

CURATORS of Marine & Lacustrine Geological Samples Meeting September 15-17, 2004

Lamont-Doherty Earth Observatory

Minutes compiled by Cathy Frazee (USGS Menlo Park)
and Brian Buczkowski (USGS Woods Hole)

Attending: Nichole Apnest, LDEO, Sea Sample Repository, Palisades, NY
Yasmine Yabyabin, LDEO, Sea Sample Repository, Palisades, NY
Rusty Lotti Bond, LDEO, Sea Sample Repository, Palisades, NY
Jim Browning, Rutgers, State University of NJ, Piscataway, NJ
Brian Buczkowski, USGS, Woods Hole, MA
Steve Carey, URI, Univ. of Rhode Island, Kingston, RI
Bobbi Conard, OSU Repository, Corvallis, OR
David Christie, OSU Repository, Corvallis, OR
Shirley Dutton, Bureau of Economic Geology, Austin, TX
David Epp, National Science Foundation, Arlington, VA
Cathy Frazee, USGS, Menlo Park, CA
Gar Esmay, ODP, ECR, Lamont-Doherty Earth Observatory, Palisades, NY
George Lozefski, LDEO, Sea Sample Repository, Palisades, NY
Carla J. Moore, NOAA, Boulder, CO
Anders Noren, National Lacustrine Core Repository, Minneapolis, MN
Fred Weaver, Antarctic Marine Geology Research Facility, Tallahassee, FL

Special Guest: Gerard Bond, LDEO, Palisades, NY
Kirsten Lehnert, LDEO, Petrological Database of the Ocean Floor, Palisades, NY

September 15, 2004 – Lamont Hall Conference Room

Rusty Lotti – Opened the meeting by welcoming the attendees.

STATUS OF PAST ACTION ITEMS

Rusty Lotti

1. Shirley Dutton: NSF has acquired space at the University of Texas, Houston Research Center for storage and curation of terrestrial rock cores and samples collected for NSF-funded research. In the past, terrestrial rock material did not have an NSF-supported facility where it could be stored.
2. Kerstin Lehnert: Sample curation needs to become part of the geoscience cyberinfrastructure complementing sample-based data in discipline-specific information systems. The use of unique sample identifiers is fundamental to achieve this.

3. Fred Weaver: We are in or approaching a crisis situation for storage space for future acquisitions of irreplaceable marine core materials. We need to find cost-effective ways to provide for expansion of repository facilities & multiple means to fund such emphasis.
4. Rusty Lotti Bond: On online sample forms. The repositories need to be consistent in their policies of sample Request forms as well as sample naming protocol.
5. Rusty Lotti Bond: On Archiving of special research Collections. There are a growing number of scientists reaching retirement age, who have extensive collections of material and accompanying data, published or unpublished. Should these collections be archived at the Investigator's home institutions or a State or Natural Museum, or made open for further research.
6. Anders Noren: Hope to develop "virtual repository" database for core info & locations for cores not stored at LacCore.
7. Bobbi Conard: OSU's most pressing challenge is to improve the database, adding descriptions, photos, sampling history and to develop an online version.

