Supporting Marine Planning Through the West Coast Ocean Data Portal

The West Coast Ocean Data Portal (WCODP) is a regional tool for data access and human network for data coordination. The following are recommendations to the West Coast Regional Planning Body and sub-regional teams related to the role of the WCODP in planning, regional data synthesis priorities, and priority partner data catalogs to connect to.

Background and Context

West Coast Ocean Data Portal

The WCODP[1] is a project of the West Coast Ocean Partnership (WCOP) to support regional coordination of data important to the U.S West Coast. The goals of the WCODP are:

- To increase **discovery** and access of ocean and coastal data, including participatory science and traditional ecological knowledge.
- To foster **connectivity** and coordination of data, projects, and people through networking, technology training, and capacity building.
- To **inform** West Coast ocean health management, policy, and planning priorities through data synthesis, gap analysis, and tool development.

Since 2012, the WCODP[1] has been actively developing both data resources and human networks to support these goals. The WCODP includes a discovery catalog of over 800 priority data sets from 25 data contributors, a [map viewer for data visualization](http://maps.westcoastoceans.org/)[2], and a [communication platform](http://network.westcoastoceans.org/)[3] to connect data managers and provide technical resources for data sharing.

West Coast Ocean Data Network

The West Coast Ocean Data Network (WCODN) is a group of data managers and users from state and federal agencies, tribes, NGOs, universities, and industry that help support and guide the progress of the WCODP[4]. The WCODP integrates data from across the West Coast on ocean topics such as marine debris, ocean acidification, sea level rise, and ocean energy and includes a variety of biological, human use, and physical information through a simple and efficient catalog platform. The WCODN has held three annual meetings, four training webinars, and monthly working group calls over the past three years to help guide development of the WCODP and increase data coordination across the region. Capacity building, technology training, and development of data sharing best practices have been three of the most valuable aspects of the WCODN.

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[1] http://portal.westcoastoceans.org/ [2] http://maps.westcoastoceans.org/ [3] http://network.westcoastoceans.org/

[4] WCODN member entities include NOAA, BOEM, EPA, USGS, USFWS, Yurok Tribe, Quileute Nation, Washington Dept. of Natural Resources, Oregon Dept. of Land Conservation and Development, California Coastal Commission, West Coast IOOS, Southern California Coastal Water Research Project, The Nature Conservancy, and others.

WCODP strategy for supporting the West Coast Regional Planning Body

The WCODP's strategy to support regional and sub-regional marine planning includes meeting with RPB members, confirming the most beneficial roles and tasks for the WCODP and WCODN, identifying priority data gaps, scoping technical connections to existing data catalogs, and synthesizing and publishing data to support marine planning activities. To facilitate this strategy, the WCODP coordinator and WCODP co-chairs will participate in RPB calls and meetings to understand RPB member needs, seek feedback on proposals, and deliver results from analysis. Additionally, the RPB is encouraged to provide appropriate data staff representatives from tribal, state and federal government to participate in regular WCODP monthly calls and in person meetings.

Recommended WCODP roles in supporting marine planning

The WCODP will support marine planning on the West Coast in a variety of ways. Recognizing a diversity of needs from the regional or sub-regional planning bodies and partners, the WCODP can play different roles in different parts of the coast. Sub-regional roles will depend on existing tools and networks, and will emphasize either WCODP infrastructure or our human network in those sub-regions, once identified and agreed upon by RPB members. We will continue to seek feedback from the RPB to confirm these roles and sub-regional considerations as we work to implement our grant program.

Regional Roles

West Coast Ocean Data Network

- Provide a community of practice for building tools and using data to inform decision-making
- Identify and communicate data gaps/needs from sub-regions or region to funders and data collectors
- Provide technical capacity to share data related to gaps/needs through trainings and webinars
- Synthesize regional priority data which communicates the status of the California Current large marine ecosystem, ocean uses and activities in the region
- Help vet authoritative data with RPB members and stakeholders
- Curate catalog of authoritative data sets for use in regional planning, permitting, and policy development (i.e. regional data plan for Northeast RPB)

West Coast Ocean Data Portal

- Enable discovery and access to authoritative regional data for planning, permitting, and policy development
- Provide a platform for sharing and discovery of policy, management, or planning data
- Provide a platform for communication of regional planning priorities and existing efforts
- Facilitate viewing and exploring data in public forums

Sub-regional Considerations

Washington

- The data catalog is less valuable role to state agencies because of state Marine Spatial Planning Tool (http://www.msp.wa.gov/), although there may be a potential role beyond state process.
- Viewing regional data is valuable to agencies and tribes, where it helps tell the story of what's going on in the larger marine ecosystem and with ocean uses and activities throughout the region.
- Capacity building and response to data requests is a valuable role to the state and tribes
- State and tribal interest in making authoritative data available through the WCODP
- Tribal interest in secure data access through WCODP as well as stakeholder notification of federal permits and proposed development.

