

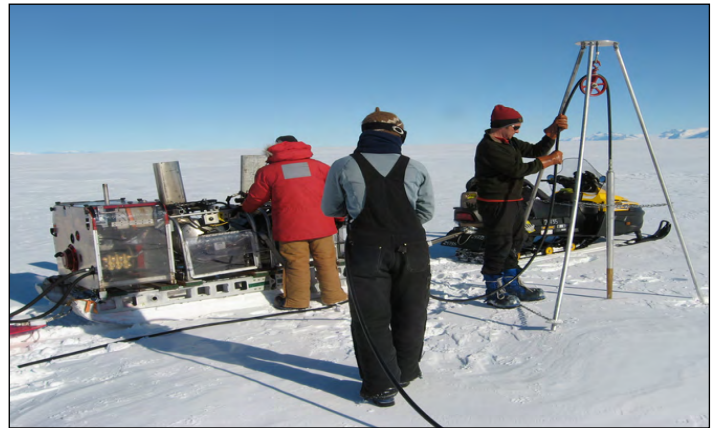
U.S. Ice Drilling Program

Ice Drilling Program Office | Ice Drilling Design and Operations

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

Scientific Drilling

A very successful Antarctic field season was brought to a close in February, with all field personnel returning to the U.S. PI Howard Conway's field team had excellent success with an IDDO portable hot water drill on Beardmore Glacier, drilling nearly 170 shot holes and completing four seismic transects. At WAIS Divide, new and revolutionary technology with the DISC Drill enabled collection of replicate cores on the uphill side of the borehole. The field team was able to surpass the initial goal of 252 meters of replicate core, collecting a total of 285 meters of excellent ice core from depths of particular interest. This field season was the culmination of six years of drilling operations at WAIS Divide Camp. A variety of hand auger projects were also successfully completed in Antarctica.



Drilling seismic shot holes with the portable hot water drill on Beardmore Glacier. Photo: Maurice Conway.

Equipment Development

Intermediate Depth Drill

IDDO continued work on the design and fabrication of the Intermediate Depth Drill (IDD). On March 20, IDDO held a web-based Final IDD System Engineering Design Review with the South Pole Ice Core PIs, along with several members from the IDPO Science Advisory Board, the IDDO Technical Advisory Board, and IDPO personnel. The final system design has been approved, and IDDO is actively procuring IDD system components and support equipment. The presentation from the Final IDD System Engineering Design Review is available for download at:

<http://www.icedrill.org/library/printsection.shtml?ID=340>

Deep Logging Winch

IDDO finished specifications of the 4000-meter Deep Logging Winch and placed an order with Markey Machinery Company, Seattle, WA. On March 19, IDDO approved the certified drawings of the entire system developed by the manufacturer, and the winch is in the process of being produced.

Blue Ice Drill - Deep

IDDO finished the final design and procured all components for the modified Blue Ice Drill – Deep. The system has been completed and shipped to Greenland for testing by PI Vas Petrenko during the 2013 Arctic field season. Previously, the Blue Ice Drill had only been used to collect large diameter cores (9.5 inches) to depths of approximately 25 meters in blue ice. The modifications to the Blue Ice Drill are expected to allow it to now also collect large diameter cores (9.5 inches) in firn and to depths in excess of 100 meters.

IDD System Engineering Design Review

The final system design for the Intermediate Depth Drill has been approved.

Planning for the Future

Science Advisory Board Meeting

IDPO held the IDPO Science Advisory Board (SAB) annual meeting on March 14-15, 2013 at the Hilton in Arlington, VA, where members of the SAB, IDPO, IDDO, and NSF shared information and discussed aspects of the Long Range Science Plan. The draft 2013 Long Range Science Plan will be released shortly, and comments and input from the community will be requested. The minutes from the SAB meeting are being drafted and, when finished, will be available for download at <http://icedrill.org/about/sab.shtml>.

DISC Drill - Updated Science Requirements

IDPO discussed with IDDO the need for updated Science Requirements for long range planning for the DISC Drill. IDPO will work with the community and with IDDO this summer to revisit the requirements and establish updated science requirements that will establish a direction for work on the DISC Drill in coming years, including preparation for very cold conditions.

