

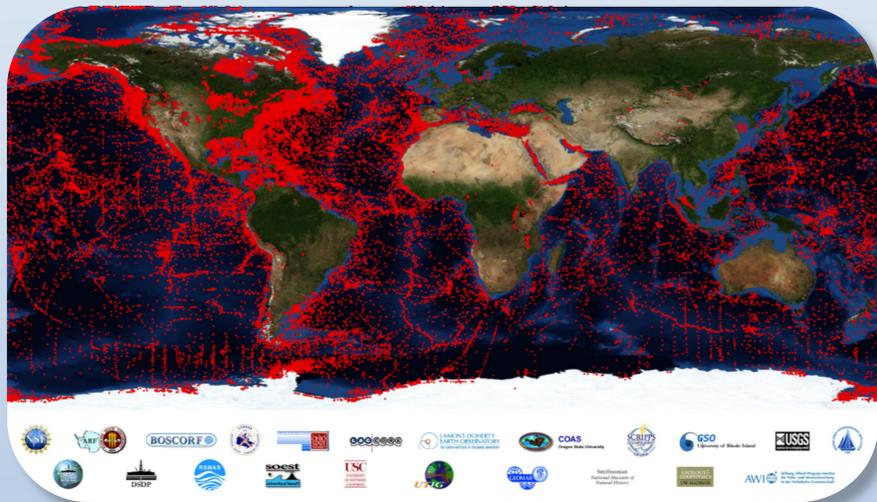
The Index to Marine and Lacustrine Geological Samples (IMLGS): Linking Digital Data to Physical Samples for the Marine Community

Kelly Stroker¹, Jennifer Jencks², Barry Eakins¹
¹Cooperative Institute for Research in Environmental Sciences, ²NOAA National Centers for Environmental Information, Boulder, CO
 Kelly.stroker@noaa.gov

What is the IMLGS?

Community access to common information on sample collections

The Index to Marine and Lacustrine Geological Samples (<https://www.ngdc.noaa.gov/mgg/curator/curator.html>) is a community designed and maintained resource enabling researchers to locate and request sea floor and lakebed geologic samples archived by partner institutions. The Index is based on core concepts of community oversight, common vocabularies, consistent metadata and a shared interface. The Curators Consortium, now international in scope, meets at partner institutions biennially to share ideas and discuss best practices. NCEI serves the group by providing database access and maintenance, a list server, digitizing support and long-term archival of sample metadata, data and imagery.



Community Involvement (* = NSF support)

- Antarctic Marine Geology Research Facility (AMGRF)*
- British Ocean Sediment Core Research Facility (BOSCORF)
- Byrd Polar Research Center (BPRC)*
- Sediment Laboratory Geological Survey of Canada (GSC)
- Integrated Ocean Drilling Program (IODP)*
- Lamont-Doherty Earth Observatory (LDEO)*
- National Lacustrine Core Repository (LacCore)*
- Oregon State University (OSU)*
- Scripps Institution of Oceanography (SIO)*
- University of Rhode Island (URI)*
- U.S. Geological Survey (USGS) Repositories
- Woods Hole Oceanographic Institution (WHOI)*

Why does the Index Exist?

To enable researchers to locate and request sea floor and lakebed geologic samples and digital information from participating repositories. The Index was conceived in the dawn of the digital age by representatives from U.S. academic and government marine core repositories and the NOAA National Geophysical Data Center, now the National Centers for Environmental Information (NCEI), at a 1977 meeting convened by the National Science Foundation (NSF).



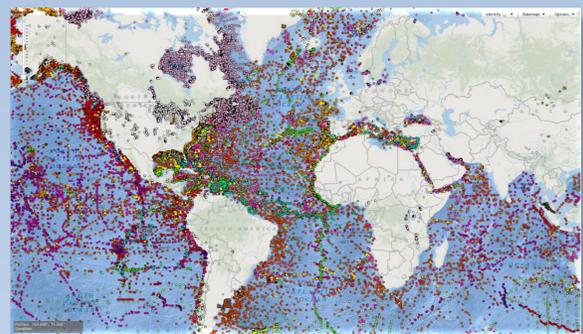
"The KN158 cruise is from the North Atlantic and most of the cores have undergone the same high resolution sampling evident here (the styrofoam acting as a placeholder for the missing mud). The samples have been used for C14 dating, isotope studies, foram and IRD counts, and paleomagnetism." Nichole Anest, Interim Curator, LDEO



"CHEPR is from the East Pacific Rise and this whole cruise produced beautiful glassy basalts. Many scientists have used the glass for isotope studies, studies on volcanoes dynamics, carbon cycling, and more."

