

Ice Bits Newsletter

SUMMER 2010

Quarterly update of IDPO and Ice Drilling Design and Operations (IDDO) activities www

<u>www.icedrill.org</u>

Long Range Integrated Planning

The Long Range Science Plan 2010-2020 was developed in collaboration with and on behalf of the ice coring and drilling community, and submitted to NSF. Input received from the IDPO Science Advisory Board at its meeting in March, along with additional comments from the SAB members and members of the general science community, who responded to a daft version of the plan on our web site in the spring, were used to update the Science Plan. Using the Science Plan as input along with advice from its Technical Advisory Board (TAB), IDDO developed the Long Range Drilling





Technology Plan 2010-2020 and submitted it to the NSF. These Plans are available on the icedrill.org web site. Both plans are updated yearly in the spring. Please have a look at the plans, and if science from your community will need ice drilling or coring support in the coming decade, be sure to send a community-endorsed white paper describing the science and drilling needs to us at <a href="mailto:localized-recorder-leading-needs-

Planning Improvements to Agile Drilling

During the quarter, IDDO organized and IDPO funded the Drillers' Workshop at the University of Wisconsin. The purpose of the workshop was to bring together the drillers experienced in the operation of the IDDO agile drills and the IDDO engineers to discuss needed improvements to the equipment and to share best drilling practices. The report for the workshop should be available soon. IDDO hosted its annual meeting of the TAB, consisting of members with technical experience in various types of drilling, in Madison to solicit input into technologies that can be used for ice drilling.

Planning for New Capability

In addition to soliciting input into the Science Plan, IDPO solicited input from the community with regards to a proposed intermediate depth drill, logging winches, and preservation of older boreholes for future logging. Draft science requirements will be circulated through the research community for comment soon for the intermediate drill and logging winch, and will also

be discussed at the upcoming WAIS Divide meeting in La Jolla in September.

Drilling Shallow Cores

IDDO completed five field projects in Greenland: the Greenland Snow Accumulation Project (Rick Forster, PI), the Humboldt and Tunu Core Update Project (Joe McConnell, PI), the Greenland Near-Surface Core Project (Bob Hawley, PI), the CRREL Summit Firn Air Cooling Study (Maggie Knuth, PI), and the NOAA Summit Firn Air Sampling Borehole Project (Butler, PI) the core from which was saved for Joe McConnell. All projects were deemed successful, although only one abbreviated core was retrieved on the Humboldt and Tunu Core Update Project because of bad weather, aircraft delays, and the erupting Eyjafjallajökull volcano in Iceland. Equipment for the Greenland Snow Accumulation Project was inadequately prepared before leaving Madison; IDDO is addressing the issue by organizational changes designed to provide additional quality control on all equipment used in the field.

WAIS Divide Deep Ice Core

IDDO suffered a set-back in its development of replacements for outdated motor control modules for the DISC Drill when it was discovered during testing that the design was inadequate and the electronic circuits would have to be re-designed, prototyped, tested, and manufactured. This problem, along with the need to extensively modify drill system sheaves, the need to modify the azimuth measurement system and the resignation of an electrical engineer put a heavy workload on the one remaining electrical engineer. IDDO has contracted an electrical engineer to assist in the tasks.

The unexpected issues with the DISC Drill Development also affected the DISC Drill Replicate Coring System

Development Project as resources planned for the project are needed to complete work on the DISC Drill before the 2010-2011 WAIS Divide field season. However, IDDO is



Terry Gacke drilling an ice core in Greenland with the 4-Inch drill. Photo: Bob Hawley

confident that the replicate coring system will be ready for first use at WAIS Divide during the 2011-2012 field season.

Requesting Ice Drilling Support

If you are preparing a proposal that includes any kind of ice drilling or ice coring support from IDPO/IDDO, you must complete a Field Project Requirement Form (www.icedrill.org/scientists/scientists.shtml) and submit it to IDPO/IDDO via icedrill@dartmouth.edu at least six weeks before your proposal deadline.

Once IDPO/IDDO receives your Field Project Requirement Form we will provide you with a cost estimate and a letter of support that MUST be included with your proposal. If you are submitting a proposal to NSF the cost estimate and letter of support should be included as Supplemental Information in your proposal, and it is recommended that you also notify your relevant NSF Program Manager that your proposal requires support from the IDPO/IDDO.

If you are preparing a non-NSF proposal, it is recommended that you familiarize yourself with the Policy for Ice Drilling for Organizations other than NSF available at www.icedrill.org/scientists/.

Subscribe to Icedrill.News

IceDrill.News is an electronic mailing list maintained by IDPO/IDDO. The list is used to communicate important news and announcements by IDPO/IDDO to members of the ice drilling and ice coring science and technology communities. To subscribe to IceDrill.News, visit www.icedrill.org/listserv.shtml.

About IDPO/IDDO

The IDPO/IDDO is a collaborative effort between three institutions: Dartmouth College, the University of Wisconsin, and the University of New Hampshire. The IDPO was established to articulate and maintain long term and short term goals and plans in conjunction with the ice coring and drilling research community, enhance communication and information exchange within the research community and beyond to the public, and oversee the IDDO. The IDDO is an organization of engineers with expertise in ice drilling who develop and provide appropriate drilling technology and expertise for ice coring and drilling research projects.