



# Data Integration

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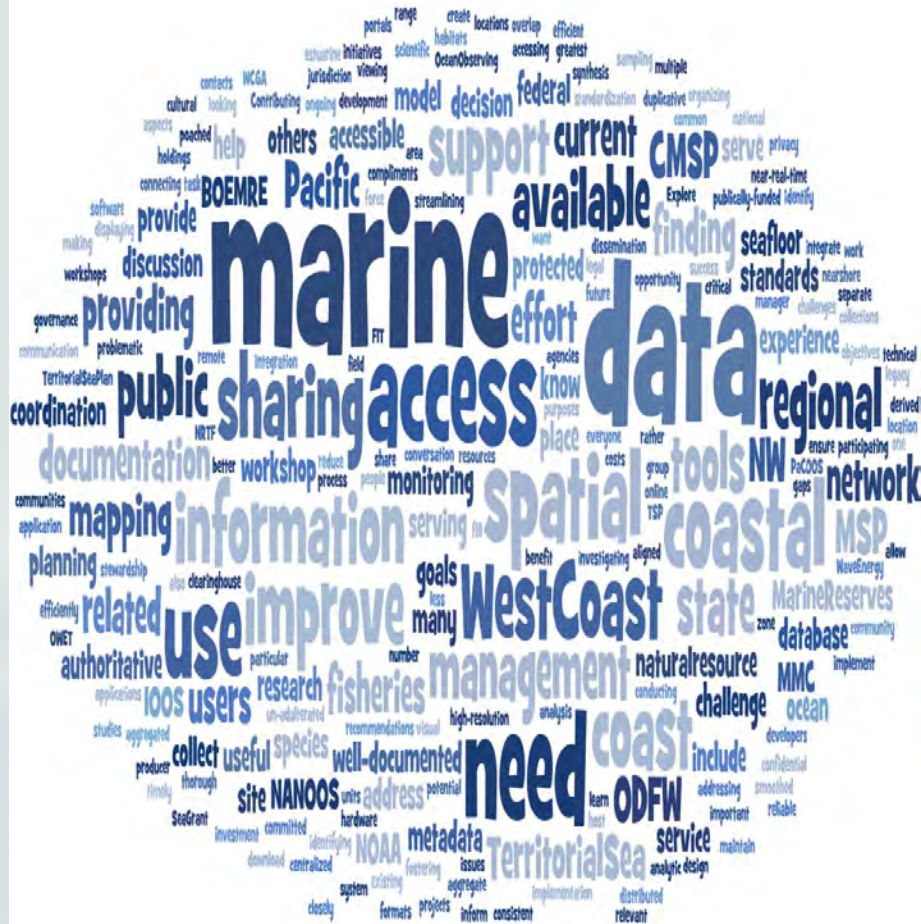
Oregon Coastal Management Program

Department of Land Conservation and Development

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# Data Context

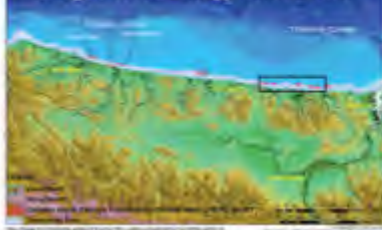




# The Oregon Territorial Sea Plan... A Plan for a Process

## Proposed New Uses

### Oregon Wave Energy Permit Sites

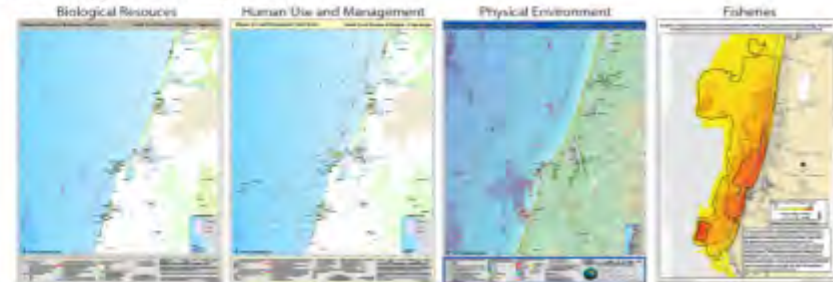


## 1. Resource Inventory

At a minimum, the following factors shall be considered for inclusion in the inventory as appropriate to the magnitude, likelihood of effects, and the significance of potentially affected resources and uses:

- 1.) The proposed action (i.e., method of power generation);
- 2.) Location and descriptions of all affected areas, including areas for onshore support facilities;
- 3.) Physical and chemical oceanographic characteristics;
- 4.) Bathymetry (bottom topography);
- 5.) Geological structure and hazards;
- 6.) Biological features, including: critical marine habitats; Other habitats important to the marine ecology;
- 7.) Mineral deposits, including sand, gravel and hydrocarbon resources;
- 8.) Cultural, economic, and social uses (present and projected) associated with the affected resources, such as: (a) Commercial and sport fishing; (b) Aquaculture; (c) Scientific research; (d) Ports, navigation, and ship uses; (e) Recreation; (f) Tourism; (g) Mineral extraction; and (h) Waste discharge;
- 9.) Significant historical or archeological sites.

