INTEGRATING DATA: A CASE STUDY FROM THE BCO-DMO PROJECT

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A LITTLE HISTORY . . .

Series of ocean research programs:

• Warm Core Rings Program (early 1980’s)

• US JGOFS, US GLOBEC, WOCE programs
  (1990 – 2004; US GLOBEC nearing completion)

• Ocean Carbon & Biogeochemistry (OCB; 2006)

BCO-DMO (created Fall 2006)
EVOLVING EXPECTATIONS

1. 1980 Experiment data
2. 1990 Project data
3. 2000 Program data
4. 2010 Global data
THE CHALLENGE

Oceanography, the global scale interdisciplinary study of complex natural systems, necessitates an information management system capable of providing access to a broad range of resources. BCO-DMO aims to be part of that system in which all ocean data are accessible.
The BCO-DMO mandate is to provide data management support throughout a research project for investigators funded by NSF OCE Biological and Chemical Oceanography Sections or NSF OPP ANT Organisms & Ecosystems Program, with the goal of improving access to NSF funded research data.
BCO-DMO STAFF WORK IN PARTNERSHIP WITH PIs

- to create well-documented data sets from research programs involving a wide variety of sampling gear
Our goal is to be part of a distributed, loosely federated system-of-systems in support of ocean science that relies on local and global partnerships and teams of data scientists, information managers, and data originators.

These collaborative teams will develop and use standards-based infrastructures and an informatics approach designed to ensure effective access to and permanent archive of research data.
Exchange between trusted, authoritative sources with overlapping content …

E.g. BCO-DMO, R2R, NODC for cruise data.
EFFECTIVE ACCESS TO DATA

Working in partnership with research investigators and NSF program managers

- to ensure that data from NSF OCE funded awards are freely available online

- the BCO-DMO data system and interfaces facilitate
  - data discovery
  - data access to assess fitness-for-purpose
  - data export and download
  - data preservation in a permanent archive (the National Oceanographic Data Center (NODC))
EFFECTIVE ACCESS TO DATA

- to data from legacy programs, e.g. from US JGOFS and US GLOBEC
- to intermediate size and large-scale research programs, and data from single investigator NSF awards
Dataset metadata stored in a MySQL database, with browse and search access.

Programs
- International Indian Ocean Expedition (IOE)
- Nishida-Pacific-Oithona (Nishida-Oithona)
- ORI-Historical (ORI_Historical)

Climate Research Investment - Ocean Acidification (CRI-OA)
- Horizontal and Vertical Distribution of Thecosome Pteropods in Relation to Carbonate Chemistry in the Northwest Atlantic and Northeast Pacific (Ocean Acidification and Pteropods)

Comparative Analysis of Marine Ecosystem Organization (CAMEO)
- An Integrative Approach to Managing the Dewatering of Estuaries (DewaterEst)
- Building the Foundation in N. California Current Shelf-Slope-Oceanic Ecosystems (CalCurEco)
- CAMEO: Building the Foundation: An End-to-End Modeling Workshop (CAMWshp)

Comparative Dynamics of Ecosystem Components from the Northeast Atlantic Shelf and Pacific Coast: New Approaches to Forecasting and Understanding Variability and Structure in Marine Ecosystems (EcoCompDyn)
bco-dmo.org
-> Geospatial Access
EFFECTIVE ACCESS TO DATA
THANK YOU

Questions?