REPOSITORY REPORTS

Jim Browning for Rutgers

- Facilities:** Rutgers Geology department facilities, located on the Busch and Livingston campuses in Piscataway NJ. 182 ft² table and desk space to lay out 12-15 core boxes, MST w/ Magnetic Susceptibility & Natural Gamma Ray, complete set DSDP/ODP vol., microscopes, Internet-2, phone, Xerox next to Kent paleomag & Ashley sedimentology labs.
Rutgers committed in past to lease warehouse space at \$30,000 per annum.
Rutgers has committed \$15,000 per annum to core support plus internet, phone, fraction secretarial, Xerox. Immediate term (5-10/15 years) quite solid; Miller (Chair), Kent (NAS), and Carr (Dean). Main repository Bldg. is "Camp Kilmer" WWII which leaves open the question of long-term (~15-20 yr).
- Storage:** Short term storage is used for newer cores that are being actively studied. Short-term core storage room: 198 ft², with stainless steel core racks holding 740 core boxes (approximately 6000 ft of core). Current holdings: Millville, Sea Girt, NJ boreholes; Holocene barrier island cores; Cape May Zoo (Sept.-Oct. 2004).
Long term storage: Leg 174AX: Bass River, Ancora, Ocean View, Bethany Beach, & Fort Mott (8,518 ft). NJGS & USGS cores (4,208 ft). Leg 150X: Island Beach, Atlantic City, Cape May once ECR is closed (3,166 ft). Newark Basin Coring Project (NBCP) (21,877 ft). Army Corp Jurassic Newark Basin (17,000 ft).
"The Cage": 1,380 ft², with racks for 4,120 core boxes (~ 33,000 ft of core) stored on \$36,000 of stainless racks.
Space for 720 core boxes is still available (~5,000 ft new core; Leg 150X, Chesapeake Bay Impact Structure 2005 drilling)
- Collection:** Coastal Plain: Fort Mott, Bass River, Ancora, Ocean View and Bethany Beach, DE cores (7303 ft). Newark Basin Coring Project (NBCP) Cores (21,877 ft). NJGS core room N.J.G.S. core room: 525 ft², older New Jersey cores drilled by the NJGS and the USGS.
Freehold (85 boxes, 1320 ft), Allaire (13 boxes, 311 ft), ACGS#4 (54 boxes, 945 ft), Belleplain (35 boxes, 335 ft), Cape May Airport (28 boxes, 300 ft), Clayton (71 boxes, 997 ft), total 286 boxes, 4,208 ft.
In addition there are split spoons and short cores taken by the NJGS from the coastal plain.
MACPDP: Mid Atlantic Coastal Plain Drilling Program: Onshore coastal plain: ODP Leg 150X (www.odp.tamu.edu/publications/leg_ndx/150xsindex.htm). Island Beach (1993), Atlantic City (1993), Cape May (1994), ODP Leg 174AX, Bass River (1996), Ancora (1998), Ocean View (1999), Bethany Beach, DE (2000), Fort Mott (2001), Millville (2002), Sea Girt (2003).
Chesapeake Bay Impact Structure, Cape Charles, VA: Drilling September 2005.
- Future Acquisitions:** \$900,000 ICDP, \$400,000 USGS, \$100,000 NSF/RU; DOSECC General contractor. 2,500 m (7,500 ft) core. Interim storage in Reston (5,000 ft impact breccias) and Rutgers (post impact; 1,500 ft). Long-term storage: tentatively at Rutgers.
Leg 150X, Island Beach, Atlantic City, Cape May: 4,175 ft once ECR is closed 2005?
NJGS Drilling, Cape May Zoo (700 ft) fall 2004, Miocene aquifers & sequences (funding in place).

Medford, NJ 700 ft, 2005, Potomac Fm. Lo. Cretaceous objectives (funding penciled in)
Batsto, NJ 1,500 ft? Cretaceous objectives 2006? (Funding proposed).
Wallops AFB, 1,600 ft, MD/VA border, post-impact stratigraphy.

Brian Buczkowski for USGS, Woods Hole

- Facilities: USGS sample archive "Freezer Farm:" 600 ft² refrigerated space, 260 ft² frozen space and 300 ft² of ambient storage.
Plans underway to build more storage space on the Quissett campus for sample storage. Plans not set yet.
- Collection: 4055 grab samples currently in storage from Locations in Boston Harbor, Georges Bank, the Gulf of Maine, Long Island Sound, Stellwagen Bank and various locations in the North Atlantic and East Coast.
1338 Core sections from Boston Harbor, Cape Cod Bay, Lake Baikal, Russia, New York Bight, the Gulf of Mexico and Storegga Slide, Norway.
- Projects: Drafted a Core Archiving Handbook outlining: Protocol for In-coming samples, Storage Procedures, Sample organization and Deaccession procedures. Collection is organized and provided unique identifiers. In WHSC's SedArchive Database, a Card Catalogue is maintained for Samples, Links to Field Activity Information, Collection Information, Sample Metadata, Storage Identifiers and any Sample Notes with Contact Information.
Curator has earned the co-operation of his workgroup by stressing the benefits of Sample organization, Temperature monitoring, Long-term interest, Remote access (searchability), Database output, and Remote Access.
Ocean Floor Samples webpage is <http://woodshole.er.usgs.gov/operations/ia/samples.html>

