



West Coast Regional Data Network Action Coordination Team Proposal

Recommendation

Establish a Regional Data Network Action Coordination Team (ACT) to improve access to regional scientific and geospatial data needed for coastal and marine resource management. A recognized ACT would coordinate a West Coast regional network of data producers, data users, tool developers, and GIS experts. With ACT leadership and focus, this coordinated network can help West Coast coastal and marine resource managers, planners, and stakeholders, including [West Coast Governors Alliance on Ocean Health](#) (WCGA) members and other regional partners, to meet their stated needs and achieve their priorities by:

1. Improving access to relevant data and data products;
2. Making the discovery of data more efficient and successful;
3. Providing avenues for cost-effective procurement and display of regional data sets and products;
4. Improving the compatibility and interoperability of existing and emerging coastal and marine web applications; and
5. Leveraging existing expertise and resources to develop an integrated West Coast regional geospatial data portal.

Reason for Proposal

Relevant, credible, and accurate scientific and geospatial information is critical for successful ocean and coastal management along the West Coast and has been identified as a need in the WCGA Action Plan and the National Ocean Policy. In December 2011, the WCGA sponsored a "West Coast Regional Data Framework" workshop in which the participants concluded that a dedicated Regional Data Network ACT would help fill this need by coordinating efforts to improve access to, and discovery of, such information.

Initial Steps

The [WCGA Executive Committee](#) approved the concept of a Regional Data Network ACT in January of 2012, and recommended a Point-of-Contact serve as a liaison between the ACT and the Executive Committee. Next steps include designating a sub-group of volunteers to accept nominations for ACT members and then select members according to the [WCGA Charter](#). Once established, the Regional Data Network ACT will consult with the broader regional network and the Data, IT, and Outreach working groups created at the December 2011 workshop, to draft a work plan. This work plan will address priority data, infrastructure, and outreach and coordination needs for the Network over the subsequent three to five years. For longer-term ACT actions, please see the "Potential work plan actions" section below (page 6).

Background

Is there a need for regional data coordination?

Individuals, agencies, and organizations along the West Coast need easy and reliable access to regional-scale scientific and geospatial information to make informed, science-based decisions. The WCGA, with its [ten ACTs](#), is a key organization on the West Coast that has identified access to regional data as a vital element in the execution of its 2008 Action Plan and the pending Action Plan update. In the 2008 Action Plan:

- **Priority Area 2** focuses on protecting and restoring ocean and coastal habitats;
 - *Action 2.1* specifically calls for “documenting, describing, and mapping marine and estuarine ecological communities throughout West Coast waters, characterizing existing human uses of those areas, and establishing measures to ensure effective habitat protection.”
- **Priority Area 6** seeks to *Expand Ocean and Coastal Scientific Information, Research, and Monitoring*, concludes that “for the states to support the collection and dissemination of scientific information, they must identify data priorities for management issues, and sustain and expand data collection,” and that there must be “regional data comparability to allow a regional gauge of the status of the ecosystem.”

Several of the WCGA ACTs have expressed the need for better access to, as well as improved management and sharing of, scientific and geospatial information as they address specific regional priorities. The [Climate Change ACT](#), for instance, seeks to help West Coast planners and managers gain access to important baseline information such as shoreline maps and collections of topographic and bathymetric data, in order to plan for sea level rise and coastal inundation. The Climate Change ACT also seeks to ensure that any information and products that its members develop will be useful and available to members of the other ACTs. The [Seafloor Mapping](#), [Renewable Ocean Energy](#), [Sediment Management](#), and [Integrated Ecosystem Assessment](#) ACTs have stated similar priority needs for data and improved means of managing and sharing information.

Recently, Washington, Oregon, and California individually adopted new legislation and/or updated their coastal management programs to facilitate more ecosystem-based management, including initiating coastal and marine spatial planning (CMSP) efforts. At the same time, federal agencies have been charged with implementing the National Ocean Policy and implementing CMSP at regional scales. The new policies prioritize the gathering and sharing of scientific and geospatial information and the development of data portals and decision-support tools that enable more comprehensive and science-driven decision-making.

What past and current efforts can be leveraged for ACT success?

Currently, a number of West Coast coastal and marine web atlases and data display applications are successfully serving state-level or subject-specific audiences. State-operated examples of these applications include coastal and marine web atlases in California (currently in

development), Washington, and Oregon that are intended to meet the needs of their respective state agencies for information related to coastal zone management. Other examples include the real-time observation data portals operated by the West Coast's three Integrated Ocean Observing System (IOOS) Regional Associations: [NANOOS](#) (Pacific Northwest), [CeNCOOS](#) (Central and Northern California), and [SCCOOS](#) (Southern California).

