Making Data Available via the Biological and Chemical Oceanography Data Management Office—Implementation Details

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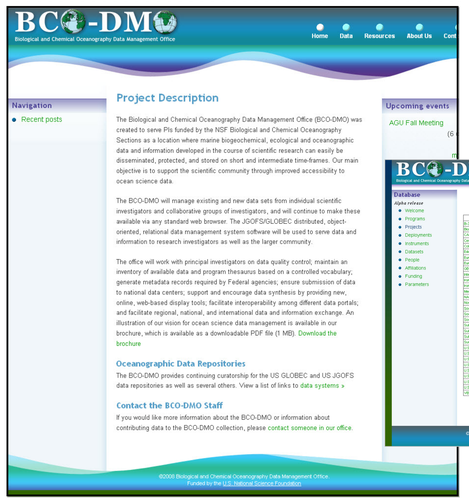
http://bco-dmo.org

Design decisions that support data discovery, access, display, downloading, and interoperability

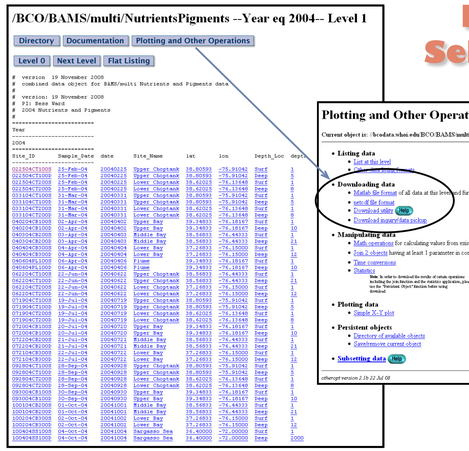
More than 2380 datasets are available from 276 different investigators.

Tabular view of the data is available from the HOME page

Data Discovery & Access

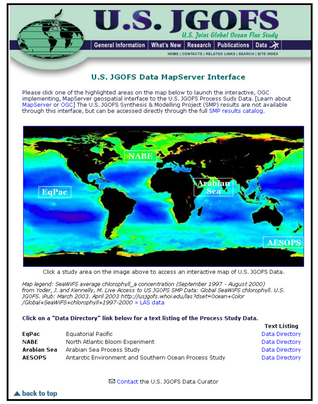


Download Selected Data



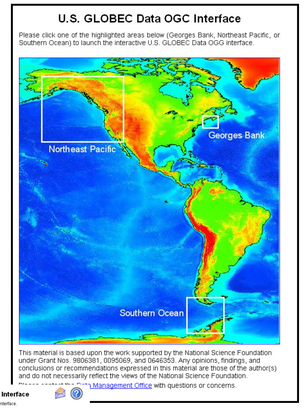
Includes basic search capability

Download options via JGOFS/GLOBEC software: ASCII (tab, csv) NetCDF Matlab

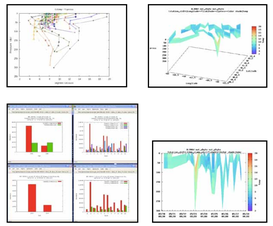


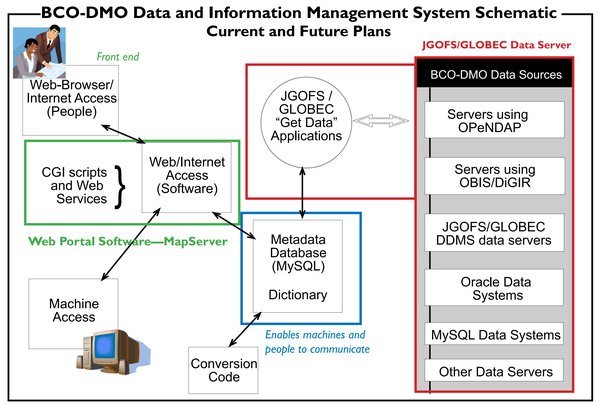
Existing project specific geospatial interface to the data is available via OGC-compliant MapServer software.

Display

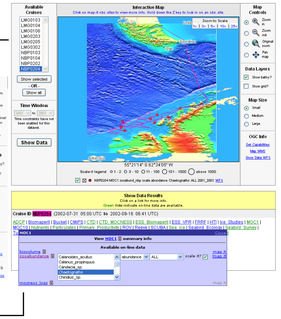


Quick Look Display options:
X-Y plots
Bubble (scale) plots
Bar Graphs
3D perspective



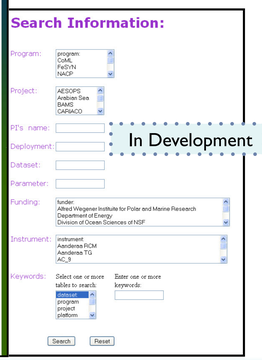


Interoperability



Download options via Open Geospatial Consortium (OGC) OpenGIS Web Mapping Service Interface Standard (WMS) and OpenGIS Web Feature Service Interface Standard (WFS).

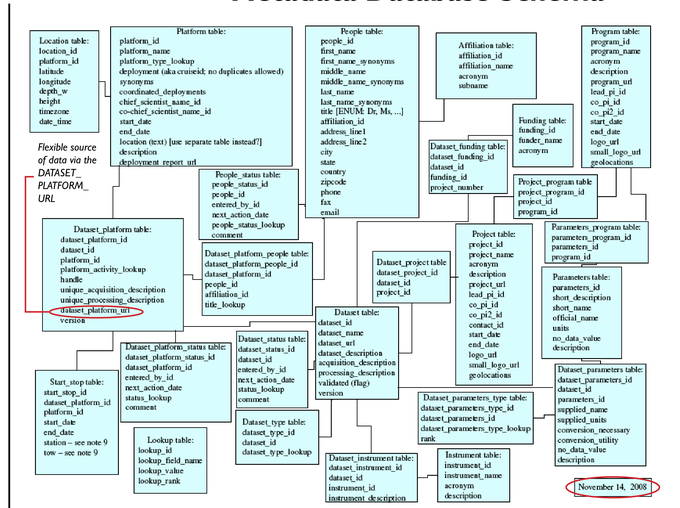
Search



In Development

MapServer interfaces and the Search capability are being driven by the metadata database. Changes to the instances in the metadata database are immediately reflected in the results displayed.

Metadata Database Schema

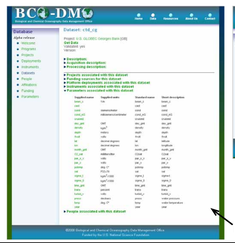


Simple Design

Driven by and responsive to science needs

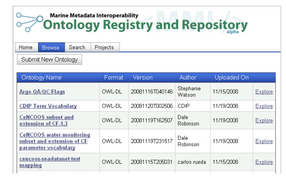
Supports user-named parameters and relates them to parameters understood by both computers and people.

Stepwise iterative improvements



BCO-DMO vocabulary

Data Contributor supplied field names



http://mmisw.org/or/ontologies

Community Standards

Acknowledgments

We gratefully acknowledge the programming efforts of Charlton Galvarino who programmed each of the initial MapServer interfaces and is in the process of modifying the MapServer interface to use the Metadata Database. We appreciate the work of Huan Xiang Xu who helped during the metadata database design phase and in the initial loading of the database. We thank Xiaoyan Ye for her help in the initial attempts to develop comprehensive search options, geospatial displays of all the data, and for updating software to take advantage of the new database. The Biological and Chemical Oceanography Data Management Office is supported by the National Science Foundation.