING

CSC/OCRM partners had lots of requests for tools, data, and training to support their work towards healthy ecosystems, resilient communities, and sustainable coastal economies. The text box to the right lists the most frequently used types of data, and the categories for which frequent users felt there needs to be more, updated, or finer resolution information.

Most Popular Data Used

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

Top Requests for Improved Data from Frequent Users

- Climate change/impacts
- Socioeconomic
- Bathymetry

In answer to the most desired products and services (excluding funding), coastal resource managers indicated their three most desired CSC/OCRM items are:

Products

- GIS layers, applications, and tools (46% of respondents)
- Biological, physical, and social data sets (40% of respondents)
- Remote sensing data and derivatives (37% of respondents)

91 percent of respondents chose at least one of the eight data products that were options. Of the 22 different products and services that respondents could choose from, eight of those were data products and 91 percent of respondents chose at least one of data product.

Training and Technical Assistance

- Integrating physical, biological, and social science data for decision-making (38% of respondents indicated in top five; 93% interested in more training on this topic)
- Using and selecting economic methods or tools to aid in decision-making (37% of respondents indicated in top five; 84% interested in more training on this topic)
- Effectively communicating risk (36% of respondents indicated in top five; 89% interested in more training on this topic)

CSC/OCRM partners are enthusiastic about the information they receive from NOAA, indicating that the top types of communication they desire include:

- Available coastal data, tools, training, and technical assistance (84 percent)
- Examples of coastal management “best practices” (77 percent)
- Programmatic news (71 percent)

COMMUNICATION PREFERENCES

To better disseminate its information, CSC/OCRM asked its respondents about their preferred communication methods. Survey respondents answered that:

- In-person conferences and events continue to be the most preferred option for learning new job-related information. However, travel budgets continue to be limited making non-regional events difficult to attend.
- Use of social media for job-related activities is minimal.
- CSC/OCRM web resources appear to be underutilized. The NERRs website had the most recognition with 20 percent of coastal resource management familiar with it.

SURVEY RESPONDENT DEMOGRAPHICS

The survey population was identified using lists of CSC/OCRM contacts. Responses were fairly evenly distributed across the coastal regions with the exception of the Caribbean, which has the lowest representation in the sample. When asked to identify their primary job duties, the most commonly selected responses were "program administration/management" and "education and outreach."

Almost half of the coastal resource managers participating in the survey were affiliated with state government (Figure ES-2). Three-quarters of the respondents also work for an organization (e.g., National Estuarine Research Reserve Association, Coastal States Organization, The Nature Conservancy) associated with Digital Coast—a partnership with NOAA, other federal agencies, state and local government, non-profit organizations, and private industry to integrate tool, data, and other resources into one platform for use by coastal resource managers.

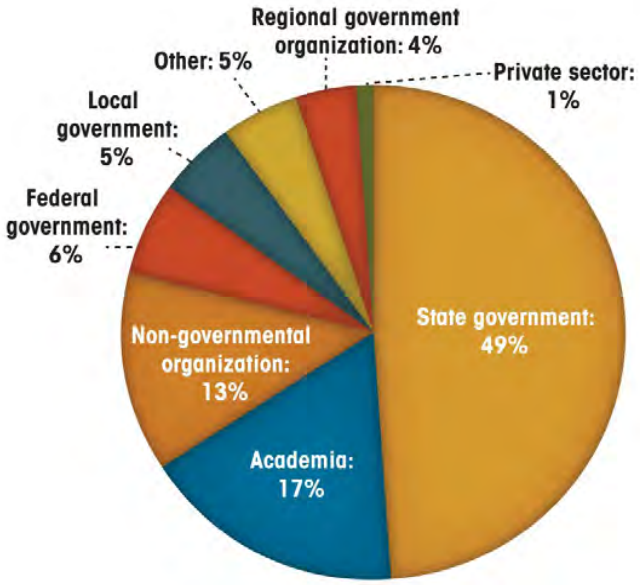

Figure ES-2: Respondents' professional affiliation

1 INTRODUCTION

Guiding the conservation and wise management of the nation's coastal resources is a primary function of the National Oceanic and Atmospheric Administration (NOAA). To help support this mission, NOAA's Coastal Services Center (CSC) and the Office of Ocean and Coastal Resources Management (OCRM) are working together to achieve three priority outcomes:

- Healthy coastal ecosystems
- Resilient coastal communities
- Vibrant and sustainable coastal economies

CSC offers support in a variety of areas, including facilitation and social science services, assistance with geographic information systems (GIS) data and mapping, assistance in providing coastal-related data, technical assistance and training, and development of mapping tools. With its state partners, OCRM administers the National Coastal Zone Management Program and the National Estuarine Research Reserve System, and provides strategic direction, financial support, and guidance to state and local coastal resource managers. Additionally, NOAA's Coral Reef Conservation Program is headquartered in OCRM, and its mission is to support effective management and sound science to preserve, sustain and restore valuable coral reef ecosystems. This program is a cross-NOAA partnership that brings together expertise of 4 of NOAA's Line Offices (National Ocean Service; National Marine Fisheries Service; Office of Oceanic and Atmospheric Research; and National Environmental Satellite, Data and Information Service) to support activities by NOAA and many partners in the U.S. Pacific (American Samoa, the Commonwealth of the Northern Mariana Islands, Guam, Hawaii, and the U.S. Pacific Remote Insular Areas), U.S. Atlantic/Caribbean (Florida, Puerto Rico, U.S. Virgin Islands, and Navassa Island) and international areas including the Freely Associated States. Together, CSC and OCRM pursue strategies that improve the understanding, as well as the ability to manage, protect, and utilize valuable coastal resources. As such, they wish to tailor their products and services to meet the needs of the coastal resource management community.

The CSC/OCRM partners, hereafter referred to as "coastal resource managers" or "respondents," includes a variety of individuals and organizations:

- Coastal planners
- Natural resource agencies
- Regulatory agencies
- Emergency management officials
- Floodplain managers
- Conservation organizations
- Regional ocean governance organizations
- Members of the Digital Coast Partnership[2]
    - American Planning Association
    - Association of State Floodplain Managers
    - Coastal States Organization

[2] www.csc.noaa.gov/digitalcoast

- National Association of Counties
- National States Geographic Information Council
- The Nature Conservancy
- Urban Land Institute
- National Estuarine Research Reserve Association

- Coastal researchers

Approximately every three years, CSC performs the Coastal Resources Management (CRM) Customer Trends survey to assess the needs of coastal resource managers in order to guide strategic planning, professional development, and delivery of future products and services. Previous versions of the survey and analyses of the results are available at www.csc.noaa.gov/survey. For the 2013 survey, which is the focus of this report, OCRM staff worked with CSC to add questions that would capture information about their partners. CSC contracted with Eastern Research Group, Inc. (ERG) to provide input into the survey instrument, implement the survey, and report the results.

The data collection methodology is described in Section 2 of this report. Section 3 presents detailed survey results with tabulations by region, demographics, and stakeholder group. An interpretation of trends, recommendations, and lessons learned can be found in Section 4. Appendix A is the survey instrument.

Appendix B contains the aggregated responses by question. In providing highlights for the report, ERG reviewed the results of various cross tabulations (e.g., regional, organizational, job duties) perspective to determine if the results change from the overall survey respondents. It was beyond of the scope of the project to determine statistically significant differences and if adequate representation for each type of category (e.g., job duty) was achieved. ERG provided separately to NOAA the cross tabulation results sorted by Digital Coast Partners to assist with their development of strategic short- and long-term partnerships to direct knowledge, technical capacity, and financial resources to important coastal and ocean issues.

2 DATA COLLECTION METHODOLOGY AND RESPONSE RATE

The 2013 CRM Customer Trends survey represents the sixth implementation of this survey, which started in 1996. Over time, the survey instrument has evolved to reflect both changes in survey implementation approaches (mail to Web-based), as well as questions to better understand technology and data use, along with questions to tease out emerging issues and concerns. Additionally, NOAA sought to streamline questions to reduce the length and complexity of the survey. In developing the 2013 version of the survey, NOAA analyzed the results of the previous survey to determine which data resulted in actionable information and removed questions that were less useful. ERG supported this process by suggesting wording modifications and question formats to ensure that the questionnaire would capture the desired information. The resulting 2013 survey (provided in Appendix A) achieved a 10 minute reduction in estimated completion time.

The survey instrument, provided in Appendix A, was sent through the NOAA Generic Clearance for Customer Satisfaction Surveys for Office of Management and Budget (OMB) approval. OMB approval was received in September 2013 (OMB, #0648-0342).

The CRM survey was conducted as a Web-based survey using Vovici online survey software and was open from November 4, 2013 to December 2, 2013. CSC/OCRM provided a contact list of 610 potential respondents, culled from program contact databases. Potential respondents were sent a pre-notification email from Jeff Payne, Acting Director of CSC, followed by a direct email invitation to participate in the survey; 585 of these emails were successfully transmitted.[3] No statistical methods were used in the participant selection or distribution of the survey; the entire list of partners received an invitation to complete the survey. Two reminders were sent (November 12 and November 20) to those who had not yet completed the survey.

A total of 224 completed surveys[4] were received for a total response rate of 38 percent. The 2010 version of the survey had a 44 percent response rate (218 respondents), which included partially completed surveys. Overall the 2013 survey collected more total responses compared to the previous version. Additionally, the 2013 CRM customer trends survey response rate appears to be part of a growing trend of reduced response rates for online surveys.[5]

ERG's analysis of the results indicated that the survey respondents appear to be representatives of the original distribution list.[6] Table 1 shows the response rate by respondent affiliation. (Note: some contacts were listed in multiple categories and duplicates were removed, so the contact was only counted in the first category where it appeared.)

Table 1: Response rate by partner organization

Affiliation	Successful emails sent	Responded (percent)
National Coastal Zone Management Program	109	35%
National Estuarine Research Reserve Association	98	56%
Coral Reef Management Program	83	36%
Regional Ocean Partnerships	51	41%
Sea Grant Program	43	47%
Educators	40	28%
National States Geographic Information Council	35	26%
Association of State Floodplain Managers	36	39%
American Planning Association	23	30%
National Association of Counties	22	27%
The Nature Conservancy	24	21%
Land Trusts	14	36%
Technical Assistance Requestors	6	33%
Urban Land Institute	1	0%
Total	**585**	**38%**

2.1 ADDITIONAL DATA COLLECTION

[3] Although the survey software indicates that 585 emails were successfully transmitted, it is unknown how many of these emails were actually read and how many may have been caught in spam filters at the receiving end.

[4] Only respondents that completed the survey and clicked "submit" were included in the tabulations. ERG reviewed partial surveys and determined some of these contacts had less applicable jobs as they often selected "not interested" or left questions blank. Therefore resources were not devoted culling information from partially completed surveys.

[5] The survey research literature has documented a declining response rates over the past four decades. Response rates over 50 percent in higher education research are now anomalous, and rates lower than 40 percent are quite typical. (Laguilles, Williams and Saunders. 2011. "Can Lottery Incentives Boost Web Survey Response Rates? Finding from Four Experiments." Res High Educ).

[6] In analyzing respondents that requested CSC technical assistance ERG identified consulting firms as a secondary customer, and added six contacts that had utilized CSC services from this sector.

In consultation with CSC/OCRM, ERG conducted a limited number of follow-up interviews to gather further insights into high priority areas/needs. These interviews were conducted via two methods:

- Soliciting input during a poster presentation at NOAA's Social Coast Forum in February 2014.
- Contacting survey respondents in March 2014 and conducting a limited number of interviews of one or two people at a time.

The results of these discussions are provided as Section 3.5.

3 RESULTS

This section highlights the CRM Customer Trends survey results, beginning with an overview of survey respondent demographics in Section 3.1. The next section, 3.2, covers the topic of coastal resource management priorities and needs, including:

- Top priorities among eight topic areas: Coastal Planning and Development, Conservation, Hazards, Ocean and Great Lakes Planning, Fisheries, Infrastructure/Transportation/Utilities, Recreation/Tourism, and Water Quality
- Emerging issues in coastal resources management

In Section 3.3, the report discusses the coastal resource manager requests related to CSC/OCRM products and services, such as:

- Training and technical assistance needs
- Data use and needs
- Awareness and use of CSC/OCRM information resources

Partnerships and collaborations are highlighted in Section 3.4. A sequential presentation of responses to each survey question can be found in Appendix B. Section 3.5 includes an overview of the additional information gathered during interviews to add more depth to certain survey results.

3.1 DEMOGRAPHICS

CSC/OCRM serves eight coastal regions as shown in Figure 1.[7] The survey asked respondents to indicate all the regions in which they work, including options for those who work at the national and international levels.

[7] Alaska was placed in the western region due to the small number of contacts invited to participate in the survey.

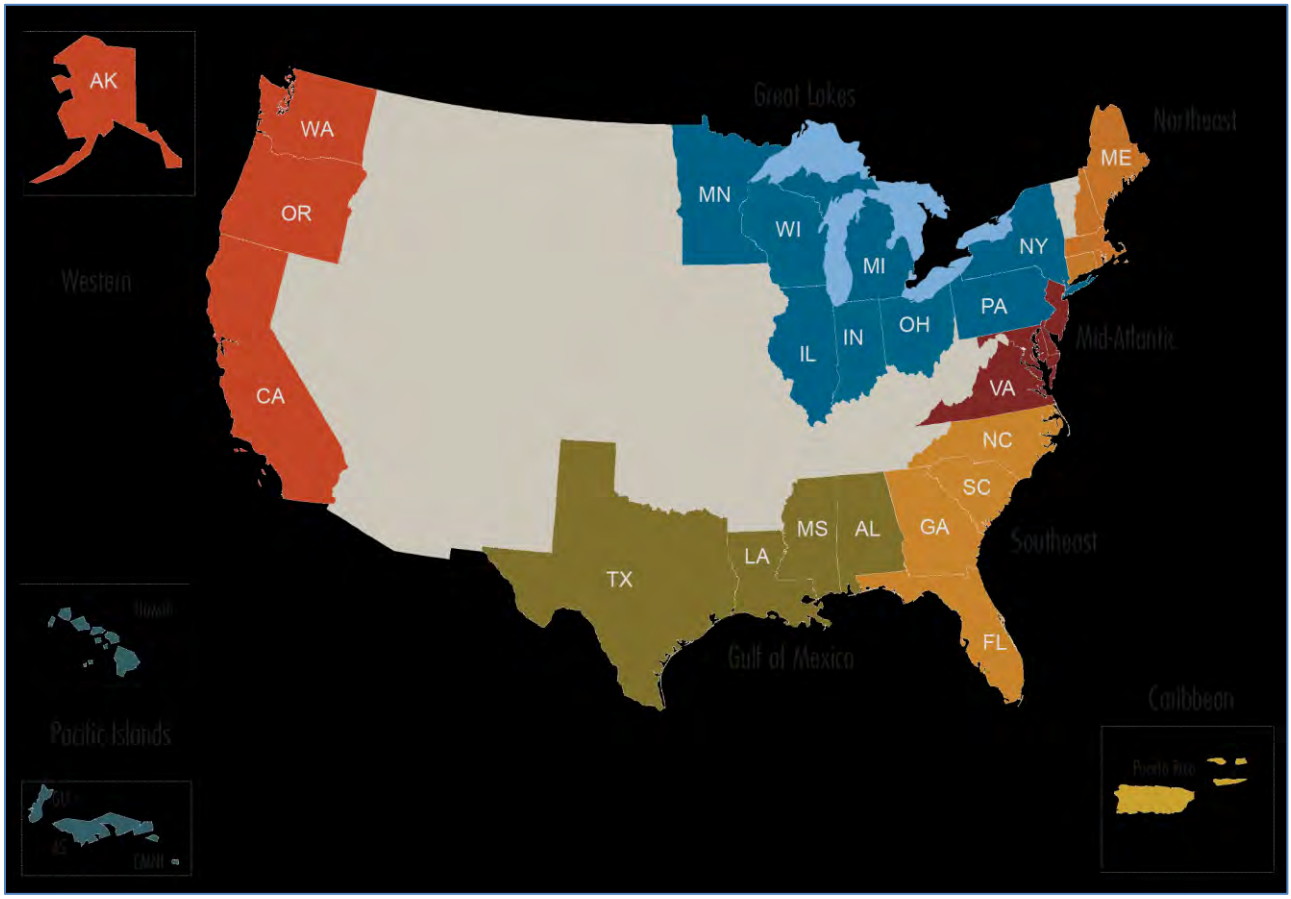

Figure 1: NOAA CSC/OCRM regions

Responses were fairly evenly distributed across the eight coastal regions (excluding national and international; see Figure 2), with the exception of the Caribbean, which has the lowest representation in the sample. Additionally response rate from Alaska was very low, so the results for that area are included in the West Coast. Although respondents were able to select more than one region, a majority of survey respondents (88 percent) work in only one coastal region.

Along with regional choices, respondents could select "national" and "international" as coastal regions where they work; for the purposes of this report, when not otherwise specified, the sum of all responses represents the national consensus.

From an organizational affiliation perspective, about half of all respondents (49 percent) are state or territorial government employees. Another third are affiliated either with academic or non-governmental organizations.

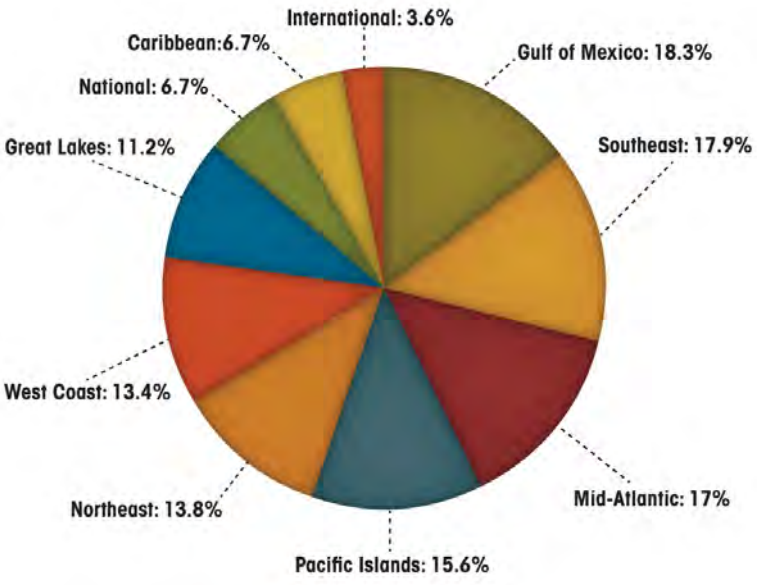

Figure 2: Coastal region representation (respondents could check more than one location)

The most common "other" (write-in) professional affiliation was National Estuarine Research Reserve System, a partnership program between NOAA and the coastal states. The professional affiliations of survey respondents are shown in Figure 3.

When asked to identify their primary job duties, the most commonly selected responses were "program administration/management" and "education and outreach." Although respondents were able to select more than one primary job duty, 43 percent of respondents selected only one. The primary job duties of survey respondents are presented in Table 2.

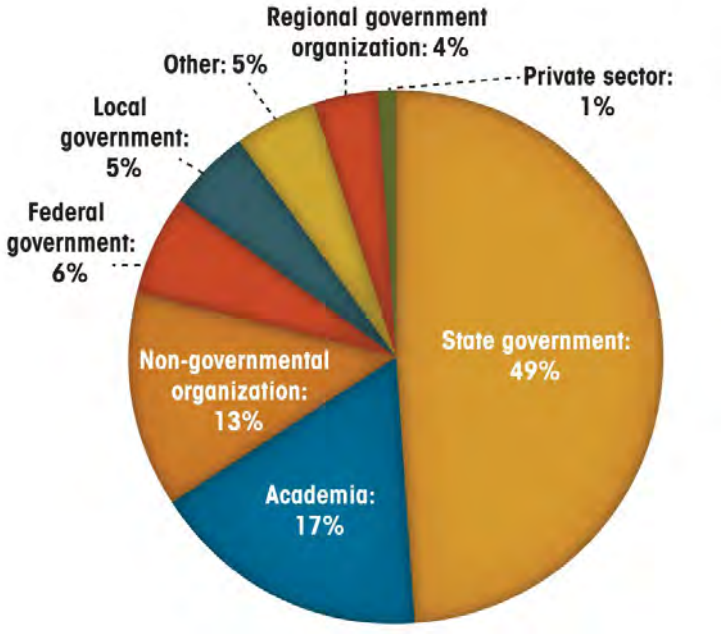

Figure 3: Respondents' current professional affiliation

Table 2: Respondent characterization of primary job duties (more than one could have been selected)

	Count	Percent
Program administration/management	106	47.3%
Education and outreach	101	45.1%
Planning	77	34.4%
Conservation	72	32.1%
Policy	53	23.7%
Research/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, economics)	23	10.3%
Other	10	4.5%
Emergency management	9	4.0%

Three-quarters of respondents are affiliated with (e.g., employed by, are a member of, or employer is a partner with) organizations that are affiliated with the Digital Coast Partnership (see Table 3). About a third of respondents indicated organizational affiliation with the National Estuarine Research Reserve Association (NERRA), the Coastal States Organization, and The Nature Conservancy. A relatively small number of respondents (13.8 percent) are affiliated with organizations not affiliated with the Digital Coast Partnership, and about 10 percent were not sure if their organization is affiliated with the partnership.

Table 3: Is your organization affiliated with one of the following organizations listed below that make up the Digital Coast Partnership?

	Count	Percent
National Estuarine Research Reserve Association	80	35.7%
Coastal States Organization	71	31.7%

	Count	Percent
The Nature Conservancy	61	27.2%
American Planning Association	38	17.0%
Association of State Floodplain Managers	36	16.1%
None of the above	31	13.8%
Not sure	22	9.8%
National States Geographic Information Council	14	6.3%
Urban Land Institute	12	5.4%
National Association of Counties	9	4.0%

3.2 COASTAL RESOURCE MANAGEMENT PRIORITIES

CSC/OCRM's priority activities are determined annually, shaped by national policy and direction, and sharply focused by the needs of the coastal management community. Accordingly, survey respondents were asked to identify up to four priority coastal resource management topics that they consider most important to their work (see Figure 4).

Additionally within these four of these broader categories–Coastal Planning and Development, Conservation, Hazards, and Ocean and Great Lakes Planning–respondents were asked to select up to four most important sub-issues. The highest priorities and sub-issues (in descending order) were:

- Coastal planning and development
  - Climate change impacts (70 percent)
  - Habitat loss/fragmentation (48 percent)
  - Comprehensive land use planning (48 percent)
- Conservation
  - Habitat restoration and monitoring (54 percent)
  - Climate change impacts (51 percent)
  - Habitat loss/fragmentation (41 percent)
- Water quality[8]
- Hazards
  - Climate change impacts (78 percent)
  - Flooding/inundation (70 percent)
  - Hurricanes/coastal storms (69 percent)
  - Shoreline change and erosion (65 percent)

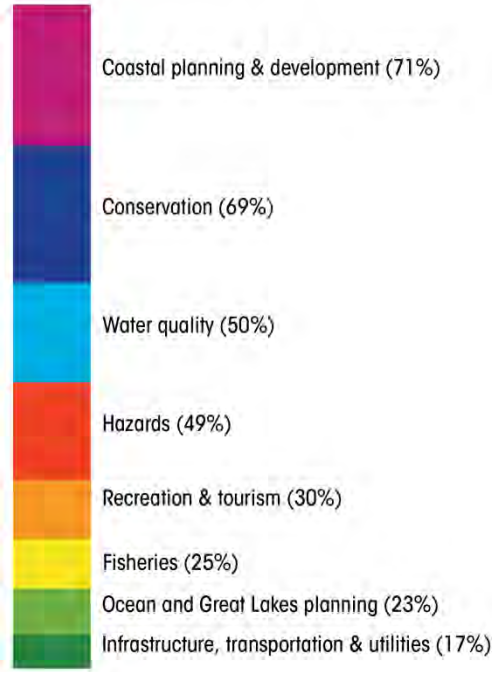

Figure 4: Distribution of responses to the question: Please indicate the topics most important to your work (select up to four).

[8] NOAA did not ask about any sub-issues within this category.

An interesting result across all the priority areas was:

3.2.1 MANAGEMENT PRIORITIES BY REGION

Each of the coastal regions has unique characteristics that affect approaches to coastal resource management; the following illustrations (Figures 5 to 7) highlight the priority issues within each of the regions. Figure 8 represents the priorities of those that specifically selected national and international as the focus of their work.