Several years ago, a group of state coastal and marine web atlas operators recognized the need to coordinate regionally to meet users' data needs. They organized the West Coast Coastal Atlas community, an informal group of web atlas operators, state and federal agencies, academic institutions, and non-profit organizations.¹ Along with NANOOS, CeNCOOS, and SCCOOS, the members of this community are highly experienced and capable partners who are already engaged with stakeholders and resource managers from the local to the national level.²

In response to the [National Oceanic and Atmospheric Administration's \(NOAA\) call for proposals for the 2010 Regional Ocean Partnership Federal Funding Opportunity](#) (ROP FFO), the WCGA queried the ACTs to determine how they could use funding provided under the ROP FFO both to implement their work plans more effectively and to prepare for regional CMSP efforts. In response, several ACTs cited improved access to data and data management systems as a priority need for implementing both CMSP and their work plan priorities. (See Appendix II with WCGA ACT responses to CMSP prioritization exercise.) The WCGA also held public meetings in each state to receive stakeholder input and issued a call for proposals that could be wrapped into a single regional submission to NOAA. Over 20 government and public stakeholders submitted proposals, several of which outlined ideas for improving regional data management and sharing in ways that would improve the effectiveness of local and state planning and management efforts.

In response to the WCGA's ROP FFO application, NOAA provided the WCGA with \$246,000 to carry out regional ocean partnership priorities on the West Coast. The WCGA agreed to expend \$100,000 of this award to support a Regional Data Network. These funds, leveraged with funds

¹ To support the West Coast Coastal Atlas community, the International Coastal Atlas Network (ICAN; icoastalatlas.net) has been able to provide collaborative technical expertise to increase the ability of atlases to share and display data across applications – and state borders – and thus serve people in need of this information.

² On April 23-24, 2009, a West Coast Coastal Atlas Workshop was hosted by the Washington State Department of Ecology and the NOAA Coastal Services Center at the NOAA Western Regional Center in Seattle, Washington, USA. The workshop brought together, for the first time, over 30 participants from Alaska, British Columbia, Washington, Oregon, and California and collectively representing state coastal zone management programs, state universities, federal agencies, private consulting firms, and non-governmental organizations, with the goal of increasing communication and collaboration between individual coastal web atlas projects (workshop proceedings available at <http://icoastalatlas.net/westcoast>). This effort planted the seed for future collaboration among these partners to improve state atlases and communicate regionally.

from a multi-year Gordon and Betty Moore Foundation grant to support a regional ocean planning framework, will help advance WCGA Action Plan goals and priorities in 2012.

Why create a Regional Data Network Action Coordination Team now?

The inspiration and momentum for this proposal arose from the WCGA’s December 2011 “West Coast Regional Data Framework” workshop, where nearly 60 state and federal agency staff, tribal representatives, and non-governmental organizations and academic staff from California, Oregon, and Washington gathered to discuss the establishment of a West Coast Regional Data Network. The attendees discussed the scope, scale, audience, and vision statement of a Regional Data Network. By the end of the two-day workshop, the group had established Data, IT, and Outreach working groups and sketched out a draft implementation plan that outlines key near- and longer-term tasks, establishes a timeline for completing these tasks, and identifies partners and potential funding sources.

By formalizing under the title of a WCGA ACT, the Regional Data Network could benefit from enhanced recognition as a group of experts and users with the potential to identify and prioritize data needs and implement solutions at a regional scale. The formal structure of an ACT would provide the network with credibility among state and regional decision makers, as well as potential funders. Formal recognition by the WCGA could make it easier for the network to seek grants and take advantage of the WCGA’s fiscal sponsor to leverage other funds for priority action items while capitalizing on existing resources. The existing ACTs also provide a ready group of consumers and managers of scientific and geospatial data that the Regional Data Network ACT could engage as it goes through the process of prioritizing, gathering, managing, and disseminating data sets and information products of regional importance. Finally, the WCGA has already built a relationship with West Coast stakeholders and has established communication mechanisms for issues of regional significance, which can provide the network with a clear avenue for feedback on its efforts.

West Coast Regional Data Network

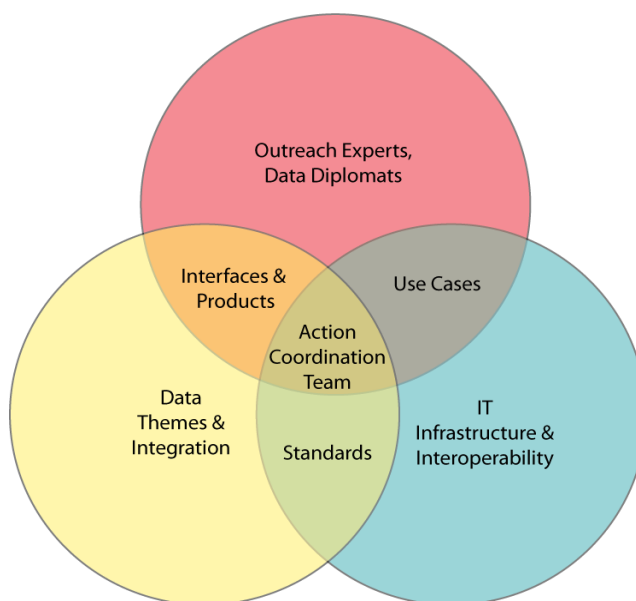


Figure 1: A diagram showing the relationship between the three technical working groups and the Action Coordination Team (ACT).