## 1b. Identify: Existing Uses



The charts above represent work recently completed in support of the Ocean Policy Advisory Council. The three on the left represent the database of GIS information gathered in support of the public marine resource process in Oregon. The chart on the right was recently produced by SOBC, the Southeast Oregon Ocean Resource Coalition, in support of the ongoing Territorial Sea Plan Assessment Process.

## Statewide Planning Goal 19: Ocean Resources

To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations.

To carry out this goal, all actions by local, state, and federal agencies that are likely to affect the ocean resources and uses of Oregon's Territorial Sea shall be developed and conducted to conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social values and benefits and to give higher priority to the protection of renewable marine resources—i.e., living marine organisms—than to the development of non-renewable ocean resources.

## 2. Effects Evaluation and Assessment

Requires a written evaluation of:

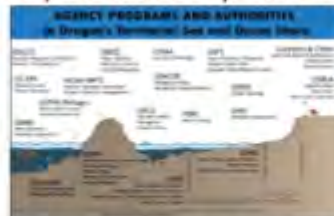
The potential short-term and long-term effects on resources and uses of the Territorial Sea, the continental shelf, the nearshore ocean, and onshore areas.

### Example of Work:

Ecological Effects of Wave Energy Development in the Pacific Northwest. A Scientific Workshop, October 11-12, 2007. George W. Bosthart, Gregory R. McMurray, and Cathryn E. Torricci, editors.



## 4. Monitor: Compliance with Operation Plan



State and Federal Agencies with jurisdiction in the Territorial Sea will monitor the activities and effects of development as they occur.

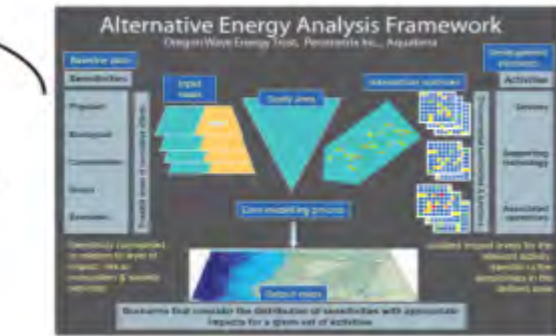
Operation plans are required to include: contingency; inspection; monitoring; and adaptive management plans.

## 3. Planning: Establish suitable locations.

In its representation of the TSP, the State is required to provide:

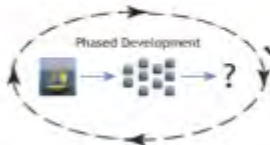
1. Living marine organisms (i.e., renewable marine resources)—from adverse effects of development of nonrenewable resources, uses of the ocean floor, or other actions;
2. The biological diversity of marine life and the functional integrity of the marine ecosystem;
3. Important marine habitats; and
4. Areas important to fisheries.

**We are Here...**



## 5. Implement Adaptive Management.

Incorporation of new findings and technologies into the operation and management of the project.



The adaptive management plan will explain processes for how adaptation innovations will be applied to the operation and management of the project. The adaptive management plan should account for:

- 1) Variable conditions in the marine environment
- 2) Change in the status of resources
- 3) New information provided by monitoring of the project
- 4) Data and information provided by research and from other sources
- 5) New technologies that would provide for greater protection of ocean resources
- 6) Ocean fisheries
- 7) Other ocean uses to be protected from adverse effects and potential conflicts
- 8) Unanticipated cumulative effects