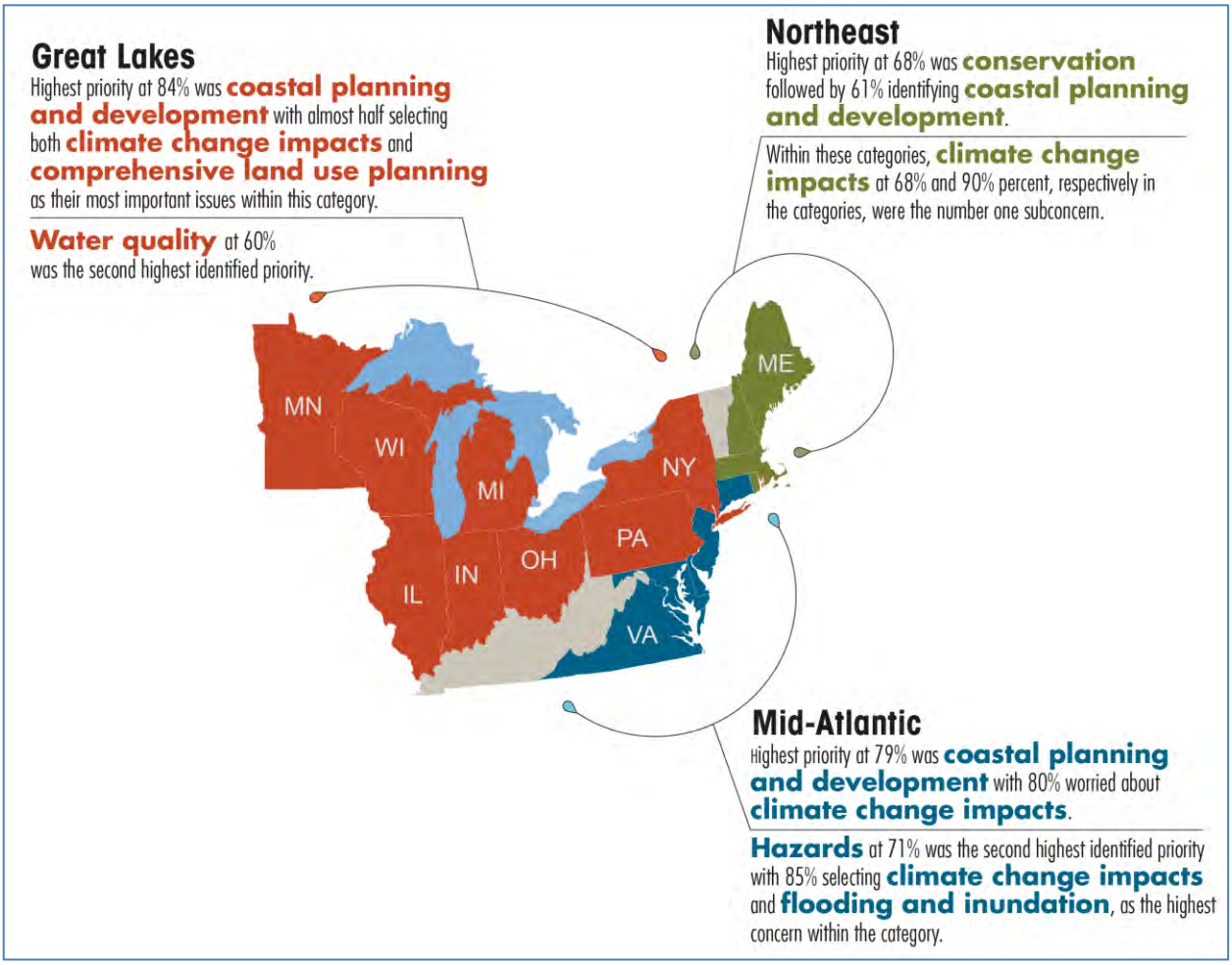

Figure 5: Coastal resource management priority issues in the Great Lakes, Northeast, and Mid-Atlantic regions

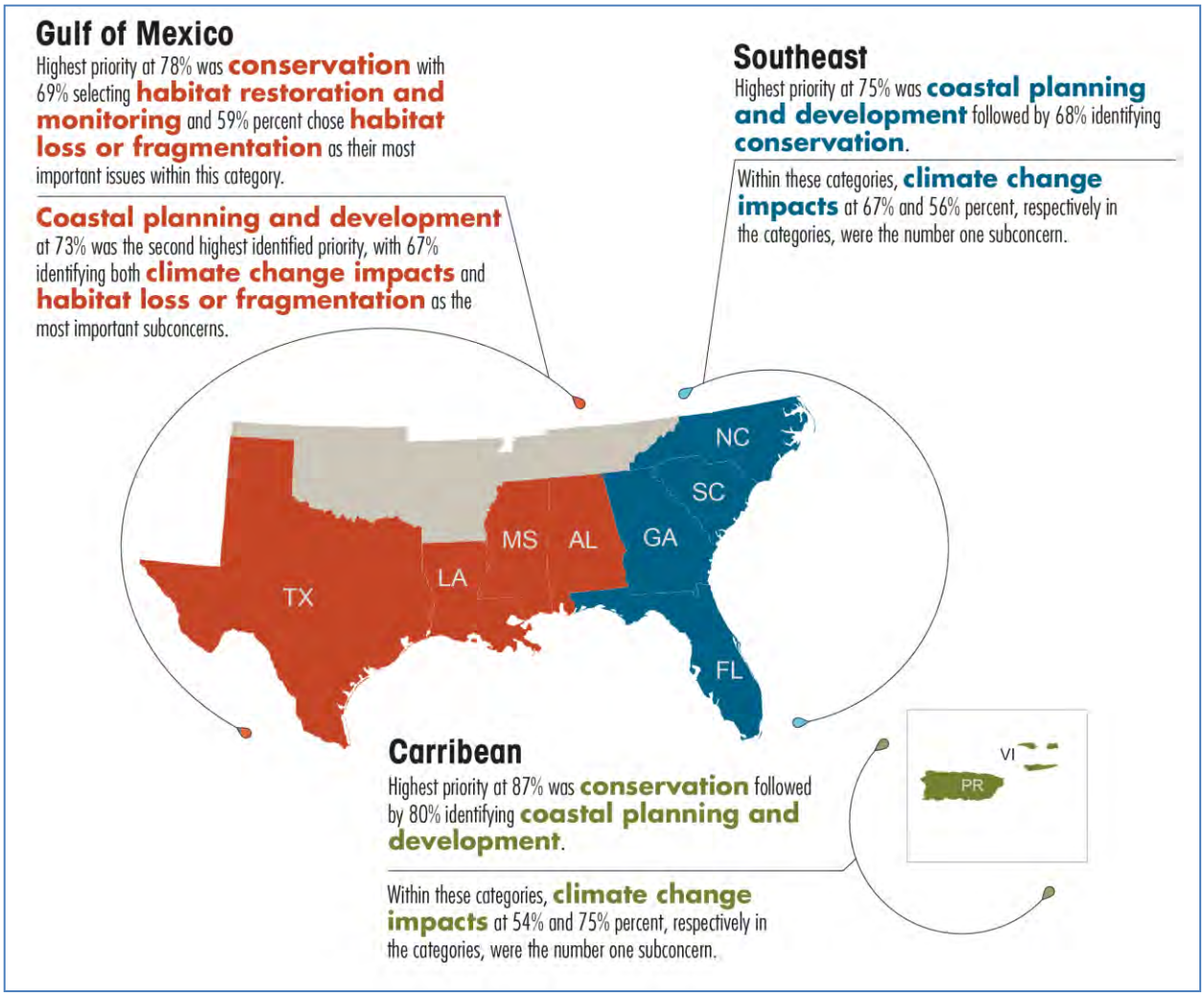

Figure 6: Coastal resource management priority Issues in the Gulf of Mexico, Southeast, and Caribbean regions

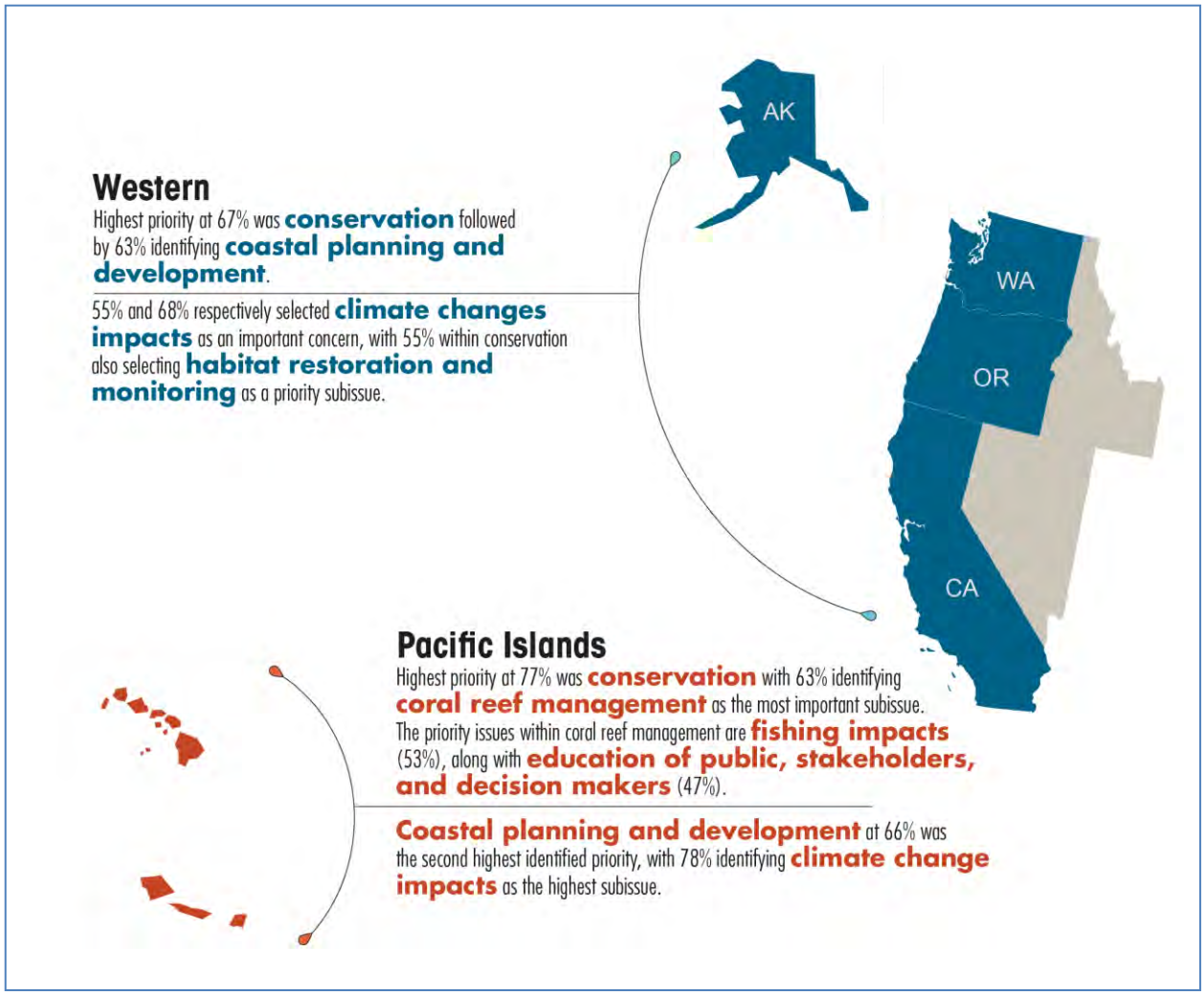

Figure 7: Coastal resource management priority issues in the Pacific and Western regions

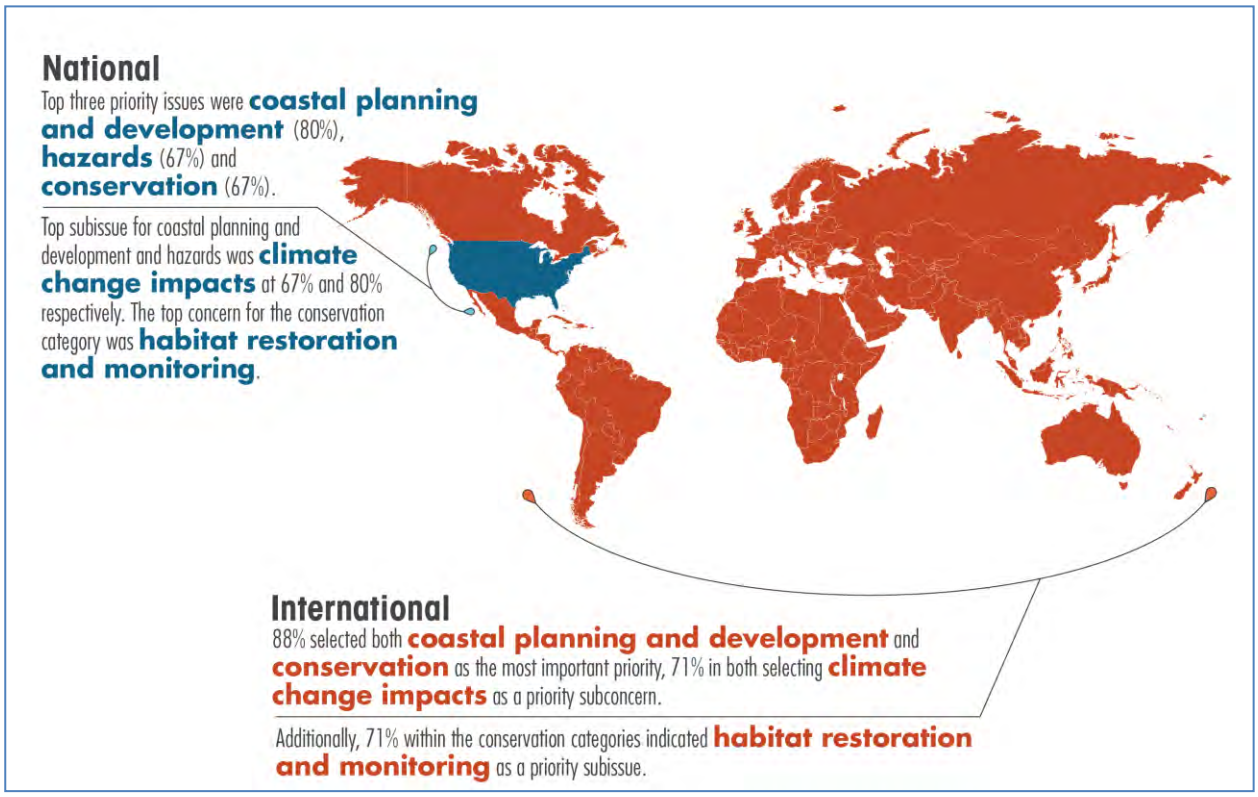

Figure 8: Coastal resource management priority issues for managers whose work is nationally or internationally focused

3.2.2 EMERGING COASTAL RESOURCE MANAGEMENT CONCERNS

Survey respondents were asked to identify new or emerging coastal management issues that they envisioned focusing more attention on in the future. ERG isolated the key words in the verbatim responses and created the graphic shown in Figure 9. The word cloud gives greater prominence to words that appeared more frequently in the responses.[9] The top three words were:

- Climate change
  - Examples of verbatim responses include: "climate change impacts on fisheries," "climate change adaption," and "climate change and sea level rise"
- Sea level rise
  - Examples of verbatim responses include: "sea level rise and storm surge" and "sea level rise impacts on estuarine communities"
- Resilience
  - Examples of verbatim responses include: "building ecosystem resiliency" and "community resilience"

Other common words include "hazards," "spatial planning," "adaptation," "restoration," and "management. Question 19 in the Appendix B includes the full set of verbatim responses.

[9] Software, such as Wordle, scans the list of verbatim responses to identify unique words and then calculates the frequency with which each word appears in the list. The words are assigned a relative font size based on their frequency and then the words are arranged in a cluster for viewing.

Figure 9. Visual representation of emerging issues for survey respondents

3.3 TOOLS AND INFORMATION RESOURCES

This survey provides a feedback mechanism on products and services that are most useful and relevant to coastal resource managers.

3.3.1 PRODUCT AND SERVICE NEEDS

Survey respondents were asked to select up to five CSC/OCRM products and services (excluding funding) that their organizations most need. The results are shown in Table 4.

91 percent of respondents chose at least one of the eight data products that were options. Of the 22 different products and services that respondents could choose from, eight of those were data products and 91 percent of respondents chose at least one of data product.

The top three most requested products and services are:

- **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.

Table 4: Please identify the products or services your organization most needs[10]

	Count	Percent
GIS layers, applications, tools, etc.	102	45.5%
Data sets (biological, physical, social, etc.)	89	39.7%
Remote sensing data and derivatives (imagery, elevation, land cover, bathymetry, mapping)	82	36.6%
Decision support tools that apply data	67	29.9%
In-person training	65	29.0%
Technical assistance/capacity building	64	28.6%
Online mapping and map products	61	27.2%
Near real time observation data (<24 hours old, e.g., buoys, tide gauges, water quality monitoring)	57	25.4%

Requests that did not mirror the top three categories among total respondents, (e.g., regional variations) include:

- Great Lakes and West: socioeconomic assessment assistance (52 percent; 33 percent)
- Mid-Atlantic: technical assistance and capacity building (42 percent)
- Caribbean: online databases (e.g., data portals, data clearinghouses) (47 percent) and in-person training (47 percent)
- Pacific Islands: in-person training (33 percent) and decision support tools that apply data (33 percent)

Looking at the product and service needs for respondents with different job duties (see Table 2) shows that:

- Education and outreach coordinators (101 respondents) most desire in-person training (39%) and decision support tools that apply data (37%).
- Emergency managers (nine respondents) would like near real-time observation data (56%) and online mapping and map products (56%).
- Floodplain managers (24 respondents) need online mapping and map products (59%).
- Human dimensions specialists (23 respondents) most need socioeconomic assessment assistance (44%).
- Permitting specialists (29 respondents) most need decision support tools that apply data (44%).

3.3.2 TRAINING NEEDS

The survey also gathered information about respondents' perceived training needs. Specifically, respondents were asked to indicate their desired level of proficiency with, and interest in, a list of tasks, where proficiency was measured as follows:

- 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.

[10] Note: Products and services with less than 25 percent of respondents selecting it as a high need are not included in the table. The full results are available in Appendix B.

Table 5 summarizes the top five training tasks for each level of proficiency, plus the top five tasks overall.

Table 5. Summary of top five training tasks by desired proficiency level

Respondent Skill Level	Top Five Training Tasks	Percent
Interested[11] *Aware, 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/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/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/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%

Figure 10, next page, indicates the desired proficiency levels of respondents for coastal resource management training tasks. In the figure, each bar represents the total number of applicable responses for each task. The total number of responses per task varies slightly from 176 to 209 and excludes "not interested" and non-responses to focus the graphic on respondents desired level of training. Tasks are sorted by percent of respondents selecting "aware," the blue segment of the bar, so that proficiency can be compared by task. Results from this question indicated that respondents already consider themselves generally more proficient in "effectively engaging communities" and "navigating relationships among local, state, and national players." Tasks where respondents have less proficiency include:

- Using and selecting economic methods/tools to aid in decision-making
- Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives

[11] Calculated by subtracting the percentage of respondents that indicated "not interested" or didn't respond from 100%.

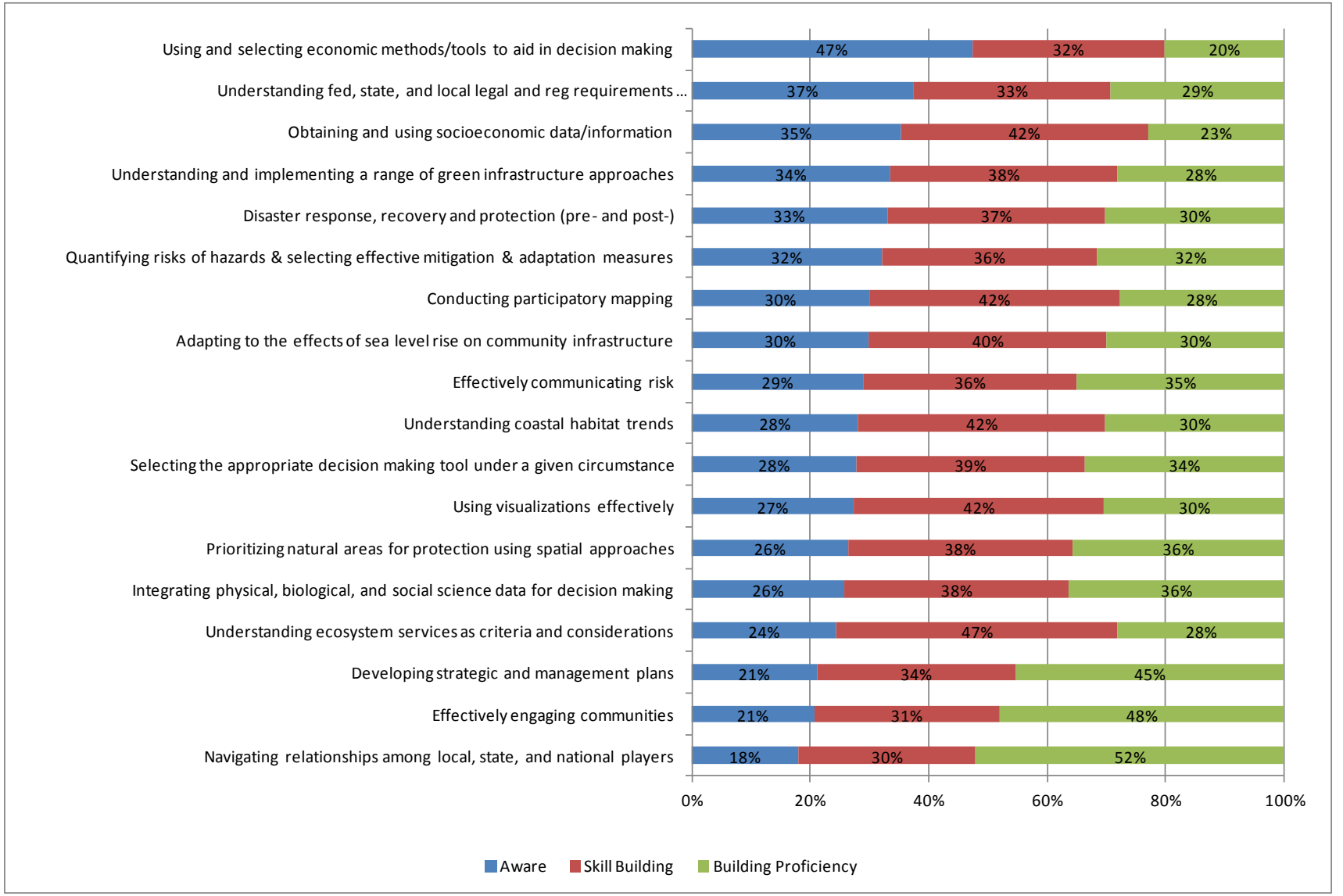

Figure 10. Desired proficiency with various tasks

In addition to rating desired proficiency, respondents also ranked the top five tasks for which they most need training or technical assistance. These results are presented in Table 6. The large number of tasks listed and the range of priority issues across respondents are not conducive to identifying a consensus. However, more than a third of respondents ranked the following topics in their top five of desired training or technical assistance:

- Using and selecting economic methods/tools to aid in decision-making
- Integrating physical, biological, and social science data for 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

Table 6: Please rank the top five tasks for which you most need training or technical assistance

Training/Technical Assistance Topics	Ranked #1		Ranked in top 5	
	Count	Percent	Count	Percent
Integrating physical, biological, and social science data for decision-making	29	12.9%	84	37.5%
Using and selecting economic methods/tools to aid in decision-making	31	13.8%	83	37.1%
Effectively communicating risk	21	9.4%	80	35.7%
Quantifying the risks of hazards and selecting effective mitigation and adaptation measures	19	8.5%	72	32.1%
Adapting to the effects of sea level rise on community infrastructure	10	4.5%	69	30.8%
Understanding ecosystem services as criteria and considerations when choosing strategies	7	3.1%	67	29.9%
Effectively engaging communities	11	4.9%	60	26.8%
Obtaining and using socioeconomic data/information	15	6.7%	58	25.9%
Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives	7	3.1%	53	23.7%
Selecting the appropriate decision-making tool under a given circumstance	9	4.0%	51	22.8%
Developing strategic and management plans	9	4.0%	50	22.3%
Prioritizing natural areas for protection using spatial approaches	8	3.6%	49	21.9%
Understanding coastal habitat trends	7	3.1%	47	21.0%
Disaster response, recovery and protection (pre- and post-disaster)	3	1.3%	47	21.0%
Understanding and implementing a range of green infrastructure approaches	2	0.9%	46	20.5%
Using visualizations effectively	8	3.6%	45	20.1%
Navigating relationships among local, state, and national players	10	4.5%	44	19.6%
Conducting participatory mapping	8	3.6%	32	14.3%

Several of the regions had slightly different top training and technical assistance needs. Other topics that were ranked high include:

- Mid-Atlantic: understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives (37 percent)
- Southeast: Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives (40 percent)
- Pacific Islands: Developing strategic and management plans (40 percent)

Training and technical assistance needs varied by job duties as well. The top tasks for which these job duties most need training/technical assistance include:

- Conservation: Understanding ecosystem services as criteria and considerations when choosing strategies (40 percent)
- Emergency Management: Disaster response, recovery and protection (66 percent); selecting the appropriate decision-making tool under a given circumstance (44 percent); and understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives (44 percent)
- Floodplain Management: Disaster response, recovery and protection (54 percent)
- Natural Resource Management: Understanding ecosystem services as criteria and considerations when choosing strategies (40 percent) and selecting the appropriate decision-making tool under a given circumstance (35 percent)
- Permitting: Selecting the appropriate decision-making tool under a given circumstance (45 percent)
- Academia/Research: Understanding ecosystem services as criteria and considerations when choosing strategies (42 percent)

3.3.3 DATA NEEDS

CSC/OCRM is working toward a suite of integrated data sets and tools to help address the diverse issues of the coastal management community. The questions in this survey were designed to determine priority data requirements and potential partnerships with NOAA to help leverage resources for expertise and data acquisition and integration.