Goals of the Regional Data Network ACT

The workshop attendees reached broad agreement on the following proposed guidelines and functions of a Regional Data Network ACT:

1. A Regional Data Network ACT would coordinate closely with West Coast partners and stakeholders, including the other WCGA ACTs, to help them meet their needs for data and data-sharing solutions.
2. An ACT would serve as a steering committee to lead the Regional Data Network of coastal and marine data producers, data users, data managers, tool developers, and GIS experts toward regional data goals.
3. Three working groups within the Regional Data Network would carry out priority data, IT infrastructure, and outreach tasks; the ACT would coordinate the tasks of these working groups with each other.
4. The Regional Data Network ACT would consult with the working groups as well as the broader Network and the other ACTs to create a formal Work Plan, which would establish priorities for the Regional Data Network and identify data management and sharing strategies with the greatest probability of success.

To confirm the utility of this proposed ACT, we studied the Work Plans of the other ACTs. We found that, with the exception of [Polluted Runoff](#), every ACT has stated a need for improved coordination, mapping, and sharing of geospatial information (see Appendix II).³

How would the Regional Data Network ACT operate?

The ACT would be composed of a maximum of 15 members, as determined by the [WCGA Charter](#). These members would include state, federal, tribal, NGO, industry, and academic representatives, as well as representatives from each of the three working groups established at the December 2011 workshop and a Point-of-Contact to the WCGA Executive Committee. The ACT would serve as a steering committee for the broader West Coast Regional Data Network, which currently consists of the workshop participants and could include additional interested parties who have a vested interest in, and capacity to help achieve, the Network goals in the future. At the workshop, the broader Network organized three preliminary working groups dedicated to Outreach, Data, and IT tasks (see Appendix I). These working groups developed a list of near- and longer-term goals to address regional data needs, identified volunteer coordinators to keep the groups moving toward those goals, and determined the best mechanisms for ongoing internal communication.

The ACT would coordinate the activities of the Outreach, Data, and IT working groups and incorporate input from the broader Regional Data Network, the WCGA Executive Committee,

³ Further, we engaged in discussions with a co-chair of the Seafloor Mapping ACT about the need for portals serving regional bathymetric and coastal topographic data. Although the Seafloor Mapping ACT Work Plan calls for the development of such portals, limited progress has been made because of time and budgetary constraints. Moreover, the Seafloor Mapping ACT would welcome a newly formed ACT with specialized expertise taking responsibility for developing a data portal that serves many kinds of coastal and marine geospatial data in addition to seafloor mapping data.

and the other ACTs to ensure that it meets the needs of the WCGA and its constituents. A main goal of the Regional Data Network ACT would be to interact with and support WCGA ACTs in their accessing, managing, and sharing of relevant geospatial data. We anticipate that the ACTs could utilize regional data to meet the goals of their current work plans and to craft future iterations of their work plans.

Once the broader Regional Data Network has gained a dedicated group of developers and users, secured funding, and established its credibility as a reliable source for West Coast coastal and marine geospatial data, the group may decide that the ACT is no longer needed if the network can operate on its own.

Potential work plan actions

A draft work plan will be developed by the ACT with assistance from the Data, IT, and Outreach working groups and will incorporate feedback from the broader Regional Data Network as well as the other ACTs. Preliminary recommendations from the workshop suggest that a Regional Data System be built using existing web development code and interfaces from similar efforts, such as the West Coast coastal atlases, [Northeast Ocean Data Portal](#) (NODP), [Mid-Atlantic Regional Council on the Ocean \(MARCO\) Mapping and Planning Portal](#), the federal [Geospatial Platform](#), and Ocean.Data.Gov. The IT group would oversee the development of the System, which would ideally include a viewer/mapper and serve regional-scale, integrated data sets as well as subregional priority data sets from California, Oregon, and Washington (e.g., maritime boundaries, bathymetric contours and grids, nautical charts, coastal access points, human uses, and biogeography). Working in collaboration with the Data working group, priority datasets that either exist, could be built, or have web services set up for them would be prepared with common symbology and scale. There would also be a comprehensive catalog of all of the regional and subregional data sets of importance that would be searchable through standard metadata and queried by scale, topic, or location (for example).

Our group is now primed to fulfill the FFO and Moore grant outcomes related to regional data sharing. For example, the IT working group has already been in discussions about how best to develop a single point of access for discovering priority data, identifying data stewards, and learning about decision-support tools relevant to West Coast regional ocean and coastal management issues. We are excited about this opportunity to capitalize on existing West Coast and national data-sharing efforts and believe that this ACT will provide an important service to meet the needs of the WCGA and its constituents.

Appendices

Appendix I

Below is a summary of the scope, function, and next steps of each of the three working groups as discussed at the December 2011 workshop:

1. Outreach Working Group:

Objective:

Communicate Regional Data Network efforts to broader user community and serve to connect users with data providers.

Function:

Serve as an outreach and coordination mechanism for the Network; connect users to data providers and verify that data products and System meet users needs. This group may also serve as body to seek funding.

Scope:

Work with data users from the WCGA and other partners to identify priority needs and communicate these to Data and IT working groups.

Membership:

TBD. Could be an extension of the ACT, but will include interested network participants.
Coordinators (Todd Hallenbeck and Christina Cairns)

Communication Mechanism:

Conference calls, email among members
Email listserv to communicate with the broader Network
Meeting to finalize work plan

Near-term steps:

Created sub-group of volunteers to write proposal to WCGA Executive Committee for Regional Data Network Action Coordination Team, with the understanding that the Network would continue regardless of the outcome of the proposal.

