APPENDIX 4: REGIONAL DATA FRAMEWORK CONCEPT

WEST COAST GOVERNORS
ALLIANCE on OCEAN HEALTH
CALIFORNIA OREGON WASHINGTON

West Coast Regional Data Framework Concept

Background/Challenge Statement:

Access to ocean and coastal geospatial information is necessary to advance the National Ocean Policy, achieve the priority actions of the West Coast Governors' Agreement on Ocean Health (WCGA), and develop an approach to coastal and marine spatial planning (CMSP) for the West Coast region. Currently, there are a number of local, state and regional coastal and marine web atlases and data display applications that are individually serving their intended audiences, but they are not all compatible at a regional scale. The formation of a network of data managers and users to develop a transparent process for improving data standards, access to data, data display formats, and prioritization of data gaps would be essential to linking these existing efforts and supporting coastal and marine resource management, research and sustainable economic development efforts.

In addition, there is no "front door" or "portal" website to allow easy access to these existing applications, regional data, metadata, data products (including maps), and decision support tools. The WCGA identified the development of a comprehensive geographic database that characterizes key habitats as a priority in its 2008 Action Plan to help protect and restore ocean and coastal habitats.[1] Additionally, the 2009 West Coast Sea Grant Regional Marine Research and Information Needs report identified *access to informatio*n as a crosscutting theme needed to address regional management issues.[2] In 2010, the WCGA received numerous proposals to develop a data viewing applications and decision support tools through the federal funding opportunity for regional ocean partnerships.[3] The next steps to advance this initiative will be to formalize this West Coast Regional Data Framework (Framework) approach, organize a West Coast Regional Human Network (Human Network) and develop recommendations for a West Coast Regional Data System (Data System) using existing staff and resources. If external funds become available, the Network will move forward to implement these recommendations.

Goal Statement:
Establish a Human Network to develop a Data System that links together the various existing data infrastructure and users throughout the West Coast to support regional coastal and marine resource management, research, and sustainable economic development efforts, such as coastal and marine spatial planning, fisheries management, and climate change planning and adaptation.

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[1]http://westcoastoceans.gov/docs/WCGA_ActionPlan_lowest-resolution.pdf

[2]http://seagrant.oregonstate.edu/research/RegionalPlanning/

[3]See WCGA website: http://westcoastoceans.gov/docs/ropfpffoonlineapplicationtoolsubmissions.pdf.

<u>Objectives:</u>

1. Per the recommendations of the West Coast Atlas Network (submitted to the WCGA during the 2010 NOAA Federal Funding Opportunity process), WCGA establishes a Human Network of technical developers, system users, and data providers.
2. Human Network assesses data access and display formats for the region and recommends options for an integrated Data System containing priority data sets (initially indicated through WCGA Action Team work plans and identified at the 2009 West Coast Coastal Atlas Workshop) and information relevant to regional planning objectives; including tasks such as prioritizing data gathering and identifying data gaps; agreeing on common standards for data compatibility and metadata development; and suggesting best practices for prioritizing, ingesting and sharing data.
3. Building on existing data and applications and considering lessons learned from other regions, the Human Network helps implement a Data System.

<u>Technical Steps Needed to Achieve Objectives:</u>

<u>Human Network</u>
1. Formalize a Human Network of West Coast data managers and users; Establish Human Network role, function, and list of members; Finalize a Steering Committee and Technical Work Groups to guide Data System recommendation development.
2. Agree on operating procedures and organizational structure.
3. Establish a regular communication mechanism (e.g., website forum, email list, conference calls) between Steering Committee and Working Group members and convene a workshop to bring together members to finalize Framework concept and develop a proposal for work.

<u>Data System Recommendations</u>
4. Work with the WCGA and other regional partners (e.g., state/federal agencies, tribes, NGOs, regional IOOS bodies) to identify potential planning issues and management objectives, such as those identified through a regional CMSP process, that a Data System could inform and support.
5. Based on WCGA priorities and regional planning issues, and building on efforts currently underway at the regional and state levels (e.g., WCGA Renewable Energy Planning Guidebook, BOEMRE Space-Use Conflicts study, OR TSP Amendment process, WA MSP efforts, CA Geospatial IMS scoping study, etc.), identify and locate relevant datasets (as well as data gaps) and existing data applications and information management systems that will support a Data System.
6. Develop recommendations regarding the scope, delivery, and technical underpinnings of a Data System to access, view, and download original data and data summary products of coastal and marine resources (set out "menu of opportunity" -- e.g., easy, medium, difficult options). Include estimates for budget costs and relevant players to support the initiative.

<u>Data System Development</u>
7. Per the recommendation of the WCGA Integrated Ecosystem Assessment (IEA) ACT (submitted to the WCGA during the 2010 NOAA Federal Funding Opportunity process), establish potential data "connectors" that allow interoperation of disparate data types, such as GIS data (2 dimensional grids, rasters, points), oceanographic data (multidimensional volumes), and biological databases (4-6 dimensional relational databases).
8. Identify a long-term partner who can maintain the Data System and is not subject to short-term budget fluctuations.

9. Overcome technical, regulatory, and institutional barriers to create cooperative management schemes of coastal and ocean data and information management systems, such as through MOUs, MOAs, and SOPs.
10. Ensure compatibility and interoperability of a Data System with current state (e.g., Washington and Oregon Coastal Atlases, MarineMap) and national data applications (e.g., the Multipurpose Marine Cadastre).
11. Building on existing and emerging applications and identified standards, develop an integrated Data System that provides a number of core functionalities, including data catalog search and visualization capabilities.
12. Incorporate suggestions of decision support tools for non-technical users and decision-makers to analyze and assess human uses and resources to meet the needs of their identified planning issues.

Challenges:

1. This effort will require the participation, cooperation, and buy-in of existing data management system developers and users for use of their time and staff resources.
2. Planning issues vary by state and region; it may be difficult to identify one solution that satisfies the various needs of agencies and stakeholders dealing with different planning issues.
3. Numerous data sets and data management systems exist in the region. Defining standardization and integration methods to link disparate data sets as well as systems will pose challenges.
4. No additional staff resources or external funding to build the Data System is guaranteed; it may depend on existing resources, including staff, technical equipment and funds, to support development of a Data System.
5. There will be security needs to protect sensitive data, such as location of cultural resources and endangered species, and economic data, such as fishery catches.

Timeline:
July 2011- Organize interim Steering Committee.

August 2011- Review draft outline.

Dec. 2011- Hold workshop to develop Framework concept and formalize Human Network. Agree on Human Network operating procedures; solicit volunteers for Steering Committee, establish technical work groups.

Winter/Spring 2012- Webinars/conference calls to discuss technical steps, including identifying planning issues, priority data sets, and data access and visualization options. Finalize Data System concept. Identify potential data providers and funding sources.

Summer 2012 - Work groups assess recommendations for a Data System and agree on feasible solutions, according to available funding. Secure funding.

Fall 2012 - Implement concept recommendations and begin Data System construction.

Winter 2012 - Launch Data System.