## Additional Resources:

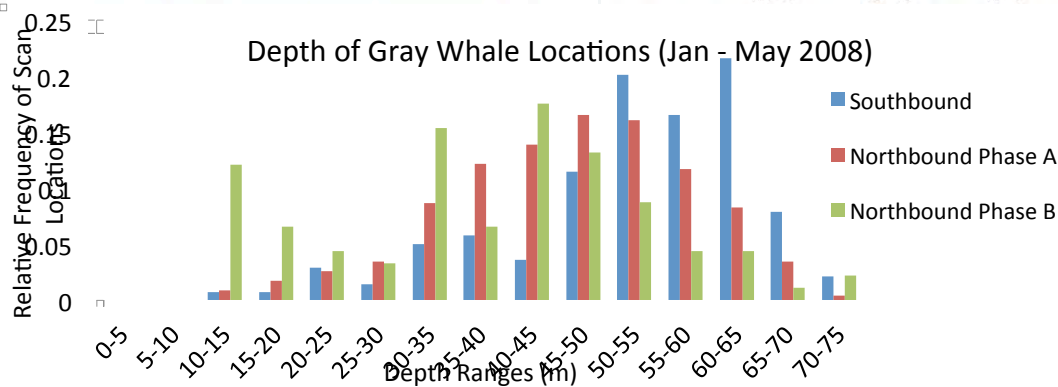
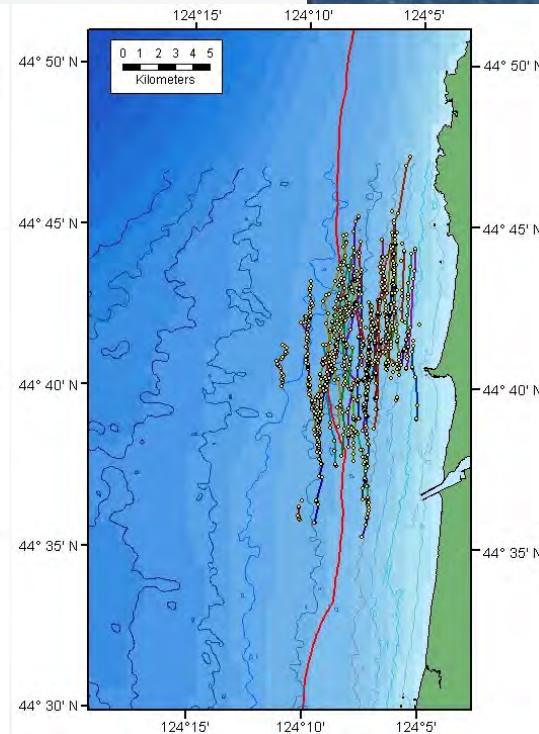
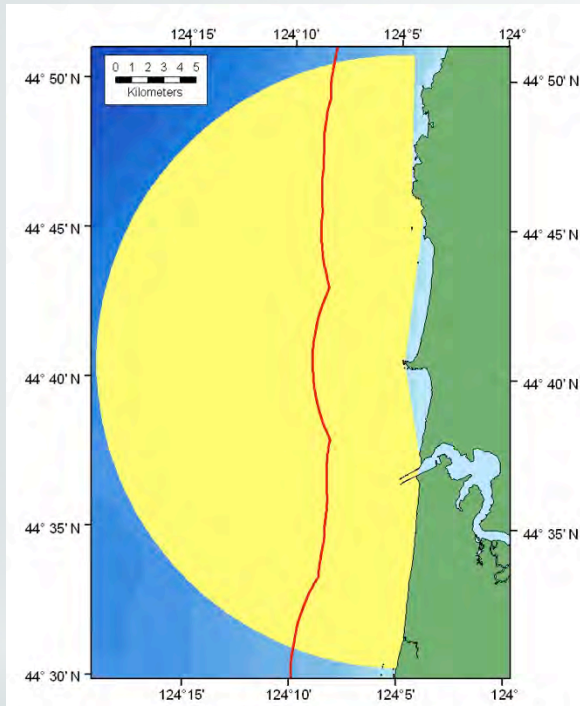
Territorial Sea Plan. Available online at: <http://www.oregon.gov/OSD/OCMP/OSCP/TSP.shtml>

Thematic Charts available online at: <http://www.oregon.gov/OSD/OCMP/OSCP/ThematicCharts>

Current Marine Spatial Planning Information: <http://www.ecdmr.org/>

Alternative Energy Analysis Framework. Available online at the Oregon Wave Energy Trust: <http://www.oregonwave.org/>

# Data Integration: Gray Whale Migration Routes





# Data Integration: Ecological Hotspots

## \* Marxan Analysis:

- \* Areas selected as ecologically important for many different species on a relative scale
- \* Many Input layers (>150)
- \* Many Analysis options
- \* Multiple ways to view results (thematically, holistically)

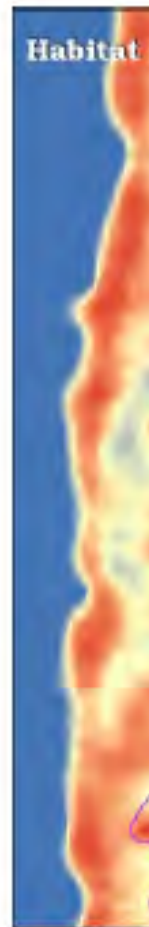


Figure 3: Habitat suitability map showing the least data.