Steve Carey for URI

- Facilities: The repository for collections of Marine Geology and Geophysics faculty and staff contains Sediment cores, Dredge rocks/ ROV, Sediment grabs, Volcanic island and continental margin samples.
Sediment Core Storage at MGSL; 1568 piston, gravity and box cores, the majority stored under refrigerated conditions in d-tubes. Split cores are stored under refrigerated conditions in d-tubes. The Core reefer capacity is 10,000 ft³ and is currently about 90% full. Other facilities contain petrographic microscopes, core photography, sieving lab, description and sampling tables.
- Collection: The MGSL Dredge Rock Collection has 751 samples from 436 stations One of the most extensive collections of volcanic rocks from the mid-ocean ridge. About 1/4 of ridge system has been sample at an average interval of 40 km. Dredge hauls are stored in plastic and burlap bags. Our Database keeps track of drawer locations for easy retrieval. Our current rack system is about 3/4 full. Other facilities contain petrographic microscopes, thin section prep and magnetic separator. The MGSL Sediment Grab Collection has 656 grab samples most from the northeast coast of the U.S., continental margin of Africa and some from the coastal zone in Iceland.
MGSL Volcanic island and continental margin samples include 6603 samples from Active volcanic areas in: Western U.S., Italy, Mexico, Lesser Antilles, Indonesia, Iceland. Recent Distribution Activity at MGSL (Last three years) Sediment core collection ~11,000, Dredge rock collection-161, Volcanic island and continental margin-302, Grab sample collection-12.
Recent Acquisitions at the MGSL (Last year) 18-Sediment cores, 0-Dredge rocks, 42 Volcanic island and continental margin samples, 25-Grab samples, and 30-ROV samples
- Outreach: 1. Collection used for laboratory exercises in the following graduate courses:
a. OCG540 Marine Geology and Geophysics (hard rock and sediments)
b. OGG545 Volcaniclastic Sedimentation (hard rock and sediments)
2. Public displays of posters and samples have been developed for:
a. Elementary and middle school classes
b. Special visitors to the Graduate School of Oceanography
Future Concerns for the MGSL
1. Lack of refrigerated core storage space (present repository is 90% full).
a. temporary storage adjacent to facility
b. construct an addition to present facility
c. begin to shift cores into ambient storage conditions
2. Updating of repository website
a. in progress, mid-fall launch
3. New types of samples with special storage requirements.
a. Dr. Robert Ballard (archeological oceanography)
b. Dr. Kate Moran (geotechnical properties)
c. New faculty member in hardrock petrology

Bobbi Conard for OSU

Staff: Working with Alan Mix, Dave Christie, June Padman and One work-study student.

Facilities: Describing laboratory with 2 tables, 4x5 large format camera; movable table
SCAT (split core analysis track) High resolution UV-VIS-NIR reflectance spectroscopy; recently used for hi res magnetic susceptibility.
A Van Houses the MST . Fully contained, can just put on truck and send to ship or lake.
Available for contract work; at sea or in transit about 8 months this yr.

Collection: OSU maintains 5200cores, 13,400M including 72cores, 380M collected this summer (unopened). One major coring cruise still out; has already collected 300M mud. Current rate of acquisition 1,2 major coring cruises/ yr (2003 low acquisition yr). Distribution: avg. over 6yrs: 7200spls/yr Majority from outside OSU. Their facilities include:
Refrigerator 1:
~2200 Mn nodules
~1500 sediment trap samples, both wet splits stored in formalin and dry material (non-refrigerated), also boxed sediment samples and temporary storage.
Refrigerator 2: Entire collection of cores in D-tubes. Oldest cores in collection taken in early 60's; if they've been covered well, in remarkably good shape. Still have room for 675M 4" diameter cores. Also have ten 8x8" kasten cores; 500lbs each these are poorly preserved; want to subsample; could then add 4 racks for additional 450M. The biggest problems they are having are a lack of space. They are planning to box older 4" diameter cores that get few requests to make room for new additions
Rock storage 1. (collage of storage areas): Scattered, some under canopy between refer and lab, some under football stadium, with recent success of football team and current fundraising efforts to expand the stadium, will lose storage area under the stadium in the near future
Rock storage 2.: . Latest addition: 2 40' container vans. Built shelves, lighting via flashlight or long extension cord from nearby power source. One van filled; other is about 1/4 filled. Current holdings ~500 dredges, 14,700 rocks.
Would like to subsample older dredges and discard excess. Recently have been storing samples taken via ROV or ALVIN; really much more efficient.

Challenges: Relevant database. Criticized in our proposals for not having enough information on line. What is basic vs. what is extra? What is proprietary vs. public. For example, if density (via MST) is measured as part of the PI's project, when or should that become part of the database.
Digital photography...data storage; color balance, color calibrations, how do you get a printer to print true colors

Curation: Space...new refer, or do we go for room temp storage
Traditionally NSF expects facilities to be provided by the university
Consistency...trouble getting PI to provide info, wide variety in quality of descriptions

CURATORS' DATABASE REPORT

Carla Moore:

NGDC news: NGDC has a new director, Dr. Christopher Fox, formerly with NOAA's Pacific Marine Environmental Laboratories, the USGS, and NAVOCEANO. For those new to the group, NGDC stressed that the Index to Marine and Lacustrine Geological Samples database was designed by, and is maintained on behalf of the Curators – it is the Curators' database, not the "NGDC" database (<http://www.ngdc.noaa.gov/mgg/curator/curator.html>).