Mid-term Steps:

Talk to other WCGA ACTs to find common needs.
Determine if additional experts are needed in the Network.
Help develop work plan for Regional Data Network ACT.

2. IT Working Group:

Objective:

Identify existing West Coast data systems, tools, and resources to meet the needs of West Coast partners, first focusing on the WCGA ACTs.

Function:

Assess system designs of existing West Coast atlases and other regional data systems (e.g., West Coast IOOS); determine optimal design of a West Coast System.

Scope:

Work with Data working group on metadata discovery and standards assessment; establish data standards with Data working group
Assess appropriate system design
Evaluate optimal user interface
Establish functional requirements of a regional data system

Membership:

Initial membership consists of self-selected participants at workshop (awaiting confirmation).
Leader (Emilio Mayorga) and coordinator (Todd Hallenbeck)

Communication Mechanism:

Email among members

Near-term steps:

Assess existing systems for regional capacity

Identify and recommend host options

Develop data viewer/mapper

Work with Data working group to assess and adopt agreed-upon data and metadata standards

Develop best practices, terms of reference, conceptual model

Longer-Term Steps:

Interstate plan development

Develop downloading and analytical functionalities through creation or adoption of tools

3. Data Working Group:

Objective:

Facilitate access to best available data to support information needs of the WCGA and other regional partners.

Function:

Identify existing West Coast data (and data needs) to meet the needs of the WCGA ACTs and WCGA Action Plan priorities.

Scope:

Respond to regional-scale data needs of West Coast partners, initially the WCGA and ACTs

Membership:

Initial membership consists of self-selected participants at workshop (awaiting confirmation).

Leader to manage development and implementation of work plan (Chris Romsos).

Coordinator to help facilitate internal group communications (Todd Hallenbeck).

Communication Mechanism:

Google group, email listserv and conference calls

Near-term steps:

Review existing studies (ICAN workshop) and WCGA Action Plan, ACT work plans to identify available and needed priority regional datasets.

Mid-term steps:

Work with Outreach working group to identify common data needs.

Prioritize regional data gathering and identify data gaps.

Develop metadata policy (e.g., adopt standards)

Long-term steps:

Identify priority data needs that are not currently met with existing datasets.

Identify institutional capacity, data diplomats/stewards

WCGA ACT responses to CMSP prioritization exercise

Action Coordination Team: **Seafloor Mapping**

<p>Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP</p>	<p>Description of How This Task Meets the Requirements of the FFO All tasks below address Focus area 1 of the FFO.</p>
<p>1. Task 1- Data Collection and processing. The seafloor mapping ACT, and all three states are committed to, and have been actively conducting mapping and data processing– The goal is high-resolution bathymetry with backscatter – in all State waters from ~10 m isobath to 3-mile limit, and in priority areas from 10m to the shoreline. Task 1 item 6 includes groundtruth data to support all bathymetric data collection, including video, sampling, subsurface imaging.</p>	<p>Seafloor and habitat maps are the basis for virtually all CMSP efforts, regulatory actions by State and Federal agencies, Ecosystem-based management, and the decision process for alternative energy and other marine activities. Mapping is understood to include groundtruth data collection that would provide the critical, essential, fundamental, and foundational data (basemaps, habitats, geology) that the rest of CMSP will be built. Seafloor mapping in the California Current LME includes both State and Federal waters, and this ACT recognizes that marine CMSP efforts must span State and Federal boundaries. Because these data are foundational, this task addresses Guiding Principles 1, 2, 3, 4, 5, 6, 8, 9, 10 of Priority Area 1 of the FFO</p>
<p>2. Seafloor Mapping ACT Task 3, subtask 6, Develop new products and identify creative applications for mapping data. Develop a comprehensive GIS and Web interface for viewing and dissemination of seafloor mapping data that has extensible capability to integrate with or link to decision support systems.</p>	<p>This task supports the synthesis of relevant spatial data on ecosystem structure, function, services and human uses on a regional scale, addressing principles 1, 2, 3, 4, 5, 6, 7, and 8. It also builds upon national Area of Special Interest 5 - Ocean, Coastal, and Great Lakes Observations, Mapping and Infrastructure. This task also builds upon CMSP guiding principles relating to response to climate change adaptation and mitigation, new technologies and uses of oceans, hazard preparedness for both manmade and natural hazards.</p>
<p>3. Seafloor Mapping ACT Task 3, subtask 6, Develop new products and identify creative applications for mapping data. Develop a comprehensive GIS and Web interface for seafloor mapping data. (We again use this subtask to refer</p>	<p>Decision Support Systems are critical to a wide range of applications of marine spatial data. A regional system needs to not only be able to synthesize large quantities of data, but also to account for uncertainties, manage disparate datasets</p>