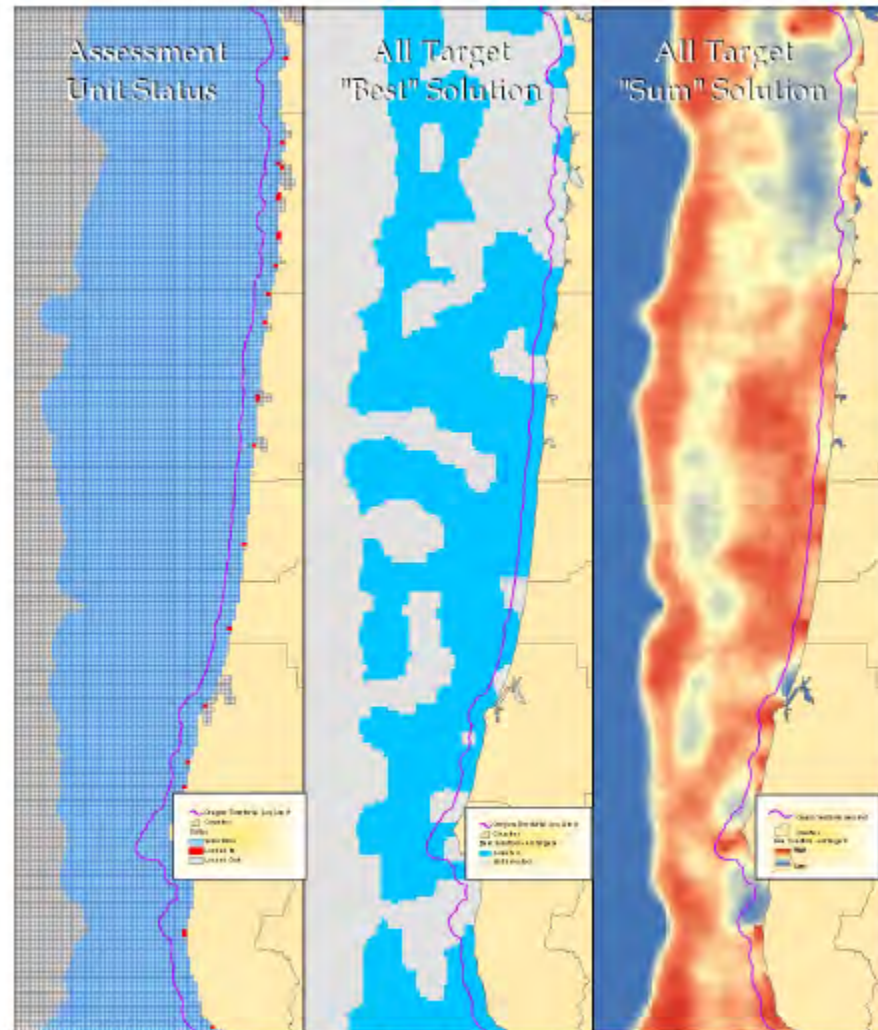
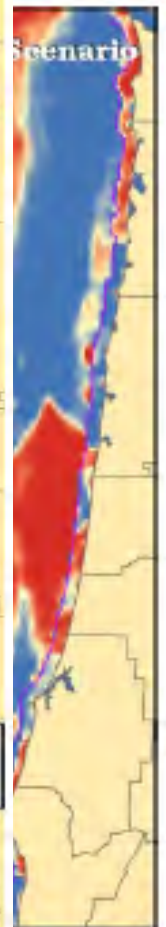


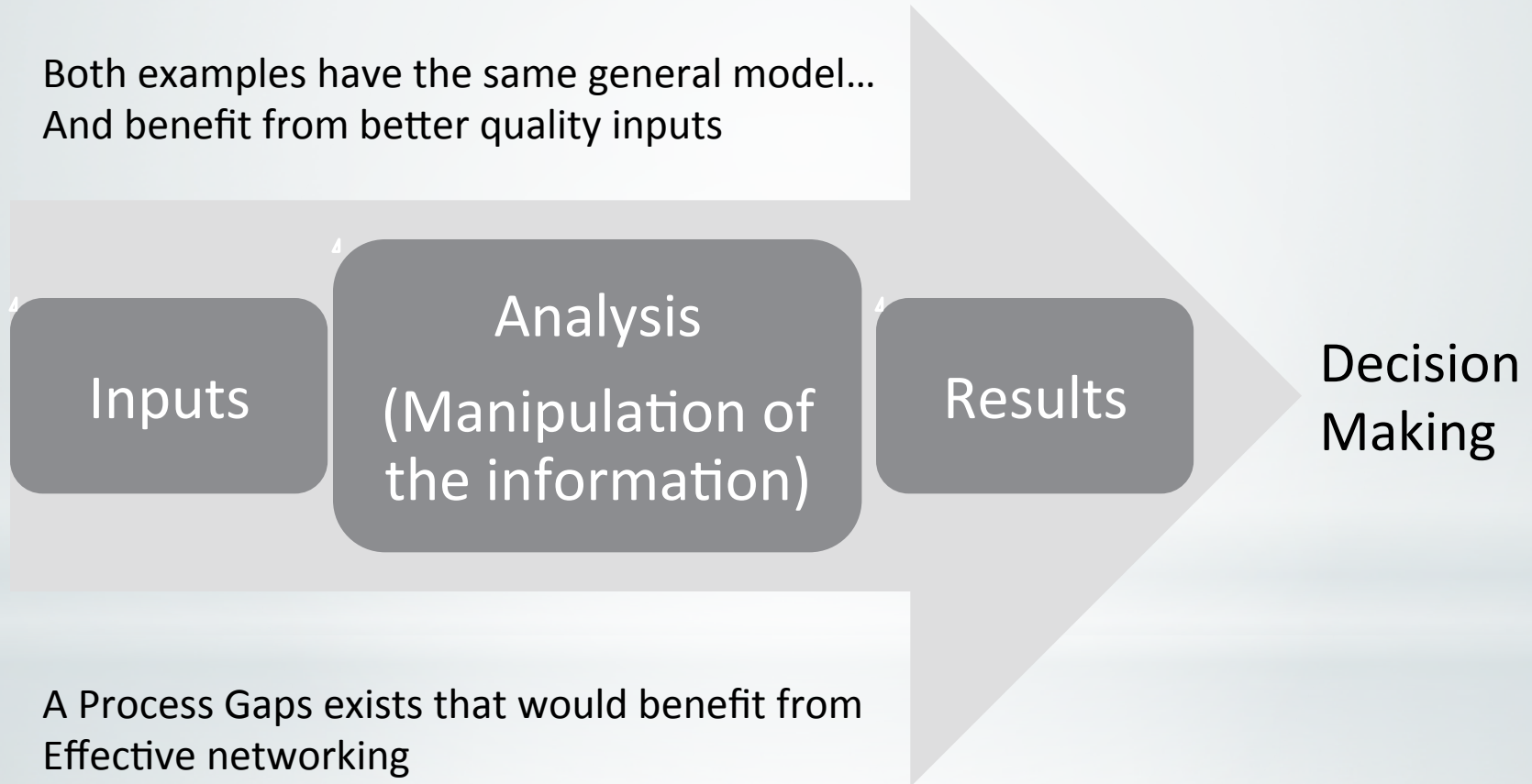
Figure 4: Components of final prioritization. The left panel shows the status of all Assessment units as used in the final solution. The middle and right panels show the results, "Best" and "Sum" respectively.