Status of action items from 2000: 1) Reduce the number of fields on the search screen and provide a link to an "advanced" search with more fields – (done), 2) Add links to EuSeased on the Curators' Web page (done), 3) "Bombproof" the Mac version of the Java map (done, but only for Macs with latest browsers, Java, and operating system), and 4) Dave Gunn & NGDC to add error checking to the entry spreadsheet (not done –errors checked post-spreadsheet).

Database additions: 5,365 cores, grabs, and dredges were added since the last meeting. 61,595 additional samples from 1,445 cruises were processed, and are in review. The USGSMP, Clint Steele, is creating a complete replacement for their entries. As of Sept 15, 2004, 256,685 total records describing 130.963 samples (holes for DSDP/sites for ODP) from 3,879 cruises have been sent to NGDC. Data for nearly 60,000 samples housed at the Smithsonian Institution, collected mostly by NOAA/NOS were contributed by Jack Pierce. Sadly, Dr. Pierce passed away earlier this year, but the collections manager, Jann Thompson, has given her permission to proceed. Ian McIntyre is the new contact.

Related Data Received: Cruise reports in .PDF form -1,261 from NOAA, 306 from URI, 3 from LacCore, and 3 from

OSU. Sample level materials – barrel sheets for 41 cores from LacCore, detailed data and photos for 3 cores from OSU, and .PDF core descriptions from WHOI (not yet linked to the database).

Web access: A new ArcIMS geospatially-enabled interactive map was added to the existing Oracle PL/SQL web interface. Both interfaces offer search and download of data, links to participating repositories, and links to related data.

Permission to add shapefile extractions requested: NGDC would like to add shapefile extraction to the Curators' map interface, shapefiles created can be used with other GIS applications. If the Curators' group wishes, NGDC can enable extractions (approved).

Database changes: A 2000-character description field, and lake-related fields were added to meet LacCore needs. Underlying tables were redesigned, and links were added for ~10,000 samples/sites, to related data at ODP/JANUS, the LDEO core database, PetDB, LacCore, and IMAGES.

Future Database Plans: NGDC hopes to add related geospatial layers to the ArcIMS interface. We are creating geospatially-enabled versions of the IHO Limits of the Oceans and Seas and the GEBCO gazetteer of undersea feature names. NGDC also plans to migrate the Curators' interface to Java Servlets from PL/SQL over the next few years.

Digitizing Proposal: NGDC's commitment to data stewardship includes rescue of historic data on paper and film. We are writing a proposal to the NOAA Climate Data Modernization Program to scan/key-enter seafloor data. The Curators and their institutions are invited to participate. Please send NGDC 1) volume estimates (#pages, #photos), and 2) samples of materials to be digitized. We also request help writing the proposal "justification", linking the proposed work to climate/environmental research. The proposal is due to NGDC's director before October 25, 2004.

NGDC Report: [September 2004 State of the Database, the Index to Marine and Lacustrine Geological Samples \(PDF\)](#)

SEDIMENT CLASSIFICATION

Steve Carey:

Steve explained a Proposed Sediment Classification Scheme for NGDC sediment core database. The Objective: Modify the ODP Sediment Classification scheme so that it may be reasonably applied to sediment descriptions in the NGDC/ Curators database.

Advantages of the SSC

1. Could be implemented with less training of the sediment describer, i.e. the person would not be required to identify very minor and trace components. In addition, there would not be the need to precisely quantify every component in the sediment.
2. Reduce the amount of time necessary for sediment description because components could be grouped into "larger categories".
3. Easier data entry. The SSC would have only 16 categories of potential data input.
4. Ability to reproduce sediment names used by ODP with less time consuming examination.

Disadvantages of the SSC

1. Sacrifices the details of individual component analysis
2. More concerned with describing the main sedimentary components of the sample and not the complete composition.
3. Retains the use of some cumbersome terms from the ODP classification

Presentation: [Proposed Sediment Classification Scheme for CoreEnter \(Curators' Database\) \(PPT\)](#)

PETDB PETROLOGICAL DATABASE/ SAMPLES & CYBERINFRASTRUCTURE

Kirsten Lehnert:

Kristen informed our group about Petrological Database/Samples & Cyberinfrastructures (**PETDB**). The focus of which is the Integration of Databases at Lamont-Doherty.