<p>to additional capabilities, i.e extensible capability of a database system to broaden into an integrated decision support system).</p> <p>4. Task 2- Data management – 4. Develop dynamic systems to allow easy incorporation of new mapping data and upgrades of data-storage technology.</p>	<p>including multidimensional databases and subjective data, and determine which data require improvement in order to make a given decision robust.</p> <p>This task is directly called for in the FFO: “The development or application of decision-support tools to help planners and stakeholders assess the implications of alternative ocean use scenarios throughout the region” which also cites the Ocean Policy Task Force report calling for an “integrated, comprehensive, ecosystem-based, flexible, and proactive approach to planning and managing these uses and activities”.</p> <p>Such a system directly addresses essentially all 12 of the guiding principles of the FFO, with emphasis on “an ecosystem-based management approach that addresses cumulative effects to ensure the protection, integrity, maintenance, resilience, and restoration of ocean, coastal, and Great Lakes ecosystems, while promoting multiple sustainable uses “ (1); and to “evaluate alternatives, tradeoffs, cumulative effects, and sustainable uses in the planning process” (5).</p>
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Action Coordination Team: **Ocean Awareness and Literacy**

<p>Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP</p>	<p>Description of How This Task Meets the Requirements of the FFO</p>
<p>Action 5.2, Task 3 from ACT Workplan: 1. “Develop shared messaging and content on the California Current Large Marine Ecosystem (LME), and other ocean and coastal topics common to the west coast region.”</p> <p>This open-ended task serves to produce needed educational material for the public or specific audiences on priority coastal and marine topics related to the LME. In</p>	<p>FFO Requirement: This task addresses one of the goals of CMSP “Enhance interagency, intergovernmental, and international communication and collaboration” as well as guiding principle #3: “CMSP development and implementation would ensure frequent and transparent broad-based, inclusive engagement of partners, the public, and stakeholders, including those impacted (or potentially impacted) by the planning process and with underserved communities.”</p>

<p>the context of this FFO, this task could serve to raise awareness and engagement on the priority topic of Coastal and Marine Spatial Planning.</p>	<p>How this ACT task addresses this FFO requirement: Discussions about CMSP often note that many members of the public, decision-makers, and various stakeholders do not understand what CMSP is or means. By developing a shared messaging and outreach strategy, the ACT could help align all parties to understand the needs, the science, and the process of CMSP. By developing a shared messaging and outreach strategy, the ACT could help align all parties to understand the needs, the science, and the process of CMSP. The ACT would bring various parties who are working on education and training about CMSP (e.g. the Center for Ocean Solutions and COMPASS), together with entities who could serve to implement public education efforts (e.g. self-directed learning institutions, environmental groups) to form a working group with the goal of developing ways to effectively raise awareness, enlist support, and engage the public and stakeholders in CMSP.</p> <p>This effort would also result in “the creation of new and innovative partnerships and broader stakeholder engagement beyond the existing governmental relationships of the ROPs”, which is a requirement of the FFO (page 55544 of the Federal Register, para.4).</p>
<p>2. Action 5.2, Task 7 from ACT Workplan “Conduct training and outreach to target audiences.”</p> <p>This task would serve to help deliver the CMSP messages and content developed under Task 3, above, to target audiences.</p>	<p>FFO Requirement: This task also addresses the identified goal: “Enhance interagency, intergovernmental, and international communication and collaboration” as well as guiding principle #3: “CMSP development and implementation would ensure frequent and transparent broad-based, inclusive engagement of partners, the public, and stakeholders, including those impacted (or potentially impacted) by the planning process and with underserved</p>

	<p>communities.”</p> <p>How this ACT task addresses this FFO requirement: The ACT could serve to help implement the shared outreach strategy developed through the workshops and partnerships. Implementation of the shared strategy, with common themes and messages, by the various entities involved, would raise public, decision-maker, and stakeholder awareness and engagement in CMSP.</p> <p>The ACT can also help pull together resources that result from WCGA actions (either via ACTs or elsewhere). By building on the products/outcomes of various efforts, it helps to align and strengthen the messaging and understanding of CMSP.</p>
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Action Coordination Team: **Renewable Energy Action Coordination Team (ReACT)**

Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP	Description of How This Task Meets the Requirements of the FFO
<p>1. Create a West Coast Marine Data Management and Information Consortium that will provide a free-standing mechanism for federal and state agencies, researchers and consultant contractors to access and share commonly used spatial data useful for renewable energy planning. Work with existing state coastal and marine data portal managers to display data. This is a combination of tasks 1 and 4 of the ReACT Work Plan, updated to account for projects that have recently been completed or are in progress. It is also designed to build on task 2 of the ReACT Work Plan, using the regional data</p>	<p>This task will help achieve the following program priorities under focus area 1:</p> <p>4) CMSP would take into account and build upon the existing marine spatial planning efforts at the regional, State, tribal, and local level.</p> <p>5) CMS Plans and the standards and methods used to evaluate alternatives, tradeoffs, cumulative effects, and sustainable uses in the planning process would be based on clearly stated objectives.</p> <p>6) Development, implementation, and evaluation of CMS Plans would be informed by sound science and the best available</p>