Scenario map showing the least data.

# Data Integration

Both examples have the same general model...  
And benefit from better quality inputs



A Process Gaps exists that would benefit from  
Effective networking

- \* **Objective:** Identify mechanisms for data sharing among state agencies, institutions and other stakeholders.
- \* **Recommendation:** Establish a coordinated data management system under the auspices of the Oregon Coastal Management Program to integrate disparate and diverse data sources.

Nearshore Research  
Task Force



# Data Networking: Ongoing Efforts



<http://www.coastalmarinedata.net/>

## Oregon Coastal & Marine Data Network

connecting producers & users of coastal & marine data



About

## About

The Oregon Coastal & Marine Data Network has recently been endorsed by the [Oregon Geographic Information Council \(OGIC\)](#) as a new [Framework Implementation Team \(FIT\)](#). As part of the endorsement process the network put forward the following mission and objectives:

### Mission

The mission of the Coastal-Marine FIT is to foster and support a community of producers and users of Oregon coastal and marine data to proactively address emerging data needs.

### Objectives

- To identify the geospatial and temporal data needed to support sustainable stewardship of statewide marine, coastal and estuarine environments
- To develop strategies to address gaps in data availability, and improve access to best available and authoritative data.
- To provide a mechanism for the cataloguing, evaluation and recognition of best available and authoritative datasets with known accuracy and completeness.
- To better connect original producers of coastal and marine data with the existing Oregon framework community, and to endeavor to develop, implement and revise stewardship commitments and procedures for critical coastal and marine data for which no existing stewardship arrangements exist.
- In collaboration with the Regional Data Framework Action Coordination Team (RDF ACT) of the West Coast Governors Alliance (WCGA), to interact and coordinate with Federal, State, Local, Tribal, academic and private partners on geospatial information development, storage, access and distribution.

## Recent Posts

- Catalog workshop – Initial materials online
- Workshop III – Day 1 materials posted
- Catalogs Internship opportunity available

## Archives

- November 2012
- October 2012
- September 2012

## Categories

- Catalogs
- Meetings
- Uncategorized

## Meta

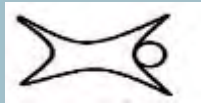
- Log in
- Entries RSS
- Comments RSS
- WordPress.org

## Oregon Coastal and Marine Data FIT

- Established - Fall 2012
- 3 meetings of the OCMDN prior to FIT establishment
- Working Groups
  - Shoreline Data
  - Catalogs



- \* Regional: West Coast Governor's Alliance on Ocean Health
- \* Regional Data Framework ACT



- \* State – Geospatial Framework
- \* Coastal and Marine FIT (adopted, Sept, 2012)



