Data from Three NSF-funded, Ship-based, Ocean Time-series Programs

Global Intercomparability in a Changing Ocean: An International Time-series Methods Workshop

Bermuda Institute for Ocean Sciences

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Cynthia L. Chandler[1], Molly D. Allison[2], Robert C. Groman[2], Theresa McKee[3] , Peter H. Wiebe[2], and David M. Glover[1]

1 ~ Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution (WHOI), Woods Hole, MA 2 ~ Biology Department, WHOI 3 ~ Physical Oceanography Department, WHOI

http://bco-dmo.org

BCO-DMO

The Biological and Chemical Oceanography Data Management Office (BCO-DMO) is located at Woods Hole Oceanographic Institution and is funded to serve the data management requirements of investigators funded by the U.S. National Science Foundation (NSF) Biological and Chemical Oceanography Sections (OCE) and Office of Polar Programs (OPP) Antarctic Sciences (ANT) Organisms & Ecosystems Program. The office was created in late 2006, by combining the formerly independent data management offices for the U.S. GLOBEC and U.S. JGOFS programs. Data managers at BCO-DMO have worked with investigators from three of the NSF-funded, ship-based, ocean time-series programs to add the data gathered during the monthly cruises to the BCO-DMO data system. All of the CARIACO data are available from BCO-DMO, and recently the Niskin bottle data from HOT and BATS were added to the online database. Work has already been initiated to add other data including: primary production, zooplankton, biogeochemistry and particulate flux.

A variety of interfaces provide access to the online database. All are driven by metadata entered for each data set in the BCO-DMO system. Documentation (metadata) describing the who, what, where, when, how and why of each data set provides essential information used to discover and provide access to the data. Visitors to the online catalog can opt to use either the text-based access system or the map-based system to discover data resources. Once a data set of interest has been identified, tools are available to generate 'quick-view' plots and data listings. Data sets can be combined or sub-selected and then exported for download in a variety of user-selected formats.

The time-series site data are a valuable addition to the BCO-DMO data system that already includes data from many other NSF-funded coastal, ocean and Great Lakes research projects.

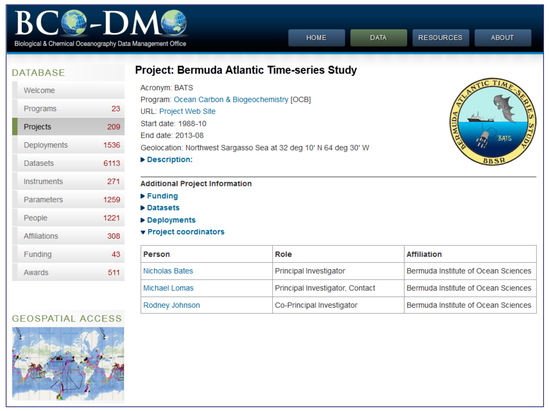
Acknowledgments

The BCO-DMO is funded by the U.S. National Science Foundation. We acknowledge the work done by the investigators of the ship-based, ocean time-series projects who are listed elsewhere in this poster. The user interfaces to the BCO-DMO data system have been developed in collaboration with Charlton Galvarino (Second Creek Consulting), Julie Allen (Woods Hole Oceanographic Institution) and BCO-DMO programmer, Adam Shepherd.

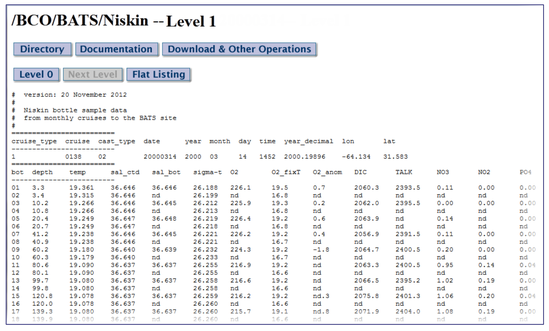
BATS

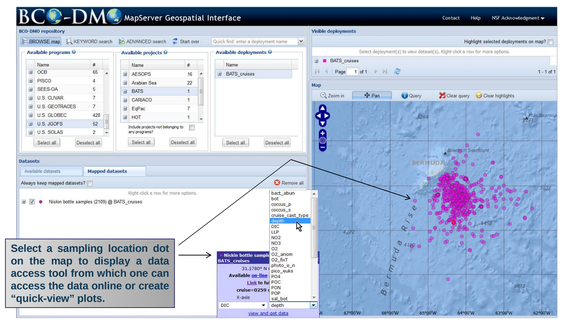
The Bermuda Atlantic Time-series Study (BATS, 32° 10'N, 64° 30'W) was established in 1988 to study the ocean carbon cycle by analyzing important hydrographic and biological parameters throughout the water column. BATS complements the other Sargasso Sea time-series, the Ocean Flux Program (OFP) a deep sediment trap mooring in place since 1978, and Hydrostation "S" a hydrographic time-series sampled approximately biweekly since 1954. Currently, BATS makes monthly measurements of important hydrographic, biological and chemical parameters throughout the water column at different sites within the Sargasso Sea.

