Geophysical Research Abstracts
Vol. 14, EGU2012-1258, 2012
EGU General Assembly 2012

Effective Management of Ocean Biogeochemistry and Ecological Data: the BCO-DMO Story

C.L. Chandler (1), R.C. Groman (2), M.D. Allison (2), P.H. Wiebe (2), D.M. Glover (1), and S.R. Gegg (1)

(1) Woods Hole Oceanographic Institution, Marine Chemistry, BCO-DMO, Woods Hole, MA, United States, (2) Woods Hole Oceanographic Institution, Biology, BCO-DMO, Woods Hole, MA, United States

Data availability expectations of the research community, environmental management decision makers, and funding agency representatives are changing. Consequently, data management practices in many science communities are changing as well. In an effort to improve access to data generated by ocean biogeochemistry and ecological researchers funded by the United States (US) National Science Foundation (NSF) Division of Ocean Sciences (OCE), the Biological and Chemical Oceanography Data Management Office (BCO-DMO) was created in late 2006. Currently, the main BCO-DMO objective is to ensure availability of data resulting from select OCE and Office of Polar Programs (OPP) research awards granted by the US NSF.

An important requirement for the BCO-DMO data management system is that it provides open access to data that are supported by sufficient metadata to enable data discovery and accurate reuse. The office manages and serves all types of oceanographic data (in situ, experimental, model results) generated during the research process and contributed by the originating investigators from large national programs and medium-sized collaborative research projects, as well as researchers with single investigator awards.

BCO-DMO staff members have made strategic use of standards and use of terms from controlled vocabularies while balancing the need to maintain flexible data ingest systems that accommodate the heterogeneous nature of ocean biogeochemistry and ecological research data. Many of the discrete ocean biogeochemistry data sets managed by BCO-DMO are still acquired manually, often with prototype sensor systems. Data sets such as these that are not “born-digital” present a significant management challenge. Use of multiple levels of term-mappings and development of an ontology has enabled BCO-DMO to incorporate a semantically enabled faceted search into the data access system that will improve data access through enhanced data discovery.

BCO-DMO involves an ongoing collaboration between data managers and marine scientists funded by the US NSF. BCO-DMO staff members work with investigators throughout the data life cycle, beginning with the data management plan that is part of the original proposal, during cruise planning and experimental design, through data reporting to meet funding agency requirements and finally to submission of final data sets for publication and final archive in a permanent data center. It is important to note that support from and continued active involvement of the NSF program managers has been a significant contributor to the success of this developing system.

URL: http://bco-dmo.org/