Objective: Establish a system that provides unique identifiers for solid earth samples to allow global sharing, linking, and integration of Data and information about these samples.

Advantages:

- Permits desktop access to the entire published literature in minutes
- Allows daily questions to be addressed that would otherwise be dropped

Questions that require global coverage are easily accessible
Permits efficient design of research programs, in the lab and at sea
Allows students to explore global dataset within the timeframe of course schedule

Presentation: [From Dredge to Database: Samples, Sample-based data, & the Geoscience Cyberinfrastructure \(PDF\)](#)

REFERENCE COLLECTIONS UPDATE

Bobbi Conard:

Bobbi presented the group with an overview of <http://www.boscorf.org> and gave us a tutorial approach to core descriptions and curatorial reference pages. Bobbi also conveyed that Guy Rothwell of the SOC requests slides of thin sections to be included on the BOSCORF website.

REPOSITORY REPORT

Jim Broda for WHOI (did not attend, sent along presentation)

Web Presence: At our web site www.who.edu/corelab we maintain online access our database that not only defines the elements of the resources that we curate, but includes thousands of annotated visual core descriptions with accompanying smear slide analyses and detailed dredge descriptions available for downloading. We help plan and execute all aspects of marine geological sample acquisition programs including conception and design of equipment. The WHOI Sea Floor Samples Lab remains a complete resource that includes not only modern sample archiving, but also sea-going expertise, and an extensive inventory of field ready sampling equipment. New materials continued to be processed with our intuitive [graphic] interface software which produces digital logs and PDF display ready for inclusion on our search site <http://www.who.edu/corelab/explore>. The final sets of our 8 Volumes of hard copy "Collections of WHOI Core Descriptions" have been scanned and converted to PDFs and are online as well. We continue to add Dredge data to the online inventory and these petrologic summaries can be searched by many detailed parameters. We recently updated our ARCVIEW-based online software [SedCore 2000], and we're currently running the latest version of Internet Map Server available. Online queries, which can be composed of many parameters, are now much easier to create and execute.

Facilities: We've recently completed the design details for a 10,000 square foot addition to our facilities at the Mclean lab. construction of this major enhancement of our facility is expected to begin in Spring of 2005. Three new sample-handling labs have been specified for the planned expansion: 1) a rock saw and processing room; 2) a dedicated core-splitting facility; and 3) a core logging and sampling lab which will house a GEOTEK Multisensor Track and the newly funded COX ITREX XRF and digital radiographic scanner. Six thousand square feet of new storage space (approximately a doubling of our current space) will be built which includes a large walk in refrigerator and a special dry room for the care of sensitive hydrothermal vent sulfide samples. The planned addition also includes a special workshop and large staging area with overhead crane capabilities dedicated to support WHOI's expanding sea floor sampling equipment programs.

Activities: Since January 2004 we've supported five Jumbo piston coring cruises with coring equipment technical personnel. Two of the cruises were for WHOI PI's and the remainder for other institutions. The two WHOI cruises added 124 cores to our collection, and we expect to archive at least parts of the other recently gathered suites of samples.

We are funded and currently in development of a new long coring system. Planned to recover up to 50 meter long cores, this 30,000# coring system will be supported by a new synthetic strength member constructed of a blend of buoyant high performance fibers. The breaking strength of the UHMWPE/Vectran mix is 365,000 pounds and a dedicated traction winch and rope storage combination is being engineered. The R/V Knorr will enter a shipyard in January of 2005 to undergo major structural reinforcements to support the portable long coring system. Three large dedicated hydraulic manipulators will assist in the rigging, launch and recovery of the corer. We are just beginning year two of the 3 year program and expect the system to be ready for sea by the Fall of 2006.

