To: Ice Core Community
Fr: Mark Twickler, NICL-SMO
Re: ICWG 2001 Meeting
Date: May 10, 2001

Greetings,

The ICWG held it's annual meeting on April 20 and 21 at Biosphere2 in Oracle, Arizona. The attendees included all members of the ICWG, Art Brown and Julie Palais from NSF, 2 representatives from NICL, 6 representatives from Ice Core Drilling Services (ICDS), and 7 other scientist including representatives for the National Snow and Ice Data Center and the Siple Dome -SCO. Below are minutes from the meeting. Please let us know if you have any questions, comments or concerns.

NSF Updates
Budget
As many of you know the NSF budget for the FY01 year had about a 10% increase. This was not an across the board increase and different programs received various amounts. Currently the outlook on the FY02 budget is looking like at best a 1.2% increase but nothing has been set.

Criterion 2
The National Science Board approved revised criteria for evaluating NSF proposals and the new criteria went into effect in 1997. Recently the OPP Advisory Committee indicated a need to raise awareness about these criteria and the importance of these criteria in the proposal writing, review and project evaluation stages in order for PI's to meet NSF's strategic goals. An OPP Working Group has produced a document in order for PI's to have a better understanding of how to implement Criterion 2. It is strongly suggested that all PI's writing proposals review this document to assure you are addressing these issue in your proposals and review process. The document "Working Group on Implementation of Criterion 2" can be found on the NSF web page at:
http://www.nsf.gov/od/opp/opp_advisory/oaccrit2.htm

Crosscutting/Interdisciplinary Programs
Crosscutting programs at the NSF include interdisciplinary programs, programs that are supported by multiple Directorates at NSF, and programs jointly supported by NSF and other Federal agencies. These are the areas that have the highest increase in funding at NSF and this increase often comes as a "tax" to other programs. Looking into and submitting proposals to these programs is a good way to additional monies for our science goals. To learn more about the Crosscutting programs see the NSF web page link at:
http://www.nsf.gov/home/crssprgm/

Antarctic logistics
The basic view on Antarctic logistics is not real encouraging in the coming years. This is mostly due to the extremely poor weather during the past field season. The weather delays put the South Pole reconstruction about 40 flights behind starting off this coming year. The outlook for new deep field programs is not very good in the coming years.

One problem with the LC-130's is there appears to be a difficulty in having enough crews for all the planes. One possibility to help solve the crew shortage might be looking into the commercialization of some of the LC-130. NSF is looking into other possibilities to assist in the current limited LC-130 support for field programs. These include Twin Otters, the Basler DC-3 and overland traverse capability. The bottom line here is there will be very few new deep field programs in the near future.

NSF Mailing list:
NSF maintains a listserver mailing list. These choices range from press releases to general NSF information. To access this information and set up your preferences for the information you would like to received go to:
http://www.nsf.gov/home/cns/

NICL Updates
The Interagency Agreement between NSF and USGS for the operation of the NICL facility is due to expire in the coming months. The current group overseeing the facility is planning on submitting a new proposal to continue the operation of the facility.

NICL had 172 Client Activity Days since last April. This included the ITASE and Siple Dome CPLs. The heaviest usage of the NICL facility is usually April through August the least utilized periods by investigators are typically September through December.

For the first time in years the outbound shipment (8.9 tons) of ice at NICL exceeded the inbound shipment (7.6 tons). This was partially due to a large outbound shipment of deaccessed ice. Even with this increase of outbound shipments the facility is currently at 90% capacity. Fortunately, for this issue, there are not current plans for large amounts of ice to be archived at NICL in the next couple years. The ICWG will need to address this storage issue in the coming years. NICL has been looking into the retrofitting the freezer to provide a rolling rack system. This system will increase the storage capability of NICL by about 50%.

Joan Fitzpatrick is currently on a 3 year leave working for the Office of the Regional Director of the USGS. Geoff Hargreaves is serving as the Acting Technical Director and Eric Cravens as the Acting Curator.

There has been some administrative changes in the set up of how NICL is funded from the USGS. Previously NICL was funded under the Geologic Division of the USGS but with the new changes the Geologic Division no longer exist. The USGS will be administrated by Regional Centers, which NICL will fall under the Central Region. This will brings funds for NICL from a higher level and NICL will become a "Bureau" facility, not a "Geologic Division" facility. All the details have not finalized at this point.

NICL-SMO Updates

The Cooperative Agreement between NSF and UNH for the NICL – Science Management Office is due to expire on October 31, 2001. UNH is planning on submitting a proposal for the continuation of the NICL-SMO.