Text-based Access to BATS Data



BATS Niskin Bottle Data

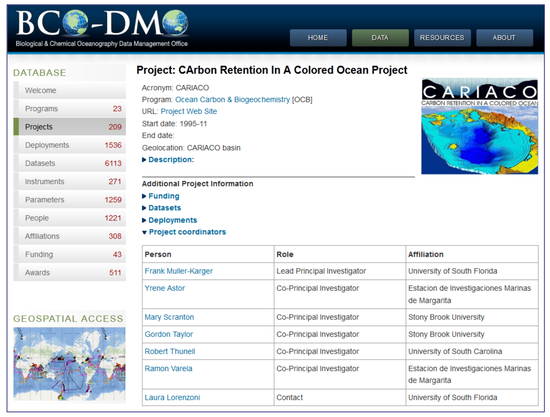




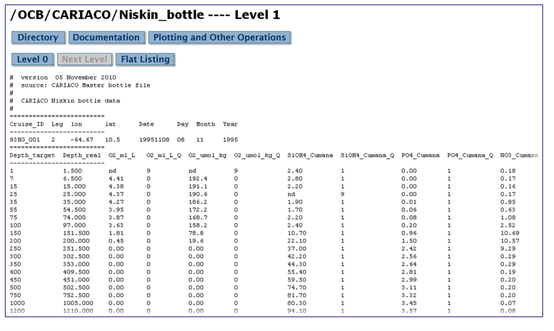
CARIACO

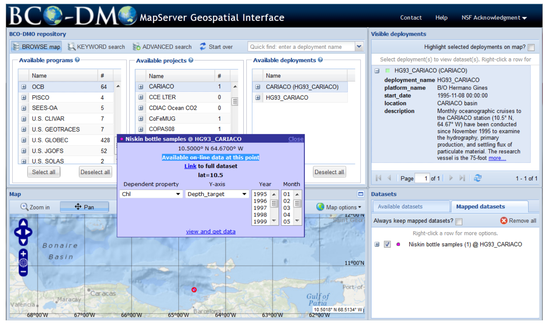
Since 1995, the CARIACO (CArbon Retention In A Colored Ocean) Program has studied the relationship between surface primary production, physical forcing variables like the wind, and the settling flux of particulate carbon in the Cariaco Basin. Located on the continental shelf of Venezuela (10.5° N, 64.67° W), the Cariaco Basin shows marked seasonal and interannual variation in hydrographic properties and primary production. Due to its high rates of sedimentation and excellent preservation, the varved sediments of the Cariaco Basin offer the opportunity to study high resolution paleoclimate and to better understand the role of the tropics in global climate change.

Text-based Access to CARIACO Data



CARIACO Niskin Bottle Data

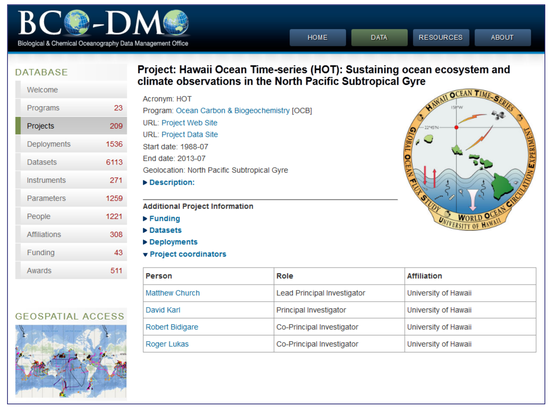




HOT

Since October 1988, the Hawaii Ocean Time-series (HOT) program has investigated temporal dynamics in biology, physics, and chemistry at Station ALOHA (22° 45' N, 158° W), a deep ocean field site in the oligotrophic North Pacific Subtropical Gyre (NPSG). HOT conducts near monthly ship-based sampling and makes continuous observations from moored instruments to document and study NPSG climate and ecosystem variability over semi-diurnal to decadal time scales. HOT was founded to understand the processes controlling the time-varying fluxes of carbon and associated biogenic elements in the ocean and to document changes in the physical structure of the water column.

Text-based Access to HOT Data



HOT Niskin Bottle Data