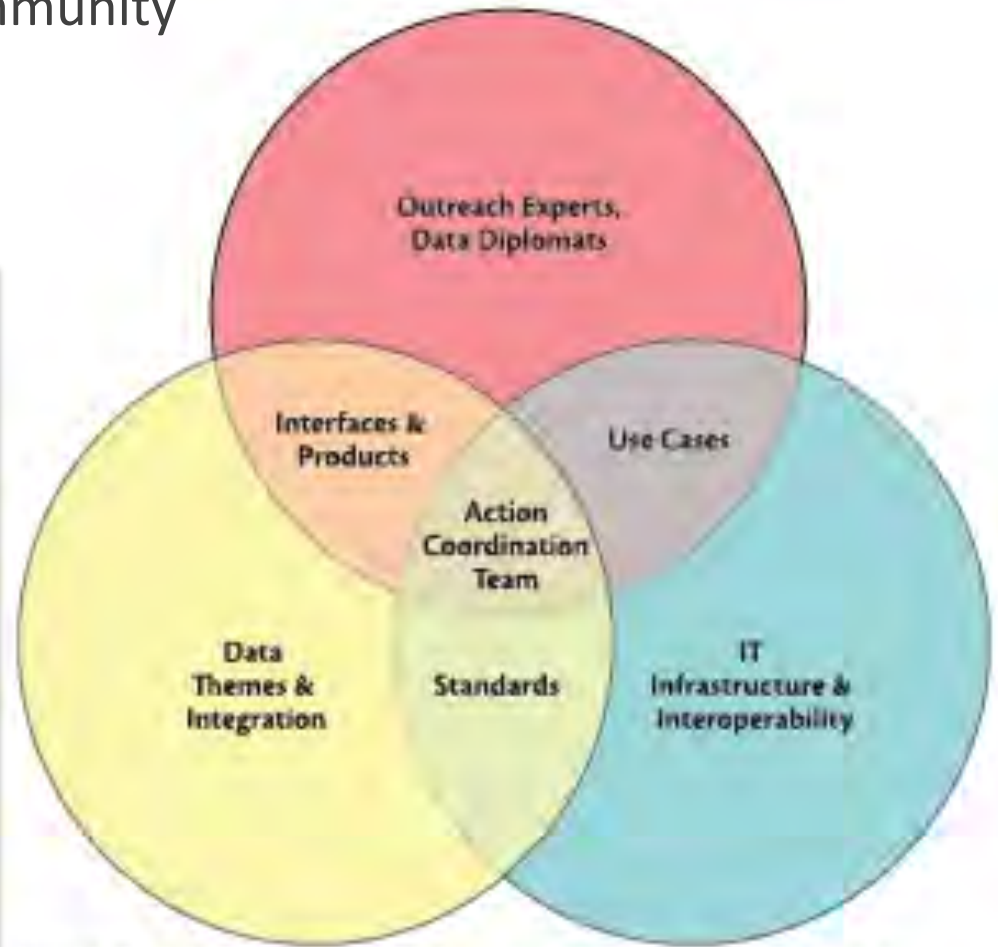
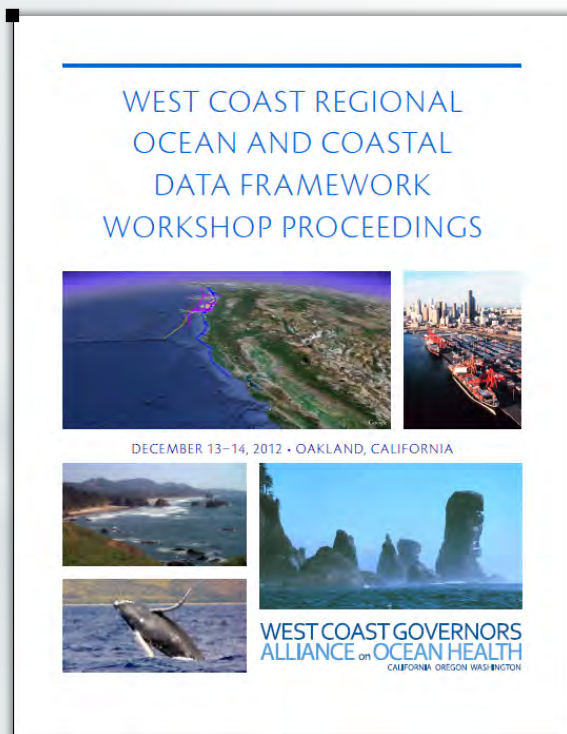
- \* Local
- \* Shoreline Working Group