Registration and Abstract Submission Now Open - 7th International Workshop on Ice Drilling Technology

Registration is now open for the 7th International Workshop on Ice Drilling Technology, to be held at the Pyle Center at the University of Wisconsin, Madison, WI, USA, from 9-13 September 2013. The deadline for registration is 30 June 2013. Please note that if you previously submitted an "Expression of Interest" to attend the workshop you must now actually register for the workshop. To register for the workshop, visit:

<http://icedrill.org/7th-international-workshop-on-ice-drilling-technology/>

Submission of abstracts for the workshop is now also open. Participants wishing to give an oral presentation and/or present a poster are required to submit an abstract. The deadline for submitting abstracts is 30 June 2013. A program containing all of the submitted abstracts will be provided to all workshop participants. In order for your abstract to be included in the program handout it must be submitted by the deadline. All abstracts must be submitted by using the online form located at:

<http://icedrill.org/7th-international-workshop-on-ice-drilling-technology/submit-abstract.shtml>

The workshop will take a comprehensive look at the latest innovations in ice drilling technology, including ice coring, borehole logging, subglacial sampling, core logging and handling, and field logistics. The workshop will promote the exchange of knowledge, ideas, and experience among many countries and individuals who are involved in ice drilling projects. People active in the technical side of ice drilling are especially encouraged to participate, as are technical representatives from nations who have recently begun ice drilling programs for the first time.

The workshop will begin Monday evening with registration and an icebreaker. The main form of presentations will be oral sessions (approx. 20 minutes per talk) during the day on Tuesday through Friday. On Tuesday, from 3:00 pm to 8:00 pm, there will be a dedicated poster session. The posters will be displayed in their own room near the meeting room, and may remain on display for the duration of the conference. On Wednesday afternoon there is an optional guided tour of short segments of the Ice Age National Scenic Trail led by Emeritus Prof. Dave Mickelson, co-author of *Geology of the Ice Age National Scenic Trail*.

Workshop participants must make their own hotel reservations. Rooms have been held at several hotels close to the Pyle



The 2nd circular for the 7th International Workshop on Ice Drilling Technology is now available and contains details about workshop registration, abstract submission, and lodging.

Center. The rooms are available on a first-come, first-served basis. For more information visit:
<http://icedrill.org/7th-international-workshop-on-ice-drilling-technology/accommodation.shtml>

For more information about the workshop and to download the 2nd circular, visit:
<http://icedrill.org/7th-international-workshop-on-ice-drilling-technology/>

WAIS Divide Ice Core 2013 Science Meeting

The 2013 WAIS Divide Ice Core Science Meeting will be held on 24-25 September at the Scripps Seaside Forum in La Jolla, CA. The meeting will have activities for all of both days and the evening of the 24th. Everyone associated with the project is encouraged to attend. Additional focus meetings will be held on Monday, 23 September, to provide an opportunity to go into greater depth on topics of interest to only a portion of the WAIS Divide community. For the latest information about the meeting, visit:

<http://waisdivide.unh.edu/meetings/index.shtml>

New Video on Ice Core Processing

A new video was produced by IDPO from footage taken last summer at the National Ice Core Laboratory, showcasing how and by whom ice cores are processed, examples of the science that results from each type of sample, and why these discoveries are important within the global climate picture. The video will become part of a suite of media products located on the Climate Expeditions “Cool Stuff for Everyone” page at:

<http://www.climate-expeditions.org/cool-stuff/links.html#videos>



Screen-shot of the new video about ice core processing at the National Ice Core Laboratory.

Educational Outreach

Linda Morris, IDPO's Education Program Manager, recently facilitated a repeat “*Checking Out Your Team*” videoconference featuring Spruce Schoenemann (University of Washington) with a Washington high school. Students were very enthusiastic, and, for the second year in a row, a student who is now a senior expressed interest in pursuing a career in the ice coring field. Several students gave up their lunch hour to stay online with Spruce. If you would like to learn more about how you can participate in the “*Checking Out Your Team*” videoconference-based activity, please contact Linda Morris at linda.m.morris@dartmouth.edu.

Drilling Support to Science Projects

Current - Arctic 2013

- Cosmogenic Carbon-14 in Polar Firn, Greenland (Petrenko)
- Denali Ice Core Record, Alaska (Osterberg)
- Greenland Aerosols and Methane Records, Greenland (McConnell/Brook)
- Greenland Perennial Firn Aquifer, Greenland (Forster)
- Isotope Hydrology at Summit, Greenland (Noone)
- McCall Glacier Ice Cores, Alaska (Nolan)

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 Letter of Support and Scope of Work/Cost Estimate that **MUST** be included with your proposal. If you are submitting a proposal to NSF the Letter of Support and Scope of Work/Cost Estimate should be included as Supplemental Information in your proposal, and it is recommended that you also notify the relevant NSF Program Manager that your proposal requires support from 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/scientists.shtml#otheragencies.

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