

Ice Bits Newsletter

FALL 2010

Quarterly update of IDPO and Ice Drilling Design and Operations (IDDO) activities <u>www.icedrill.org</u>

Town Hall Meeting at AGU

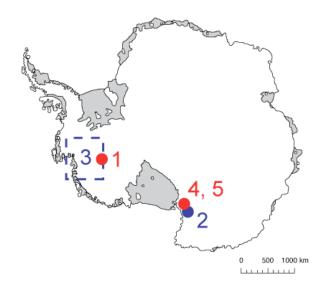
IDPO is partnering with ANDRILL to hold a town hall meeting at the 2010 Fall AGU Meeting entitled "Scientific Drilling in the Polar Regions". Presenters at this meeting will report on recent planning by the IDPO/IDDO, IPICS, ANDRILL, IODP, SCAR-ACE, SHALDRIL, and WAIS initiatives, and will provide time to discuss current opportunities for community involvement in long-term interdisciplinary planning for coring and drilling, including access to resultant boreholes. The workshop is on Wednesday December 15 from 12:30-1:30. Please check the 2010 Fall AGU Meeting web site for more information (http://www.agu.org/meetings/fm10/).

National Science Teachers Association (NSTA) Outreach

Linda Morris, IDPO-IDDO Education Program Manager, is holding an ice cores and climate workshop called "Climate Expeditions" at the NSTA Regional Conference in Baltimore, MD on November 12-14. Please see the NSTA website for time and location http://www.nsta.org/conferences/2010bal/. If you would like to be involved in a future NSTA conference, please contact Linda Morris at linda.m.morris@dartmouth.edu.

Field Support to Antarctic Projects

During the 2010-2011 Antarctic field season IDDO will provide drilling support for five projects: (1) the WAIS Divide Ice Core project (Taylor, PI) will continue deep ice coring with the DISC drill; (2) the Allan Hills Cores project (Kurbatov, PI) will use the Badger-Eclipse drill to drill several shallow and 100-meter-long ice cores to compare the Eemian climate record of Allan Hills with that of Mt. Moulton, delineate the area's chronostratigraphy, refine meteorite dating for existing collected meteorites, and establish a framework for an "International Climate Park" in the Allan Hills; (3) the WAIS Shallow Cores project (Joughin, PI) will use the Badger-Eclipse drill to collect shallow ice cores for surface-based ice-core measurements of accumulation and ground-truthing against airborne accumulation radar profiles; (4) the Taylor Glacier Cores project (Severinghaus, PI) will use the Blue Ice Drill to obtain large volume samples of ice from the Taylor Glacier ablation zone for studies of the past atmosphere; and (5) the Lake Vida Access project (Doran, PI) will use a 4inch hand auger, a Sidewinder hand auger power system, and the



Map of Antarctica showing 2010-2011 field season drilling locations. The numbers shown on the map correspond to the project numbers in the text.

Prairie Dog drill to drill an access hole in the ice cover for subsequent geochemical and biological sampling. For more information about each project, visit www.icedrill.org/about/projects.shtml.

Replicate Coring System

The community proposes to begin replicate coring at WAIS Divide during the 2011-2012 Antarctic field season. The conceptual design of the Replicate Coring System was completed in FFY2009 and substantial progress was made in FFY2010 in translating the replicate coring concept into a detailed mechanical design. During the coming year the design of the lower sonde (core and screen barrels and cutting head/cutters) will be completed as will the sensor and control electronics design and software development. Assembly and "bench" testing of the actuators and lower sonde are also scheduled for completion. The entire system will be integrated and tested to the extent possible before its shipment to WAIS Divide for use during the 2011-2012 field season.

Intermediate Drill

The IDPO Long Range Science Plan identifies acquisition of an intermediate drill as a high priority item for the US research community. In FFY2010, IDPO initiated community discussions on the science requirements of the drill, which may be modeled after the Hans Tausen drill (or the NZ modification of that drill). In August, IDDO engineer Tanner Kuhl traveled to NEEM to observe testing of the NZ drill, in order to gain some first-hand knowledge about the drill. IDPO will finish the process of working with the community to come to consensus on the science requirements for an Intermediate Drill in the first quarter of FFY 2011. During FFY 2011, IDDO will create a Project Management Plan, IDPO-IDDO will confer with international partners to gain drawings and collaboration, and IDDO will provide cost estimates and a construction plan for an intermediate drill.

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/.

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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.