Survey respondents were asked to identify their level of use of certain data types. As seen in Table 7, the most popular data types, with about 45 percent or more of the respondents using it frequently, were:

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

Table 7: Frequency of use of CSC/OCRM data products

Data Types	Frequency of Use			Not Applicable	No Response
	Frequently	Occasionally	Rarely		
Climate Change/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%)

Table 7: Frequency of use of CSC/OCRM data products

Data Types	Frequency of Use			Not Applicable	No Response
	Frequently	Occasionally	Rarely		
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%)

Looking at the responses of the respondents who use a data type frequently, Table 8 summarizes the extent to which their needs are addressed by current data offerings. In other words, do the respondents using the data frequently feel that the data meet their needs or needs improvement? As shown in Table 8, 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 top data types in need of improvement are:

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

Note, these are the top data needs for frequent users. The bathymetry data, for example, might need improvement for frequent users, but those frequent users are only 26 percent of the survey respondents. On the other hand, climate change/impacts data are frequently used by 57.6 percent of respondents, and 86 percent of frequent users indicate that it needs improvement.

Table 8: Percentage of frequent data users whose needs are met with currently available data

Data Types	Needs Addressed	Need Updated/Better
Climate Changes/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%)

When looking at the data needs among frequent users in a particular job category, other data needs that appear (in addition to climate changes/impacts and socioeconomic data) include:

- Emergency managers (67%), floodplain managers (58%), and those in policy (50%) would like more data on hazards.
- Emergency managers (67%) and those involved in human dimension-related jobs (52%) would also like better data on land cover and use.
- Those involved in human dimension and nature resource conservation-related jobs (50%) indicated a need for data on living marine resources.

3.3.3.1 POTENTIAL DATA PARTNERS

Frequent users of data were asked where else they obtain data. The most common responses included:[12]

- U.S. Geological Survey
- U.S. Fish and Wildlife Service
- U.S. Environmental Protection Agency
- U.S. Census Bureau
- The Nature Conservancy
- State agencies (e.g., fish and wildlife; natural resource)
- Sea Grant networks
- Natural Resources Conservation Service (U.S. Department of Agriculture)
- Local/county/regional government (e.g., planning)
- Federal Emergency Management Agency
- Bureau of Ocean Energy Management
- Academic institutions

3.3.4 INFORMATION SOURCES

NOAA works with internal and external stakeholders via Web-based tools, social media, and public events to:

- Discuss priority coastal issues, challenges, and solutions
- Promote awareness of programs and performance
- Increase access to NOAA products and services

Respondents were asked a series of questions on their preferred sources of job-related information, familiarity with CSC/OCRM Web resources, and use of social media. As shown in Figure 11, the coastal resource managers selected as their preferred communication sources (could select more than one): workshops and conferences (48 percent), websites (34 percent), and online webinars (20 percent).

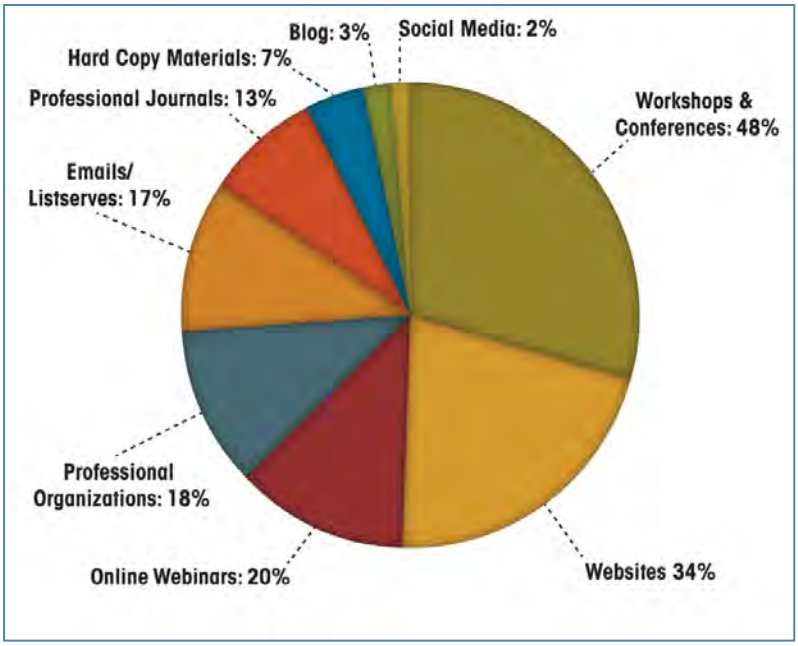

Figure 11. Most preferred communication methods (Respondents could select more than one)

[12] The verbatim answers were analyzed using a word count tool, with the U.S. Geological Survey being the most commonly mentioned agency.

Less popular for job-related information is the use of social media sites and blogs, with approximately half the respondents indicating it was their least preferred communication method. Very few coastal resource managers are regularly using social media for job-related tasks; however, more than half have indicated they've used YouTube, Facebook, and LinkedIn at least once.

Popular professional organizations that were cited as preferred sources of learning included:

- American Planning Association
- Association of State Floodplain Managers
- Coastal States Organization
- National Estuarine Research Reserve Association

Commonly suggested professional journals among those that had a strong preference for learning from them included:

- *Coastal Management*
- *Coastal Research*
- *Estuaries and Coasts*
- *Nature*

Table 9 shows that coastal resource managers welcome a variety of news and information, especially items that directly support their work, such as news about data, tools, and training/technical assistance, along with examples of best management practices.

Table 9: Types of information coastal managers want from CSC/OCRM

	Selected Yes
Information about available coastal data, tools, training/technical assistance	83.9%
Examples of coastal management "best practices"	76.8%
Programmatic news	71.4%
Examples of coastal management success stories	68.3%
Legislative updates	54.5%
National NOAA and administration news	43.3%

When asked about familiarity with specific CSC/OCRM resources, respondents were most familiar with the NERRS website (20.1 percent very familiar) and the NERRS Centralized Data Management office (15.2 percent very familiar). They are significantly less familiar with the Marine Cadastre website (only 4.9 percent very familiar).

However, reviewing these results based on the full set of respondents obscures the usefulness as some of these web resources are geared toward specific partners. Overall familiarity with these resources still appears to be low. Specifically:

- The NERRS website is very familiar to 47.5 percent of respondents who say their organization is affiliated with NERRs; the NERRS Centralized Data Management Office website is well used by 37.5 percent of these respondents followed by the NERRs Estuary Education website (22.5 percent very familiar).
- The Coral Reef Conservation Program website is popular with respondents who selected Coral Reef Management as a priority issue, 51.9 percent of this group is very familiar with this

website. The NOAA Coral Reef Information System is very familiar to 25.9 percent of these respondents.

- The Marine Cadastre web site is familiar to 34 percent of respondents affiliated with either the National Coastal Zone Management Program or the Regional Ocean Partnerships.

3.4 PARTNERSHIPS AND COLLABORATION

NOAA's mission is accomplished through a variety of mechanisms, including collaboration with other federal agencies, state and local coastal resource management programs, nonprofit organizations, academic institutions, and private industry. The survey elicited information from coastal resource managers about important partnerships and collaborations related to their priority topic areas. Numerous organizations were mentioned as valuable partners and Table 10 shows some of the common answers. (NOAA offices have been excluded.)

Table 10. Most valuable partners by priority issue

Most Valuable Partners	Priority Issue							
	Coastal Planning and Development	Hazards	Conservation	Ocean and Great Lake Planning	Fisheries	Infrastructure and Transportation	Tourism and Recreation	Water Quality
Association of Floodplain Managers	X	X						
Bureau of Ocean Energy Management				X				
State Department of Transportation and Public Works						X		
Federal Emergency Management Administration	X	X						
Fisheries Management Council				X	X			
Land Trusts	X		X					
Local Conservation Commissions			X					X
Local/County Government	X	X	X			X		X
Monitoring Programs								X
National Estuary Programs	X		X					X
Port Authorities	X			X		X		
Power Authorities and Energy Companies						X		
Private Foundations			X					
Regional Ocean Partnerships				X				
Regional/Local Planning Commissions	X		X					X
Sea Grant	X	X		X	X			X
State and County Civil Defense Agencies		X						
State and Local Agencies Associated with Water Quality								X
State Coastal Zone Management/Coastal Commissions	X	X					X	X
State Departments of Natural Resources, Environmental Quality, Marine Resources, Wildlife, etc.	X	X	X	X	X		X	X
State Department of Health								X
State Energy Offices				X		X		
State Park Agencies			X				X	
State/County Emergency Management Agency		X						
The Nature Conservancy	X		X					
Tourism-Related Trade Associations							X	

Table 10. Most valuable partners by priority issue

Most Valuable Partners	Priority Issue							
	Coastal Planning and Development	Hazards	Conservation	Ocean and Great Lake Planning	Fisheries	Infrastructure and Transportation	Tourism and Recreation	Water Quality
U.S. Army Corps of Engineers	X	X						X
U.S. Environmental Protection Agency	X							X
U.S. Fish and Wildlife Service			X					
U.S. Geological Society	X	X						
Universities and Colleges	X	X	X	X	X	X	X	X
Visitor Bureaus/Chambers of Commerce							X	
Watershed Groups								X
Wildlife Conservation Commissions			X	X				

3.4.1 DIGITAL COAST PARTNERS

CSC/OCRM bring federal, regional, state, local, private, and nongovernmental entities together in strategic short- and long-term partnerships. The goal of these partnerships is to direct knowledge, technical capacity, and financial resources to important coastal and ocean issues. CSC and OCRM administer programs through long-term statutorily established partnerships with coastal state agencies, including the National Coastal Zone Management Program, National Estuarine Research Reserve System, and Coral Reef Conservation Program. One of the goals of the 2013 survey was to understand the best ways to continue the collaborative efforts with their Digital Coast partners.[13]

This section highlights the priority issues, product and service needs, data and information needs, and usage of each keystone partner group. The number of respondents associated with each organization is provided for context; note, a few groups (National States Geographic Information Council , Urban Land Institute, and National Association of Counties) have fewer than 20 respondents so the results for these groups should be interpreted with caution and not considered representative of the entire organization. Also, the summaries in Table 11 below do not include results for training needs because the results were nearly identical for each organization:

- Most respondents desire additional training and technical assistance with using and selecting economic methods and tools to aid in decision making.
- The number one task for which respondent's desire additional training is using and selecting economic methods for all the partner groups except the National Association of Counties, which indicated a top ranked need for learning how to obtain and use socioeconomic data.

[13] More information on important partnerships is available in: NOAA Coastal Office, *NOAA Coastal Office Strategic Plan: 2014 to 2019*, April 2013.

Table 11: Summary of priority issues, information and service needs by digital coast partners

Priority Issues	Product and Service Needs	Data and Information Needs
Coastal States Organization (71 respondents)		
• Coastal planning and development (76 percent) with climate changes impacts (74 percent) the most important sub-issue. • Conservation (69 percent) with 47 percent indicating that habitat restoration and monitoring is the most important sub-issue.	• GIS layers (51 percent) • Data sets (44 percent)	• 55 percent frequently use climate changes/impacts data and 75 percent need better information on it. • 94 percent would like more information about available coastal data, tools, training and technical assistance. • The National Coastal Zone Management website appears to be under-utilized by this group with only 27 percent very familiar with and often using it.
National Estuarine Research Reserve Association (80 respondents)		
• Conservation (83 percent) with habitat restoration and monitoring (61 percent) the most important sub-issue.	• GIS layers (40 percent) • Remote sensing data and derivatives (40 percent)	• 62 percent frequently use human uses data and 72 need better information on climate changes/impacts. • 88 percent would like more information about available coastal data, tools, training and technical assistance. • The NERRs website is well used by this group, 48 percent are very familiar with it; however, only 38 percent are very familiar with the NERRS Centralized Data Management Office Web resource and only 23 percent are very familiar with the NERRs Estuary Education website.
The Nature Conservancy (61 respondents)		
• Conservation (80 percent), with habitat restoration and monitoring (63 percent) the most important sub-issue.	• GIS layers (43 percent)	• The most frequently used data sets are climate changes/impacts (62 percent) and living marine resources data (62 percent); and 75 percent need better data on climate changes/impacts. • 82 percent would like to receive more information on available coastal data, tools, training and technical assistance, and 79 percent would like more information on programmatic news.
American Planning Association (38 respondents)		
• Coastal planning and development (90 percent), with climate changes impacts (68 percent) the most important sub-issue.	• Technical assistance and capacity building (42 percent)	• The most frequently used data sets are climate changes/impacts (68 percent), hazards (68 percent), and human uses data (68 percent); and 84 percent need better data on hazards. • The most desired types of information are information on coastal management best practices (84 percent) and available coastal data, tools, training and technical assistance (84 percent).

Table 11: Summary of priority issues, information and service needs by digital coast partners

Priority Issues	Product and Service Needs	Data and Information Needs
Association of State Floodplain Managers (36 respondents)		
• Coastal planning and development (89 percent) with comprehensive land use planning (66 percent) as the most important sub-issue.	• GIS layers (67 percent)	• 56 percent frequently use data on land cover and change, and 61 percent need better data on hazards. • 86 percent would like to receive information on coastal management best practices.
National States Geographic Information Council (14 respondents)		
• Coastal planning and development (93 percent) with comprehensive land use planning (54 percent) as the most important sub-issue.	• Remote sensing data (64 percent)	• 71 percent each frequently use land cover and change and topography data; and 93 percent need better data on climate changes/impacts. • 86 percent each would like more information on coastal management best practices and available coastal data, tools, training and technical assistance.
Urban Land Institute (12 respondents)		
• Coastal planning and development (92 percent) with comprehensive land use planning (64 percent) as the most important sub-issue.	• Model or model outputs (42 percent) • Research coordination with other entities (42 percent)	• 67 percent frequently use data on climate changes/impacts, and 75 percent need better data on hazards. • 92 percent would like to receive examples of coastal management success stories.
National Association of Counties (9 respondents)		
• Coastal planning and development (78 percent, with comprehensive land use planning (71 percent) as the most important sub-issue.	• GIS layers (56 percent)	• 67 percent each frequently use climate changes/impacts and land cover and change data, and also need better information on those data types. • 89 percent would like to receive information about available coastal data, tools, training and technical assistance.

3.5 ADDITIONAL INSIGHTS FROM FOLLOW-UP DISCUSSIONS AND CORROBATION WITH THE CSC-ERG *NEEDS ASSESSMENT FOR TRAINING IN CLIMATE AND HAZARDS ADAPTATION PLANNING AND IMPLEMENTATION*

In order to gather more insights, ERG worked with the NOAA survey team to develop follow-up questions to better understand some of the survey results. Due to budget constraints, the focus was only on a limited set of topics. The questions included:

- How are you incorporating data on demographics, economic trends, and other socioeconomic data into coastal management decisions? What skills do you need to feel more comfortable using this type of data?

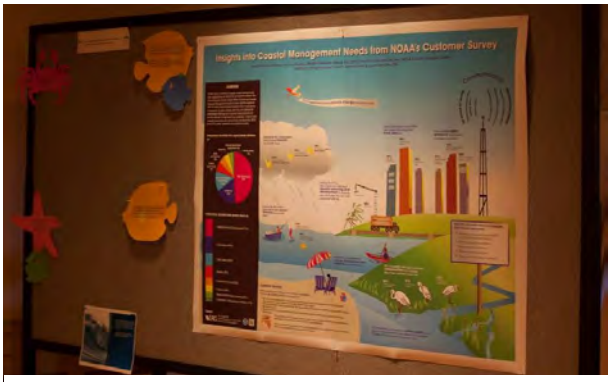

Figure 12. Poster presentation at Social Coast Forum

- What climate change impacts are you facing? What type of data and training are you seeking to improve efforts to address the impacts better?
- What kind of risk do you need to tell people about? What additional tools or training would you like to improve your effectiveness?
- How should NOAA deliver data to people? For example, through a highly refined data delivery mechanism or just the data so they can run their own analyses (i.e., Web tool versus raw data)?
- Also, within the next five years, how do coastal professionals see themselves accessing data most often? (i.e., desktop machine versus phone/tablet)

Taking advantage of a captured audience, the above questions were listed next to a poster of the preliminary survey results, which was presented at NOAA's Social Coast Forum (February 2014).[14] ERG encouraged participants to write answers and add to the board. This approach yielded limited feedback, which will be discussed below. Interestingly, two members of NERRA mentioned that they are asking their customers very similar questions.

ERG also emailed survey respondents that were frequent users of socioeconomic and climate change data or desired more information related to risk communication if they were available for a follow-up discussion. Four volunteers participated in half hour interviews. Additionally, ERG has supplemented this section with information gathered in interviews under a related CSC project, *Needs Assessment for Training in Climate and Hazards Adaptation Planning and Implementation* to help provide a fuller picture.[15] Information from this project is identified as from the "Needs Assessment Project," for which a final report was completed in March 2014.

3.5.1 SOCIOECONOMIC DATA USE AND NEEDS

- Three people interviewed (one a NERRA staff person, a state agency employee, and a local planning official) mentioned that population data from the Census Bureau is not refined enough to show "local" people at risk in sea level rise inundation scenarios. A state person has been working with the Social Vulnerability Index as a next step to identifying the relative vulnerability.
- The other interviewee and none of the other people chatted with at the Social Coast forum could identify what additional data or training they needed related to socioeconomic data and often times moved into discussion about geospatial land data desires (e.g., GIS data, aerial maps).

3.5.2 CLIMATE CHANGE AND IMPACTS

- Several state and local government employees at the Social Coast Forum indicated that they know climate change impacts are important, but their agencies are not implementing actions because it's not a priority for senior management. In the Needs Assessment Project, quantifying economic impacts of climate change/natural disasters and being able to communicate to elected officials the economic case for implementing climate adaptation was a highly rated training need.

[14] Stillings, Nadeau, Ellis, Hart, Jankovic, and Shresthra. 2014. "Insights into Coastal Management Needs from NOAA's Customer Survey." The poster is available for download at www.erg.com/socialcoast2014

[15] ERG reviewed the draft slides for ERG's final presentation of the results, scheduled to be conducted March 17, 2014. NOAA task lead was Sacheen Tavares-Leighton.

- Both the Needs Assessment Project and two of the government officials interviewed indicated a need for materials designed for a lay person that can be used in discussions with climate change deniers. The interviewees requested data that shows impacts have already happened in the area (i.e., no uncertainty as it's a real impact and not a modeled scenario).
- An interviewed eastern state government employee, whose primary role relates to floodplain management, indicated that he's confused on what to do with the National Weather Service's new data about the increase in rainfall. The watershed modeling for his area was completed decades ago, and it is too expensive to have redone. Questions he'd like to have answered include "Are there "living" watershed models that he can use to incorporate this new data? And how should uncertainty be accounted for?"
- An interviewed western state government employee said there needs to be more focus on forest fire hazards and drought. Additionally, he indicated the need to address an increase in heat related illnesses in adaption planning.
- An interviewed state employee felt like a lot of the climate change modeling results are too broad—he needs to show the impacts at the local scale (e.g., a particular coastal bay).
- Echoing what was found in the Needs Assessment Project, a NERRA staff member during the Social Coast Forum indicated she would like to see more case studies in climate adaptation planning and implementation.
- Additional training topics identified in Needs Assessment Project was engaging and communicating with the public (i.e., not just educating them, but getting them more involved via creative approaches, such as social marketing).

3.5.3 RISK COMMUNICATION

- Several interviewees said they'd like to see more workshops and trainings on hurricane and storm risks. The best approach is when NOAA teams with local partners, so the content can be tailored to the specific needs of the area. The desire for local training tailoring was also heard from the Needs Assessment Project interviewees.
- During the social coast forum, a non-profit program manager working with Alaskan tribes requested risk communication training she could provide about hazards—how to prepare and mitigate. Additionally, she wondered how these preparations can incorporate the use of teen community emergency response teams, a FEMA program.[16]
- A state employee commended NOAA's approach in providing frameworks for him to use in trainings. He provides workshops to state and local government on flood risk, coastal storms, sea level rise, and beach erosion. He feels that after Hurricane Sandy and the past ten years of education/outreach, that his constituents are finally catching on and are implementing building codes to mitigate flooding risks. He did caution that it's important to combine sea level rise with storms, as his discussions focused on just sea level rise have been less effective in producing actions.
- The same state employee from the previous bullet also desired more models and maps that will show the future flooding risks with storms (i.e., combined sea level rise and storms). Most

[16] More information on this FEMA program is available at: http://www.fema.gov/community-emergency-response-teams/teen-community-emergency-response-team

effective timeframe is 30 to 50 years out—people care about passing the house on to their kids, but not concerned about grandkids.

- An interviewed local government employee is looking for recommendations on how to better communicate flood risk to developers, zoning regulators, and the public. Two interviewees discussed how the recent change in flood insurance premiums were frustrating to the public as their buildings comply with FEMA construction guidelines, but yet their premiums are 10 to 20 times higher now.

3.5.4 DATA FORMAT

- All interviewed government employees and those asked at Social Coast Forum indicated they have access to GIS specialists, so can utilize any geospatial data made available.
- One state employee interviewed preferred raw data stating that state and local governments are willing to hire private consultants to conduct detailed analyses for them.
- Another state employee interviewed felt that the models need to be designed so results can be tailored to the local level. Too many current tools show results comparing states to states with national averages as the baseline—need a way to input local characteristics.
- Due to licensing issues or lack of staff availability to upgrade files, some organizations still utilize older version of GIS programs according as described in conversations at the Social Coast Forum.
- All of the people asked during interviews or during the Social Coast Forum indicated that their organization's budgets for the next five years will not allow them access to have newer technologies (e.g., tablets).

3.5.5 OTHER REQUESTS

- Two people also mentioned that it was unclear how they identify NOAA contacts that support their regions.[17] One person was a new researcher in the field, who stopped by the poster at the Social Coast Forum, and the other was a contact at a state natural resource department that was interviewed. The state contact further commented that he felt that NOAA focuses all its energy at the state coastal management programs, but doesn't provide ready access to other departments. Suggested ways to improve communication would be through introductory check-in with the agencies to make them aware of appropriate contacts and NOAA's attendance at state/regional events, such as ASFPM and American Shore & Beach Preservation Association.
- Two people mentioned the need for better wetland data. One interviewed local government agency is relying on data created in the 1960s, which was converted to digital GIS. A NERRA staff member posted at Social Coast Forum that she needs a better understanding of total wetland losses due to coastal development that impedes inland migration. The data she has access to focuses too much on pristine wildlife refuges and NERR areas.
- Two government interviewees encouraged NOAA to engage with other federal agencies, such as FEMA and USACE, to better coordinate the integrated use of tools and data.
- Many interviewees spoke very positively about NOAA and several were pleased that CSC/OCRM was taking this additional step of interviews as they felt the survey was a bit broad.