<p>assessment developed as part of the guidebook as a foundation. The initial step in the development of this system is a workshop involving regional, state, and federal data managers, Oregon and Washington coastal atlas application managers, and data collectors and data users from all three states to discuss issues related to data availability, sharing, acquisition, storage and display. The workshop would also focus on the use of other geospatial analytical and data management tools such as the Multipurpose Marine Cadastre, MarineMap, RADMAPP, PACOOS, etc.</p>	<p>information, including the natural and social sciences, and relevant local and traditional knowledge.</p>
<p>2. Enhance and expand efforts to 1) add additional marine and coastal spatial data to existing state marine and coastal data systems (Washington and Oregon Coastal Atlases and California’s marine and coastal data systems) 2) connect the state’s data systems to allow for sharing and display of data across state borders in the West Coast region and beyond state water boundaries. This effort is the next step in implementing task 4 of the ReACT Work Plan (the creation of a data management and mapping portal). The objective is to strengthen state data systems and then to begin integrating state systems, the regional ocean observing systems, and federal marine and coastal data to allow interoperability and joint data display among applications.</p>	<p>In addition to those priorities listed above, this task will meet the priorities listed under the Areas of Special Emphasis (5) Ocean, Coastal, and Great Lakes Observations, Mapping and Infrastructure: Strengthen and integrate Federal and non-Federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system and integrate that system into international observation efforts. Specifically this task will provide tools and information identified as an ROP priority that are also critical for regional CMSP. Specifically, this task will engender comprehensive regional CMSP by allowing easy access to and display of relevant spatial data across the region and will help planners and stakeholders to visualize the physical, biological, and human environment to support informed decision making.</p>
<p>3. Expand web-based data mapping, analytical, and collection tools that integrate content and output from state, regional and federal data sources and projects. This effort is the</p>	<p>In addition to those priorities listed above, this task will meet the priorities listed under the Areas of Special Emphasis (5) Ocean, Coastal, and Great Lakes Observations, Mapping and</p>

<p>following step in implementing task 4 of the ReACT Work Plan. Web-based data mapping and analysis tools can be used by resource managers, scientists, stakeholders and the public to conduct spatial planning processes in the marine environment, such as renewable energy siting. The project will strengthen efforts to develop regional web-based data mapping and analysis tools with the goal of developing a West Coast “toolbox” for informing renewable energy planning and other CMSP planning processes. This set of tools will provide users with web-based access to data and analytical tools needed to evaluate renewable energy projects in the context of the other various uses and activities within the marine environment of the West Coast and to see the comprehensive picture of these activities in both state and federal waters. These tools will be also be designed to integrate data from various disciplines and various ecological regions to better inform planning and management decisions.</p>	<p>Infrastructure: Strengthen and integrate Federal and non-Federal ocean observing systems, sensors, data collection platforms, data management, and mapping capabilities into a national system and integrate that system into international observation efforts. Specifically this task will provide tools and information identified as an ROP priority that are also critical for regional CMSP. The task will engender comprehensive regional CMSP across multiple sectors and jurisdictions by: synthesizing relevant spatial data on ecosystem structure, function, services and human uses on a regional scale; and developing a decision-support tool to help planners and stakeholders assess the implications of alternative ocean use scenarios throughout the region.</p>
<p>4. Develop a detailed communication, education and outreach plan to respond to the need of specific audiences, networks and stakeholder groups, so that those persons are better informed and engaged in the planning and regulatory stages for renewable energy development and marine spatial planning. This is an updated version of task 7 in the ReACT Work Plan. This may include providing support for existing local or community planning initiatives, or providing support for the creation of local advisory bodies that will provide support and feedback on the development of state and regional spatial planning efforts.</p>	<p>This task will fulfill the priorities set forth in Focus Area 2, Development and Governance Support, to help support administration and operations for existing ROPs, and support development for regions that are initiating ROP activities. Specifically this task will provide staff support to coordinate and facilitate stakeholder engagement; hold stakeholder engagement meetings; identify, develop and/or manage the implementation of priority activities in the region; developing annual reports and other outreach materials to demonstrate the importance of broad support for regional ocean governance.</p> <p>In addition this task will support the following</p>

	<p>program priorities under focus area 1: 3) CMSP development and implementation would ensure frequent and transparent broad-based, inclusive engagement of partners, the public, and stakeholders, including with those most impacted (or potentially impacted) by the planning process and with underserved communities.</p>
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Action Coordination Team: **Marine Debris**

Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP	Description of How This Task Meets the Requirements of the FFO
1. West Coast Marine Debris Database	Database can be used to ascertain areas of high debris accumulation, or “hot spots” along and offshore the west coast. This can help identify increased risks to marine mammals and navigation. (FFO Project Component #1)
2. West Coast Marine Debris Database	Information gathered in the database can also be used by planners and stakeholders to minimize fishing gear loss; for example, gear loss is 4 times higher in areas of active shipping. (FFO Project Component #2)
3. Formation of West Coast Marine Debris Alliance	Stakeholder involvement will result in broader discussion of appropriate and sustainable ocean and coastal uses and minimizing conflict through increased cooperation. (FFO Project Component #3)
4. Formation of the West Coast Marine Debris Alliance	The Alliance will serve to broaden stakeholder participation in planning and actions around marine debris issues by bringing together NGOs, Government agencies, and industry to collaborate on these issues. Ongoing efforts will engage more people over time. (FFO Project Component #4)