Collection: Sample Distribution
Total number of samples distributed 2002-2004 = 18, 641

WHOI REQUESTS 37%
OUTSIDE REQUESTS 63%
New additions breakdown 2002-4:
464 cores: total length 3855 meters
202 dredges
17 dives [58 sample stations]
WHOI seafloor samples collection summary:
cores 4022
total length of cores in storage 18305 m
dredges 1637
Alvin dives with samples 327
Alvin "stations" [discreet samples] 1580
Continental margin grab samples 5550
Samples from ROV & miscellaneous 1228
Total holdings: 14,984 archived samples

September 16, 2004 – Lamont Hall Conference Room

REPORTS RESUME

Shirley Dutton/ Bev DeJarnett for the Houston Research Center

Facilities: The University of Texas, Bureau of Economic Geology, Houston Research Center NSF has acquired space in the HRC for curation of terrestrial cores, rock samples, and collections collected for NSF-funded research projects.
UT Austin: Bureau of Economic Geology (BEG) has been curating core since the 1930's.
Current holdings are nearly 1.8 million boxes of cores and cuttings.
The BEG Houston Research Center a (2002 BP Donation) with 500,000 boxes of cores and cuttings. It consists of Warehouse and research building in Houston on 12 acres of land and includes a Unocal donation of technical library appraised at \$5 million
All material is searchable on BEG's online database.
All material can be viewed on-site or shipped to researcher's facility.
Permanent facility with long term commitment to curation of geologic materials.

Mission: To provide long-term curation of, and public access to, irreplaceable geologic material for a variety of research and educational purposes

Activities: Establish an Advisory Committee to guide policy on NSF core/sample acquisition and sampling
Make HRC NSF Core/Sample curation database (cataloging metadata) part of geoscience cyberinfrastructure
Complete equipment set up
Saws and pluggers for collecting samples
Petrographic and binocular microscopes for core and sample examination
Digital cameras for core and thin-section photography

Gar Esmay for ODP, ECR

Facilities: Cores are stored (~114,000 1.5 m sections) in 4 reefers.
Some dry storage as well (evaporites and leg 150X and 174X, NJ margin land cores).
We process and ship out sample requests and assist visiting scientists with core sampling, describing, and photographing. We host education groups (primary through graduate levels). We maintain core collection (core wrapping project -to date 42,351 sections- working back through all of our ODP cores well into DSDP collection).

Collection: We have: ~75 km core from the North and South Atlantic, Indian, Southern Oceans, and the Mediterranean and Black Seas. Our cores consist of a range from soft to fully lithified sediments, evaporites, as well as hard rock (basalt and other basement rocks). We have cores collected from 47 DSDP Glomar Challenger and 17 ODP JOIDES Resolution drilling legs from 1968-1993(98).

Activities: Repository usage totals Jan 2001- Jun 2004
31,312 total samples taken over this period. We average ~750/month from a total of 315 requests.
We have had ~106 Scientific Visitors and 308 Educational Visitors

Cathy Frazee for USGS, Menlo Park

Activities: Cathy gave us a tour of the USGS repository in Menlo Park through a DVD video. For the first two

years as Core Curator, Cathy has begun the process of cleaning up the collection and has gotten started on the first official inventory since 1998. She was informed in May of 2004 that she would have to move the entire Core and Sample inventory from the USGS' Marine Facility (MARFAC), to a new facility.

The next three months will see the inventory completed, submitted to Infobank and the oversight committee. The committee will plan where and how she will either continue to store cores and samples or how they will be disbursed.

- Facilities: The USGS Menlo Park facility consists of two large (50 X 100) refrigeration units, one trailer (refrigerated but not working) and a few shelves in the back of a large warehouse. Reefer One is completely full, and Reefer two has approximately 8 full racks. Three of the racks in Reefer two are filled with cores which Cathy "rescued" from the trailer where they were stacked up on the floor in heaps up to her waist. That trailer is now used for dry storage of wooden shelves and metal cabinets and empty coolers.
- Challenges: The Marine facility suffered flooding during the past winter, most of the cardboard boxes samples were stored in were damaged.
- Curation: Cathy has instituted a policy of storing samples off the boat in plastic containers which has greatly simplified the inventory process. The containers are labeled with the cruise #, scientist when known, and the type of contents stored therein.

Rusty Lotti for LDEO

- Facilities: Repository Facilities include Dry storage trays of galvanized steel, 2.5" wide, 8 feet long. The racks are 9 ft tall, each holds 704 trays.
The refrigerated storage of wet cores includes wet tray storage: 5 foot long, mostly 4.5" wide D-tubes. Racks are custom built, 10 ft tall. Each holds 296 trays.
Earlier dredges are stored in wooden crates placed on wooden shelves.
- Core Repository Footprint*
- | | |
|--------------------|--------|
| Dry core storage | 5,478* |
| Refrigerated space | 2,638* |
| Dredge storage | 1,750* |
| Laboratory space | 2,814* |
- Services: Core Repository Services consist of Archival Procedures funded by NSF and ONR funding and Non-archival Procedures supported by Fee for Services. Rusty described both kinds of procedures and the products offered by her facility. This includes Metadata Management and Database Management in digital form.
- Challenges: Challenges include **funding** for database maintenance and upgrade, integration of new data, digital photography, and space issues.

