

Meeting notes from the 2007 Ice Core Working Group Meeting held at University of California-Irvine, April 24-25

NSF Updates

Previously sent out on May 31

IPY Update

Climate a main focus of IPY. Goals for IPY were a broad statement to try to include everyone. NSF lead US agency but others involved. IPY will continue to evolve over the next 2 years. Post IPY follow up is imperative after t2009

Webpage has updates and what other agencies are doing for IPY: <http://us-ipy.gov/>

Polar Palooza educational outreach component

<http://passporttoknowledge.com/polar-palooza/pp01.php>

Ongoing and New Ice Coring Projects:

WAIS Divide

This coming Antarctic field season RPSC plans to open the WAIS Divide camp ~ 23 October. Construction crew to arrive at camp ~14 November. The drilling and processing crews will start arriving at the camp ~28 November. The planned start date for the beginning of deep drilling is scheduled for ~21 December. Drilling is scheduled to stop on 24 January and camp close will be early February. There is the possibility that the season could be extended by a week or so. The team hopes to recover 800+ meters of core this year (total ice depth is ~3485 meters). RPSC, ICDS, NICL, SCO and WAIS Divide PIs are excited to get the deep drilling underway this coming season. To learn more about WAIS Divide visit the project website:

<http://waisdivide.unh.edu>

NEEM (North Eemian – Greenland)

Plans are moving forward for an ice core from Northern Greenland to recover a full record of the last interglacial (Eemian). The primary focus is gases and gas isotopes, chemistry and physical properties.

Countries currently involved: US, Denmark, Netherlands, Canada, Belgium, France, Germany. Other countries most likely to be involved: China, UK (BAS), Iceland, Switzerland, Japan, and Sweden.

Proposed Schedule:

Summer 2007: traverse from NGRIP to NEEM, transfer heavy equipment and supplies, cache fuel, 3 shallow cores (along route), surface and airborne radar

Summer 2008: set up camp; begin drilling main hole, shallow cores

Summers 2009-10 (and 11?): drill to bedrock

Summer 2010-11: side hole drilling

This is an IPY and IPICS project. Jim White (UColorado) is the US lead for the project. Interested scientist should contact Jim for further information.
For more information visit: <http://www.nbi.ku.dk/page162181.htm>

US – Norwegian Antarctic Traverse

Several US institutions are joining up with the Norwegians to traverse from Troll Station (Norwegian) to the South Pole and back to Troll the following year. The traverse will be doing ice coring and analysis, snow and firn properties, a variety of radar measurements including a UAV, ground-truthing for satellites, and investigation of sub-glacial lakes.

Schedule:

Test traverse and fuel caching was accomplished this past Antarctic field season
Troll to South Pole Mid Nov-Late Jan 2007-2008
South Pole to Troll 2008-2009

This is an IPY (Under TASTE-IDEA) and IPICS Project. Mary Albert (CREEL/Dartmouth) is the US leader.

For more information visit: <http://traverse.npolar.no>

Proposed Projects

With the multi-institutional WAIS Divide, NEEM, US ITASE, and US/Norway traverse projects underway, there is a need to begin planning future ice coring activities. A “call for interest in future ice core projects” was sent out by the ICWG to begin working with the ice coring community on developing a strategic plan for future US ice core scientific projects. Discussions at the ICWG meeting included projects for: Roosevelt Island, the Antarctic Peninsula, Mt. Moulton, Mt. McKinley, and the oldest continuous Antarctic ice.

The Way Forward

Discussions were held focusing on the future directions of US ice coring. The group felt the 2003 ICWG document, “US Ice Core Science: Recommendations for the Future”, puts the US goals in the same direction of IPICS. What the US community is lacking is a strategic planning document and project timeline covering the next ~15 years and how these projects will fit into the IPICS model. This document and timeline would be reviewed and updated every year at the ICWG meeting. The plan would be flexible to allow for science issues to be the driving force on projects. The strategic plan would include the drilling organization (currently ICDS), NICL and logistical organizations. To work on this plan a workshop was suggested. The ICWG and NICL-SMO will work on a participant list and agenda for the workshop.

NICL Update

NICL has been fulfilling its duties as the core archival center and processing samples. In addition NICL staff are designing and building the WAIS Divide field core processing line. This has kept NICL very busy.

In WAIS Divide activities, NICL has built some new innovations in regards to field core processing. Most notably is the fluid evacuation device (FED) designed to remove excess drilling fluid as the core is extruded from the core barrel. This device was tested at the Greenland field test last summer and work well. NICL looks forward to a successful upcoming field season.

NICL had just over 2000 client hours over the past year for 27 sample allocations. Client hours are defined as the number of person hours spent preparing samples for PIs from the archive. These numbers do not include the two WAIS Divide CPLs in June and July of 2006. Re-inventorying of the archive is moving along. The Vostok and Byrd cores are completed. GISP2 is nearly completed and Siple Dome is ~70% complete.

Just over 1700 people visited NICL over the past year for tours and outreach activities. Over the past 6 months or so less tours have been taken place due to NICL personnel focusing on curation, sampling and WAIS Divide activities.

Major concerns of NICL, which will be summarized in recommendations from the ICWG, are:

1. Samples arriving at NICL without prior knowledge.
2. PIs leaving/storing samples at NICL, taking up space for large planned incoming shipments.

NICL Strategic Plan

NICL has been tasked to develop a strategic plan for the next 5 years at NICL. Originally this plan was to be projected longer into the future, however, it was felt that NICL did not have enough information on future ice core projects to establish a plan beyond the current WAIS Divide deep core. The long term NICL strategic plan will be incorporated into the new ICWG strategic plan.

ICDS Update

ICDS has been busy developing the Deep Ice Sheet Coring (DISC) drill for the WAIS Divide project. The drill test in Greenland last summer was considered a success and with modifications made to the drill over the past year we expect the drill to perform great at WAIS Divide.

Along with the DISC drill development ICDS also assisted scientist with drill projects at: WAIS Divide, Lake Amundsen-Scott, Beacon Valley, Taylor Dome and Willy Field (all Antarctica): two projects at Summit, Greenland, and Mt. Waddington (British Columbia).

In the coming year ICDS will be working with scientists at Summit, Greenland (2 projects), WAIS Divide, Thwaites Glacier and the US/Norway traverse.

ICDS continues to work on improvements on the shallow drills such as the Eclipse and 4" drills. A new drill was developed (Koci Drill) designed to collect ice cores entrained with rock and sand. This drill was used at the Beacon Valley project.

ICDS has also developed a core quality rating system to relate core quality to drill characteristics (type of cutters, shoes, etc.), depth, type of ice, etc. This system is a five point system on core quality based on observations in the field and incorporated into the drilling logs.

At the 6th International Workshop on Ice Drilling Technology (October, 2006), ICDS engineers presented numerous papers and posters on the DISC drill and other drill technology developments.

NICL-SMO Update

NICL-SMO submitted a proposal in June 2006 for continuation of the office at UNH and the proposal was funded by NSF.

Over the past year NICL-SMO received 31 sample requests from the community. The office reviewed these and 25 were sent to the Sample Allocation Committee (SAC) for comments and approval. After approval by the SAC, NICL-SMO worked with NICL on the allocation of samples. As usual, the GISP2 ice core was the most requested ice core.

The office supplied 7 letters of “Ice Availability” from the NICL archive for investigators submitting proposals.

Published “In-Depth” newsletter in March and looking for stories for the next issue due out in the Fall. Please contact the office if you or one of your graduate students would like to submit an article.