Action Coordination Team: **Integrated Ecosystem Assessments**

Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP	Description of How This Task Meets the Requirements of the FFO
<p>1. Finalize the workplan for development of West Coast Regional- Integrated Ecosystem Assessments, to include strong collaboration with the West Coast EBM Network</p>	<p>R-IEAs directly address the FFO focus on Coastal and Marine Spatial Planning, including a particular emphasis on a synthesis of relevant science and use of an Ecosystem-Based Management Approach that addresses cumulative effects in coastal areas</p>
<p>2. Convene the West Coast IEA Workshop to define the objectives, biogeographic scope, information needs, methodologies, outcomes, and performance measures for R-IEAs</p>	<p>Incorporate multiple existing uses and new emerging issues into a synthesis of relevant spatial data on ecosystem structure, function, services, and human uses on a regional scale; identify regional goals and objectives for appropriate uses of coastal areas; establish methods to evaluate tradeoffs, cumulative effects, and sustainable uses in a manner that can accommodate changing environmental conditions.</p>
<p>3. Establishment of West Coast R-IEA Leadership Team, Technical Steering Committees, and Regional Stakeholder Groups</p>	<p>Encourage the broad-based inclusive engagement of stakeholders in the planning process</p>
<p>4. Identify and finalize the West Coast IEA Pilot Projects, including regional R-IEA implementation teams, and identification of regional coastal management needs to be addressed by R-IEAs; design R-IEAS to include the West Coast EBM network and the network of National Marine Sanctuaries, National Estuarine Research Reserves, National Wildlife Refuges, and state Marine Conservation Areas and Marine Reserves</p>	<p>Build upon existing marine spatial planning efforts</p>

<p>5. Develop R-IEAs to include exploration of alternative coastal management scenarios and risk analyses</p>	<p>Application of decision support tools to help planners and stakeholders assess the implications of alternative ocean use scenarios throughout the region</p>
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Action Coordination Team: **Sustainable Coastal Communities**

<p>Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP</p>	<p>Description of How This Task Meets the Requirements of the FFO</p>
<p>1. A common theme across all of the SCC ACT action areas is a need for more and better data on coastal community port and marina infrastructure presence, quality and needs. This project would support four graduate-level research assistantships or post-graduate fellowships (one apiece in Washington and Oregon, two in California) to assemble geographic information system (GIS) data on the following coastal community port infrastructure issues:</p> <ul style="list-style-type: none"> • Dredged depth and port’s distance to open ocean; • Number and size range of useable vessel berths, indicating whether and what percent of berths are reserved for commercial cargo vessels, commercial fishing vessels, recreational fishing vessels, recreational non-consumptive vessels; • Number, size, and location of marine aquaculture farms, pens, and associated facilities; • Access to within-port fuel supply, fish processing plants, ice and freezer storage facilities, and public hoists, buying stations, indicating whether facilities are accessible by sea and from land; • Number and capacity of vessel maintenance and repair facilities; • Quality and availability of non-consumptive tourism access to docks, ramps, and waterways, and accessibility to natural capital zones (national, state, and local parks and preserves). • Connectivity to and adequacy of landside infrastructure 	<p>The WCGA SCC ACT’s draft work plan is divided into six action areas: West Coast planning and economic development, sustainable fisheries, sustainable aquaculture, non-consumptive recreation and tourism, green ports, and clean marina programs. Gathering baseline data on marine industries infrastructure conditions and needs in West Coast ports would provide the WCGA with the information it needs to better address two of the national Ocean Policy Task Force’s areas of special interest: resiliency and adaptation to climate change and ocean acidification; and, ocean, coastal, and Great Lakes observations, mapping and infrastructure. There is a significant and pressing need for a collection of coastal community socio-economic data to support coastal and marine spatial planning processes, and this project would respond to some of that need.</p>

<p>2. Map marine locations of importance to West Coast fishery participants, so as to avoid conflicts with other types of offshore development or uses (this has already been done in some states and could be replicated in WCGA states for CMSP purposes).</p>	<p>One of the guiding principles of the CMSP Framework is to manage existing and emerging uses of the offshore area to reduce conflict, enhance compatibility among uses, and with sustained ecosystem function and services, to provide for public access, and increase certainty and predictability for economic investments. Fishery participants use a broad swath of marine territory and rely on long-term sustainability of their target species. This project would facilitate CMSP by providing much-needed data on ocean zones of importance for fisheries. Fishermen contributing to this effort will bring decades of experience working on and with the ocean. Collecting data on traditional fishing grounds will provide opportunities for decision-makers to minimize impact to coastal communities while managing multiple uses.</p>
<p>3. Promote water quality strategies at industrial ports.</p>	<p>The Sustainable Coastal Communities Action Coordination Team (SCC ACT) has identified a priority of promoting water quality strategies at industrial ports through soliciting West Coast ports for a list of priority funding needs to implement water quality control measures. Industrial ports on the West Coast have made great strides in recent years towards improving water quality in their harbors. At the Ports of Long Beach and Los Angeles, a water quality and sediment management plan, Water Resources Action Plan (WRAP) has been established, which seeks to improve water and sediment quality through scientific management of these resources on a watershed scale.</p> <p>By promoting water quality initiatives at industrial ports such as the Ports of Long Beach and Los Angeles' WRAP, the SCC ACT is working to advance several guiding principles identified in the Ocean Policy Task Force's (OPTF) Coastal and Marine Spatial Planning (CSMP) Framework. These guiding principles include using an ecosystem-based management approach, reducing</p>