Fred Weaver for the Antarctic Marine Geology Research Facility

- Staff: Fred M. Weaver Facility Manager/Curator (75% NSF),
Matt Curren Assistant Curator (100% NSF),
1 Undergraduate/2 Work Study Students (Data Base),
1 Computer/Library Science Student (Website),
Budgeted for 2 more part-time graduate students
- Facilities: Built in the mid sixties by NSF Grant to FSU: \$241,000, Facility to provide suitable repository of materials from USAP Vessels, 1 story bldg , 10000 sq.ft., 6000 sq.ft. refrigerated space @ 2 degrees C, 450 sq. ft @ below 0 for materials requiring freezing, 6500 + marine cores, 20000 + meters of core, > 3000 meters of rotary cores, Vast collection of dredges, trawls, and grab samples
Geotek MSC Logger, Phillips whole core x-ray unit (analog), Tronix whole core real-time x-ray (digital), Rigaku x-ray diffraction unit, Zeiss Axioscope with full video and photographic capabilities, Adjustable core splitter for 2-5" cores, Digital core photography, Well outfitted, dedicated darkroom facility
- Core Processing: All cores cut into 1.5 m subsections, Run through MSCL for bulk density, mag. sus, & acoustic velocity, Photographed with both digital and line scan cameras, Core descriptions completed on each core with input from PI's, Once processed, wrapped in plastic and stored in D-tubes, Data uploaded into the ARF database and web site, Core report volumes issued
- Database: Accessed through the Facility's Website: www.arf.fsu.edu, Maintained and upgraded by Dept. of Library and Informational Sciences, Presently contains basic information on cores and samples distributed, Added over 17000 new core and sample records in last grant period, Search Capabilities, Will be adding core & bottom photographs, x-radiographs and MSCL data, Soon to include a comprehensive bibliography: 1800 manuscript refs
- Challenges: At present rate of acquisition ARF will be at 100% capacity by 2007
Will not be able to accept any new core material without expansion
Looming problem brought to the attention of NSF and FSU Admin.

NSF no longer has a brick and mortar fund for construction
Cost and feasibility studies for expansion in 1997 and 2000: DOA
Looked at state funding, bond funding, moving facility to FGRC space
All approaches failed to provide a solution for future space needs

Anders Noren for the National Lacustrine Core Repository

Facilities: Geotek MSCL (March 2004)
Whole or split core logging: magnetic susceptibility (loop or high-res), gamma density, p-wave velocity, electrical resistivity
Geotek XYZ MSCL (August 2004)
Split core logging
(9 sections sequentially)
Natural gamma
High-res magnetic susceptibility
Color spectrophotometer
Geoscan III digital camera
Additional refrigerated storage for active projects (June 2004)

Projects: DOSECC; Iceland (June 2003), Valles Caldera, NM (May 2004), Bosumtwi, Ghana (July 2004), Great Salt Lake; Bear Lake, Utah (2000), Titicaca, Bolivia-Peru (2001)
Malawi, Africa (Winter 2004-5)
Petén-Itza, Guatemala (2005 ?)
El'gygytgyn, E. Siberia (funding TBA)

Curation: Lacustrine Research, Low-budget, Low sample volumes, Many small labs/storage decentralized
The Virtual Repository:
Central database
Access to archived samples

FUTURE REPOSITORY NEEDS (Review of the Antarctic Marine Geology Core Workshop)

Fred Weaver:

Workshop on Future Antarctic Marine Geology Core Repository Needs: Held on August 12th and 13th at FSU in Tallahassee Florida. Workshop leaders S.W.Wise and Frank Rack

Goals of the Workshop

Visit the ARF to obtain a first hand view of operations and remaining future core acquisition capacity
Discuss standards for determining which materials should be archived and which should not in such a facility
Determine the specific needs (type of facility, shelving, equipment for sampling and research, metadata etc.) to best curate and provide access to the different types of sample suites in such of a facility
Make recommendations to NSF for current and future repository needs of the user community

Format of the Workshop

Presentations by researchers working on core, samples, and other geologic collections acquired for NSF funded research projects, curators of geologic samples, and database experts
Breakout sessions that focused on a suite of topics related to Curation and access to geologic research materials
Presentations of breakout session results to capture key needs and interest
Integration of results into a unified report of recommendations to be presented to OPP, NSF in November