**Networking needs to occur at  
different scales**

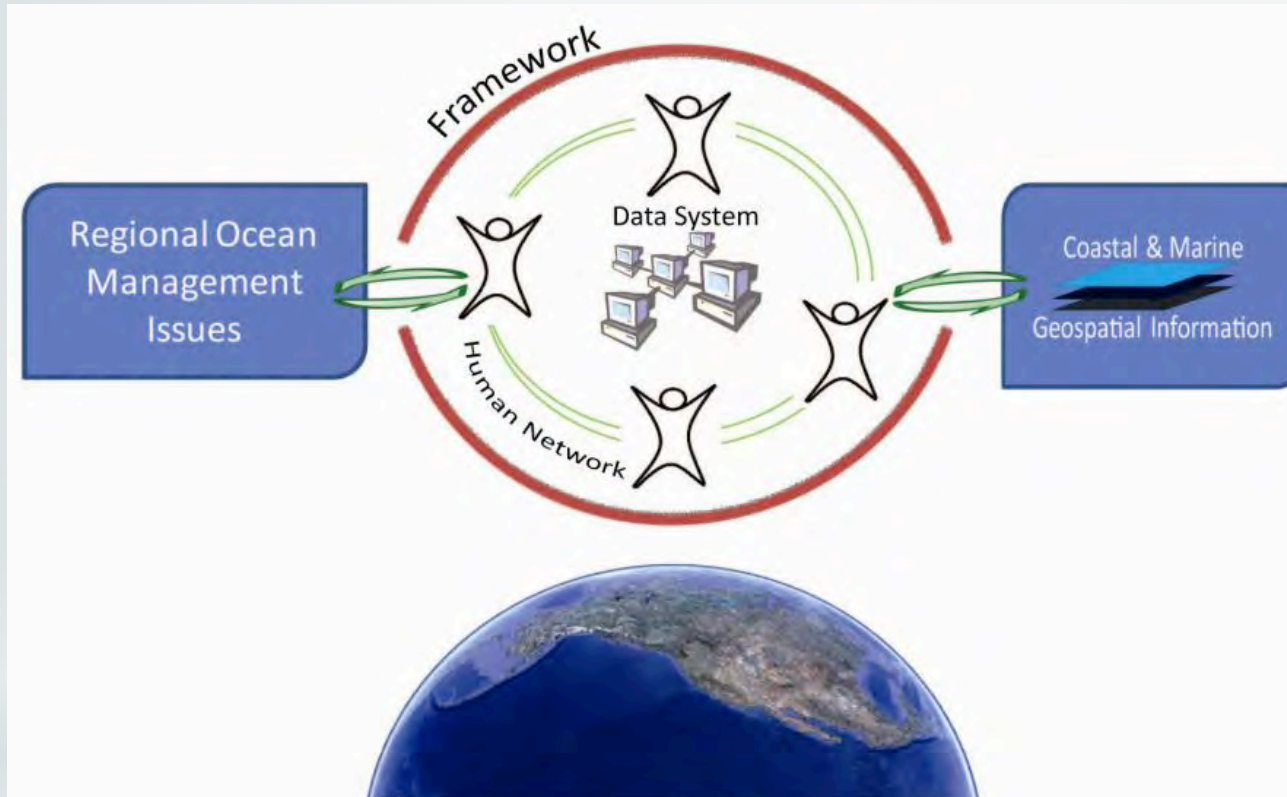


# RDF & West Coast Data Network

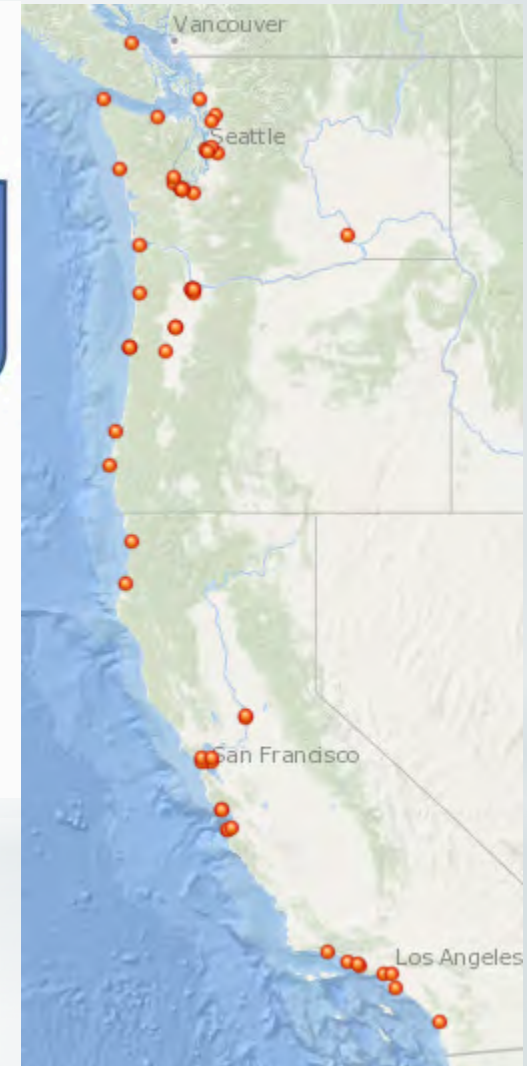
- \* West Coast Coastal Atlas Community
- \* Dec. 2011 workshop
- \* RDF ACT formation



# WCGA Regional Data Framework ACT



1. **Improve access** to regional data and information products
2. **Promote interoperability** of web services and applications
3. **Support a community** of practice

