NCDDC DEMONSTRATES DATA ASSEMBLY CENTER IN WEST COAST OBSERVING SYSTEM PROJECT

The National Coastal Data Development Center has developed a data service for the West Coast Observing System (WCOS) with NOAA partners – Marine Sanctuaries Program (NMSP), National Oceanographic Data Center, and the Office of Response & Restoration; and non-NOAA partners including the Central and Northern California Ocean Observing System (CeNCOOS) and the Partnership for Interdisciplinary Studies of Coasts and oceans (PISCO).

WCOS is an end-to-end data management system that assists data providers in making observed information available to constituents in accordance with Integrated Ocean Observing System (IOOS) Data Management and Communication (DMAC) Subsystem definitions. For this initial effort, twenty-three new Sanctuary Environmental Assessment station moorings were established in NMSP System-Wide Monitoring Program (SWiM) regions to supplement the existing observational array.

NCDDC developed automated software processes which transform the data sets to NetCDF; create, validate, and publish FGDC metadata records; and bundle the data/metadata records for transport to the NODC where data are accessible in accordance with OPeNDAP standards and are archived for perpetuity.

Figure 1 shows the high level data flow, which results in four general categories of data access including direct OPeNDAP access, standard metadata access, application access and project website access for a total of twelve different points of Internet data discover and data access.

NCDDC also developed two custom applications to facilitate end-user data access. The WCOS Internet Map Server [Figure 2.] provides a common geospatial view of WCOS moorings in correlation to other CeNCOOS activities and related datasets of interest. The WCOS Data Products Web Application [Figure 3.] provides a WCOS data search engine and allows the user to preview data via plots and statistics. Both applications allow the user to download the selected dataset from the NODC OPeNDAP server in entirety or subset by user specified criteria.

Since its inception 2005, WCOS has routinely and automatically processed in excess of 650 data files, each representing data sets collected over time periods ranging from one week to three months. By serving as an automated data assembly center, NCDDC adds value through reformatting of the data stream, providing collection-level, FGDC compliant metadata along with appropriate file-level metadata attributes, and making the data and metadata available to NODC for long-term stewardship, archive and data access.

The WCOS end-to-end data management scenario is readily extensible; the Pacific Region Integrated Data Enterprise (PRIDE) has awarded a proposal to expand the process to include Coral Reef Early Warning System (CREWS) buoy data. NMSP is also developing requirements to add data sets from the Olympic Coast, Gulf of Farallones, and Flower Garden Banks NMS. This model was developed outside of the NCDDC core mission in support of non-federal observing systems.
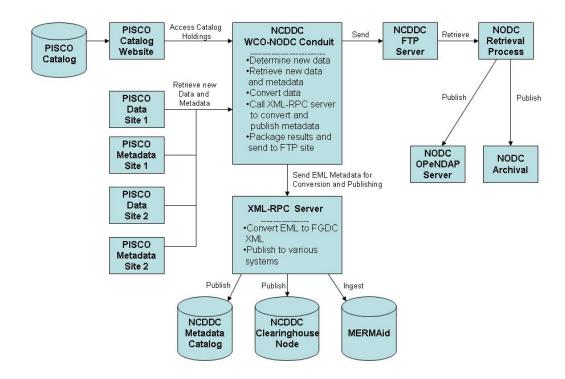

Figure 1. West Coast Observing System Data Flow

WCOS Internet Access Points

Direct Data Access points
- ➤ NODC OPeNDAP Server
  - o http://data.nodc.noaa.gov/cgi-bin/nph-dods/nmsp/wcos/
- ➤ NODC HTTP
  - o http://data.nodc.noaa.gov/nmsp/wcos/
- ➤ NODC FTP
  - o ftp://data.nodc.noaa.gov/pub/nmsp/wcos/
- ➤ Server registered at OPeNDAP.org
  - o http://www.opendap.org/data/datasets.cgi?keyword=nmsp&xmlfilename=datasets.xml
    - ▪ (Automatic search on 'nmsp'. Scroll to 'West Coast Observation System'. Click blue dot.)
- ➤ NODC Ocean Archive System
  - o http://www.nodc.noaa.gov/Archive/Search/
    - ▪ Accession No. 0002039

Data Access Applications
- ➤ WCOS Internet Map Service
  - o http://www.ncddc.noaa.gov/website/NMSP_WCO
- ➤ WCOS WebApp
  - o http://portal.ncddc.noaa.gov/wco/

Metadata Search
- ➤ NSDI/FGDC Clearinghouse nodes
  - o http://clearinghouse1.fgdc.gov/
- ➤ geodata.gov
  - o http://gos2.geodata.gov/wps/portal/gos
- ➤ NCDDC Portal
  - o http://portal.ncddc.noaa.gov/portal/jsp/search_options.jsp

General Access
- ➤ SIMoN (WCOS project website)
  - o http://www.mbnms-simon.org/sections/obs/nmsp_wco.php
  - o http://www.mbnms-simon.org/other/gen/imaps.php
- ➤ CeNCOOS OceanObs (RA data management tool)
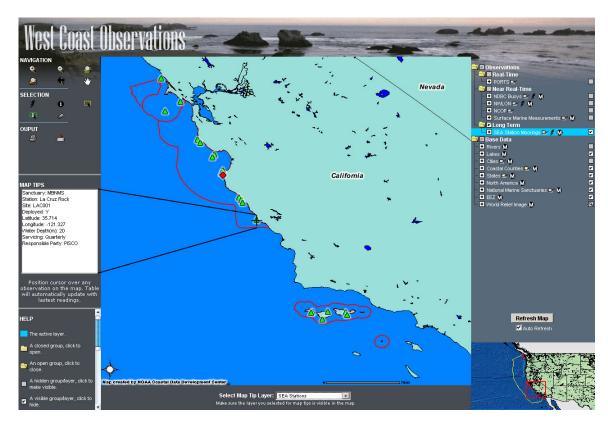 - o http://www.oceanobs.org/

Figure 2. WCOS Internet Map Service
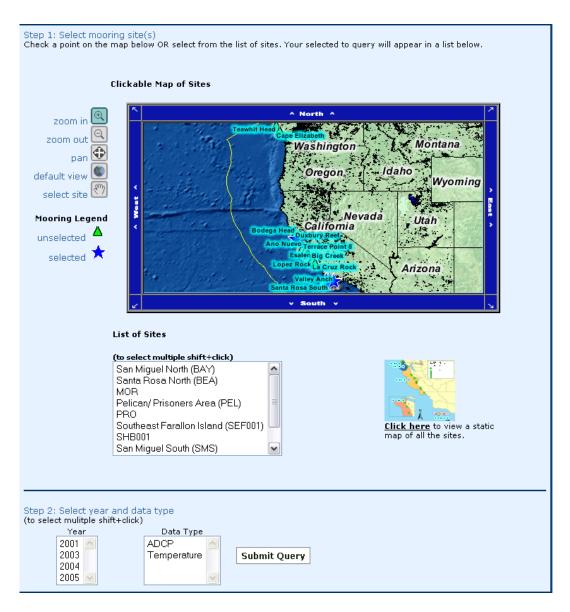http://www.mbnms-simon.org/sections/obs/nmsp_wco.php#imaps

Figure 3. WCOS Data Products Web Application
http://portal.ncddc.noaa.gov/wco/