[17] The 2010 survey indicated that 90 percent of respondents knew that CSC has regional offices.

4 TRENDS

The CRM survey is designed to understand CSC/OCRM respondents' evolving level of technical expertise and document priority issues most relevant to achieving their missions. Although previous surveys used "trends" in the title, the overhaul of the 2013 survey instrument meant less consistency with questions from the previous surveys, making identification of trends across different survey years problematic. (For example, NOAA no longer needs to track its respondents' ability to access the Internet.) Updates in the 2013 survey will allow the results in this survey to be used as a baseline to develop future trends reports. The sections below capture some trends that can be cautiously considered.

4.1 SURVEY RESPONDENT DEMOGRAPHICS

In addition to changes in questions, there are significant shifts in the job duty of the respondents (Figure 13). It is likely the reasons for the shift are related to the ability to select more than one job function in the 2013 survey (i.e., a large percent have education tasks as part of their job).

Additionally the 2013 survey moved organizational affiliation (e.g., government) into a separate question. For the past two surveys, program administration, along with education and outreach, tended to make up the largest populations of respondents.

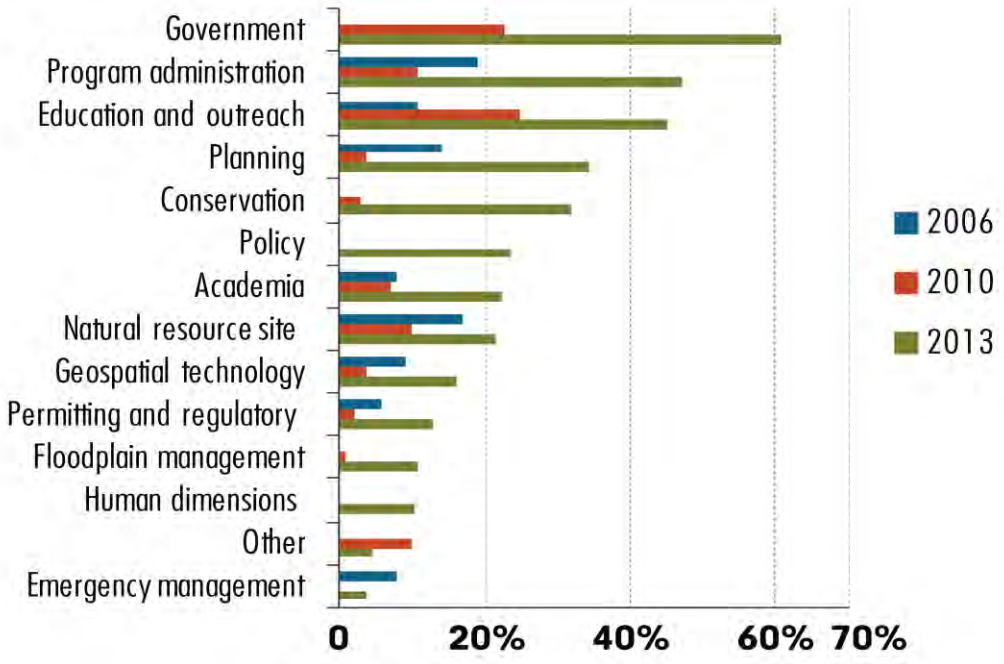

Figure 13. Job duty demographics of survey respondents

4.2 TRENDS IN RESPONDENT PRIORITIES

Table 12 compares the four priority issues common under the last three surveys. (Please keep in mind that the format and wording of these questions varied between the three surveys.)

Table 12: Trends among respondents of last three surveys related to priorities

2006	2010	2013
Coastal Land Use Planning/Coastal Planning and Development		
• Land use planning (59.5%) • Watershed planning (50.5%) • Public access (46.0%)	• Climate change impacts (77.1%) • Land use planning, growth development (63.1%) • Wetland loss (60.1%)	• Climate change impacts (70.0%) • Habitat loss, fragmentation (48.1%) • Comprehensive land use planning (47.5%)
Ocean and Great Lakes Planning		
• Shoreline change management (42.7%) • Protected area management (41.1%) • Nearshore and offshore habitat mapping (36.6%)	• Shoreline change management (70.89%) • Climate change impacts (65.64%) • Nearshore and offshore habitat mapping (57.86%)	• Human uses (76.5%) • Climate change impacts (51.0%) • Protected area management (37.3%)
Coastal Conservation Planning		
• Habitat restoration and monitoring (54.7%) • Water quality monitoring (46.0%) • Nonpoint source pollution (45.6%)	• Climate change impacts (76.1%) • Habitat restoration, monitoring (68.9%) • Erosion and beach nourishment (68.5%)	• Habitat restoration and monitoring (53.5%) • Climate change impacts (51.0%) • Habitat loss, fragmentation (41.3%)
Coastal Hazards		
• Flooding, inundation, storm surge (44.5%) • Erosion (42.9%) • Hurricanes (36.0%)	• Climate change impacts (74.4%) • Flooding, inundation, storm surge (65.9%) • Sea level rise (68.5%)	• Climate change impacts (78.2%) • Flooding, inundation (70.0%) • Hurricanes, coastal storms (69.1%)

Based on these data, ERG has able to identify the following trends:

- Climate change impacts continue to be an important issue under the four broad topic areas (Coastal Land Use Planning, Ocean and Great Lakes Planning, Coastal Conservation Planning, and Coastal Hazards).
- Priorities for coast planning and development continue to be climate change impacts, comprehensive land use planning (i.e., land use planning in earlier surveys), and habitat loss/fragmentation (i.e., watershed planning and wetland loss in earlier surveys) .
- Public access, which was combined with recreation/tourism in the 2013 survey, dropped to slightly over 20 percent in the most recent survey, from its levels at 46 and 43 percent respectively in the 2006 and 2010 surveys.
- In ocean and Great Lakes planning, approximately 40 percent of respondents in all three years indicated protected area management was a high priority.
- More than half of the respondents that identified coastal conservation planning as a priority issue indicated that habitat restoration and monitoring was a priority sub-issue.

- For the 2013 survey, NOAA removed water quality as a subtopic in conservation and listed it as its own category. Similar to the previous surveys, half of those that selected conservation planning as an important issue also identified water quality as a priority.
- The 2013 survey had a 20 percent jump in respondents that identified hurricanes as a priority in the coastal hazard category.

Large changes that ERG recommends NOAA investigate to determine if the 2013 survey didn't adequately captured in the Great Lakes and ocean planning category:

- Shoreline management planning was a high sub-issue in previous surveys and appears to be an oversight as an available option in the 2013 survey.
- Nearshore and offshore habitat mapping was also a popular option in previous year surveys. ERG assumes this was converted into the data needs questions, but wants to confirm.

In 2010, respondents in the coastal conservation planning category indicated 69 percent were concerned with beach renourishment and erosion, while the current survey identified it as less of an interest (3 percent for beach renourishment; 25 percent for shoreline change and erosion).

4.3 DATA NEEDS

Due to the significant redesign of the survey questions, ERG was unable to clearly identify any trends with the exception that:

- Economic and climate change impacts data are consistently identified as leading needs among all the topic categories.

4.4 PREFERRED LEARNING METHODS

Survey respondents continue to prefer to share ideas with and learn new information from their colleagues, in person. In 2002 and 2006, 90 percent or more of respondents indicated that they prefer to learn new information from talking with friends and colleagues and attending conferences and workshops. In 2013, the largest number of respondents (48 percent) rated professional workshops and conferences as their most preferred sources of information and an additional 39 percent indicated it as a preferred method. This finding is consistent with ERG's report on CSC technical assistance that found CSC respondents preferred in-person interactions with CSC staff rather than relying on less personal electronic or Web-based modes.[18] This concept was also echoed in the Needs Assessment Project, which encouraged in-person workshops with representation from different organizations.

[18] ERG, 2012. *An Evaluation of Coastal Services Center Technical Assistance.* Prepared for NOAA CSC.

APPENDIX A: SURVEY INSTRUMENT

NOAA Coastal Management Customer Survey

[Coding instructions and skip patterns appear in hard brackets]

[Screen 1]

Thank you for participating in the 2013 NOAA Coastal Resource Management Trends Customer Survey! This voluntary survey is fielded every three years to gather feedback from the coastal management community on priority issues, data and training needs. The results will help NOAA improve its products and services, and your input is valuable.

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other suggestions for reducing this burden to Chris Ellis, NOAA Coastal Services Center, 2234 South Hobson Avenue, Charleston, SC 29405 (chris.ellis@noaa.gov, 843-740-1195).

Notwithstanding any other provisions of the law, no person is required to respond to, nor shall any person be subjected to a penalty for failure to comply with, a collection of information subject to the requirements of the Paperwork Reduction Act, unless that collection of information displays a currently valid OMB Control Number.

[Screen 2]

[Brief survey navigation instructions will be inserted here. Page footer will include a link to the ERG survey email address for questions. Page header will include survey title and OMB approval number. All screens will display navigation buttons and a progress bar.]

[Screen 3; subsequent screens will depend on responses]

Priority Issues and Needs

1. **Please indicate the topics most important to your work. Please select up to four:**

    - Coastal Planning and Development
    - Hazards
    - Conservation
    - Ocean and Great Lakes Planning
    - Fisheries
    - Infrastructure/Transportation/Utilities
    - Recreation/Tourism
    - Water Quality

[User will be sent to the appropriate sub part questions depending on their selection in Q1.
If user selects "Coastal Planning and Development" go to Q2;
"Hazards" go to Q4; "Conservation" go to Q6;
"Ocean and Great Lakes Planning" go to Q10;
"Fisheries," "Infrastructure/Transportation/Utilities," "Recreation/Tourism," or "Water Quality" then go to Q11.]

2. [If the user selected Coastal Planning and Development above] **Within your identified priority area of coastal planning development, please indicate the priority issues for your organization. Please select up to four:**

    - Brownfield redevelopment
    - Climate change impacts
    - Comprehensive land use planning
    - Cultural and heritage resources
    - Demographics
    - Dredging
    - Economics
    - Energy
    - Habitat loss/fragmentation
    - Infrastructure/Transportation/Utilities
    - Protected area management
    - Recreation/Tourism/Public access
    - Regulation/enforcement
    - Water quality
    - Wetlands
    - Working waterfronts/ports
    - Zoning/Growth management
    - Other: _____

3. **Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:**
    _____

4. [If the user chose Hazards above] **Within your identified priority area of hazards, please indicate the priority issues for your organization. Please select up to four:**
   - o Beach nourishment
   - o Climate change impacts
   - o Cultural and heritage resources
   - o Demographics
   - o Economics
   - o Flooding/Inundation
   - o Harmful algal blooms
   - o Hurricanes /Coastal storms
   - o Infrastructure/Transportation/Utilities
   - o Oil/Pollutant spill response
   - o Pollutant transport and dispersion
   - o Regulation/Enforcement
   - o Shoreline change and erosion
   - o Tsunamis
   - o Other: _____

5. **Please identify up to three of your organization's most valuable partner organizations in the area of hazards:**

   _____

6. [If the user chose Conservation above] **Within your identified priority area of conservation, please indicate the priority issues for your organization. Please select up to four:**
   - o Beach nourishment
   - o Climate change impacts
   - o Coral reef management
   - o Cultural and heritage resources
   - o Demographics
   - o Economics
   - o Energy
   - o Fisheries management
   - o Habitat loss/fragmentation
   - o Habitat quality
   - o Habitat restoration and monitoring
   - o Infrastructure/Transportation/Utilities
   - o Invasive species management
   - o Land protection/acquisition
   - o Protected area management
   - o Protected species management
   - o Regulation/Enforcement
   - o Shoreline change and erosion
   - o Water quality
   - o Other: _____

7. **Please identify up to three of your organization's most valuable partner organizations in conservation: _____**

[If the user selected "Coral Reef Management" in Q6 then go to Q8, otherwise continue to next issue selected in Q1.]

8. [f the user chose Coral Reef as top data need under Conservation above] **Within your identified focus area of coral reef management, please indicate the priority issues for your organization. Please select up to four:**

    - Budget management/administration (i.e., moving/processing money received from federal government)
    - Climate change impacts/adaptation
    - Data analysis, interpretation, processing, and storage
    - Direct impacts form coastal construction or maritime activity
    - Ecosystem services valuation
    - Education of public, stakeholder, and decision makers
    - Endangered Species Act-related issues
    - Fishing impacts
    - Grounding events
    - Habitat restoration and monitoring
    - Human use mapping
    - Impacts from recreational activity
    - Invasive species management
    - Lack of public awareness of issues affecting coral reefs
    - Lack of public support for coral reef conservation efforts
    - Lack of resources/capacity to implement watershed management plans
    - Land-based sources of pollution impacts
    - Protected areas management
    - Regulation/enforcement
    - Risk and vulnerability assessments to climate change (social and/or ecological)
    - Staffing issues/retention
    - Water quality
    - Watershed management
    - Other: _____

9. **Please identify up to three of your organization's most valuable partner organizations in coral reef management:**

    _____

10. [If the user chose Ocean and Great Lakes Planning above] **Within your identified priority area of ocean and great lakes planning, please indicate the priority issues for your organization. Please select up to four:**

    - Aquaculture
    - Archeological sites and cultural resources

- Climate change impacts
- Commercially harvested species
- Demographics
- Dredging, disposal, and borrow pits
- Economics
- Energy
- Human uses
- Marine mammals
- Port capacity and port infrastructure
- Protected area management
- Sea grass or corals
- Seismic anomalies
- Submarine cables
- Other: _____

11. Please identify up to three of your organization's most valuable partner organizations in [Ocean and Great Lakes Planning, or other issue from Q1 (Fisheries, Infrastructure/Transportation/Utilities, Recreation/Tourism, Water Quality)]:
_____

12. Please rank the following data types with regard to how you use them. Data types may include information sources such as observations, maps, and analyses:

Data Types	Use frequently		Use occasionally		Use rarely		Not applicable to my job responsibilities
	Needs currently addressed	Need updated or better info	Needs currently addressed	Would use more if available	Needs currently addressed	This is a current data gap	
Bathymetry	○	○	○	○	○	○	○
Benthic Habitat	○	○	○	○	○	○	○
Climate Changes/Impacts	○	○	○	○	○	○	○
Hazards	○	○	○	○	○	○	○
Human Uses	○	○	○	○	○	○	○
Land Cover and Change	○	○	○	○	○	○	○
Living Marine Resources	○	○	○	○	○	○	○
Marine Infrastructure	○	○	○	○	○	○	○
Offshore Energy	○	○	○	○	○	○	○
Socioeconomic (e.g., demographic and economic data)	○	○	○	○	○	○	○
Topography	○	○	○	○	○	○	○
Wetlands	○	○	○	○	○	○	○
Other (please specify)	○	○	○	○	○	○	○

Other? Please describe:_____

13. You indicated that the following data types are used frequently:

[LIST: Items from Q12 marked as "Use frequently"]

Besides NOAA, where do you access these types of data? _____

14. In addition to funding opportunities, please identify the products or services your organization most needs from the NOAA Coastal Services Center (CSC) and the Office of Ocean and Coastal Resources Management (OCRM). Please select up to five.

- o Data sets (biological, physical, social, etc.)
- o GIS layers, applications, tools, extension, etc.
- o Remote sensing data and derivatives (imagery, elevation, land cover, bathymetry, mapping)
- o Near real time observation data (<24 hours old, e.g., buoys, tide gauges, water quality monitoring)
- o Online databases (e.g., data portals, data clearinghouses)
- o Decision support tools that apply data
- o Online mapping and map products
- o Model or model outputs (e.g., habitat modeling, SLOSH, HURREVAC)
- o Visualization tools
- o Technical assistance/capacity building
- o In-person training
- o Web-based training
- o Placement of a professional fellow in your office
- o Serving as a demonstration or pilot site
- o Policy/Governance assistance
- o Policy/Issue coordination with other federal, state, or local entities
- o Research coordination with other federal, state, or local entities
- o Convening stakeholders on coastal issues
- o Communication assistance with stakeholders
- o Facilitation support
- o Assistance with the development of management plans
- o Socioeconomic assessment assistance
- o Other (please specify) _____

15. What new or emerging coastal management issues do you see your office focusing more attention on in the future? (please describe)_____

Training Needs

16. **Please indicate your desired level of proficiency with the following list of tasks. The proficiency levels are described as:**
    - **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.

TASK	Desired Level of Proficiency			
	Aware	Skill Building	Building Proficiency	Not Interested
Using and selecting economic methods/tools to aid in decision making	○	○	○	○
Obtaining and using socioeconomic data/information	○	○	○	○
Integrating physical, biological, and social science data for decision making	○	○	○	○
Selecting the appropriate decision making tool under a given circumstance	○	○	○	○
Effectively communicating risk	○	○	○	○
Quantifying the risks of hazards and selecting effective mitigation and adaptation measures	○	○	○	○
Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives	○	○	○	○
Adapting to the effects of sea level rise on community infrastructure	○	○	○	○
Disaster response, recovery and protection (pre- and post-)	○	○	○	○
Understanding ecosystem services as criteria and considerations when choosing strategies	○	○	○	○
Understanding and implementing a range of green infrastructure approaches	○	○	○	○
Understanding coastal habitat trends	○	○	○	○
Prioritizing natural areas for protection using spatial approaches	○	○	○	○
Effectively engaging communities	○	○	○	○
Navigating relationships among local, state, and national players	○	○	○	○
Conducting participatory mapping	○	○	○	○
Using visualizations effectively	○	○	○	○
Develop strategic and management plans	○	○	○	○
Other? Please describe:_____	○	○	○	○

17. **Please rank the top 5 tasks for which you most need training or technical assistance?**

    Number 1: [Dropdown menu of tasks from Q16]
    Number 2: [Dropdown menu of tasks from Q16]

Number 3: [Dropdown menu of tasks from Q16]
Number 4: [Dropdown menu of tasks from Q16]
Number 5: [Dropdown menu of tasks from Q16]

Communication

18. What are your preferred sources for coastal information related to your job?

	Least Preferred ←----------→ Most Preferred			
	1	2	3	4
Professional workshops/conferences	○	○	○	○
Professional journals	○	○	○	○
Websites	○	○	○	○
Blogs	○	○	○	○
Hard copy magazine, newsletters, bulletins, one-pagers	○	○	○	○
Social media	○	○	○	○
Online webinars	○	○	○	○
Emails/Listserves	○	○	○	○
Professional organizations (please list below)	○	○	○	○

[If "Professional organizations" and "journals" are rated "4: Most Preferred"]
Please list the professional [organizations or journal]. _____

19. How often do you use the following social media outlets for job-related activities?

	Hourly	Daily	Bi-weekly	Weekly	Rarely	Not at All
Twitter	○	○	○	○	○	○
Facebook	○	○	○	○	○	○
LinkedIn	○	○	○	○	○	○
Pinterest	○	○	○	○	○	○
Instagram	○	○	○	○	○	○
YouTube	○	○	○	○	○	○
Other	○	○	○	○	○	○

[If user selected Other and rated "Hourly," "Daily," "Bi-weekly," or "Weekly"]
Please describe:_____

20. The NOAA Coastal Services Center (CSC) and the Office of Ocean and Coastal Resources Management (OCRM) provides a variety of web resources that provides access to data, tools, training, and case studies. How familiar are you with the following resources?

	Very familiar, use often	Familiar, use occasionally	Not very familiar, use infrequently	I wasn't aware it existed	Not applicable to my job
Digital Coast (www.csc.noaa.gov/digitalcoast/)	○	○	○	○	○
NERRS (National Estuarine Research Reserve System) Centralized Data Management Office (http://cdmo.baruch.sc.edu/get/landing.cfm)	○	○	○	○	○
NERRS Estuary Education (http://estuaries.noaa.gov/)	○	○	○	○	○
NERRS Website (http://www.nerrs.noaa.gov/)	○	○	○	○	○
Coral Reef Conservation Program (http://coralreef.noaa.gov/)	○	○	○	○	○
NOAA's Coral Reef Information System (http://www.coris.noaa.gov/)	○	○	○	○	○
National Coastal Zone Management Program (http://coastalmanagement.noaa.gov/programs/czm.html)	○	○	○	○	○
Coastal and Estuarine Land Conservation Program (http://coastalmanagement.noaa.gov/land/welcome.html)	○	○	○	○	○
Marine Cadastre (http://marinecadastre.gov)	○	○	○	○	○

21. What types of information would you like to receive from the NOAA Coastal Services Center (CSC) and the Office of Ocean and Coastal Resources Management (OCRM) (check all that apply)?

- ○ National NOAA and administration news
- ○ Programmatic news (Coastal Zone Management, National Estuarine Research Reserve System, Coral Reef Conservation Program, Coastal and Estuarine Land Conservation Program, Digital Coast, etc.)
- ○ Examples of coastal management "best practices"
- ○ Information about available coastal data, tools, training and technical assistance
- ○ Examples of coastal management success stories
- ○ Legislative updates
- ○ Other_____

Demographic

22. **Please indicate which of the following best represents your current professional affiliation. [Check only one].**

    - o Local government
    - o State/Territorial government
    - o Tribal government
    - o Federal government
    - o Regional governance organization
    - o NGO/nonprofit/volunteer group
    - o Private sector
    - o Academia
    - o Other _____

23. **In which of the following coastal regions do you work (check all that apply)?**

    - o National
    - o Pacific Islands
    - o West Coast
    - o Gulf of Mexico
    - o Great Lakes
    - o Northeast
    - o Mid-Atlantic
    - o Southeast
    - o Caribbean
    - o International

24. **Please indicate which of the following best characterizes your primary job duties. (check all that apply).**

    - o Conservation
    - o Education and outreach
    - o Emergency management
    - o Floodplain management
    - o Human dimensions (sociology, anthropology, economics)
    - o Geospatial technology (GIS, remote sensing, or related field)
    - o Natural resource site management
    - o Permitting and regulatory enforcement
    - o Planning
    - o Policy
    - o Program administration/management
    - o Research/Academia
    - o Other _____

25. **Is your organization affiliated with one of the following organizations listed below that make up the Digital Coast partnership? Please check all that apply.**

- Coastal States Organization
- National Association of Counties
- The Nature Conservancy
- National States Geographic Information Council
- Association of State Floodplain Managers
- American Planning Association
- Urban Land Institute
- National Estuarine Research Reserve Association

- None of the above
- Not sure

You have completed the survey! Thank you for your feedback!

APPENDIX B: SEQUENTIAL PRESENTATION OF RESPONSES TO EACH SURVEY QUESTION

NOAA COASTAL MANAGEMENT CUSTOMER SURVEY

PRELIMINARY TABULATIONS

I. PRIORITY ISSUES AND NEEDS

1. Please indicate the topics most important to your work. Please select up to four:

	Count	Percent
Coastal Planning and Development	160	71.4%
Hazards	110	49.1%
Conservation	155	69.2%
Ocean and Great Lakes Planning	51	22.8%
Fisheries	56	25.0%
Infrastructure/ Transportation/ Utilities	38	17.0%
Recreation/ Tourism	66	29.5%
Water Quality	111	49.6%
		(out of 224)

2. [If the user selected **Coastal Planning and Development** above] **Within your identified priority area of coastal planning development, please indicate the priority issues for your organization. Please select up to four:**

	Count	Percent
Climate change impacts	112	70.0%
Habitat loss/ fragmentation	77	48.1%
Comprehensive land use planning	76	47.5%
Water quality	45	28.1%
Wetlands	42	26.3%
Protected area management	37	23.1%
Recreation/ Tourism/ Public access	35	21.9%
Regulation/ enforcement	31	19.4%
Zoning/ Growth management	27	16.9%
Economics	24	15.0%
Infrastructure/ Transportation/ Utilities	22	13.8%
Cultural and heritage resources	20	12.5%
Working waterfronts/ ports	19	11.9%
Other	18	11.3%
Dredging	10	6.3%
Energy	8	5.0%
Demographics	7	4.4%
Brownfield redevelopment	4	2.5%
		(out of 160)

Other responses: **Note: verbatim responses in this document have been lightly edited for minor spelling and grammar.