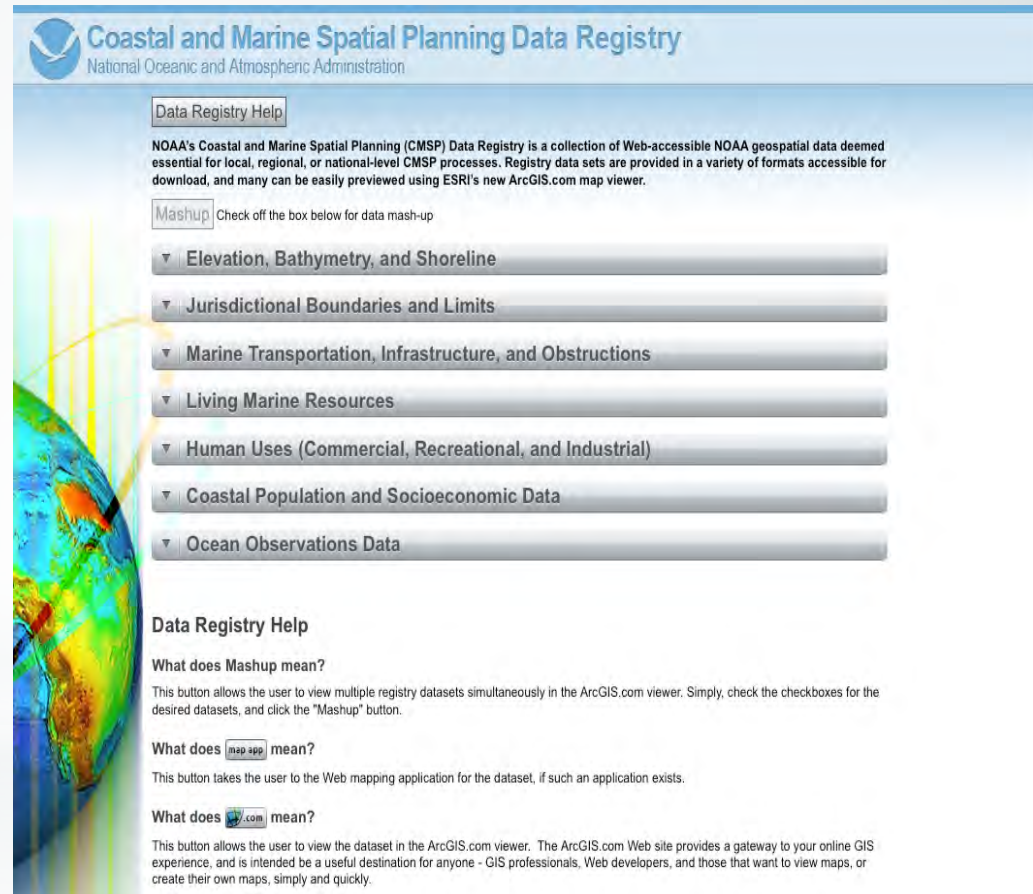


Map of WCGA members



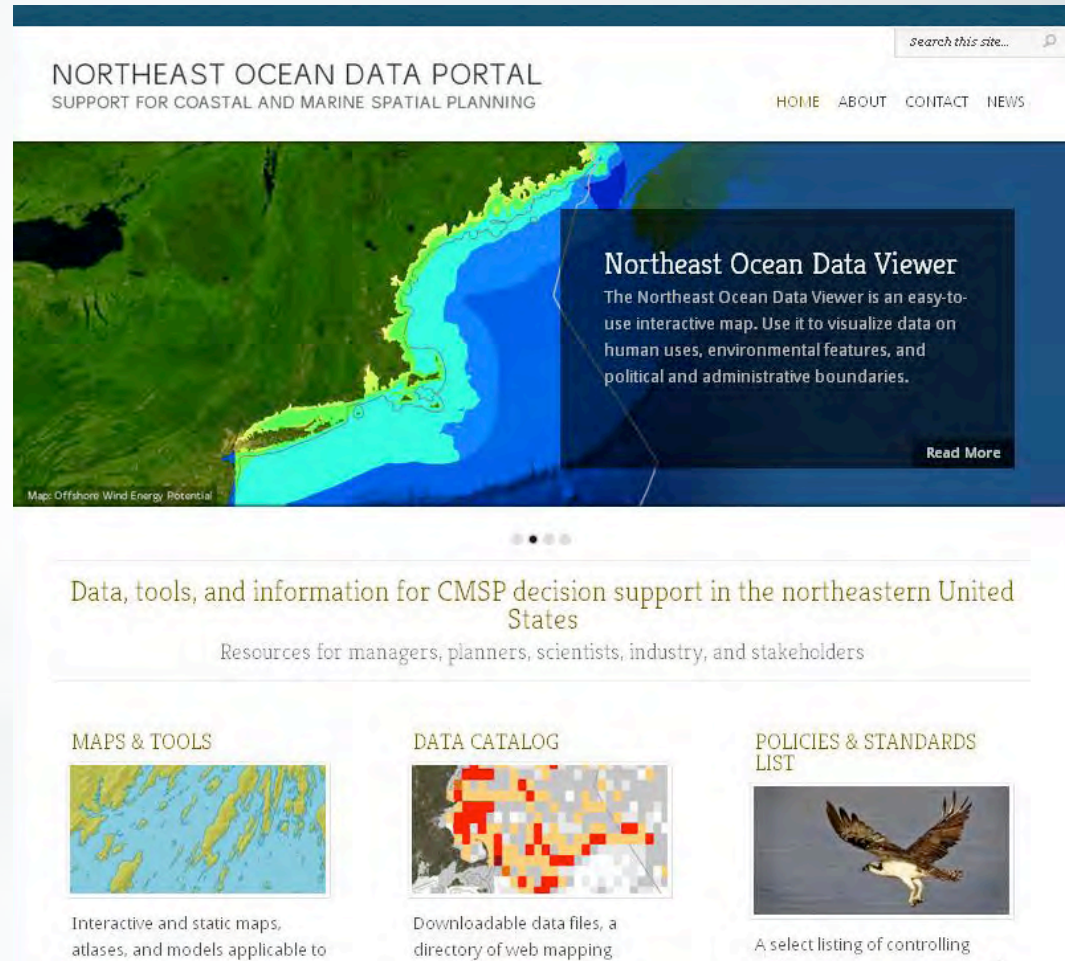
# Phase 1 Objectives

- **NOAA Fy11 ROP**
  - ACT Needs Assessment
  - Data Catalog, Registry
  - Ecotrust began work in June 2012



# Phase 2 Objectives

- **NOAA FY12 ROP**
  - Data Portal and Map Viewer
  - Tool development
  - Coordinator position
  - Support for partners to publish/integrate data





# Networking Next Steps:

- \* Regional:

- \* Finalize RDF ACT Work Plan
- \* Build a system that's flexible, but has a strong foundation of support and is technically sound
- \* Engage the existing and new WCGA members in the establishment of the “human network” of data producers and consumers

- \* State:

- \* Work towards the generation of a member directory and collective of catalogs that will share data through web services
- \* Continue to establish the OCMDN as a recognized node in the regional data framework process.

# The Big Challenge...

Networking (data integration) in a rapidly changing world



Nelscott Reef, 2010