

Curators of Sea Floor and Lakebed Samples Celebrate 25 Years of Service

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Research on marine geological and lake sediment benefits from community repository facilities that are supported by the U.S. National Science Foundation (NSF) at eight U.S. institutions. These facilities house sediment cores, sediment trap samples, and sea floor rocks, and distribute data and materials for national and international scientific use. For more than 30 years, in partnership with participating universities, NSF has provided support for these community service facilities, recognizing that storage and distribution of these unique materials leverage the best and most cost-effective science for the global community.

Curators representing the participating institutions meet semi-annually to coordinate repository activities, to set standards for archival, and to maintain policies that maximize research use of materials. These planning meetings began in 1977, when lack of coordination among institutions limited access to the broader community. The inaugural meeting of 18 interested repositories yielded a preliminary sediment description scheme and a first community data base, which opened in 1979 with records on 5000 sediment cores hosted by the National Oceanic and Atmospheric Administration's National Geophysical Data Center (NGDC) and World Data Center for Marine Geology and Geophysics in Boulder, Colorado.

Subsequent meetings yielded greater coordination and improved community access to the collections. By the late 1980s, the rock classification scheme was revised and extended, and the data base was opened to the international community. NGDC published the first curators' Web page and online search engine for cores in 1994. Today, over 100,000 sea floor and lakebed samples are searchable online through both a standard Oracle interface and a new, Web-enabled interactive map system. The curators' Web page (<http://www.ngdc.noaa.gov/mgg/curator>) at NGDC includes links to 20 participating institutions that provide Web access to additional information on their collections and services.

Within the United States, long-term participants in the repository system (Table 1) include the laboratories funded by NSF: Lamont-Doherty Earth Observatory, Oregon State University (OSU), University of Rhode Island, and Woods Hole Oceanographic Institution (WHOI), as well as the Antarctic Repository at Florida State University. Recent additions include the National Lacustrine Core Repository at the University of Minnesota, which opened in 2000 to house long drill cores from lakes; and the Scripps Institution of Oceanography, which has maintained a marine repository for many years, but recently gained NSF funding. The U.S. academic curators group also coordinates closely with the multiple repositories of the Ocean Drilling Program, with the U.S. Geological Survey, and with repositories in Canada, the United Kingdom,

and Europe that in recent years have joined the semi-annual curators' meetings. U.S. coring facilities for the academic community, which are now maintained at OSU and WHOI, cooperate closely with the curatorial group to make sure that new cores are archived appropriately for the community. The NSF-funded repositories are open to all who need long-term storage with public access. Coordination maximizes efficiency and minimizes costs because information on methods and materials purchase is shared and the effective use of materials is ensured.

The curators continue to evaluate new information that should be systematically archived for all newly collected material. Basic location information and text descriptions are stored at NGDC. Film-based core photographs and more detailed core descriptions are maintained at the repositories or at NGDC. Increased

computer resources and the widespread availability of non-invasive, multi-sensing core logging systems that document ephemeral physical properties, such as magnetic susceptibility, bulk density, and P-wave velocity, as well as new digital imaging systems, point to a new opportunity. For the future, the curators set as a goal the analysis and public archival of these non-intrusive data types for all new sediment cores. The group is now working to develop basic standards for the archival of digital core information, so that all institutions can contribute data to NGDC in a form that will be of value to the global geosciences community.

The most recent curators' meeting, which took place in October 2002 and marked 25 years of ongoing collaboration, coincided closely with the release of the report, "Geoscience Collections and Data: National Resources in Peril" (National Research Council, 2002, www.nap.edu/books/0309083419/html/1.html). This report highlights the critical role of geological sample collections in evaluating natural resources and assessing geological hazards. Long-term funding limitations

Table 1. U.S. Repository and Data Centers, and Field Sampling Contacts

Repositories and Data Centers

NOAA-NGDC	http://www.ngdc.noaa.gov/mgg/curator/ Ms. Carla Moore (Carla.J.Moore@noaa.gov)
FSU	http://www.arf.fsu.edu/ Dr. Tom Janecek (janecek@gly.fsu.edu)
LDEO	http://www.ldeo.columbia.edu/CORE_REPOSITORY/RHP1.html Ms. Rusty Lott-Bond (curator@ldeo.columbia.edu)
ODP	http://www.odp.tamu.edu/curation/ Dr. John Firth (curator@odpemail.tamu.edu)
OSU	http://corelab-www.oregonstate.edu Ms. Bobbi Conard (corelab@coas.oregonstate.edu)
SIO	http://gc.ucsd.edu/index.html Mr. Warren Smith (wsmith@ucsd.edu)
UMN	http://lrc.geo.umn.edu/LacCore/laccore.html Dr. Doug Schnurrenberger (schno005@tc.umn.edu)
URI	http://www.gso.uri.edu/MGSLsite/mgsl_homepage.htm Dr. Steve Carey (scarey@gsosun1.gso.uri.edu)
WHOI	http://www.whoi.edu/science/GG/corelab/ Mr. Jim Broda (jbroda@whoi.edu)

Field Sampling Facilities:

Marine – West Coast OSU/NORCOR	http://corelab-www.oregonstate.edu/corer.html Dr. Nick Piasias (npiasias@coas.oregonstate.edu)
Marine – East Coast WHOI	http://www.whoi.edu/science/GG/corelab/hardware/systems_main.html Mr. Jim Broda (jbroda@whoi.edu)
Lake Drilling DOSECC	http://www.dosecc.org/html/lake_drilling.html Dr. Dennis Nielson (dnielson@dosecc.org)

restrict the ability to expand repository spaces and threaten many collections held by federal agencies, universities, museums, and state surveys.

The NRC recommends that priorities be established for rescuing collections that are in danger of being lost, and that regional centers be created to consolidate collections. The geologic community has clearly benefited from the long-term curatorial support of marine and lacustrine collections at academic institutions in the United States by agencies such as the National Science Foundation and the Office

Naval Research. The NSF-funded repositories also face significant future challenges of space and funding limitations, however, as university budgets face stress nationwide. Many of the NSF repositories will be full within the next 2 years, and most are now seeking local support for expansion so they can continue to serve the national and international community as a coordinated system.

—ALAN MIX and BOBBI CONARD, Oregon State University, Corvallis; JIM BRODA, Woods Hole Oceanographic Institution, Mass.; STEVE CAREY,

University of Rhode Island, Narragansett; JOHN FIRTH, Texas A&M University, College Station; TOM JANECEK, Florida State University, Tallahassee; RUSTY LOTT-BOND, Lamont-Doherty Earth Observatory, Palisades, N.Y.; CARLA MOORE, National Geophysical Data Center, Boulder, Colo.; RICHARD NORRIS, University of California, San Diego; and DOUG SCHNUR-RENNBERGER, National Lacustrine Core Repository, University of Minnesota, Minneapolis