Community Resilience
Coral Reef Restoration
coral reefs
floodplain management
Floodplain Management
Floodplain management and flood risk reeducation
Habitat restoration
Land acquisition
low impact BMPs
natural beneficial function of watersheds
natural resources management
Regional ocean planning
Restoration - addressing stormwater and other contaminants
Shoreline adaptation
storm mitigation
sustainable communities; resilient communities
This is a technology agency and we provide GIS data to other users.
Water Resources
Watershed mgt

3. **Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:**

Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:
1. Puerto Rico Department of Natural and Environmental Resources | 2. Puerto Rico Planning Board | 3. University of Puerto Rico
Alabama Association of Floodplain Managers | Alabama Emergency Management Agency
Alliance for the Great Lakes | Illinois Coastal Management Program | Center for Neighborhood Technology
American Planning Association (state chapters); National Working Waterfronts Network.
Army Corps of Engineers, Local Governments/Elected Officials, University of Florida/IFAS.
Association of State Floodplain Managers, FEMA, Corps of Engineers
Association to Preserve Cape Cod | Mass CZM | Cape Cod Commission (Regional Planning Agency)
Barnegat Bay Partnership | Rutgers University | Pinelands Preservation Alliance
Borough | Local non profits |
California Coastal Commission, coastal county planning departments.
California Coastal Conservancy | California Coastal Commission | California State Parks
Casco Bay Estuary Project | The Nature Conservancy | Department of Marine Resources
City of Rockport | The Nature Conservancy | Texas Sea Grant
Coastal municipality officials and staff; S.C. university faculty and staff; coastal zone management professionals
Coastal Resource Management Agency | Department of Public Works | Zoning
Coastal Services Center | Coastal Waccamaw Stormwater Education Consortium | Coastal Conservation League
COE,SFWMD,NOAA
Counties | Municipalities | University's Institute for Public Administration
counties/cities | state agencies | universities
County and municipal gov'ts.

Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:
County Planning Departments | Hawaii Dept of Land and Natural Resources | NOAA
County Soil & Water conservation districts | Ohio Lake Erie Commission | Ohio Office of Coastal Management
CRC (state coastal zone management) | local gov't | private property owners | cape fear arch regional conservation collaborative
CZM, Office of Planning
Delaware Coastal Management Program, Partnership for the Delaware Estuary, Delaware Sea Grant
Delaware Cooperative Extension | Delaware Office of State Planning | Delaware Department of Natural Resources
Delaware Regional Planning Commission | Delaware Planning Department | NOAA Coastal Services Center
Delaware Valley Regional Planning Commission, Erie County Department of Planning, Counties and Local Governments
Department of Community Affairs State | Local governments | Universities
Department of Land Conservation and Development; Coos Watershed Association; Tribes
Department of Lands and Natural Resources | Visitors Authority | Department of Public Lands
Department of Marine & Wildlife Resources, EPA and Department of Public Works
Department of Natural Resources | Planning Board | NOAA | USFWS
Department of Natural Resources | Sea Grant | Non-profits/private foundations
Division of Fish & Wildlife, Division of Environmental Quality, and Dept. of Public Lands.
DLNR DAR | Coral Reef Alliance | UH researchers
EPA, HUD, University of Hawaii
EPA, Port Administration, Dept. Marine and Wildlife Resources
FDEP, NOAA
FEMA | NOAA | USGS
FEMA | USACE | GEMA
FEMA, USACE, participating NFIP communities
FEMA; hazard mitigation staff; state coastal agencies; department of defense
Florida Coastal Management Program | Florida Division of Emergency Management | NOAA
Florida Department of Environmental Protection | Florida Coastal Office | NOAA
Government of Guam | USDA - NRCS | University of Guam
Great Lakes Coastal Floodplain Remapping taskforce, | Ohio Lake Management Society, | Best Local Land Use Practices Steering Committee
GRPC | SMPDD |
Guam Department of Land Management | ACOE | NOAA | | |
Gulf of Mexico Alliance | National Estuary Programs | Local & State Resource Managers
Gulf of Mexico Alliance, | Florida Department of Economic Opportunity - Community Planning, | Apalachee Regional Planning Council
LFMA - LA Floodplain Management Assoc. | ASFPM - Assoc. of State Floodplain Managers | GOHSEP - LA
Local and County Planning Agencies; Port Authorities; NGOs
local COG | local universities
Local departments of natural resources and their CZM programs, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service
Local government | Regional planning commission | NOAA
Local government, University and NGO's
Local government, Ecology, Puget Sound Partnership
local governments | NOAA
Local governments in coastal zone
local governments, DNR, other conservation organizations, such as, Two Rivers Coalition
Local governments, other state agencies, NOAA
Local Gov'ts

Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:
local municipalities and counties
Local municipalities, especially planning staff; environmental consultants, storm water education consortiums
Local units of government, non profits and state agencies
local zoning organizations, FEMA, port of Seattle
Louisiana Department of Environmental Quality | USGS | CWPRA in Louisiana |
MARCO, MAFMC, Mid-Atlantic Regional Planning Body
Maryland port administration | Maryland energy administration |
Mass CZM | NOAA | NSRWA
Michigan Coastal Zone Mgt. Program | Michigan Port Collaborative | Michigan State University Extension
Mississippi Department of Marine Resources | Corps of Engineers
MS Department of Marine Resources | Local consultants | Local researchers
MS/AL SeaGrant, Mobile Bay NEP, AL CZMP
Municipalities | Land Trusts | University
Municipalities, Regional Planning Organizations, CZMA agencies
National Estuarine Research Reserve System (Grand Bay Reserve, Weeks Bay Reserve). | Mobile Bay National Estuary Program | Land Trust Alliance (Partnership for Gulf Coast Land Conservation
Natl Assoc. Floodplain Managers, American Planning Association, NEMO networks, NOAA OCMR/CSC
NH Coastal Zone Management Program
NH Dept of Environmental Services | Rockingham Planning Commission | City Of Portsmouth NH
NH DES (including Coastal Program), local conservation commissions, the Natural Resource Outreach Coalition (our local NEMO like program, conservation non profits (TNC, local land trusts)
NOAA | Department of Natural and Environmental Resources | FEMA
NOAA | HAWAII OFFICE OF PLANNING | CNMI DEPT OF ENVIRONMENTAL QUALITY
NOAA | State of Florida | County Governments
NOAA | USGS | Universities
NOAA | Washington state agencies | Local governments
NOAA Coastal Services Center | NOAA Estuarine Research Division | NYSDEC Hudson River Estuary Program | The Nature Conservancy | Scenic Hudson, Inc.
NOAA Coastal Services Center | State University of NY (Stony Brook & ESF) | The Nature Conservancy
NOAA CRC, State Coastal Management Programs (CA, OR, WA), IOOS
NOAA OCRM | Oregon Department of State Lands | Coastal Local Governments
NOAA, County-supported Community Development Planning local groups, Community Associations
NOAA, EPA, State management agencies
NOAA, NSGIC, NFWF
NOAA, TNC,
NOAA/ERD | CA DFG | CA Coastal Commission
NOAA; Pacific Islands Managed and Protected Areas Community; Micronesia Conservation Trust
Northwestern Indiana Regional Planning Commission
NYS Hudson River Estuary Program | NYS Coastal Program | Scenic Hudson
OCRM, EPA Smart Growth, Commerce EDA
ODNR Office of Coastal Management | Chagrin River Watershed Partners | The Nature Conservancy
Old Woman Creek NERR | Ohio Environmental Protection Agency | Ohio Sea Grant
Oregon Department of State Lands | Oregon Fish and Wildlife Department | Oregon Governor's Office
our state planning office and division of fish and wildlife
Ozaukee County, WI; EPA; Wisconsin Department of Natural Resources
Pacific regional government agencies and NGO's that work with communities, TNC, SOPAC, NOAA (various offices but I mostly work with the coral program and climate services)
Private landowners, USFWS, State natural resources/coastal zone departments |

Please identify up to three of your organization's most valuable partner organizations in coastal planning and development:
Protectores de Cuencas | Local Municipalities | Builders and Developers
Regional Planning Commission, local planning boards and conservation commissions, Maine Coastal Program
Regional Planning Commissions, DNR, State Economic Development Corp.
Regional Stormwater Protection Team | City of Duluth | NOAA CSC |
Rutgers Climate Institute, Barnegat Bay Partnership, NOAA CSC
Save the Bay-Narragansett, GrowsmartRI, RI Coastal Resources Management Council
SC Dept. of Health and Environmental Control | SC Dept. of Natural Resources | The Nature Conservancy
SC DHEC/OCRM; NOAA; Coastal Carolina University
Sea Grant Network, Western Pacific Fisheries Management Council, and National Resources Conservation Service
SeaGrant
State Agencies, County Planning Departments, Coastal States Organization
State and local govt | Ports |
State Coastal Program; Va Sea Grant; National Sea Grant Law Center;
State CZM, coastal communities leadership
State Department of Natural Resources
State Land Use and Natural Resource Boards or Commissions | | County Authorities for Special Management Areas
State of Hawaii Office of Planning, City and County of Honolulu Department of Planning and Permitting, County of Maui Department of Planning
state, county, Hawaiian islands land trust
Sustainable Jersey | NJ Future | Jacques Cousteau NERR
Texas A & M | American Planning Association
Texas Coastal Watershed Program | Galveston Bay Estuary Program | Galveston Bay Foundation
Texas GLO
Texas Height Modernization Program | Texas General Land Office | Texas Commission on Environmental Quality
Texas Parks and Wildlife | Marmillion and Company | Harte Research Institute
The Nature Conservancy | American Planning Association | |
University of New Hampshire | NH Dept of Environmental Services | Regional Planning Commissions
USACE | TNC | Gulf of Mexico Alliance
USC Price School of Public Policy; California Coastal Commission; Port of Los Angeles

4. [If the user chose **Hazards** above] **Within your identified priority area of hazards, please indicate the priority issues for your organization. Please select up to four:**

	Count	Percent
Climate change impacts	86	78.2%
Flooding/Inundation	77	70.0%
Hurricanes /Coastal storms	76	69.1%
Shoreline change and erosion	71	64.5%
Beach nourishment	19	17.3%
Regulation/Enforcement	19	17.3%
Infrastructure/Transportation/Utilities	14	12.7%
Economics	13	11.8%
Other	8	7.3%
Cultural and heritage resources	7	6.4%
Oil/Pollutant spill response	7	6.4%
Harmful algal blooms	6	5.5%
Demographics	5	4.5%
Tsunamis	5	4.5%
Pollutant transport and dispersion	4	3.6%
		(out of 110)

Other responses:

Basic ocean safety
Biggert Waters Act and CRS
Ecosystem resiliency
Green infrastructure
Multi-hazard (not just a few), socioeconomics
Rip Currents
Riverine/floodplain geomorphology
This is a technology agency and we provide GIS data to other users.
Tidal wetlands

5. **Please identify up to three of your organization's most valuable partner organizations in the area of hazards:**

Please identify up to three of your organization's most valuable partner organizations in the area of hazards:
ACOE | MEMA | ICC
Alabama Emergency Management Agency
ASFPM
Association of State Floodplain Managers | NOAA Coastal Services Center | The Nature Conservancy
California Coastal Commission; US Army Corps of Engineers
CalOES, CA Water Resources Dept.
Center for Neighborhood Technology | Chicago Metropolitan Agency for Planning
City of Duluth | Duluth National Weather Service Office | NOAA Coastal Storms Program
City/town officials; state level Divisions of Coastal Management; other universities
Civil defense/emergency management (HI, HI counties, Guam, CNMI, Am Samoa), HI Dept of Land & Natural Resources
Coastal Storms Program
County and municipal government; state floodplain managers
County Emergency Management | Department of Environmental Quality

Please identify up to three of your organization's most valuable partner organizations in the area of hazards:
County emergency management agencies | County health departments | ODNR Division of Soil & Water Resources
County, State Department of Land and Natural Resources, Community Associations
CSC, OCRM, NWS
Delaware Coastal Management Program, Delaware Department of Natural Resources and Environmental Control's Division of Energy and Climate, Delaware Sea Grant
Delaware Emergency Management Agency | Sussex County Government | Delaware Department of Natural Resources
Dept. of Public Safety and Emergency Mgt. Office
DNR Division of Water
DVRPC | DCPC | City of Chester
Emergency Management Division (State agency) | Washington Sea Grant | NOAA
Emergency Management, ASFPM, DNR
FEMA
FEMA
FEMA | MEMA | NOAA
FEMA | NWS
FEMA | State Emergency Mgmt Agency | Department of Health | Planning Board
FEMA | USACE | GEMA
FEMA, Army Corps, NOAA
FEMA, Corps of Engineers, New York State Office of Emergency Management
FEMA, USACE, NFIP participating communities
FEMA; hazard mitigation staff; state coastal staff; department of defense
Florida Division of Emergency Management | Florida Coastal Management Program | NOAA
Harris County | Texas Division of Emergency Management | Texas A&M University Galveston
JC NERR | Rutgers University/Bloustein School | Sustainable Jersey
Local and County Governments; NGOs; Federal partners - ACOE, NOAA, USGS
Local communities, Universities and NGO's
local government, WA Dept. of Natural Resources, WA Dept. Military
Local governments | Department of Emergency Management | Wetlands Watch
Local Governments | Other State Agencies | NOAA (Federal Consistency)
Local gov't, academia, US Army Corps of Engineers.
Local municipalities along the Lake Erie shoreline, NOAA's Coastal Services Center for data
MS Department of Marine Resources | GOMA Resilience Team | MA-AL Sea Grant | Local researchers
Municipalities | Land Trusts | Universities
Municipalities, Regional Planning Organizations, CZMA Agents
National Park Service | U.S. Fish and Wildlife Service | Rutgers University
National Weather Service in Taunton | Local communities (Kingston Ma) | U Mass Dartmouth modeler
Natural Hazards Center | FEMA |
NJAFM, Rutgers Climate Institute, FEMA
NOAA - NCCOS labs | Kenai Peninsula Borough/City of Homer | State of Alaska
NOAA | Corps of Engineers
NOAA | US COAST GUARD | ARMY CORPS OF ENGINEERS
NOAA Coastal Services Center | Gulf of Mexico Sea Grant Programs | Local Land Use Planning Networks |
NOAA Coastal Services Center | NYS Dept. of Environmental Conservation | SUNY Stony Brook
NOAA Coastal Services Center, | Gulf of Mexico Alliance, | Association of State Floodplain Managers
NOAA Coastal Storms Program | State of Hawaii Civil Defense Agency | City and County of Honolulu Department of Emergency Management
NOAA CRC, State Coastal Programs (OR, CA, WA), USGS

Please identify up to three of your organization's most valuable partner organizations in the area of hazards:
NOAA CSC; SC DHEC/OCRM; Horry County Emergency Management
NOAA, Army Corps of Engineers, FEMA
NOAA, FEMA, local government agencies
Oregon Department of Geology | Coastal Local Governments
Oregon state parks dept | local government | FEMA | Oregon geology dept
Our state partners who work with FEMA and floodplains and beaches
Public Works, EPA, and Dept. Marine and Wildlife Resources
Rockingham Planning Commission | UNH Cooperative Ext | PREP
same as before
Same as previous ones
Scenic Hudson | NYHOPS | NOAA
Sea Grant | Other DNR Offices | NGOs (NEPs, etc)
Skidaway Institute of Oceanography | Georgia Southern University | Sea Grant
Smithsonian; GSA-Federal Triangle; National Park Service
Soil and Water Conservation Districts | Department of Agriculture | University of Guam | Guam EPA/U.S. EPA
State Agencies, County Agencies, USACE
State and County Civil Defense Agencies
state and local emergency managers; coastal municipal officials and staff; university scientists and students
State Coastal Program; VA Sea Grant; National Sea Grant Law Center
State coastal programs, universities, federal agencies (NOAA, USFWS)
State CZM, coastal community leaders
State of Florida | County Governments | Municipal Governments
Stevens Institute of Technology | NOAA
Stevens Institute of Technology | Richard Stockton College of New Coastal Resource Center | NJDEP Coastal Land Use Planning
Texas Sea Grant | Texas General Land Office
TNC, MB NEP, DISL | | |
universities | state emergency management agency | local governments
USACE | University of Puerto Rico | Sea Grant
USACE | UT BEG | Coast and Harbor Engineering
USGS | NC DENR | NOAA Weather Service

6. [If the user chose **Conservation** above] **Within your identified priority area of conservation, please indicate the priority issues for your organization. Please select up to four:**

	Count	Percent
Habitat restoration and monitoring	83	53.5%
Climate change impacts	79	51.0%
Habitat loss/fragmentation	64	41.3%
Land protection/acquisition	46	29.7%
Water quality	44	28.4%
Habitat quality	40	25.8%
Invasive species management	40	25.8%
Shoreline change and erosion	38	24.5%
Protected area management	34	21.9%
Coral reef management	27	17.4%
Fisheries management	25	16.1%
Regulation/Enforcement	19	12.3%
Cultural and heritage resources	15	9.7%

	Count	Percent
Economics	12	7.7%
Protected species management	7	4.5%
Other	6	3.9%
Beach nourishment	5	3.2%
Energy	4	2.6%
Infrastructure/Transportation/Utilities	4	2.6%
Demographics	1	0.6%
		(out of 155)

Other responses:

Ecosystem based management
Ecosystem-based Management
Education
Education
Education
Marine education
marine resource management
natural beneficial functions
This is a technology agency and we provide GIS data to other users.

7. Please identify up to three of your organization's most valuable partner organizations in conservation:

Please identify up to three of your organization's most valuable partner organizations in conservation:
(1)United States Fish and Wildlife Service | (2) Mississippi Department of Environmental Quality | (3) National Oceanic and Atmospheric Administration |
ADCNR, NOAA, Weeks Bay Foundation |
Aquatic Nuisance Species Task Force and regional panels
Area task forces, TNC,
Baylor university | Smithsonian | Local community
California Coastal Conservancy | California State Parks | U.S. Fish and Wildlife Service
California Coastal Conservancy | US Fish and Wildlife | California State Parks
California Department of Fish and Wildlife | Elkhorn Slough Foundation | Monterey County Weed Management Area
CCA, CBF, NRDC
City and County of Honolulu Department of Parks and Recreation, State of Hawaii Division of Aquatic Resources, The Nature Conservancy
CNMI DFW | CNMI DEQ/CRM (BECQ) | TNC
community groups
Coos Watershed Association | Tribes |
County governments, | Private foundations, | Federal Government
County, State Department of Land and Natural Resources
CRC | Village of BHI (local gov't) | private property owners | NC State University
CWPRA | DWLF | LEEC
Dauphin Island Bird Sanctuaries | Land Trust Alliance | The Nature Conservancy of Alabama
Delaware Coastal Management Program, Delaware Department of Natural Resources and Environmental Control's Division of Watershed Stewardship
Department of Natural and Environmental Resources | Puerto Rico Conservation Trust
Department of Natural Resources | Planning Board | USDA Forest Service | USGS
Department of Natural Resources and Environment; NOAA, UPR Sea Grant
Dept. of Public Lands and Dept. of Lands and Natural Resources
Division of Environmental Quality, Department of Fish and Wildlife, Department of Public Lands
Elkhorn Slough Foundation | California Department of Fish and Wildlife | California Wildlife Conservation Board
EPA, Dept. of Marine & Wildlife Resources, Coral Reef Advisory Council
EPA, State and local government agencies, various NGO's
Erie Soil and Water Conservation District | ODNR Division of Soil and Water Resources | Berlin Township Conservation Club
Estuary Programs through TCEQ | Galveston Bay Foundation | Texas A&M - Galveston
FDEP, NOAA, USACE
Florida Department of Environmental Protection | Florida Coastal Office | NOAA
Florida Fish and Wildlife Conservation Commission | National Marine Fisheries Service | Florida Department of Environmental Protection
Florida Invasive Species Partnership, University of Florida/IFAS, NOAA
Government of Guam | University of Guam | Department of Defense
Guam Department of Agriculture | University of Guam
Gulf of Mexico Foundation | The Nature Conservancy | Partnership for Gulf Coast Land Conserv.
Hawaii Department of land & natural Resources, Hawaii Institute of marine Biology, WaiKalua Loko fishpond Preservation Society
Hawaii Dept of Land and Natural Resources | University of Hawaii (PacIOOS, SOEST, SeaGrant)
Lake Erie Commission, ODNR (particularly Division of Wildlife and Office of Coastal Mgmt), Ohio Seagrant

Please identify up to three of your organization's most valuable partner organizations in conservation:
Land trusts | Private landholders | Non-profits
land trusts | towns | funding organizations
Land Trusts | USFWS | Municipalities
Land Trusts, municipalities, several State and Federal agencies
LCC's | State Agencies | NGOs
Local communities, Universities and NGO's
local departments of natural resources, U.S. Fish and Wildlife Service, Natural Resources Conservation Service
local governments, DNR, other conservation organizations, such as, Two Rivers Coalition
Local law enforcement, local gov'ts, non-profits.
MA DCR | NSWRA | Mass Audubon
Many of these categories overlap and because we are limited to 4 choices, this data will be flawed.
Michigan Dept. of Natural Resources | Various Non-government organizations
Mobile Bay NEP | NOAA's NMFS | | Al. Conservation dept
Monterey Bay Aquarium | Ocean Literacy Network
MS Department of Marine Resources | NOAA- various departments | Local researchers |
Municipalities, NEP, Regional Planning Organizations
NERRS Science Collaborative | Cary Institute of Ecosystem Studies | Stevens Institute of Technology
NGOs (Wild Lands, TNC) | Division of Fish and Wildlife | USFWS - Refuges
NGOs including land trusts; local and county government; NOAA and USF&WS
NOAA | Protectores de Cuencas | Department of Natural Resources |
NOAA | California Department of Fish and Wildlife | University of California
NOAA | DOI | TNC
NOAA | State | County
NOAA | TNC | MS DEQ
NOAA | USFWS | ARMY CORPS OF ENGINEERS
NOAA | USFWS | NPS
NOAA CRCP, The Nature Conservancy,
NOAA Estuarine Reserves Division | The Nature Conservancy | Scenic Hudson | Cary Institute of Ecosystem Studies
NOAA Fisheries, USFWS, Florida Fish & Wildlife Conservation Commission
NOAA Pacific Islands Fisheries Science Center, Coral Reef Division | | Western Pacific Fishery Management Council |
NOAA, DAR, TNC
NOAA, EPA, Gulf Community-based Restoration Partnership
NOAA, EPA, Nature conservancy
NOAA, EPA, State mgmgnt agencies
NOAA, NFWF, University of HI
NOAA, State Division of Aquatic Resources, local communities
NOAA, The Maine Geological Survey, Maine Coast Heritage Trust
NOAA, TNC, St Croix Environmental Association (SEA)
NOAA, U.S. EPA, DOI-OIA, TNC
NOAA's NERRS (of which we are a part), local Land Trust, California State Parks
Non profits, environmental learning centers and state agencies
Northeast Aquatic Nuisance Species Panel | Massachusetts Bays Program | Local Communities, e.g. Kingston, Scituate, MA
OR Department of State Land | OR Fish and Wildlife Department | OR Governor's Office
Oregon Department of Fish and Wildlife | Oregon State Parks
Oregon Dept of Fish and Wildlife | New England Aquarium
Oregon fish and wildlife

Please identify up to three of your organization's most valuable partner organizations in conservation:
Our state Divisions of Watershed and Water
Ozaukee County, WI; EPA; FWS
Palau International Coral Reef Center, Pacific Marine Resources Institute, Micronesia Conservation Trust
Poughkeepsie High School | Scenic Hudson | Cornell University
Private landowners, Forest Service, state departments of natural resources. |
Puerto Rico Department of Natural and Environmental Resources | University of Puerto Rico | US Fish and Wildlife Service |
Rachel Carson National Wildlife Refuge |
same as previous
Same as previous priority area.
SC Coastal Conservation League | Sierra Club | Waterkeepers
SCDNR | NERRS
State Agencies, County Agencies, Trust for Public Lands
State Department of Natural Resources | NGO's | CB EPA office
State environmental/coastal staff; SeaGrant; Department of defense
State of Alaska - Department of Fish and Game | University of Alaska system | Baylor University
Texas Dept of Wildlife and Fisheries. TNC
Texas General Land Office | Local county officials | Coastal Bend Bays and Estuaries Program
Texas Parks and Wildlife Department | Coastal Bend Bays and Estuaries Program
The Nature Conservancy | Association of State Wetland Managers |
The Nature Conservancy | Ca Coastal Conservancy | CA DFW
The Nature Conservancy | Trust for Public Land | The Conservation Fund
The Nature Conservancy | University of Maine | Gulf of Maine Research Institute
The Nature Conservancy, Shirley Heinze Land Trust, Northwestern Indiana Regional Planning Commission
The Nature Conservancy, South Atlantic LCC, SECOORA
The Nature Conservancy, Texas Parks and Wildlife Department, Coastal Bend Bays & Estuaries Program
TNC | OC | NRCS
TNC, Georgia Coastal Ecosystem LTER, GA Coastal Management Program
TNC, Society for the Protection of NH Forests, local land trusts, NRCS, USWFS, local conservation commissions
TNC, state DNR, Tribes
U.S. Fish and Wildlife Service | Ocean County Planning | Rutgers University
University of New Hampshire | NH Fish & Game Dept. | NH Dept. of Env. Services/Coastal Program
USACE | Gulf of Mexico Alliance | Mobile Bay NEP
USFWS | MA Fish and Game | Town of Mashpee
USGS Wetlands Center | NOAA NGS | USFWS Sand Hill Crane NWR
Virginia Department of Conservation and Recreation |

[If the user selected "Coral Reef Management" in Q6 then go to Q8, otherwise continue to next issue selected in Q1.]

