

Report from the 2006 Ice Core Working Group meeting
Denver Federal Center
March 31, 2006

ICWG members in attendance:

Eric Saltzman – Chair	
Sridhar Anandkrishnan	Scott Rogers
Howard Conway	Eric Steig
Karl Kreutz	Ken Taylor
Lonne Lane	Larry Wilen
Tom Neuman	

1. NICL PI ice removal policy

Issue: NICL has the capacity to store the ice for currently planned coring operations. However, they will not have sufficient space for long-term storage of large amounts of sampled ice belonging to PI's after CPL's. This is particularly important for the anticipated overlap in WAIS Divide and ITASE programs.

Recommendation: Establish a policy that PI's are required to relocate ice within 90 days after CPL activity at NICL. This policy should be communicated to PI's by the project organizers, and be posted on the NICL web site.

2. Policy/procedures for international collaborators requesting ice from the WAIS Divide ice core. NOTE: THE POLICY IS NOT QUITE FINALIZED. INITIAL REVIEW OF THE ICWG WAS FOR APPROVAL. ONE SET OF COMMENTS ARE STILL BEING DEALT WITH. WE HOPE TO FINALIZE AND APPROVE IN EARLY MAY.

Issue: International participation in WAIS Divide and future projects is desirable, particularly in the context of IPY. No procedures currently exist for evaluating international proposals.

Recommendation: The WAIS Divide Steering Committee has drafted a policy for that project. Currently under review by ICWG.

3. Ice core packaging and transport (SAFE-CORE)

Issue: New capacity for ice core packaging and transport is needed for the WAIS Divide program. RPS has proposed improvements in terms of both mechanical and thermal protection of ice cores during shipping.

Recommendation: The ICWG members were impressed with the proposed SAFE-CORE system. The transport containers with redundant refrigeration systems were deemed to be a considerable improvement over current equipment, and appropriate for all future ice core drilling projects. The HD45 core storage units were viewed as appropriate for

WAIS Divide and other deep coring operations. It was noted that smaller, lighter packaging systems will still be needed for smaller drilling projects.

4. DISC drill development

Issue: There was considerable discussion regarding the failure of ICDS to meet important milestones in drill development. It is of concern that the DISC drill will never have been run in an integrated fashion in the laboratory prior to the Greenland field test. It is likely that integration of untested systems in the field will delay drilling and possibly compromise the goal of obtaining information about drill performance in brittle ice.

Recommendation: ICDS explained the individual issues leading to delays but did not provide a clear analysis of the structural issues underlying them (i.e. organizational structure, staffing, funding, etc.). Possible causes that emerged during discussion include: difficulty in maintaining necessary staffing levels at critical positions, and lack of technical oversight throughout the project, rather than during the design phase only.

5. Shallow drilling capability

Issue: The ICDS presentation contained no factual information about drill performance or core quality from shallow drilling during the past season.

Recommendation: It is strongly recommended that ICDS develop metrics of drill performance (including both rate of core recovery and core quality) that are uniformly recorded, and that these metrics be used as an objective basis for future decisions regarding shallow coring. Future presentations to advisory groups like the ICWG should contain both quantitative and qualitative (i.e. user survey) performance information. The ICDS web site should be revised to include currently available performance information and updated regularly as more information becomes available.

There was concern that the pressure of deep drill development has compromised the shallow coring effort. For the future, serious consideration should be given to whether a single contract should cover both shallow and deep ice coring, or whether these should be competed separately.

6. Ice core data policy

Issue: A formal data policy is needed to facilitate archival and exchange of ice core data. A draft policy (prepared by M. Twickler, E. Steig, and J. Sachs, Sept. 14, 2005) was circulated and discussed.

Recommendation: The ICWG endorses the policy and recommend that it apply to all US ice core investigators, and non-US investigators using US ice cores.

7. NICL

Issue: NICL has taken on responsibility for designing and building the core processing line for WAIS Divide. The ICWG was impressed with the enthusiasm and energy NICL staff has shown, and their responsiveness to the WAIS Divide lead PI. There was some concern that the scoping of this task has been done in an informal way, without community awareness of the resources involved, or of the potential adverse impact on NICL's core mission. The ICWG was distressed to learn that inventorying of the NICL collection and database/web site development has been suspended. It also seems clear that the planned WAIS Divide field effort will negatively impact the accessibility of the ice core archive by the research community for significant periods of time.

Recommendation: The ICWG discussion underscored the importance of NICL's core mission of core curation, archival, and access. There is clearly a need for NICL involvement in major ice core drilling programs in terms of ensuring the integrity of core labeling and information collection. It is not clear that NICL is properly staffed, funded, or managed to perform extensive engineering efforts. A major effort such as building the WAIS Divide CPL should be explicitly tasked and budgeted, and the impact on NICL's core mission should be assessed.

8. Future scientific directions and drilling capabilities

Issue: The WAIS Divide project is underway, and there is a need to begin planning future ice coring activities. These plans should include scientific goals and priorities as well as the drilling technology and logistics needed to carry them out.

Recommendation: The ICWG agreed to begin work with the ice coring community on developing a strategic plan for future US ice core scientific projects. This plan will be developed in the context of the IPICS agenda, and will begin with the development of science and implementation plans focused on specific projects. The next step will be a workshop to identify leadership, interested participants, international partners, priorities, and drilling requirements. The goal is to have preliminary drafts in hand by January 2007, prior to the next ICWG meeting.

9. Borehole Access Committee

Issue: There is currently no mechanism to provide technical review of requests to NSF to use existing boreholes, and the ICWG is not staffed to provide such a review. An informal committee has been used to provide such review. The Director of NICL-SMO has requested that the ICWG formalize a Borehole Access Committee, to operate in a similar fashion to the Sample Allocation Committee.

Recommendation: The ICWG endorses the idea of a Borehole Access committee, which would be a subcommittee of the ICWG.

10. Next ICWG meeting: planned for week of April 23, 2007 to be held in Irvine, CA