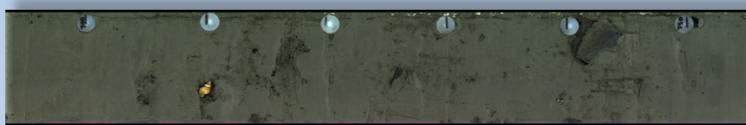
What is in the Index?

Over three decades, participating curators have performed the laborious task of creating and contributing metadata for over 205,000 sea floor and lake-bed cores, grabs, and dredges archived in their collections. Some partners use the Index for primary web access to their collections while others use it to increase exposure of more in-depth institutional systems. The IMLGS has a persistent URL/Digital Object Identifier (DOI), as well as DOIs assigned to partner collections for citation and to provide a persistent link to curator collections.



What are its tenets?

- Community oversight
- Shared interface and common vocabularies
- Long-term data stewardship and archive



Long-term Data Stewardship

NCEI operates on the Open Archival Information System (OAIS) reference model. Over 11.5 TB of sample-related data contributed over 40 years are secured in the archive, ensuring their continuing availability to the scientific community.

Data Rescue

With funding until 2011 from NOAA's Climate Database Modernization Program (CDMP), NCEI has worked with partner institutions to digitize 41,850 core photographs and x-rays, and 34,388 pages of reports and logs from their collections, improving access to these precious resources and safeguarding digital copies in the archive. Data rescue is a continuing priority and providing access to these data is the next step in the process.

Find and Request Samples

Online searchable text and map interface that links to sample information, cruise information, geosamples.org for IGSN information, trackline and multibeam data (if available), and information on how to contact the physical sample curator.

IGSN: DSR0002XQ
 Sample Name: KN158-4-018C-1
 Other Name(s):
 Sample Type: Core
 Parent IGSN: Not Provided

KN 158-4-018 GC
 Mesopneic Description of a Split Core

Latitude: 63° 25' N Longitude: 30° 40' 45" W
 Core depth: 2416 m Date opened: July 14, 1998 Date photographed: July 14, 1998
 Date taken: Feb 20, 2003 Station number: Not Provided
 Core length: 79 cm Flow in: 0 cm

0-42 cm
 BIOCALCAROUS CLAY
 (From oozed light olive brown (2.5Y5/2); mottles of light brownish gray (2.5Y5/2) at 35-42 cm; surface at 36-39 cm; wet becoming moist and plastic. Carbonate content is high. Coarse fraction 10 % consists of abundant foraminifera; trace radiolaria, diatoms, iron oxide stained grains, sponge spicules, echinoid spines, basic volcanic glass, shell fragments, quartz, heloid, calcomite and coccoliths. Basal contact is an angular, distinct color change. Sampled at 25 cm.

42-52 cm
 BIOCALCAROUS CLAY
 (From oozed light olive brown (2.5Y5/2); mottles of pale brown (10YR6/2) at 42-45 cm; 1. mottles of light brownish gray (2.5Y5/2) at 44-48 cm; moist and plastic. Carbonate content is high. Coarse fraction 9 % consists of abundant foraminifera; trace shell fragments, echinoid spines, basic volcanic glass, radiolaria, iron oxide stained grains, sponge spicules, pyroxene and coccoliths. Basal contact is an angular, distinct color change. Sampled at 48 cm.

Other ways to access sample information via the IMLGS?

- ✓ JSP Text/Forms Web Interface
- ✓ ArcGIS REST Services & Interactive Map <http://maps.ngdc.noaa.gov/arcgis/rest/services>
- ✓ Linked Data Interface maintained by R2R
- ✓ GRID Arenal annual GoogleEarth KMZ
- ✓ Data available from opendata.arcgis.com
- ✓ Metadata Catalogs: Geoportal, GCMD, Data.gov

What's next for the IMLGS?

A well-documented API / Public access to all 11.5TB of geosample data in the offline archive. This API is currently under development for all scientific ocean drilling data in the geology archive. The intent is to expand this to all geology data.

Request Summary NOS 14 DEM 3 SOD 140 Multibeam Surveys 3

Search Criteria
 SOD IDs: 0127c914-1a6e-45d...
 Start Year: Not specified
 End Year: Present
 Ships: All
 Legs: All
 Holes: All
 Subfolders: core_photos

Top: Not Specified
 Left: Not Specified
 Bottom: Not Specified
 Right: Not Specified

New API will provide access to all files in the archive. Ocean Drilling Program (ODP): 1,100,000 files (6.6 TB) (includes 742,771 image strips created by Chris Jenkins for the CoreWall Project)