8. [f the user chose **Coral Reef Management** as top data need under Conservation above] **Within your identified focus area of coral reef management, please indicate the priority issues for your organization. Please select up to four:**

	Count	Percent
Fishing impacts	14	51.9%
Climate change impacts/adaptation	11	40.7%
Education of public, stakeholder, and decision makers	10	37.0%
Land-based sources of pollution impacts	10	37.0%
Habitat restoration and monitoring	9	33.3%
Data analysis, interpretation, processing, and storage	5	18.5%
Protected areas management	5	18.5%
Watershed management	5	18.5%
Direct impacts form coastal construction or maritime activity	4	14.8%
Grounding events	4	14.8%
Invasive species management	4	14.8%
Risk and vulnerability assessments to climate change (social and/or ecological)	4	14.8%
Lack of public awareness of issues affecting coral reefs	3	11.1%
Lack of resources/capacity to implement watershed management plans	3	11.1%
Water quality	3	11.1%
Budget management/administration	2	7.4%
Ecosystem services valuation	2	7.4%
Endangered Species Act-related issues	2	7.4%
Human use mapping	2	7.4%
Impacts from recreational activity	2	7.4%
Lack of public support for coral reef conservation efforts	1	3.7%
Regulation/enforcement	1	3.7%
Other	1	3.7%
Staffing issues/retention	0	0.0%
		(out of 27)

Other response:

Marine debris removal

9. **Please identify up to three of your organization's most valuable partner organizations in coral reef management:**

Please identify up to three of your organization's most valuable partner organizations in coral reef management:
CNMI DEQ/CRM (BECQ) | UOG | TNC
College of the Marshall Islands, City and County of Honolulu Department of Parks and Recreation, Na Maka O Papahanaumokuakea
Community groups
DEP, NOAA, FWCC
Department of Defense - including US Army Corps of Engineers | Government of Guam / University of Guam | The Nature Conservancy
Department of Education; NOAA; DNER
DOI-OIA, U.S.EPA, NOAA, TNC
Hawaii Dept of Land and Natural Resources | Dept of Transportation | Hawaii Coral Reef Working Group
Marine Monitoring Team, | Division of Environmental Quality, | NOAA
NOAA | University of Puerto Rico | Sea Grant
NOAA | DOI | Government of Guam Agencies
NOAA | State | County
NOAA CRCP
NOAA CRCP, The Nature Conservancy, National Coral Reef Institute
NOAA Fisheries, University of Miami
NOAA, DAR, UH
NOAA, State Division of aquatic resources, local communities
NOAA, TNC, University of the Virgin Islands (UVI)
NOAA, University of HI, NFWF
Palau International Coral Reef Center, Micronesia Conservation Trust, Pacific Marine Resources Institute
same as previous
The Nature Conservancy | Mote Marine Lab | NOAA Coral Reef Conservation Program (particularly NCCOS, NMFS Protected Resources, and NMFS Restoration Center)
US CORAL REEF TASK FORCE | NOAA | HAWAII DEPT OF LAND/NATURAL RESOURCES | USFWS

10. [If the user chose **Ocean and Great Lakes Planning** above] **Within your identified priority area of ocean and great lakes planning, please indicate the priority issues for your organization. Please select up to four:**

	Count	Percent
Human uses	39	76.5%
Climate change impacts	26	51.0%
Protected area management	19	37.3%
Energy	18	35.3%
Sea grass or corals	13	25.5%
Dredging, disposal, and borrow pits	10	19.6%
Other	10	19.6%
Economics	8	15.7%
Port capacity and port infrastructure	7	13.7%
Aquaculture	6	11.8%
Archeological sites and cultural resources	6	11.8%
Commercially harvested species	6	11.8%
Marine mammals	6	11.8%
Submarine cables	2	3.9%
Demographics	1	2.0%
Seismic anomalies	0	0.0%
		(out of 51)

Other responses:

Aquatic habitat identification and preservation
Conservation of critical habitats; policy and regulations
Floodplain Management
Habitat protection
habitat protection
Hatcheries and Stocking Programs for Marine Species
Impacts of land use planning on resources
Land acquisition
Mapping
Natural resource management
Seafloor Mapping
Zoning

11. **Please identify up to three of your organization's most valuable partner organizations in** [Ocean and Great Lakes Planning]

Please identify up to three of your organization's most valuable partner organizations in Ocean and Great Lakes Planning
Department of Land and Natural Resources | NOAA | County Planning Depts
Dept. of Lands and Natural Resources and Division of Environmental Quality
DOI-OIA, NOAA, U.S. EPA,
Duke University | NC Museum of Natural Sciences | Museum of the Earth
Federal agencies | States |
Federal Agencies, Universities and NGO's
FEMA | USACE | GEMA
Fisherman Association | Division of Fish and Wildlife | WESPAC
Florida Fish and Wildlife Conservation Commission | Florida Department of Environmental Protection
GOMA
Governors' south Atlantic alliance; coastal zone management officials and staff; state marine resources officials and staff
Great Lakes Coastal and Marine Planning Working Group
Great Lakes Small Harbors Coalition
GSAA
local government | ports | NOAA | BOEM
Maine Dept of Ag, Conservation and Forestry | NOAA | USCG
MARCO | Mid-Atlantic RPB | Monmouth University/Rutgers University
MARCO, NOAA CSC, BOEM
MARCO; Port Authority
Mid-Atlantic Regional Council on the Ocean | Mid-Atlantic Regional Planning Body | Maryland Energy Administration
NOAA
NOAA | Other state agencies | Tribes
NOAA Fisheries, Florida Fish and Wildlife Conservation Commission
NOAA MPA Center, State Coastal Programs (OR, WA, CA), BOEM
NOAA National Centers for Coastal and Ocean Science | Cornell Cooperative Extension | Bureau of Ocean Energy Management
NOAA, Pacific Islands Managed and Protected Areas Community, Micronesia Conservation Trust
NOAA, USGS, EPA
Northeast Regional Ocean Council, BOEM, NOAA
ODNR Office of Coastal Management | NOAA Coastal Services Center |
ODNR(Division of Wildlife and Office of Coastal Mgmt), Lake Erie Commission, Seagrant
Ozaukee County, WI; Wis DNR, FWS
Pennsylvania Sea Grant, Pennsylvania Fish and Boat Commission, Other Great Lake State Coastal Programs
Sea Grant Network, Western Pacific Fisheries Management Council, and National Resources Conservation Service
State | Port Authority | NOAA
state coastal management programs, NOAA, universities |
State Energy Office | State Dept. of Agriculture - Aquaculture Development Branch | State Dept. of Land and Natural Resources
The States of Virginia, Maryland, NY
university | state agencies | federal agencies
USACE | RICE University | NERR |

12. **Please identify up to three of your organization's most valuable partner organizations in [Fisheries]**

Please identify up to three of your organization's most valuable partner organizations in Fisheries
Alaska Dept. of Fish and Game | Baylor University | Smithsonian Environmental Research Center
Caribbean Fishery Management Council; DNER; NMFS
CNMI DFW | WPRFMC | SPC
community groups
CTSA, NOAA, University of HI
Dept fish and game | UWA | Univ Alaska
Division of Marine Fisheries | Shellfish Officers |
DLNR DAR | Maui Nui Marine Resource Council | Makai Watch
Florida Department of Environmental Protection | Florida Coastal Office | NOAA
Florida Fish and Wildlife Conservation Commission, including their law enforcement arm. | NOAA National Marine Fisheries Service | NOAA Office of Law Enforcement
FWCC, SAFMC
Garden State Seafood Association | National Marine Fisheries Service | Rutgers University
Government of Guam | University of Guam | NOAA Pacific Islands Fisheries Science Center
Great Lakes Commission, USGS, ODNR Division of Wildlife
GSMFC | GOMFC | SEFSC
Gulf Fishery Management Council | Gulf State Fisheries Management Comm. | Individual State agencies
HAWAII DLNR | NOAA | FORUM FISHERIES AGENCY |
Hawaii Institute of Marine Biology, Windward Community College,
Hudson River Fisheries Unit | Hudson River Foundation |
local fishery management council, local departments of natural resources, Sea Grant
Local organizations that work with communities, NOAA coral program and fisheries, TNC
MAFMC, ASMFC, CCA
n/a
NC Division of Marine Fisheries, NMFS, NC Wildlife Resources Commission
NC DMF | SAMFC | NMFS
NJDEP Fish and Wildlife | NMFS Howard Lab | Rutgers University Institute of Marine and Coastal Sciences
NMFS, USFWS, USDA
NOAA | Gulf States | USFWS
NOAA | LDWF | GSMFC
NOAA Fisheries | Westpac | USFWS
NOAA Fisheries, Florida Fish and Wildlife Conservation Commission
NOAA National Marine Fisheries, USFW
NOAA NMFS | Al. Marine Conservation | Charter fishermen
NOAA NMFS, Florida Fish & Wildlife Conservation Commission
NOAA Pacific Islands Fisheries Science Center | | Western Pacific Fisheries Management Council | | Secretariat of the Pacific Community
NOAA, DAR, TNC
NOAA, local communities, University of Hawaii
NOAA, Regional Fisheries Council, fisherman
NOAA/NMFS | USCG | ASMFC
ODFW | Dungeness Crab Commission
Ohio Division of Wildlife | Great Lakes Fisheries Commission | USGS
OR Department of State Land | OR Fish and Wildlife Department | OR Governor's Office
Pacific Center for Fisheries Innovation and Sustainable Harvest (PacFISH); Packard Foundation; Rare
Sea Grant | Fisheries Management Council | PRDNER
Sea Grant Network, Western Pacific Fisheries Management Council, and NOAA-NMFS
State Department of Natural Resources

Please identify up to three of your organization's most valuable partner organizations in Fisheries
State Natural Resource Agencies | NMFS |
Texas Parks and Wildlife Department
WA Dept. of Fish & Wildlife, NOAA, PNAMP
WESPacFin | Local Fishermen Association | NOAA

13. Please identify up to three of your organization's most valuable partner organizations in [Infrastructure/Transportation/Utilities]

Please identify up to three of your organization's most valuable partner organizations in Infrastructure/Transportation/Utilities
Army Corps, BOEM, State Coastal Programs (OR, WA, CA)
City and County of Honolulu Department of Planning and Permitting, University of Hawaii at Manoa, Hawaii Public Utilities Commission
Coastal Local Governments | Oregon Department of Transportation
Communities | DOT | Funding agencies
CTA | MDOT
DC Dept. Of Transportation; DC Water; Pepco
Department of Transportation and Public Works | Aqueduct and Sewer Authority | Power Authority
Department of transportation and public works | PR Power Authority | PR Aqueduct and Sewers auth
Dept of Transportation, Commercial Ports Association
Dept of Transportation, USCG, USACE
Dept. of Public Works, Communication (Phone co.), and Power Authority
DHS | FEMA
DOT and municipalities
FHWA, State DOTs
Georgia Ports Authority, Atlantic Intercoastal Waterways Association, NC Beach, Inlet, and Waterways Association
Mass DOT | DEP |
NJ DOT, Rutgers Center for Remote Sensing and Spatial Analysis
OR Department of State Land | OR Fish and Wildlife Department | OR Governor's Office
Port of Los Angeles; Port of Long Beach; US Coast Guard
Ports and maritime companies | Energy companies |
Power Authority, Public Works, EPA
Protectores de Cuencas | PRASA -- Sewerage Authority of Puerto Rico | EPA
RIDOT, URI, NOAA
Rockingham Planning Commission | PREP | UNH Cooperative Ext
Same
state and local government departments of public works and transportation, local government zoning and permitting agencies, various public and private utility companies
Texas Department of Transportation | Texas Commission on Environmental Quality
Town of Portsmouth RI DPW | Portsmouth Emergency Services Management | PIVFD
TxDOT | Harris County | City of Houston
University of Maine, Maine Port Authority, NROC
VDOT
West Indian Company, Ltd., VI Port Authority, VI Water and Power Authority

14. Please identify up to three of your organization's most valuable partner organizations in [Recreation/Tourism]

Please identify up to three of your organization's most valuable partner organizations in Recreation/Tourism
Boating Association | Fisherman's Association | Visitors Authority
California State Parks, California Coastal Conservancy, local governments
Center for Sustainable Tourism (ECU) | Bald Head Island Chamber of Commerce | Bald Head Island Limited
Chamber of Commerce |
Coastal Resource Management Agency, Marianas Visitors Association, Hotel Association
COE,SFWMD,NOAA
Community colleges for guide certification courses | private businesses
Community Convention Visitor Bureaus | Pure Michigan | MSU Extension
CORAL, Kohala Coast Resort Association, DAR
Delaware Department of Natural Resources | Southern Delaware Tourism | Lewes chamber of Commerce
Department of Tourism, Harbor Towns Association and Beach managers.
Division of Environmental Quality, | Marianas Visitors Authority
DLNR, Community Associations, Coastal Hotels/Resorts
DNR, state Coastal Mgt Program,
DOC, Visitors Bureau, Port Administration
ECU | NCSU | NC Birding Trail |
Florida Department of Environmental Protection | Florida Coastal Office | NOAA
GSMFC |
Guam Visitors Bureau | Guam Hotel and Restaurant Association | University of Guam Marine Laboratory
Guam Visitors Bureau | Guam Hotel and Restaurant Association | University of Guam
Gulf Coast Heritage Trails Partnership | National Park Service | Gulf Regional Planning Commission
Local businesses, local government, local citizens |
Local businesses, Pennsylvania Department of Conservation and Natural Resource
Local Chamber of Commerce | Coastal Conservation Association | Audubon
Local Chamber of Commerce
Local Chambers of Commerce (Esp Apalachicola Bay Chamber), | Florida DEP - Park Service, | Florida Fish and Wildlife Conservation Commission
local Land Trust, California State Parks
local tourism agency, local departments of natural resources, local tourism operators in particular dive shops
local towns/counties
MA Fish and Wildlife
Maryland Coastal Bays Program | Surfrider |
Monterey Bay Aquarium | California Department of Fish and Wildlife
n/a
National Park Service; Smithsonian; DC Dept. Of Parks and Rec
NJ Department of Tourism | Country Tourism
NJ Dept of Tourism | Marine Trades Association of NJ |
NJDEP/Land Use Regulation Program | NJ coastal municipalities
NYS Empire State Development
OCRM, Commerce, NWS
Ohio Tourism Association | Coastal Visitor Bureaus
Puerto Rico Tourism Company | Puerto Rico Hotel Association | Puerto Rico Department of Natural and Environmental Resources
Puerto Rico Tourism Company; DNER; Puerto Rico Conservation Trust
San Diego Museum Council | San Diego Tourism Authority | |

Please identify up to three of your organization's most valuable partner organizations in Recreation/Tourism
SC PRT; NOAA CSC; Coastal Carolina University
Seaplan, Maine Marine Trades Association, NROC
State Coastal Program; Middle Peninsula Chesapeake Bay Pubic Access Authority
State Economic Development Agencies | Cooperative Extension
State Parks | Surfrider Foundation | Olympic Coast National Marine Sanctuary
State parks, environmental learning centers and Local chamber of commerce offices.
State Tourism Office | Greenways | State Division of Historical & Cultural Affairs (Museums)
Texas Parks and Wildlife Department Rockport, TX Chamber of Commerce | Port Aransas, TX Chamber of Commerce
The Nature Conservancy | National Marine Sanctuary |
towns |
University of Minnesota Extension | Explore Minnesota |
USFWS | NPS | Heritage Trails
Visitor's Bureau, Parks and Recreation, Women and Youths

15. **Please identify up to three of your organization's most valuable partner organizations in** [**Water Quality**]:

Please identify up to three of your organization's most valuable partner organizations in Water Quality:
ADEM, NOAA, USEPA
Alliance for the Great Lakes
Association of State Wetland Managers |
California Central Coast Regional Water Quality Control Board | Monterey County Water Resources Agency | NOAA Monterey Bay National Marine Sanctuary
California Department of Fish and Wildlife | Monterey Bay Aquarium Research Institute | Regional Water Quality Control Board
Cape Fear River Monitoring Program, City of Durham, NC DENR and other state agencies
Chicago Metropolitan Agency for Planning | Northwest Indiana Regional Planning Commission
Coastal Bend Bays and Estuaries Program | Texas General Land Office |
Coastal Waccamaw Stormwater Education Consortium | Waccamaw Riverkeeper |
Coastkeeper | Surfrider | Wildcoast
COE,SFWMD,NOAA
Commonwealth Utilities Company, WERI (University of Guam)
community groups, NOAA priority area in Kaanapali
Coos Watershed Association | DEQ | Tribes
DC Water; US Army Corps of Engineers; DDOT
Delaware Coastal Management Program, Delaware Department of Natural Resources and Environmental Control's Division of Watershed Stewardship
Delaware Department of Natural Resources | DE Center for the Inland Bays | Delaware NEMO
Department of Environmental Protection, local conservation groups (including municipalities and land trusts) and State agencies
Department of Health and Environmental Control | Sea Grant | Local Universities
Department of Health; Virgin Island Waste Management Authority; Virgin Island Territorial Emergency Management Authority
Department of Natural Resources - Division of Ecological and Water Resources | Minnesota Pollution Control Agency | Minnesota Board of Soil and Water Resources
Division of Environmental Quality | Army Corps of Engineers | EPA
DOH | EPA
DOH, UH, EPA
Elkhorn Slough National Estuarine Research Reserve | Regional Water Quality Control Board | Monterey County Water Resources Agency
Environmental Protection Agency, Natural Resources Conservation Service | Department of Commerce
EPA
EPA, NOAA, GCOOS
EPA, state CZM
EPA, WA Dept. of Ecology, tribes
FL Dept Env Protection | St Johns River Water Mngmt District
FL Dept of Environmental Protection - Office of Water Policy & Ecosystem Restoration, South Florida Water Management District, EPA
Government of Guam | US EPA | US Army Corps of Engineers
Gulf of Mexico Alliance | Local & State Officials | Academia
Hawaii Department of Health, EPA, Board of Water supply
Heidelberg's International Institute of Water Quality Research, NOAA NERR SWMP data project, and NWS of Cleveland partnerships
La DEQ | GOMA
Local municipalities, state agency charged with water quality regulations and monitoring

Please identify up to three of your organization's most valuable partner organizations in Water Quality:
Local Towns
MA DEP | Cape Cod Commission | APCC
Massachusetts Water Resources Authority | Massachusetts Bays Program | Massachusetts Coastal Zone Management |
MDEQ, Two Rivers Coalition and local governments
Minnesota's Lake Superior Coastal Program | Regional Stormwater Protection Team | Minnesota Pollution Control Agency
Mississippi DEQ |
Mobile Bay Keeper | Mobile Bay NEP | Alabama Water Watch
Mobile Bay NEP | Mobile Health Dept | EPA
Moss Landing Marine Lab | California State University at Monterey Bay | Monterey Water Resources Association
MS Dept of Marine Resources | MD Dept of Environmental Quality | Grand Bay NERR staff | Local researchers
MSDEQ | MSDMR | EPA
Municipalities | Water Supply Districts | Watershed groups
n/a
National Estuarine Research Reserve System
Nature conservation organizations | communities
NCSU Department of Bio and Ag Engineering | NC Cooperative Extension Service | NC DENR
NJDEP Bureau of Marine Water Quality | Rutgers Cooperative Extension Water Resources Program | Barnegat Bay Partnership (EPA Estuary Program)
No
NOAA Estuarine Reserves Division | Hudson River Environmental Conditions Observing System HRECOS | New York State Dept of Environmental Conservation
NOAA | EPA | Commonwealth of Virginia
NOAA | MS DEQ | Universities
NOAA, DEP
NOAA, St. Johns River Water Management District, Local Government
NOAA, TNC, UVI
Northwest Florida Water Management District, | Local Seafood Workers Organizations, | Apalachicola Riverkeeper
Northwestern Indiana Regional Planning Commission, Urban Waters Group, Local Watershed Management teams
ODNR Division of Soil & Water Resources | Various watershed management programs | Ohio Office of Coastal Management (6217)
Ohio EPA | Ashtabula Remedial Action Plan Council
Ozaukee County, WI; WI DNR; Milwaukee Metropolitan Sewerage District
PacIOOS
PREP (local NEP), UNH Water Resources program, DES, EPA
PREP | UNH Cooperative Ext | NHDES |
Regional Water Quality Control Board | International Boundary and Water Commission | San Diego Coastkeeper
RI DEM-parks and recreation
Same
SC Dept. of Health and Environmental Control | EPA | Local municipalities
SC DHEC; members of the South Carolina Coastal Information (outreach) Network; university scientists and students
state agencies | university
State Agencies, County Planning Departments
State agencies, soil and water conservation districts and universities
State Coastal Program; State DEQ Water revolving Loan program; Virginia Department of Health
State Department of Health | County Planning Departments | U.S. Environmental Protection Agency

Please identify up to three of your organization's most valuable partner organizations in Water Quality:
state Dept. of Environment | State Dept. of Agriculture | APE CB Office
State Natural Resource Agencies | EPA
State Water Resources | County Water Resources
Surfrider
Texas Commission on Environmental Quality | San Jacinto River Authority | University of Houston
Texas Commission on Environmental Quality | Texas Parks and Wildlife
Texas Commission on Environmental Quality | Texas Water Development Board | Texas Department of Health
The other 27 National Estuarine Research Reserve Systems, as we all contribute to the System Wide Monitoring Program (SWMP)
towns | conservation organizations (land trusts / watershed orgs.) | state department of environmental protection
TX CEQ
U.S. Army Corps of Engineers
U.S. EPA, NOAA, DOI-OIA
University of New Hampshire | NH Dept. of Environmental Services | U.S. EPA/Region I
University of Puerto Rico - CREST | Protectores de Cuencas | SAM -- Sociedad Ambiental Marino (PR and Student chapters)
University of WI, Lake Superior Research Institute, EPA
US EPA | Philadelphia Water Department
USEPA, Sea Grant Network, and National Resources Conservation Service
USEPA, University of HI, NRCS
USGS | AL Dept of Health | FL Dept of Health | LUMCON
USGS, National Water Quality Monitoring Council
Village of BHI (local gov't) | Sea Grant | Division of Water Quality
Virginia DEQ, EPA, NOAA
Virginia Institute of Marine Sciences | VA Department of Environmental Quality | Virginia Coastal Zone Management Program
Waterkeepers | sc coastal conservation league | sierra club
Wisconsin department of natural resources | Minnesota pollution control agency | City of Superior Stormwater Program (NPDES permitee) |

16. Please rank the following data types with regard to how you use them. Data types may include information sources such as observations, maps, and analyses:

Version 1: All response options, the percentages are calculated as a percent of the total respondents (far right column) and sum to 100% across each row. For example: 4.5% of respondents frequently use Bathymetry data and feel their needs are currently addressed.

