Rolling Deck to Repository (R2R): Collaborative Development of Linked Data for Oceanographic Research

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The Rolling Deck to Repository (R2R) program is developing infrastructure to ensure the underway sensor data from U.S. academic oceanographic research vessels are routinely and consistently documented, preserved in long-term archives, and disseminated to the science community. The entire R2R Catalog is published online as a Linked Data collection, making it easily accessible to encourage discovery and integration with data at other repositories.

We are developing the R2R Linked Data collection with specific goals in mind: 1.) We facilitate data access and reuse by publishing the richest possible collection of resources to describe vessels, cruises, instruments, and datasets from the U.S. academic fleet, including data quality assessment results and clean trackline navigation; 2.) We facilitate data citation through the entire lifecycle from field acquisition to shoreside archiving to journal articles and global syntheses, by publishing Digital Object Identifiers (DOIs) for datasets and encoding them directly into our Linked Data resources; and 3.) We facilitate federation with other repositories such as the Biological and Chemical Oceanography Data Management Office (BCO-DMO), InterRidge Vents Database, and Index to Marine and Lacustrine Geological Samples (IMLGS), by reciprocal linking between RDF resources and supporting the RDF Query Language.

R2R participates in the Ocean Data Interoperability Platform (ODIP), a joint European-U.S.-Australian partnership to facilitate the sharing of data and documentation across international borders. We publish our controlled vocabularies as a Simple Knowledge Organization System (SKOS) concept collection, and are working toward alignment with SeaDataNet and other community-standard terms using the NERC Vocabulary Server (NVS).

http://rvdata.us/