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Enhancing Ocean Research Data Access

Cyndy Chandler
Robert Groman
Adam Shepherd
Molly Allison
Robert Arko

See next page for additional authors

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Authors
Cyndy Chandler, Robert Groman, Adam Shepherd, Molly Allison, Robert Arko, Yu Chen, Peter Fox, David Glover, Pascal Hitzler, Adam Leadbetter, Thomas Narock, Patrick West, and Peter Wiebe

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Enhancing Ocean Research Data Access

Cynthia Chandler (1), Robert Groman (2), Adam Shepherd (4), Molly Allison (2), Robert Arko (5), Yu Chen (6), Peter Fox (6), David Glover (3), Pascal Hitzler (7), Adam Leadbetter (8), Thomas Narock (9), Patrick West (6), and Peter Wiebe (2)

(1) Woods Hole Oceanographic Institution, Marine Chemistry, BCO-DMO, Woods Hole, Massachusetts, United States of America (cchandler@whoi.edu), (2) Woods Hole Oceanographic Institution, Biology, BCO-DMO, Woods Hole, Massachusetts, United States of America, (3) Woods Hole Oceanographic Institution, Marine Chemistry, BCO-DMO, Woods Hole, Massachusetts, United States of America, (4) Woods Hole Oceanographic Institution, Computer and Information Services, BCO-DMO, Woods Hole, Massachusetts, United States of America, (5) Lamont-Doherty Earth Observatory, Columbia University, Palisades, New York, United States of America, (6) Rensselaer Polytechnic Institute, Department of Computer Science, Tetherless World Constellation, Troy, New York, United States of America, (7) Wright State University, Computer Science, Dayton, Ohio, United States of America, (8) British Oceanographic Data Centre, Liverpool, United Kingdom, (9) Marymount University, Department of Information Technology, Arlington, Virginia, United States of America

The Biological and Chemical Oceanography Data Management Office (BCO-DMO) works in partnership with ocean science investigators to publish data from research projects funded by the Biological and Chemical Oceanography Sections and the Office of Polar Programs Antarctic Organisms & Ecosystems Program at the U.S. National Science Foundation. Since 2006, researchers have been contributing data to the BCO-DMO data system, and it has developed into a rich repository of data from ocean, coastal and Great Lakes research programs. While the ultimate goal of the BCO-DMO is to ensure preservation of NSF funded project data and to provide open access to those data, achievement of those goals is attained through a series of related phases that benefits from active collaboration and cooperation with a large community of research scientists as well as curators of data and information at complementary data repositories.

The BCO-DMO is just one of many intermediate data management centers created to facilitate long-term preservation of data and improve access to ocean research data. Through partnerships with other data management professionals and active involvement in local and global initiatives, BCO-DMO staff members are working to enhance access to ocean research data available from the online BCO-DMO data system. Continuing efforts in use of controlled vocabulary terms, development of ontology design patterns and publication of content as Linked Open Data are contributing to improved discovery and availability of BCO-DMO curated data and increased interoperability of related content available from distributed repositories. We will demonstrate how Semantic Web technologies (e.g. RDF/XML, SKOS, OWL and SPARQL) have been integrated into BCO-DMO data access and delivery systems to better serve the ocean research community and to contribute to an expanding global knowledge network.