Oregon

- Capacity building and response to data requests a valuable role for state and tribes.
- WCODP data catalog a valuable platform for sharing tribal data
- State and tribal interest in making authoritative data available through the WCODP
- Possible role for WCODP data viewing platform to support state priorities

California (sub-regional meeting yet to take place)

- Capacity building and response to data requests a valuable role for state and tribes
- Tribal interest in making appropriate Tribal Ecological Knowledge (TEK) information available through WCODP (where that information is not proprietary)
- California Geoportal (http://portal.gis.ca.gov/) serving state catalog function for state authoritative data, possible WCODP role for tribal data

Recommendations for regional stories to communicate

The creation of web-based maps can help communicate the status and trends of regional priorities in visually compelling ways. Leveraging the WCODP infrastructure and data to tell these "stories" can connect data, existing efforts, policies, and opportunities for stakeholder engagement. This can quickly inform stakeholders and policy makers about where work is taking place, highlight potential gaps, and suggest a course of action. We have provided a few examples of regional stories and intend to work with the RPB and WCOP to refine these into communication products that can be accessible within the WCODP.

Regional Stories

Marine Planning on the West Coast – This story focuses on the existing planning efforts that have taken place or are currently underway. They would loosely breakdown to the sub-regions and communicate planning issues for each, data used in the process, outcomes, and stakeholder engagement opportunities. To begin these would include ongoing projects like the Washington Marine Spatial Planning Process or other sub-regional planning efforts taking place, as well as completed projects like the Oregon Territorial Sea Plan and California Marine Life Protection Act Planning Process.

Changing Ocean Uses – As ocean uses related to shipping, energy development, aquaculture, and desalination are expanding on the West Coast, we can create maps to highlight where existing development and activity is already occurring and also identify where new projects are being planned or proposed.

Changing Ocean Conditions – This story focuses on existing science to understand topics of ocean acidification, hypoxia, and harmful algal blooms. This will highlight existing data collection efforts, the work of science panels, and partnerships within regional associations of IOOS.

Recommended data themes for regional synthesis

Among the roles the WCODP can play, one of the most important is in assessing data gaps, communicating data collection needs, and synthesizing new regional data to fill those gaps. Based on current resources in the WCODP catalog (summary below), existing data development work of our partners, previously identified data priorities, and an initial inventory of existing catalogs, the WCODN has identified the following as high priority data gaps for informing planning. **Based on feedback from the West Coast RPB and sub-regional teams, the data gaps list has been refined to reflect priorities related to the regional stories described above. Additionally, the list also reflects broader needs that were gathered as part of the feedback process and will be communicated to RPB membership and WCODN partners.**

Existing Data *	Data Gaps
Marine Mammal Distribution	FOR DEVELOPMENT
Kelp and Seagrasses	Proposed and Planned Aquaculture, Desalination, Energy, Shipping, Development/Transportation Projects
Fishing Effort	
Renewable Energy Leases	FOR FUTURE WORK
Military Training Areas	Coastal Access
Shipping Lanes and Vessel Traffic	Topobathy LiDAR
Outfalls and Submarine Cables	Tsunami Risk
Dredge Disposal	
Seafloor Habitats	
Ocean Currents	

*Data already available through the WCODP and partner catalogs, not comprehensive.

Recommendations for priority data catalogs to connect

The data inventory also revealed several sources of priority information that the WCODP is not currently connecting to. Over the six months we will explore technical steps needed to connect to these priority catalogs and take necessary steps to connect. In some cases, the connection is simply a matter of communicating with the appropriate data managers and setting up workflows. In other cases, technical enhancements to the WCODP will be necessary, requiring additional resources. Dynamic connections to these catalogs will ensure that priority data are accessible to the planning community. **Based on input from the West Coast RPB and the WCODN, the list has been re-prioritized to reflect catalogs representing the biggest needs for regional planning and the WCODN will begin scoping technical connections and harvesting data, where possible.**

Data Catalog	Data represented
Washington Geospatial Clearinghouse	Includes data used in the MSP process from agencies like Dept of Ecology and Dept of Natural Resources
NOAA Fisheries Data warehouse	Regional fishery data, trawl survey and observer data for fish, invertebrates, and EFH
NCCOS Data Portal	Predictive modeling on seabird abundance, marine mammals, and fish
DataBasin	Regional data for aquatic resources, ocean acidification, and priority data from academia, USFWS, Landscape Conservation Cooperatives, and various state agencies
CetSound	NOAA branch that has developed marine mammal distribution models
PISCO	Regional tidal and sub-tidal biological data
CalOST Data Catalog	Includes some MPA monitoring data and TEK
IOOS Catalog	Regional and national oceanographic data
USGS Science Data Catalog	Data repository for USGS data
ArcGIS Online	Various regional, national, global data sets published by a variety of Network partners, including coastal hypoxic zones
NOAA Digital Coast	Regional and national bathymetry, sea level rise, and coastal economic data
NPDES Database	National EPA and Army Corps database representing permitted discharge locations (i.e. outfalls)
NOAA CORIS Database	National database of corals and sponges
OR, WA Shorezone	Coastal habitats for OR and WA
FEMA Mapping Information Platform	National database representing coastal hazards and flood zones

WEST COAST OCEAN
DATA PORTAL