Data Types	Use Frequently		Use Occasionally		Use Rarely		Not applicable to my job responsibilities	No Response	Total
	Needs currently addressed	Need updated or better info	Needs currently addressed	Would use more if available	Needs currently addressed	This is a current data gap			
Bathymetry	10 (4.5%)	49 (21.9%)	28 (12.5%)	35 (15.6%)	20 (8.9%)	12 (5.4%)	56 (25%)	14 (6.3%)	224
Benthic Habitat	12 (5.4%)	51 (22.8%)	29 (12.9%)	26 (11.6%)	14 (6.3%)	17 (7.6%)	58 (25.9%)	17 (7.6%)	224
Climate Changes/Impacts	18 (8%)	111 (49.6%)	18 (8%)	44 (19.6%)	4 (1.8%)	15 (6.7%)	11 (4.9%)	3 (1.3%)	224
Hazards	24 (10.7%)	71 (31.7%)	24 (10.7%)	45 (20.1%)	15 (6.7%)	10 (4.5%)	26 (11.6%)	9 (4%)	224
Human Uses	29 (12.9%)	82 (36.6%)	31 (13.8%)	42 (18.8%)	11 (4.9%)	10 (4.5%)	12 (5.4%)	7 (3.1%)	224
Land Cover and Change	20 (8.9%)	88 (39.3%)	47 (21%)	29 (12.9%)	16 (7.1%)	0 (0%)	17 (7.6%)	7 (3.1%)	224
Living Marine Resources	17 (7.6%)	78 (34.8%)	26 (11.6%)	34 (15.2%)	18 (8%)	9 (4%)	36 (16.1%)	6 (2.7%)	224
Marine Infrastructure	11 (4.9%)	27 (12.1%)	29 (12.9%)	43 (19.2%)	32 (14.3%)	11 (4.9%)	61 (27.2%)	10 (4.5%)	224
Offshore Energy	5 (2.2%)	15 (6.7%)	18 (8%)	31 (13.8%)	39 (17.4%)	17 (7.6%)	85 (37.9%)	14 (6.3%)	224
Socioeconomic	17 (7.6%)	83 (37.1%)	26 (11.6%)	48 (21.4%)	18 (8%)	8 (3.6%)	19 (8.5%)	5 (2.2%)	224
Topography	33 (14.7%)	51 (22.8%)	48 (21.4%)	19 (8.5%)	25 (11.2%)	1 (0.4%)	38 (17%)	9 (4%)	224
Wetlands	40 (17.9%)	72 (32.1%)	46 (20.5%)	23 (10.3%)	13 (5.8%)	3 (1.3%)	22 (9.8%)	5 (2.2%)	224
Other	1 (0.4%)	11 (4.9%)	0 (0%)	2 (0.9%)	1 (0.4%)	3 (1.3%)	14 (6.3%)	192 (85.7%)	224

Version 2: Responses grouped by frequency of use. For example: 26.3% of respondents using Bathymetry data say they use it "frequently."

Data Types	Frequency of Use			Not Applicable to my job responsibilities	No response	Total
	Use Frequently	Use Occasionally	Use Rarely			
Bathymetry	59 (26.3%)	63 (28.1%)	32 (14.3%)	56 (25%)	14 (6.3%)	224
Benthic Habitat	63 (28.1%)	55 (24.6%)	31 (13.8%)	58 (25.9%)	17 (7.6%)	224
Climate Changes/Impacts	129 (57.6%)	62 (27.7%)	19 (8.5%)	11 (4.9%)	3 (1.3%)	224
Hazards	95 (42.4%)	69 (30.8%)	25 (11.2%)	26 (11.6%)	9 (4%)	224
Human Uses	111 (49.6%)	73 (32.6%)	21 (9.4%)	12 (5.4%)	7 (3.1%)	224
Land Cover and Change	108 (48.2%)	76 (33.9%)	16 (7.1%)	17 (7.6%)	7 (3.1%)	224
Living Marine Resources	95 (42.4%)	60 (26.8%)	27 (12.1%)	36 (16.1%)	6 (2.7%)	224
Marine Infrastructure	38 (17%)	72 (32.1%)	43 (19.2%)	61 (27.2%)	10 (4.5%)	224
Offshore Energy	20 (8.9%)	49 (21.9%)	56 (25%)	85 (37.9%)	14 (6.3%)	224
Socioeconomic	100 (44.6%)	74 (33%)	26 (11.6%)	19 (8.5%)	5 (2.2%)	224
Topography	84 (37.5%)	67 (29.9%)	26 (11.6%)	38 (17%)	9 (4%)	224
Wetlands	112 (50%)	69 (30.8%)	16 (7.1%)	22 (9.8%)	5 (2.2%)	224
Other	12 (5.4%)	2 (0.9%)	4 (1.8%)	14 (6.3%)	192 (85.7%)	224

Version 3: Responses groups by whether or not respondent needs are addressed. For example: 25.9% of respondents using bathymetry data feel their needs are currently addressed.

Data Types	Needs Addressed or Not		Not Applicable to my job responsibilities	No response	Total
	Needs Currently Addressed	Need updated or better info, Would use more if available, This is a current data gap			
Bathymetry	58 (25.9%)	96 (42.9%)	56 (25%)	14 (6.3%)	224
Benthic Habitat	55 (24.6%)	94 (42%)	58 (25.9%)	17 (7.6%)	224
Climate Changes/Impacts	40 (17.9%)	170 (75.9%)	11 (4.9%)	3 (1.3%)	224
Hazards	63 (28.1%)	126 (56.3%)	26 (11.6%)	9 (4%)	224
Human Uses	71 (31.7%)	134 (59.8%)	12 (5.4%)	7 (3.1%)	224
Land Cover and Change	83 (37.1%)	117 (52.2%)	17 (7.6%)	7 (3.1%)	224
Living Marine Resources	61 (27.2%)	121 (54%)	36 (16.1%)	6 (2.7%)	224
Marine Infrastructure	72 (32.1%)	81 (36.2%)	61 (27.2%)	10 (4.5%)	224
Offshore Energy	62 (27.7%)	63 (28.1%)	85 (37.9%)	14 (6.3%)	224
Socioeconomic	61 (27.2%)	139 (62.1%)	19 (8.5%)	5 (2.2%)	224
Topography	106 (47.3%)	71 (31.7%)	38 (17%)	9 (4%)	224

Data Types	Needs Addressed or Not		Not Applicable to my job responsibilities	No response	Total
	Needs Currently Addressed	Need updated or better info, Would use more if available, This is a current data gap			
Wetlands	99 (44.2%)	98 (43.8%)	22 (9.8%)	5 (2.2%)	224
Other	2 (0.9%)	16 (7.1%)	14 (6.3%)	192 (85.7%)	224

Version 4. For only those who use the data frequently, responses grouped by whether or not respondent needs are addressed. Percent is out of total respondents who indicate they use the data frequently. This table shows that for the people who use the data the most, for almost all data types, over ¾ of the respondents indicate they need better/updated data.

Data Types	Use Frequently		
	Needs currently addressed	Need updated or better info	Total
Bathymetry	10 (16.9%)	49 (83.1%)	59
Benthic Habitat	12 (19.%)	51 (81.%)	63
Climate Changes/Impacts	18 (14.%)	111 (86.%)	129
Hazards	24 (25.3%)	71 (74.7%)	95
Human Uses	29 (26.1%)	82 (73.9%)	111
Land Cover and Change	20 (18.5%)	88 (81.5%)	108
Living Marine Resources	17 (17.9%)	78 (82.1%)	95
Marine Infrastructure	11 (28.9%)	27 (71.1%)	38
Offshore Energy	5 (25.%)	15 (75.%)	20
Socioeconomic	17 (17.%)	83 (83.%)	100
Topography	33 (39.3%)	51 (60.7%)	84
Wetlands	40 (35.7%)	72 (64.3%)	112
Other	1 (8.3%)	11 (91.7%)	12

17. You indicated that the following data types are used frequently:

[LIST: Items from Q12 marked as "Use frequently"]

Besides NOAA, where do you access these types of data? _____

Besides NOAA, where do you access these types of data?
Academic and non-profit organization websites.
Academic community | other federal agencies (LiDAR) | State agencies (New Jersey)
Academic institutions
Academic publications; NSF; EPA; FEMA
ACOE, USGS, USF&WS - some academic institutions have comprehensive data sets.
ADFG fish counts | Lidar | Field work
Benthic Habitat | Wetlands
BOEM, Maine Geological Survey, NROC, Gulf of Maine Council, Maine Floodplain Management Program, University of Southern Maine, University of Maine, Maine Department of Marine Resources, Coastal municipalities
CA State Dept of Finance, CA Water Resources Department. ACS, State of California Multi-Hazard Mitigation Plan
Census data | BOEM
Census data; Municipal/regional data sources; ports
Colleagues on the island and elsewhere in Hawai'i, academic resources, and USFWS.
Counties
County and State databases. National Coral Reef Institute
DAR, USGS, NPS, EPA
Data partners within Pennsylvania, FWS National Wetlands Inventory, USGS
dated aerial photography, being able to look into the past is invaluable to my work
Delaware Department of Natural Resources
DLNR DAR
DNR, DFW, Ecology, local government, Census, USGS, Commerce, USFS, contractors, UW,
Environmental Protection Agency | Texas Parks and Wildlife Department
EPA
EPA websites | others on Internet
Existing shapefiles from previous surveys, NRCS soil data mart. USGS GIS layers.
Federal | State | NGO's | Academics
FEMA
FEMA | USGS | ODNR
FEMA, US Census, MassGIS, Data developed by Town
FEMA, USGS, NRCS
FIRMs
Fishbase
Florida Division of Emergency Management | FEMA
Florida Fish and Wildlife Conservation Commission | The Nature Conservancy | Mote Marine Lab |
From local natural resource agency partners, Micronesia Challenge Measures Working Group, The Nature conservancy
Generate some in-house | USDA/NRCS Geospatial Data Gateway website | Local universities
GIS Program, Office of Planning, State of Hawaii
GOMA | Educational websites
GOMAportal
Google Earth | EPA | Mobile Bay NEP | Corps of Engineers
Government of Guam | University of Guam |

Besides NOAA, where do you access these types of data?
Hardly ever use NOAA. Poor fit to my location and resolution too coarse. | Data access generally through RIGIS.
Harte Research Institute | TNRIS | UT-BEG |
Horry County GIS; City of Myrtle Beach Hazard Mitigation Plan; City of Myrtle Beach Land Use map; City of Myrtle Beach aerial photography; Google; NHC; FEMA; SC DNR/OCRM; USF&W; local surveyor data
HRECOS | USGS | NorEast.com (tide charts)
http://gis.pr.gov | USGS | UDSA NRCS, Forest service, Fish and Wildlife
Human Uses: Observation, aerial photography. | Land Cover and Change: Aerial photography. | Living marine resources: In-house scientists, NOAA NMFS, USFW. | Topography: USGS topographic maps, aerial photography. | Wetlands: NWI maps, current wetland delineations, soils maps.
HUMAN USES: US Census, Texas Parks and Wildlife Department, Aransas National Wildlife Refuge, City surveys. | BENTHIC HABITAT: University of Texas, Texas Parks and Wildlife Department, Texas A&M University. | CLIMATE CHANGE: University of Texas, USGS | LAND COVER: NRCS | WETLANDS: Texas Parks and Wildlife Department, University of Texas, USGS |
Human Uses-California State Parks |
I mostly use NOAA NERRS resources (my own organization's resources), Others: Wetlands and Land Cover: San Francisco Estuary Institute; Climate Change: IPCC, NRC Report, academic papers; Demographics: Census
I use the NERRS SWMP data most frequently.
in house data and Google
In-house GIS
Internet | NASA
IOOS-supported data portal (SECOORA) | GSAA data portal | StoRet
IPCC, ODFW, USFW, AZA
Local agencies (CNMI DEQ, DEQ/CRM, UOG)
Local American Samoa agencies and Univ of HI
Local and Regional experts, Universities, agencies
Local data (benthic and water quality)
Local data source and other websites
local researchers |
local sources from the University of Hawaii, City & county of Honolulu and Hawaii Dept of Health
Local sources: Monterey County, local universities.
local universities; NRCS; county data
Local, State and Federal contacts | Academia
Lt. Government Office Website
MA State Division of Marine Fisheries | EPA | CDC | FDA |
MARCO portal, BOEM
Marine cadastre, BOEM, USGS, MARCO Portal
MARIS | create some data in-house (bathy, topo, land cover)
Mid-Atlantic Ocean Data Portal | | BOEM
Midwest Regional Climate Center | Illinois State Water Survey
Misc sources, University publications, state reports, internal research
Mississippi Automated Resource Information System (MARIS); National Wetlands Inventory; technical reports; journal articles
Mississippi GIS site | Google Earth
NASA, USGS, State agencies
National Weather Service, Pacific Islands Ocean Observation System (PacIOOS)
New York State GIS Clearinghouse
NH GRANIT; USGS
NJDEP GIS Program; Rutgers; other academic institutions; coastal municipalities; USDOI
NJDEP websites | TNC | Rutgers University | Monmouth University Urban Coast Institute |

Besides NOAA, where do you access these types of data?
NOAA is really the only source for the benthic data
NOAA, EPA, and NASA imagery and maps most often
Not any specific place, they are usually held with partner agencies.
Not applicable
Not aware of what data is available. When I asked for help understanding how inundation mapping could be used in my area the NOAA person could never come and help us
Numerous sources: DLNR-DOFAW, USFWS, NPS, Local entities- Pacific Disaster Center, other nonprofits
NWS | USGS | Florida state agencies
NYS Climage Change office, FEMA Flood Insurance Rate Maps
ODNR | Universities |
Ohio Department of Natural Resources | Ohio Sea Grant |
ONLINE
Online research
Online resources such as: | climateinterpreter.org | gecoserv.org
Oregon Coastal Atlas | Oregon MarineMap
Oregon state university | usgs | us census
Other federal agencies and academia
Our local resource management agencies / monitoring teams
Our office is tasked with managing the State's GIS program | http://planning.hawaii.gov/gis/
Our own data collection sources and databases, other federal and state agencies, industry cooperation, scientific staff and journals.
Our own data sets | Univ. of Alaska/State of Alaska | Borough/City
PacIOOS | The Nature Conservancy | | Guam Energy Taskforce |
PACOOS, IOOS, State Coastal Programs, BOEM
PASDA http://www.pasda.psu.edu is our primary source of data. DVRPC and DCPD also assist.
peer-reviewed literature | SJR Water Mngmt District | FL DACS | FWC
Product from local research projects.
Project-specific information/consultant reports, other state data/sources
Regional and local grant funded projects; National Wetland and Wisconsin Wetland inventories
RIGIS
Rutgers CRSSA and the State of NJ
SAFMC, state level data sets
SCDNR, NGS, USGS, internal data sets
Scientific Literature
scientific reports | US Fish and Wildlife Gulf of Maine Program | Maine Dept. of Inland Fisheries and Wildlife Beginning with Habitat program | Southern Maine Reg. Planning Commission |
Sea Grant networks, Universities, community/regional GIS labs, EPA, USACE, USGS, county planning
St. Louis County MN -http://www.stlouiscountymn.gov/LANDPROPERTY/Maps.aspx | CoastalGIS - http://www.nrri.umn.edu/coastalGIS | MPCA | http://www.pca.state.mn.us/index.php/data/spatial-data.html | MN DNR | http://deli.dnr.state.mn.us | MnGeo - http://www.mngeo.state.mn.us | MnTopo - http://arcgis.dnr.state.mn.us/gis/mntopo | NRCS WSS - http://websoilsurvey.sc.egov.usda.gov | Great Lakes Oblique Imagery | http://greatlakes.usace.army.mil | NOAA Great Lakes Coastwatch | http://coastwatch.glerl.noaa.gov | Digital Coast - http://www.csc.noaa.gov/digitalcoast | And many more sites
State agencies | our own monitoring efforts and long term data | published literature
State agencies | state universities |
State agencies, universities, develop in-house, marine cadastre, SAFMC, GSAA, USGS
State agency data and other resources
State agency data MS DMR | Universities
State agency sources

Besides NOAA, where do you access these types of data?
State and Federal databases
State and local sources
State data | DOI
State data bases (LiDAR, tidal wetlands, SAV, bathymetry shallow and deep) | NYHOPS - NY Harbor Observing and Prediction System | Scenic Hudson -- overlays of LiDAR and SLR to ID areas of opportunity for future wetlands
State data sources, NC One Map, USACE.
State DEP | USGS | Corps of Engineers
State GIS Program
State GIS Service Center | US Census | Agency GIS
State natural resource databases and information products; university scientists; local government organizations; chambers of commerce |
State of Florida | Universities | And self generated data
State of Maine resource agencies, Fish and Wildlife Service, some non-profits (TNC).
State Webmap, Illinois Indiana Sea Grant, Northwestern Indiana Regional Planning Commission
Texas Coastal Planning Atlas | NERRS Data |
Texas Commission on Environmental Quality | Texas Parks and Wildlife | Texas General Land Office
The Nature Conservancy
The Nature Conservancy, State, University
This information can assist with planning to reduce risk to flooding. | plan development standards for resilient building decisions.
Through the GSAA Coast and Ocean Portal - SECOORA, universities, TNC, state agencies
Typically, seek specific databases and reports available web.
U.S. Geological Survey
UF/IFAS, Florida Natural Areas Inventory, Florida Fish and Wildlife
UNH, local scientists or consultants
Universities & peer-reviewed lit
Universities and other state CZM programs
Universities, USGS, self-generated
University and state data
University of Delaware, and the Delaware Department of Natural Resources and Environmental Control
UNIVERSITY OF HAWAII | IPCC | PICCC |
University of New Hampshire | U.S. EPA | Regional Planning Commissions
University other state agencies generate ourselves and NROC
University Research
University research, state and other federal government agencies.
US Army Corps of Engineers
US Department of Agriculture | Department of Land Management
USACE | USGS | Puerto Rico Department of Natural and Environmental Resources | Puerto Rico Office of Management and Budget GIS clearinghouse | Puerto Rico Planning Board
USDA, ODNR, GIS layers available to public on various websites
USFWS | Sea Grant | Universities
USFWS, US Census, NWI, BOEM, local govt sources, National Atlas
USGS
USGS
USGS - topo | NRCS - topo | FEMA - topo, but not directly available | USACE - limited bathymetry | State or County resources - data mining
USGS,
USGS, Alabama Geological Survey, Baldwin County

Besides NOAA, where do you access these types of data?
USGS, Country or State level, data clearinghouses
USGS, NWI, IPCC
USGS, State Wildlife Action Plans, TNC
USGS; PR Planning Board
VGIN
Virginia Geographic Information Network | Climate Modeling Tools | National Wetlands Inventory | USGS |
Vulnerability Assessments, Marine Monitoring Team data
Washington State Coastal Atlas and Marine Planning applications | Multiple Use Marine Cadastre (sponsored by BOEM and NOAA) | Regional Ocean Observing Systems
Websites, our NERR
Wherever we can find it! Multiple offices within NOAA, BOEM, New England Aquarium, Universities including SUNY Stony Brook, URI, etc.
Wisconsin Department of Natural Resources | University of Wisconsin Sea Grant Institute |
Within my agency
Woods Hole Research Center/MassGIS Land Use maps |

18. In addition to funding opportunities, please identify the products or services your organization most needs from the NOAA Office of Coastal Programs. Please select up to five.

	Count	Percent
GIS layers, applications, tools, extension, etc.	102	45.5%
Data sets (biological, physical, social, etc.)	89	39.7%
Remote sensing data and derivatives (imagery, elevation, land cover, bathymetry, mapping)	82	36.6%
Decision support tools that apply data	67	29.9%
In-person training	65	29.0%
Technical assistance/capacity building	64	28.6%
Online mapping and map products	61	27.2%
Near real time observation data (<24 hours old, e.g., buoys, tide gauges, water quality monitoring)	57	25.4%
Visualization tools	55	24.6%
Socioeconomic assessment assistance	54	24.1%
Online databases (e.g., data portals, data clearinghouses)	52	23.2%
Research coordination with other federal, state, or local entities	34	15.2%
Model or model outputs (e.g., habitat modeling, SLOSH, HURREVAC)	33	14.7%
Web-based training	33	14.7%
Placement of a professional fellow in your office	25	11.2%
Serving as a demonstration or pilot site	24	10.7%
Policy/Issue coordination with other federal, state, or local entities	22	9.8%
Communication assistance with stakeholders	22	9.8%
Facilitation support	21	9.4%
Convening stakeholders on coastal issues	20	8.9%
Policy/Governance assistance	17	7.6%
Assistance with the development of management plans	15	6.7%
Other	4	1.8%
		(out of 224)

Other responses:

Land Use Data
Orientation to products and service NOAA can provide
support in applying innovative tools for coastal sustainability
This is a technology agency and we provide GIS data to other users.
Well organized catalog of NOAA data products and their related data services

19. What new or emerging coastal management issues do you see your office focusing more attention on in the future? (please describe)_____

What new or emerging coastal management issues do you see your office focusing more attention on in the future?
"Softer" erosion control methods | Watershed restoration & management | Energy production methods that impact nearshore and offshore habitats and resources | Wildlife phenology | Fisheries changes due to climate change/variability
(1) Ecological effects of sea level rise | (2) monitoring of biological resources in a Gulf of Mexico-wide context
Additional data is always needed! With the Coastal Office merger, research coordination is ripe for the taking.
Addressing the impacts from climate change on Hawaii's communities based on the best available science, long-range planning, and accounting for socio-economic impacts of potential policy and regulatory solutions on both current and future generations.
Alternative livelihoods!
Beach nourishment; storm surge/SLR; pressure from developers to build closer to the water and/or abandon the baseline setbacks
Being part of the discussion regarding infrastructure adaptation to climate change.
Beneficial use of dredge material. |
Building ecosystem resiliency using non engineered strategies, such as the use of native plant species to mitigate or offset erosion due to sea level rise. The more information that is available about such techniques and strategies the more we could cite it as an effective strategy when applying for grants. As it stands, we rely heavily on anecdotal information.
Building GIS capacity
Building support and infrastructure for community-gov't co-management
Building workforce capacity and capabilities and addressing workforce needs in the realm of habitat conservation/restoration and community resilience.
Climate adaptation, sustainable fisheries
Climate Change
Climate Change
Climate change
Climate change & sea level rise
Climate change (sea level rise) and its effects on the human and natural environment
climate change adaptation
Climate Change Adaptation measures (including cost/benefit analysis); off-shore renewable energy resources; coastal and marine spatial planning (ocean planning).
Climate change adaptation -SLR, storm surge--understanding that it is happening!
Climate change adaptations
Climate Change and adaptation
Climate change and associated impacts to resource infrastructure
Climate change and ocean acidification | Cascadia earthquake and tsunami
Climate change and sea level rise
Climate change and tourism
Climate change impacts
Climate Change impacts and communication | Ecosystem Service Valuation
Climate change impacts on Great Lakes coastal communities and ecosystems and adaptation strategies
Climate change impacts to fisheries
Climate Change Vulnerability (Social and Ecological) | Socioeconomic Monitoring | Community Engagement in Resource Management
Climate change, sea level rise and subsidence should be factored into a statewide freeboard requirement in LA.
Climate change, SLR, storm surge scenarios

What new or emerging coastal management issues do you see your office focusing more attention on in the future?
Climate change: sea level rise (both ocean and estuarine impacts)
Climate change-related shifts in marine habitats
Climate effects on coastal vegetation communities especially submersed aquatics.
Climate Impacts on Critical Coastal Habitats (Sentinel Sites) |
Climate, invasive species, habitat loss/restoration, and water quality
CMSP - Coastal and Marine Spatial Planning
CMSP | ocean acidification | land use/legal issues about shoreland access | communication about marine issues, incl pollution, overfishing, etc. |
Coastal and marine planning
Coastal Blue Carbon | Ecosystem Services Valuation | Climate Change Impacts
Coastal Hazards
Coastal hazards, climate change impacts; sea level rise
Coastal hazards/climate change | beach nourishment sand resources | marine planning | disaster resiliency
Coastal land use changes from agriculture to urban, and how to influence the transition so that marine impacts (which incorporate climate change projections)are minimized.
Coastal Marine Spatial Planning
Coastal Resilience in an urban setting
Coastal water quality in AS. AS currently lacks a local agency with the mandate to enforce water quality standards, this leads to many problems for our coastal resources.
Community adaptation to sea level rise. People are so used to living as close as possible to the shoreline, that it will take many different approaches to make the aware of the imperative to move inland.
Community planning, Socioeconomic habitat assessment, Coastal Management Spatial Planning, etc.
Community Resilience
Community Resilience | Situational Awareness via Integrated Remote Sensing
Continue to refine marine protected area management and implementing adaptive management for changing environmental and/or human use impacts.
Continuing to look into climate change impacts, including sea level rise. If there is local government interest and support to do so, perhaps Marine Spatial Planning in the future.
Coordination of restoration project efforts and/or restoration research efforts
Currently working on reef resilience. | Findings from that modeling effort will lead to management recommendations. We (and local agencies) will need help in implementing those recommendations.
Dangerous currents / water safety | working waterfront protection facilitation
Deep sea research | climate change |
Economic impacts of the spread of terrestrial invasive species in our coastal forests | Economic impacts of changes to Great Lakes water levels (i.e., shipping) | Disruption to winter-based tourism due to changing climate
Economic valuation and ecosystem service tradeoffs that are practical and support decision making
Economic Valuation of our choices and decisions
Ecosystem services resilience
Ecosystem services valuations/ socioeconomic valuations for decision makers
Ecosystem-based management and tradeoffs of ecosystem services to maintain environmental, social and economic integrity.
Energy policy, thinking about national science or synthesis of science on impacts of climate change and land use change, policy alignment between state and fed agencies, let's look at mitigation too.... coordinated land conservation, education and training
Ensuring transparency with future Deepwater Horizon funds that will be utilized for restoration and monitoring. This topic includes future land acquisition activities
ESA with corals and some fish spp.
Flooding planning | shoreline adaptation and resilience
Green Infrastructure, Unified online GIS datasets