The GISP2 ice core is now considered part of the NICL archive and is no longer a proprietary core. Request for GISP2 samples now go through the NICL-SMO. The Siple Dome ice core is still a proprietary core (contact: sco@maxey.dri.edu) and is scheduled to become part of the general NICL archive in December 2002.

Since last June NICL-SMO has received 19 sample request for core samples from NICL. These comprised of samples from 10 different cores. The breakdown on the core request were as follows:

| | |
|---|---|
| GISP2 | 11 |
| Deaccessed | 4 |
| Vostok | 3 |
| Vostok Accretion | 3 |
| Byrd | 1 |
| Taylor Dome | 1 |
| South Pole | 1 |

GISP2 F-core

This core was collected as a "core of opportunity" during the second GISP2 field season. The core had been stored at the University of Miami. The analysis had been completed on the core and was no longer needed by the investigator. The ICWG decided to immediately place this core on the NICL deacession list and a message was sent to the community to see if there was interest. There was ample interest in the core so the core was sent to NICL to be cut and prepared for the investigator. Although it was reported that the freezer the core was stored in Miami had lost power during Hurricane Andrew we thought the core was still in good condition. When the core arrived at NICL and was being inventoried it was found to contain numerous melted meters of core. Although some of the sections were still viable for the intended studies, much of the core was in extremely poor condition. After shipping out samples that were still usable the decision has been made to dispose of the core because of the poor condition and number of GISP2 cores currently archived at NICL.

Data

There is a new webpage dedicated to ice core data. It can be found at:
http://www.ngdc.noaa.gov/paleo/icecore.html
This is a one stop location for locating ice core data from all the data that has been submitted to the data centers. Please check to make sure your data is listed if you have submitted it. If you have not submitted you data please contact either NSIDC nsidc@kryos.colorado.edu or NOAA's NGDC-Paleoclimatology Center paleo@ngdc.noaa.gov to submit your data.

NSIDC - ADCC

NSF OPP, as a service to the Antarctic science community, funds the U.S. Antarctic Data Coordination Center, at the National Snow and Ice Data Center (NSIDC), University of

Colorado. We are tasked with coordinating the submission of data descriptions (for data sets resulting from the U.S. Antarctic Program) to the Antarctic Master Directory (AMD), a searchable web-based directory of scientific data.

This service is in support of the NSF OPP Guidelines and Award Conditions for Scientific Data see: http://www.nsf.gov/cgi-bin/getpub?opp991, which describe P.I. requirements for submittal of data descriptions to the AMD.

You can create an entry by clicking on 'Antarctic Science Metadata Registration Tool' from our web pages at http://nsidc.org/NSF/USADCC. This tool provides definitions for the fields in the metadata submission (a.k.a. "DIF"), and prompts the user with relevant questions prior to the creation of the actual entry.

We can provide assistance with the use of the tool, the content of your data descriptions, and with questions about the data policy. We suggest that, prior to your grant's final report deadline, you review the data policy and visit our web pages. Feel free to give us a call or send us a message if we can help you during this process.
Thank you,
Rob Bauer, Data Coordinator
Greg Scharfen, Project Manager

ICWG
Current listing of ICWG members:

| Disciplinary | Representative | Alternate | Terms Served[1] |
|---|---|---|---|
| Chair | Ed Brook* | TBD | 1 |
| Gases | Jeff Severinghaus | TBD | 1 |
| Stable Isotopes | Bruce Vaughn | TBD | 1 |
| Atmospheric Chemistry | Joe McConnell | TBD | 2 |
| Geophysics | Gary Clow | TBD | 2 |
| Glaciology | Richard Alley* | TBD | 2 |
| Major Chemistry | Jihong Cole-Dai* | TBD | 2 |
| Outreach | Stephanie Shipp | TBD | 2 |
| Particles | Pierre Biscaye | TBD | 2 |
| Physical Properties | Joan Fitzpatrick* | TBD | 3 |

[1]Term starts at first meeting and goes to following meeting
*Sample Allocation Committee (SAC)

Ed Brook was selected as the Chair of the ICWG. Jeff Severinghaus was selected to replace Ed Brook as the gas representative. Bruce Vaughn took over as the Stable Isotope representative from Chris Shuman at the end of the ICWG meeting. We will be soliciting nominees for the Physical Properties position in the coming year to replace Joan Fitzpatrick.
It is the opinion of the ICWG that a member of the scientific community who is familiar with the biological applications of ice core research become a member of the ICWG since this field is rapidly expanding. We will be soliciting nominees for the position in the coming months for service at the next ICWG meeting.