Breakout Sessions

Best method(s) to provide access to Southern Ocean core material/data
Policy of acquisition and de-acquisition
Maximizing scientific usage and results
Enhancing educational training and benefits
Advantages and disadvantages of relocating the legacy core collections of the AMGRF to another NSF supported repository
Advantages and disadvantages of scattered mini-repositories vs. centralized repositories
Needs for new construction
Priority and recommended time frame for developing a new or modified repository
Would a special solicitation (RFP) by NSF be necessary to obtain goals?
Utilization, visualization, storage, and dissemination of data/metadata
What data should accompany the sedimentary material?
How can data be utilized and /or disseminated during acquisition?
How should the data/metadata be stored and made available?

Requirements for physical storage, sampling, measurements, workshops/conferences
Review of current NSF/OPP core facility's remaining storage capacity
Space needs
Ideal physical plant design
Sampling needs
Equipment needs and services(in-house and outsourced) such as resource needs for investigators: library, references, and collections

ARCHIVE OF SPECIAL RESEARCH COLLECTIONS

Rusty Lotti:

Rusty gave a presentation discussing collections of retiring Chief Scientists, the problem of keeping them, not allowing further analysis on them, storage, display, etc. (like teapots and Milankovitch ashes, etc.): Samples of historical value, but not necessarily scientific; sending them to the Smithsonian – first right of refusal.

September 16, 2004 – Lamont Hall Conference Room

OPEN TOPIC

Cathy Frazee:

Outreach/AGU Booth

Curatorial Goals: Increase Awareness of our collections within the Scientific Community (Academia, Government and Private Research Facilities, Corporate? (Oil and/or Environmental Companies).
Create an atmosphere of cooperation between all interested parties (Standardize online forms and sample distribution policies).
Foster respect among these communities for the value of the collections and of our services.

Strategies: Increase awareness by distributing educational material (at AGU, GSA educational venues, Research Facilities, etc).
Publish in major (or even minor at first) publications.
Word of mouth recommendations. (Referrals)

Ideas: Distribute a DVD at AGU with contributions from each member of the curator group. (I volunteer to collect the data from each of you, put it together, send it out to you for approval, re-edit and make ready for publication).
Web Page links between each of our respective institutions: A separate Web Page that has all of our Members represented; with descriptions of our collections and Links to our Formal Web Pages.

Group Discussion:

Talked about making a CD with descriptions of each repository and URLs.

Task assignments:

Anders Noren – Art work CD Label and Poster

Cathy Frazee – Receive descriptions and URLs from each Repository, merge, and send to

Carla Moore: CD replication.

Kirsten Lehnert:

Kirsten explained more detail about GeoMapApp (<http://www.marine-geo.org/geomapapp/>).

NEXT CURATORS' MEETING

Next Curators' Meeting was proposed for January 2006 in Tallahassee, Florida and will be hosted by Fred Weaver.

ACTION ITEMS

1. Database Working Group (Carla, Fred, Kirsten, Jim): Work on consistency issues. Is there a standard for end-user interface? Survey curatorial database management and usage (methods and data types kept).
2. Bobbi Conard and Rusty Lotti: Development of uniform online sample request form.
3. Rusty Lotti: Contact Dale Chayes regarding downloadable ship-board core log
4. Bobbi Conard: Run Beta test 3 on cruise, winter 2004
5. Gar Esmay: Contact ODP regarding slide images to send to Guy Rothwell at SOC to post on BOSCORF page.
6. AGU 2004 Items
 - a. Cathy Frazee and Carla Moore: Create CD for distribution at AGU
 - b. Carla Moore: Prepare poster to display at NOAA booth directing people to Curators' information
 - c. Cathy Frazee: Prepare poster to display at USGS booth directing people to Curators' information
 - d. Anders Noren: Create artwork for the Curator's poster and CD cover.
 - e. Everyone: Create individual archive information sheet in MS Word format with links available to institutional webpages and send to Cathy. These will be converted to PDFs. Must have sent by 10 October 2004.
 - f. Carla Moore: Compile map of core locations and create front page with links. Print large-format poster that Anders will send.
 - g. Kirsten Lehnert: Find space for Curators' information CDs and poster.
7. AGU 2005 Items
 - a. Fred Weaver: Look into possible NSF funding options (~\$4,000-\$5,000). Contact Dave Epp?
8. Fred Weaver to host 2006 Curators' meeting (?) in Tallahassee, Florida
9. Steve Carey: Input parameters for Curators' database classification scheme.