What new or emerging coastal management issues do you see your office focusing more attention on in the future?
Harmful Algal Blooms & Tourism Impacts | Aquatic Invasive Species and Fisheries impacts | Climate change and impacts on coastal communities
Hazard assessment and resiliency planning to address increased frequency and intensity of precipitation events
Hazard mitigation, climate change adaptation
Helping agencies shift to using more continuous/real-time data and incorporating them into routine day-to-day decision making.
Hydraulic fracking, climate change/sea-level rise (where is the mean high tide?), reducing vehicle miles traveled
Hydrologic conditioning of LiDAR based DEMs, watershed modeling and updating hydrologic data. (along with other LiDAR derivatives)
Impacts from ocean acidification, training partners in coastal erosion assessment and management tools, coastal and marine spatial planning
Impacts of changing sea levels on salt marshes | impacts of rising temps on mangroves | oyster habitat characterization, change, and ecosystem services
Impacts of Climate Change | Derelict Fishing Gear
impacts of climate change-NERRS developing robust Sentinel Site program
Implementation of CMSP | Addressing data gaps (funding)
Implementing management actions to address issues we already know to exist.
In our last assessment in 2011, our stakeholders said they needed GIS training so we will probably move in that direction.
Increasing restoration efforts and climate change
Integrating different types of data to better understand ecosystems
Integration of data monitoring efforts into a coordinated sentinel site program. | Enhancing resilience of coastal communities and ecosystems.
Intersection of engineered and natural shorelines. Given the economic pressure to harden how do you mitigate the impacts? How do we fight the Army Corps total lack of credible science in their decision making--seriously!!! Need NOAA to provide some tools to respond to US ACE.
Invasive Species (green crabs), Resiliency, Ocean Mapping (Bathymetry), benthic habitat classification
It is all about post-Sandy and community resilience right now - probably for the next 2 years until the funding runs out.
Lake level changes & climate induced coastal flooding and lack of complete bathymetry for estuary
Linking the solutions of climate adaptation to the solutions to all the other coastal isseus we deal with, like stormwater
Living shorelines
Living shorelines | stormwater | beneficial use | SLR
Local hazard resilience plans; sustainable coastal community plans
Long-term community resilience, offshore sand resources in federal waters, living shorelines
Loss of and restoration of tidal marsh habitats
Loss of wetlands in response to sea level rise; on the ground resiliency planning and implementation (more than tools and workshops); Ocean planning - whose responsibility is it - answering the question for a state that does not have jurisdiction beyond 3 miles. How to engage government.
Many of these items are closely linked and very similar, so limiting choices to 5 may be misleading
Marine debris | ocean acidification
Marine spatial planning
Marine spatial planning, climate change impacts, coast resilience, off shore energy, ocean acidification
Migratory Bird Stopover Site Protection
More focus will be given to climate change issues
NA
New wetland restoration techniques that incorporate climate change.
Non structural solutions to hurricane resilience; possibly carbon sequestration

What new or emerging coastal management issues do you see your office focusing more attention on in the future?
Ocean acidification
Ocean planning | climate adaptation
Ocean planning and participatory mapping with stakeholder groups
Ocean/salty coast - sea level rise and NFIP insurance affordability | Great Lakes coast - lake levels and public trust/legal issues
Offshore habitat management
Offshore sand mining and tradeoffs associated with same.
OVER FISHING | CLIMATE CHANGE | CORAL LISTINGS UNDER ESA |
Pharmacopollution
Planning for allowing wetland/habitat migration in the face of sea level rise.
Planning for effects/impacts of ocean acidification
Planning for shoreline migration, particularly marshes
Planning for tsunami resilience
Post disaster planning
Recovery plans for resources
Reducing nutrient and sediment delivery into coastal areas.
Regional ocean planning
Resilience issues as they relate to social, economic and hazards | | As a sub-set of above, climate change adaptation for communities that depend on natural resources
Resiliency (environmental, economic, etc.)
Restoration of ancient Hawaiian fishpond to help restock near shore fisheries.
Rural public safety as it relates to flooding. Fire and rescue- school buses etc. How will rural coastal local governments adapt to a new model of public health safety and welfare related to SLR and repetitive flooding. Second issue: disinvestment and erosion of coastal tax base as people withdraw from coastal communities due to insurance reform and lending reform
Sea Level Rise
Sea level rise
Sea Level Rise | Habitat Succession | Sustainable Fisheries |
Sea Level Rise | Marine Spatial Planning
Sea level rise | salt water intrusion into ground water | direct land conservation
Sea Level Rise and coastal inundation | Beach erosion | Bio Corridors to reduce Habitat loss/fragmentation
Sea level rise impacts on estuarine communities
Sea Level Rise, Integrating mitigation into land use plans,
Sea level rise, habitat baselines and changes modeling, hazard mitigation
Sea level rise/subsidence/shoreline retreat/marsh retreat
Shellfish leasing | offshore /coastal energy issues | |
Socioeconomic issues and building sustainable economies to support better management of resources
Sustainable and creative architectural design for coastal and riverine structures versus default engineered solutions. Viability of natural infrastructure as an alternative or supplement engineered approaches to shoreline erosion control.
The issues surrounding adequate freshwater inflow into the Texas bay systems. Specifically the policy implications of water releases, increased water demand on a watershed basis, and habitat and species implications of a lack of freshwater.
Translating scientific research on priority coastal issues to public audiences
Understanding and preparing for the impacts of climate change on our coastal communities (economics, social, environmental)
Vulnerability and hazard risk assessment
Water quality regulation
Water resource management issues statewide

What new or emerging coastal management issues do you see your office focusing more attention on in the future?
Watershed/Riverine Area land conservation
Wave energy impacts on habitat, climate change and ocean acidification impacts on coastal communities and fisheries.
We will continue to ramp up our outreach and education, as it drives much of the community-based management that we are involved with. This is THE key factor in getting communities and others involved with conservation and protection issues. We are very disappointed with the change in BWET funds.
Wetland migration due to sea level rise
Wetlands - updating wetlands maps/regulations, new Non-Tidal law | Aquaculture - new State law permitting shellfish aquaculture in the State |
While not new, more attention on state-level ocean planning and | hazards management (including climate change and ocean acidification)

II. TRAINING NEEDS

20. Please indicate your desired level of proficiency with the following list of tasks. The proficiency levels are described as:

- **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.

Task	Aware	Skill Building	Building Proficiency	Not Interested	No Response	Total
Using and selecting economic methods/tools to aid in decision making	89 (39.7%)	61 (27.2%)	38 (17%)	30 (13.4%)	6 (2.7%)	224
Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives	73 (32.6%)	65 (29%)	57 (25.4%)	21 (9.4%)	8 (3.6%)	224
Obtaining and using socioeconomic data/information	66 (29.5%)	78 (34.8%)	43 (19.2%)	23 (10.3%)	14 (6.3%)	224
Understanding and implementing a range of green infrastructure approaches	62 (27.7%)	71 (31.7%)	52 (23.2%)	34 (15.2%)	5 (2.2%)	224
Quantifying the risks of hazards and selecting effective mitigation and adaptation measures	61 (27.2%)	69 (30.8%)	60 (26.8%)	29 (12.9%)	5 (2.2%)	224
Effectively communicating risk	58 (25.9%)	72 (32.1%)	70 (31.3%)	16 (7.1%)	8 (3.6%)	224
Disaster response, recovery and protection (pre- and post-)	58 (25.9%)	65 (29%)	53 (23.7%)	41 (18.3%)	7 (3.1%)	224
Understanding coastal habitat trends	56 (25%)	83 (37.1%)	60 (26.8%)	17 (7.6%)	8 (3.6%)	224
Using visualizations effectively	55 (24.6%)	85 (37.9%)	61 (27.2%)	15 (6.7%)	8 (3.6%)	224
Integrating physical, biological, and social science data for decision making	54 (24.1%)	79 (35.3%)	76 (33.9%)	12 (5.4%)	3 (1.3%)	224
Conducting participatory mapping	54 (24.1%)	76 (33.9%)	50 (22.3%)	36 (16.1%)	8 (3.6%)	224
Adapting to the effects of sea level rise on community infrastructure	53 (23.7%)	71 (31.7%)	53 (23.7%)	34 (15.2%)	13 (5.8%)	224
Selecting the appropriate decision making tool under a given circumstance	52 (23.2%)	72 (32.1%)	63 (28.1%)	30 (13.4%)	7 (3.1%)	224
Prioritizing natural areas for protection using spatial approaches	51 (22.8%)	73 (32.6%)	69 (30.8%)	25 (11.2%)	6 (2.7%)	224
Understanding ecosystem services as criteria and considerations when choosing strategies	48 (21.4%)	93 (41.5%)	55 (24.6%)	24 (10.7%)	4 (1.8%)	224
Effectively engaging communities	43 (19.2%)	65 (29%)	100 (44.6%)	11 (4.9%)	5 (2.2%)	224
Developing strategic and management plans	41 (18.3%)	65 (29%)	88 (39.3%)	23 (10.3%)	7 (3.1%)	224
Navigating relationships among local, state, and national players	36 (16.1%)	60 (26.8%)	104 (46.4%)	15 (6.7%)	9 (4%)	224
Other	2 (0.9%)	6 (2.7%)	5 (2.2%)	8 (3.6%)	203 (90.6%)	224

Other responses:

Carrying capacity and recovery potential
Conflict Resolution
Link water qual. scientists & regulators
long term great lakes levels fluctuation
Some topics I know enough about

State and federal integration of strategy
Statistics; creating a public survey
Survey fatigue
Using SLR assmts for restrn&planning

21. Please rank the top 5 tasks for which you most need training or technical assistance?

	Ranked #1		Ranked (count):				Ranked in top 5		Ranked in top 3	
	Count	Percent	#2	#3	#4	#5	Count	Percent	Count	Percent
Using and selecting economic methods/tools to aid in decision making	31	13.8%	21	14	10	7	83	37.1%	66	29.5%
Integrating physical, biological, and social science data for decision making	29	12.9%	26	10	12	7	84	37.5%	65	29.0%
Effectively communicating risk	21	9.4%	17	16	14	12	80	35.7%	54	24.1%
Quantifying the risks of hazards and selecting effective mitigation and adaptation measures	19	8.5%	14	15	13	11	72	32.1%	48	21.4%
Obtaining and using socioeconomic data/information	15	6.7%	16	7	7	13	58	25.9%	38	17.0%
Effectively engaging communities	11	4.9%	14	12	10	13	60	26.8%	37	16.5%
Navigating relationships among local, state, and national players	10	4.5%	12	5	7	10	44	19.6%	27	12.1%
Adapting to the effects of sea level rise on community infrastructure	10	4.5%	13	20	13	13	69	30.8%	43	19.2%
Selecting the appropriate decision making tool under a given circumstance	9	4.0%	12	18	8	4	51	22.8%	39	17.4%
Developing strategic and management plans	9	4.0%	6	12	7	16	50	22.3%	27	12.1%
Prioritizing natural areas for protection using spatial approaches	8	3.6%	8	9	16	8	49	21.9%	25	11.2%
Conducting participatory mapping	8	3.6%	4	5	4	11	32	14.3%	17	7.6%
Using visualizations effectively	8	3.6%	7	7	10	13	45	20.1%	22	9.8%
Understanding federal, state, and local legal and regulatory requirements applicable to climate change and hazards initiatives	7	3.1%	12	9	13	12	53	23.7%	28	12.5%
Understanding ecosystem services as criteria and considerations when choosing strategies	7	3.1%	9	14	23	14	67	29.9%	30	13.4%
Understanding coastal habitat trends	7	3.1%	10	10	7	13	47	21.0%	27	12.1%
Disaster response, recovery and protection (pre- and post-)	3	1.3%	6	15	16	7	47	21.0%	24	10.7%
Understanding and implementing a range of green infrastructure approaches	2	0.9%	7	10	13	14	46	20.5%	19	8.5%
Other	1	0.4%	0	0	0	0	1	0.4%	1	0.4%

III. COMMUNICATION

22. What are your preferred sources for coastal information related to your job?

	Most Preferred 4	3	2	Least Preferred 1	No Response	Total
Professional workshops, conferences	107 (47.8%)	88 (39.3%)	17 (7.6%)	8 (3.6%)	4 (1.8%)	224
Websites	75 (33.5%)	109 (48.7%)	29 (12.9%)	8 (3.6%)	3 (1.3%)	224
Online webinars	45 (20.1%)	112 (50%)	50 (22.3%)	16 (7.1%)	1 (0.4%)	224
Professional organizations	41 (18.3%)	96 (42.9%)	65 (29%)	15 (6.7%)	7 (3.1%)	224
Emails/Listserves	38 (17%)	103 (46%)	56 (25%)	22 (9.8%)	5 (2.2%)	224
Professional journals	30 (13.4%)	71 (31.7%)	72 (32.1%)	39 (17.4%)	12 (5.4%)	224
Hard copy magazine, newsletters, bulletins, one-pagers	15 (6.7%)	79 (35.3%)	79 (35.3%)	46 (20.5%)	5 (2.2%)	224
Blogs	7 (3.1%)	28 (12.5%)	64 (28.6%)	116 (51.8%)	9 (4%)	224
Social media	5 (2.2%)	35 (15.6%)	71 (31.7%)	109 (48.7%)	4 (1.8%)	224

If "journals" are rated "4: Most Preferred", Please list the professional journal.
(1) Coasts and Estuaries | (2) Wetlands | (3) Journal of Wildlife Management | (4) Waterbirds
American Planning Association
Any published, refereed law journal or science journal article of relevance.
Biological Invasions | Ecology | Journal of Applied Ecology
Coastal Management | Estuaries
Coastal Management | Nature | Sea Technology
Coastal Services Magazine | Coastal Management Journal
Coastal Zone, Estuaries, The Sandbar
Coral reefs, journal of coastal research
Depends on topic
Disasters, Climate Change, Weather, Climate & Society
Ecological applications | Wetlands | Estuaries and Coasts
Environmental Earth Science | Asia Pacific Environment | Environmental Science & Technology |
Est. Coast Shelf Science | MEPS | AWRA | Estuaries and Coast | Geo. Phys. letters | etc
Estuaries & Coasts | Marine Ecol Progress Series | Journal of Coastal Research |
Estuaries and Coast, Journal of Coastal Research, Marine Ecology Progress Series.
Estuaries and Coasts | Estuarine, Coastal and Shelf Science | Nature | |
Journal of Extension
Many different ones
MEPS | Fisheries Bull | Env Biol of Fishes | Fisheries Research | science | nature |
Ocean an d coastal management, marine policy, environmental economics, ecosystem services
SCCCL
Trends in Ecology and Evolution | Ecological Restoration (Journal of the Society for Ecological Restoration) | Bioscience | Science | Others that I find when doing a subject related search for various topics. These are sometimes available for free. If there was some way that coastal managers had access to the published information in journals that is not available on-line that would be very helpful.

If "Professional organizations" are rated "4: Most Preferred", Please list the professional organizations.
(1) Coastal and Estuarine Research Federation | (2) Society of Wetland Scientists | (3) Partners in Flight

American Planning Association | Mississippi Chapter of APA
American Planning Association | Puerto Rico College of Engineers and Professional Land Surveyors
American Planning Association, ASFPM, The Nature Conservancy
ASFPM
Association of State Floodplain Managers; New York State Floodplain and Stormwater Managers Association.
Association of Zoos and Aquariums, Visitor Studies Association, National association of Marine Educators
Bar Association, Coastal States Organization, American Planning Association-Hawaii Chapter
Building Officials Association of MS | Association of State Floodplain Managers | International Code Council | Association of MS Floodplain Managers
CERF | ESA | NEANS
Coastal States Organizations, CZM managers meetings, State Floodplain managers
CSO | Program mangers CZM | NROC | University
CZ Conference; Coastal Society; National Working Waterfronts Network; Social Coast Forum
GCFI | AFS | Marine Conservation Society
I thought you would steer me in the right direction. I know that I would read these professional journals from professionals rather than read blogs, social media, etc.
Informal partnerships among colleagues and entities in our local area and across the state. Would appreciate this being formalized and would like to see an information exchange developed
Maine Coastal Program, Maine Sea Grant, TNC, state and federal natural resource agencies
NAAEE
National Marine Education Association; International Coral Reef
NERRA | CSO | Society of Wetland Scientists |
NERRS CTP
NERRS, GOMA
NMEA | NAAEE | NSTA
NMEA | SCMEA | NERRA
NOAA, DAR, DLNR, EPA, DOH, UH
NORFMA | ASFPM
NSGIC | NOAA | OMB
Planning and Natural Resources, Coastal Zone Management Division; Environmental Protection Division; and Fish and Wildlife Division.
SOBA | GOMA | Coastal States
SPREP | Coastal State Organization | Pacific Basin Development Council |
SWS | CNREP | AFS
The Coastal Society, Social Coast Forum, American Water Resources Association
The Coastal Society, the American Planning Association, The Maine Planning Association,
TNC, regional organizations in the pacific, etc

23. How often do you use the following social media outlets for job-related activities?

	Hourly	Daily	Bi-weekly	Weekly	Rarely	Not at All	No Response	Total
Facebook	6 (2.7%)	35 (15.6%)	12 (5.4%)	23 (10.3%)	52 (23.2%)	90 (40.2%)	6 (2.7%)	224
Twitter	3 (1.3%)	12 (5.4%)	9 (4%)	9 (4%)	33 (14.7%)	154 (68.8%)	4 (1.8%)	224
Instagram	3 (1.3%)	2 (0.9%)	2 (0.9%)	2 (0.9%)	19 (8.5%)	191 (85.3%)	5 (2.2%)	224
YouTube	1 (0.4%)	9 (4%)	21 (9.4%)	39 (17.4%)	85 (37.9%)	64 (28.6%)	5 (2.2%)	224
LinkedIn	0 (0%)	13 (5.8%)	14 (6.3%)	36 (16.1%)	64 (28.6%)	92 (41.1%)	5 (2.2%)	224
Pinterest	0 (0%)	3 (1.3%)	0 (0%)	4 (1.8%)	25 (11.2%)	185 (82.6%)	7 (3.1%)	224
Other	0 (0%)	2 (0.9%)	1 (0.4%)	1 (0.4%)	3 (1.3%)	47 (21%)	170 (75.9%)	224

[If user selected Other and rated "Hourly," "Daily," "Bi-weekly," or "Weekly"]

Email and conference call
Google+, Yammer, Xing, Quora, Ozoshare, Tumblr, Foursquare
Personal blog
Vimeo is our preferred video site over YouTube. It is generally more professional and allows for longer and better organized content. Also you did not list Flickr in your choices, and we do use Flickr quite regularly for program activities, including participation in the King Tides Initiative.

24. The Office of Coastal Programs provides a variety of web resources that provides access to data, tools, training, and case studies. How familiar are you with the following resources?

	Very familiar, use often	Familiar, use occasionally	Not very familiar, use infrequently	I wasn't aware it existed	Not applicable to my job	No Response	Total
NERRS Website (http://www.nerrs.noaa.gov/)	45 (20.1%)	48 (21.4%)	62 (27.7%)	36 (16.1%)	22 (9.8%)	11 (4.9%)	224
NERRS Centralized Data Management Office (http://cdmo.baruch.sc.edu/get/landing.cfm)	34 (15.2%)	53 (23.7%)	62 (27.7%)	48 (21.4%)	20 (8.9%)	7 (3.1%)	224
National Coastal Zone Management Program (http://coastalmanagement.noaa.gov/programs/czm.html)	31 (13.8%)	77 (34.4%)	74 (33%)	30 (13.4%)	9 (4%)	3 (1.3%)	224
Digital Coast (www.csc.noaa.gov/digitalcoast/)	27 (12.1%)	78 (34.8%)	70 (31.3%)	37 (16.5%)	6 (2.7%)	6 (2.7%)	224
NERRS Estuary Education (http://estuaries.noaa.gov/)	25 (11.2%)	44 (19.6%)	61 (27.2%)	57 (25.4%)	32 (14.3%)	5 (2.2%)	224
Coral Reef Conservation Program (http://coralreef.noaa.gov/)	17 (7.6%)	31 (13.8%)	41 (18.3%)	31 (13.8%)	100 (44.6%)	4 (1.8%)	224
Coastal and Estuarine Land Conservation Program (http://coastalmanagement.noaa.gov/land/welcome.html)	14 (6.3%)	57 (25.4%)	70 (31.3%)	53 (23.7%)	21 (9.4%)	9 (4%)	224
Marine Cadastre (http://marinecadastre.gov)	11 (4.9%)	21 (9.4%)	49 (21.9%)	108 (48.2%)	28 (12.5%)	7 (3.1%)	224
NOAA's Coral Reef Information System (http://www.coris.noaa.gov/)	9 (4%)	26 (11.6%)	47 (21%)	38 (17%)	94 (42%)	10 (4.5%)	224

25. What types of information would you like to receive from the Office of Coastal Programs (check all that apply)?

	Count	Percent
Information about available coastal data, tools, training and technical assistance	188	83.9%
Examples of coastal management "best practices"	172	76.8%
Programmatic news	160	71.4%
Examples of coastal management success stories	153	68.3%
Legislative updates	122	54.5%
National NOAA and administration news	97	43.3%
Other	8	3.6%
		(out of 224)

Other responses:

But no more than once a month for all news!
Evaluations of their work
Examples of coastal management FAILURE stories
Information on innovations, new tools
Results of this survey
Socio-economic statistics related to the coastal and ocean
Teaching/learning “best practices” that may be integrated throughout the curricula; not just marine sciences.
There would be great value in having webinar trainings archived for future use (for example EBM Tools network and Ocean Teacher programs both archive video recordings). These are very helpful for future reuse of knowledge shared.
Tropical specific case studies/ information
Tropical watershed (coral) BMPs

IV. DEMOGRAPHIC

26. Please indicate which of the following best represents your current professional affiliation. [Check only one].

Professional affiliation	Count	Percent
State/Territorial government	110	49.1%
Academia	38	17.0%
NGO/nonprofit/volunteer group	28	12.5%
Federal government	13	5.8%
Other	12	5.4%
Local government	11	4.9%
Regional governance organization	9	4.0%
Private sector	2	0.9%
No response	1	0.4%
Tribal government	0	0.0%
	224	100.0%

Other responses:

Extension
Federal/State partnership
Independent state agency
National Association of Counties
NERR
NERR employee
NERRS
NERRs (NOAA and State Government)
Non-profit representing Gulf states
Partnership b/w university, NERRS, and state
Sea Grant
Serve on National NOAA Board
University Extension

27. In which of the following coastal regions do you work (check all that apply)?

	Count	Percent
Gulf of Mexico	41	18.3%
Southeast	40	17.9%
Mid-Atlantic	38	17.0%
Pacific Islands	35	15.6%
Northeast	31	13.8%
West Coast	30	13.4%
Great Lakes	25	11.2%
National	15	6.7%
Caribbean	15	6.7%
International	8	3.6%
		(out of 224)

28. Please indicate which of the following best characterizes your primary job duties. (check all that apply).

	Count	Percent
Program administration/management	106	47.3%
Education and outreach	101	45.1%
Planning	77	34.4%
Conservation	72	32.1%
Policy	53	23.7%
Research/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, economics)	23	10.3%
Other	10	4.5%
Emergency management	9	4.0%
		(out of 224)

Other responses:

Acting Director, Division of Fish and Wildlife
Applied research and outreach
Assessment of property
Mitigation
Planning and implementation
Research and Stakeholder Engagement
Research/Applied
Training
Water Quality
Web

29. Is your organization affiliated with one of the following organizations listed below that make up the Digital Coast partnership? Please check all that apply.

	Count	Percent
National Estuarine Research Reserve Association	80	35.7%
Coastal States Organization	71	31.7%
The Nature Conservancy	61	27.2%
American Planning Association	38	17.0%
Association of State Floodplain Managers	36	16.1%
None of the above	31	13.8%
Not sure	22	9.8%
National States Geographic Information Council	14	6.3%
Urban Land Institute	12	5.4%
National Association of Counties	9	4.0%
		(out of 224)