Ice Core Sample and Sample Information Distribution Policy
This policy was modified slightly to represent the policy for cores and core access at NICL is a policy set by the ICWG and not NSF. One other change was the data reporting requirements changed from 1 year to 2 year to better reflect the general OPP-NSF data policy.

Vostok Core
There has been some interest from the community for accessing additional cores from Vostok to replenish the NICL archive. The first step in this process is to determine exactly what is archived at NICL. NICL is in the process of inventoring the Vostok ice in the archive and noting if there are any special permission attached to any of the core sections. Once this inventory has been completed we will have an idea of what Vostok core is available to the scientific community and areas of depleted cores can be identified. At this point we can determine what we would like to access from the Antarctic Vostok archive and contact our colleagues in Russia and France to discuss a plan for possible retrieval of core material from Antarctica. Once an agreement has been made the final step would be to work on the logistics of retrieving specific core sections from Vostok. At this point in time we do not believe any core will be returning this upcoming field season (01-02) due to the time involved in the logistical planning.

Ice Core Drilling Services (ICDS)
As you know, the University of Wisconsin was awarded the NSF ice coring contract. Last summer there was a Science Advisory Board (SAB) set up for ICDS and they held a meeting in September, 2000. Jim White was chosen as the chair of the Advisory Board. One of the major suggestions of the Advisory Board was to have the US deep ice drill capability evaluated. The ICDS has tasked the Colorado School of Mines to evaluate the current US deep drill capability. This includes a review of the current 5.2" system. The review by the Colorado School of Mines of the US deep drill status/capability will be presented to ICDS in July. The report will be reviewed by the SAB in September. The ICWG requests copies of the report.

In general, the ICWG and many members of the community have expressed the opinion that the US could use a smaller diameter deep ice core drill (ie. 4") if directional drill capability was included to collect additional ice from specific depths. This would reduce the logistical burden the larger diameter drill brings on (ie. number of drillers, amount of drill fluid, mass of core). Although the US ice core drill does not currently have this technology it has been utilized by the Russians at Vostok and is common practice in other types of drilling. More discussion on this topic will be taking place in the future.

Concern was expressed by the ICWG and others that ICDS is currently using a significant amount of their time and resources developing a hot water drill for the "Ice Cube" project (see http://www.ssec.wisc.edu/A3RI/). The ICWG would like ICDS tasked to develop a deep ice core drill, so when logistics and funding are available the ice core community already has a reliable drill to collect deep cores. Ideally a test season would be included in this planing so the drill would be tested before the actual collection of the core. The ICWG will work with the SAB and WAISCores to develop a recommendation to send NSF.

Current ICDS tasking for fieldwork consist of 3 projects this coming Antarctic (01-02) field season:
ITASE - Collecting cores on a traverse route from Byrd towards old Siple Station. Using the Eclispe drill. (see attached update on USITASE)

Seismic Survey - Drilling three, 12" holes to 300m at the South Pole for placement of seismic instruments.

Geophysical shot holes - Developing a new "air drill" to make 600 shot holes, 75 meters deep for geophysical study.

WAISCores
Kendrick Taylor reported on the WAISCORES program. The initial sampling of the Siple Dome core has been completed. A workshop in April provided an opportunity for investigators to discuss preliminary results. A key finding is unexpected changes at 15 and 19 KYR BP that may be associated with rapid climate changes in Antarctica.

Due to logistics constrains the earliest start date for the deep ice coring at the Western Divide site is 04/05. The large logistics load will make it difficult to accomplish the Western Divide project at anytime and we should not assume that logistics resources will become available for this project.

Because of the potential rapid climate changes observed in the Siple Dome core there is an increased interest in recovering a deep core for Roosevelt Island. Deep drilling at Roosevelt Island would require about 1/4 of the logistics of the Western Divide Site. Taylor recommend that the ICWG keep an open mind about what the next deep ice core should be. If we insist on the next deep core being the Western Divide Core we may be waiting a long time. Pursuing site selection for Roosevelt Island would be wise because it would give the ICWG flexibility in recommending the next deep drilling project depending on how the logistics situation develops.

2002 Meeting
The next meeting of the ICWG is scheduled to take place either directly before or after the WAISCores meeting. The location will be in the Denver/Boulder area and take place in the Spring. More details at a later time on this.

These notes are a synopsis of the 2001 ICWG meeting. If you attended and believe something important was left out, let us know and we will make it available to the community. These notes are also available on the NICL-SMO webpage (http://www.nicl-smo.sr.unh.edu/Info.html). If you did not attend but have some issues you think the ICWG should discuss, please let us know.