	<p>conflict between multiple uses, and the use of sound science. By supporting watershed-scale approaches to water quality management by local port authorities, the SCC ACT is encouraging industrial ports to manage their harbor waters and sediments using a holistic, system-wide, integrated approach consistent with ecosystem-based management. Port strategies to improve water quality help foster compatibility among the multiple users as improved water quality in the harbor allows for more beneficial uses of harbor waters and sediments. Comprehensive efforts like the WRAP are based on sound science and include detailed hydrodynamic modeling to provide information on harbor circulation. The products of these modeling efforts can be used by other users of harbor waters and can help inform decision-making. Empowering ports to manage their own water resources also helps to ensure the Framework's principle of adaptive and flexible management to accommodate changing environmental conditions and impacts.</p> <p>The SCC ACT's priority of promoting water quality at ports aligns with three of the Framework's Areas of Special Emphasis: Regional Ecosystem Protection and Restoration, Water Quality and Sustainable Practices on Land. Industrial ports work through their water quality initiatives to address the impacts of past, present, and future port operations, and to prevent port operations from degrading existing water and sediment quality. Some of the most degraded water and sediment quality on the West Coast exists in industrial harbors that have a history of heavy industrial use. Promoting the restoration of such highly degraded areas is in alignment with the Framework's focus on regional ecosystem restoration. Port water quality strategies promote sustainable practices on land by working with terminal operators and local and regional partners to reduce land-based runoff and direct discharge into harbor water. By reducing non-climatic stressors such as pollution, ports increase the resiliency of harbor waters to projected</p>
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	<p>climate change impacts such as higher water temperatures and ocean acidification.</p>
<p>4. Generate an inventory of non-consumptive recreation and tourism uses; map locations where they occur in each state. Integrate into state coastal atlas and/or other CMSP database(s) where appropriate.</p>	<p>The collection of this data is imperative to understand current uses and plan investments and improvements in non-consumptive tourism and recreation infrastructure and activities. Establishing this baseline data and quantifying and profiling multiple and emerging non-consumptive recreation and tourism uses advances the following CMSP objectives established by the Ocean Policy Task Force: 1) use an ecosystem based management approach and promote sustainable uses; 2) manage existing uses in a manner that reduces conflict and provides for public access; 3) ensure engagement of non-consumptive tourism and recreation stakeholders; 8) accommodate new and emerging uses; and 9) evaluate priorities in a regular and systematic manner to ensure desired environmental, economic, and social outcomes.</p> <p>Ultimately this data will afford us the knowledge and opportunity to create and expand cross-sector partnerships (called for by the FFO) among a broader base of stakeholder groups to support the needs of a coastal economy that is flexible, adaptable and resilient through its diversification of sustainable economic sectors.</p>
<p>5. Conduct a three-day workshop to address the SCC ACT work plan’s Overarching Recommendation #1, <i>Convene a tri-state task force to provide support and momentum for implementing the recommendations put forth in the Sustainable Coastal Communities action strategy. The task force may include members from this ACT, but may expand to include delegates from ocean caucuses, as well as state, federal, local, and tribal governments, non-governmental organizations (NGOs) and industry to develop strategies to implement the action strategy and</i></p>	<p>This task is intended to address the FFO’s Focus Area 2, <i>Development and governance support for administration and operations of existing and new ROPs, including development of plans and management of ROP activities.</i> Workshop delegates would include knowledgeable stakeholders representing the ACT’s six major action areas: West Coast planning and economic development, sustainable fisheries, sustainable aquaculture, non-consumptive recreation and tourism, green ports, and clean marina programs. The workshop would develop implementation plans for the ACT Work Plan’s recommendations, prioritizing those</p>

<i>facilitate its execution.</i>	recommendations that would benefit multiple action areas, and those that emphasize the linkages between coastal community priorities and needs and the action recommendations from other WCGA action coordination teams.
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Action Coordination Team: **Spartina**

Top 3–5 Region-Wide Priority Tasks in ACT Work Plan That Intersect with CMSP	Description of How This Task Meets the Requirements of the FFO
<p>1. Develop a GIS-based Spartina habitat suitability model for the West Coast from Alaska to California (Task ED-1). The model would expand on a model already developed for Alaska, British Columbia, and Washington. The proposed work will cover the entire coast and add habitat usage and climate change information not previously considered. The model will provide focus to early detection survey activities and incorporate spatial data on vectors for Spartina dispersal, such as dredging (Task P-4) and recreational boating (Task P-6), as well as high-value wetlands that should be targeted for protection from Spartina invasion. Areas where Spartina has been eradicated will also be mapped to begin development of a spatial planning for restoration of degraded systems (Task R-2).</p>	<p>The proposed activity addresses multiple Areas of Special Emphasis in the FFO. It will strengthen and integrate mapping capabilities to support international observation efforts. It will also permit the establishment and implementation of an integrated ecosystem protection and restoration strategy that is science-based and aligns conservation and restoration goals at the Federal, State, tribal, local, and regional levels.</p>