BCO-DMO Management of U.S. GEOTRACES Trace Element and Isotope Data

Woods Hole Oceanographic Institution, Woods Hole, MA

Abstract
The U.S. GEOTRACES program involves dozens of investigators, from multiple institutions, with expertise in various marine trace elements and their isotopes (TEIs). Good data management and sharing practices are essential for the success of such a large-scale, collaborative research effort. The Biological and Chemical Oceanography Data Management Office (BCO-DMO), serving as the U.S. GEOTRACES Data Assembly Center (DAC), is one resource that facilitates the management and sharing of GEOTRACES data. The BCO-DMO data managers work closely with contributing investigators to ensure the quality and completeness of data and metadata before transferring the data to the GEOTRACES International DAC at the British Oceanographic Data Center (BODC). BCO-DMO currently serves TEI and related environmental data from the GEOTRACES Intercalibration cruises, the North Atlantic Transect cruises, and from the GEOTRACES-related project “Cobalt, Iron and Micro-organisms from the Upwelling zone to the Gyre” (CoFeMUG). This presentation will highlight TEI data managed by BCO-DMO as well as the tools and features that aid in data discovery, access, and visualization.

Accessing and Visualizing GEOTRACES Data
More than 80 U.S. GEOTRACES Trace Element and Isotope datasets are available at BCO-DMO.

Mercury (Hg) Speciation data from KN204-01

The metadata page, with buttons to view and download or map the data

Supporting hydrography data (CTD and Niskin/Go-FLO bottles) are also available.

CTD Profiles from KN199-04

Supporting hydrography data (CTD and Niskin/Go-FLO bottles)

Quick plot tool: Oxygen from CTD sensor vs. depth from 2 casts (highlighted on the map)

bcodmo.org
email: info@bcodmo.org

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The Process
Data are collected and analyzed by U.S. GEOTRACES investigators.

Data are submitted to BCO-DMO. Data are then quality checked and reviewed, and made available online.

Data and metadata are contributed to the International GEOTRACES Data Assembly Center at BODC.

BCO-DMO Data Management
BCO-DMO data managers work with contributing investigators to ensure completeness of data and metadata.

• Each dataset was checked for GEOTRACES sample numbers, which are key for connecting datasets.
• Whenever possible, latitude, longitude, depth, pressure, station, cast, event, and bottle numbers were added.
• Parameter names were standardized for consistency across all datasets.
• Sufficient documentation is available to support use and re-use.

website: www.bcodmo.org
email: info@bcodmo.org

GEOTRACES Cruise Information at BCO-DMO
Cruise tracks, cruise reports, and event logs are available from 8 U.S. GEOTRACES and GEOTRACES-related cruises.

Clockwise from upper left: Map of U.S. GEOTRACES cruise tracks in the BCO-DMO system, map legend, R/V Knorr (vessel used in North Atlantic Transect cruises), the scientific sampling event log from cruise KN204-01.

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* Access to some datasets is currently restricted to GEOTRACES investigators only until the release of the GEOTRACES Intermediate Data Product.