

To: ICWG Meeting Attendees
From: Mark Twickler, NICL-SMO
Re: Meeting information
Date: March 13, 2008

Hello,

We are 2 weeks away from meeting at the Denver Federal Center for the 2008 ICWG meeting. We will be starting the meeting at 8:30 AM on March 27. We will be meeting in the Hayden Room, Building 810. A .pdf file is attached to this email with information about the meeting.

We are also happy to announce several new members to the ICWG. Ian Baker has been selected as the Physical Properties Rep. We have also created 2 new "Disciplines" on the ICWG, Borehole Logging and Biogeochemistry. Ryan Bay will serve as the Borehole Logging Rep and Mark Skidmore (with Christine Foreman as the alternate) will serve as the Biogeochemistry Rep. Todd Dupont has been selected as the Modeling Rep alternate and will replace Twit Conway next year. Thanks to those who provided input on the selection process. A listing of the ICWG members is attached.

Also attached is a draft agenda for the meeting. The meeting will begin with updates from the various groups involved with the ICWG (NSF, NICL, NICL-SMO, ICDS) then we will move on to various project updates. In the afternoon and a good part of the following day we will be discussing two very important issues. First is the future role of USGS in NICL. The USGS has put together a Working Group to address the issues pertaining to the USGS involvement in NICL. The Groups' Charter is attached in the meeting handout. USGS will make a presentation which will be followed by a short discussion. More in depth discussions will be held on the second day. The second issue is the idea of developing an US Ice Core Consortium. The attached document is a white paper advocating a more formal structure for the management of US ice coring activities. This document is an outgrowth of discussions among various members of the US ice core community. This draft is being circulated to the ICWG for discussion at the upcoming meeting. We will briefly introduce the concept of the Consortium then continue further discussions on the next day.

On the second day we will begin at 8AM. We will start with ICWG members giving ~10 minute updates on "Latest and Greatest" contributions from your "Discipline". The idea of this session is to report to the ICWG recent findings in your area of expertise. To gather this formation you can either contact your colleagues for a few slides or present recent articles of interest. While you are welcome to take a few minutes to discuss the latest in your research, you are representing the community as your role on the ICWG so we would like to also hear what some of your colleagues are working on. We will finish the meeting with further discussions about the Consortium idea and the USGS-NICL relationship. We expect to adjourn around 3PM so folks can catch flights out of DIA.

I will be contacting people about ride sharing soon. If you do not hear from me you can assume your arrival/departure times are such that sharing a ride does not work out. We will reimburse ICWG members for a car rental. There is shuttle service that will take you from the airport to the hotel. Cost is ~\$30 each way. See: <http://www.supershuttle.com/>.

Rooms have been reserved at the:
 Denver Sheraton West
 360 Union Boulevard
 Lakewood, CO 80228
 telephone 720.963.2049
www.sheraton.com/denverwest

Please see the attached rooming list from the hotel and check to make sure your reservation is what you have planned.

My personal cell phone number is 603-988-8057 in case you need to contact me when traveling or in Denver.

You know how to reach me with any questions:
Mark.Twickler@unh.edu
 603-862-1991

Thanks and look forward to seeing you in Denver

Ice Core Working Group – 2008

Representative	"Disciplinary"	Alternate	Years Served
Eric Saltzman	Chair - Atm Chemistry	TBD	3
Ross Edwards	Ice Chemistry	TBD	3
Lonnie Lane	Technical	TBD	3
Howard Conway	Modeling/ Geophysics	Todd Dupont	3
Todd Sowers	Gases	TBD	3
Eric Steig	At Large	TBD	3
Karl Kreutz	Stable Isotopes	TBD	3
Ian Baker	Physical Properties	Rachel Obbard	1
Brent Christner	Biological	TBD	1
Tom Neuman	Surface Glaciology	TBD	1
Ken Taylor	WAIS Divide - At Large	TBD	2
Ryan Bay	Borehole Logging	TBD	1
Mark Skidmore	Biogeochemistry	Christine Foreman	1

Bold Members are new.

2008 Ice Core Working Group - Draft Agenda

Hayden Room – Building 810 – Denver Federal Center

Thursday, March 27

8:30 Welcome - Saltzman
8:40 NSF Remarks - Palais
9:00 NICL Update Hinkley, Hargreaves
9:30 NICL-SMO Update - Twickler
10:00 Break
10:30 ICDS update
11:00 NSIDC Update – Scambos, Bauer
 Project updates
11:20 WAIS Divide - Taylor
11:35 NEEM – White ?
11:50 IPY traverse - Neumann
12:00 Lunch
1:00 NICL Tour
1:45 Roosevelt I - Conway
2:00 McKinley – Kreutz
2:15 IPICS - Brook
2:30 GISP2 Borehole – Twickler
 Others?
3:00 Break
3:30 NICL-USGS relationship - Schumann, Dickinson
 Presentation
 Discussion
4:30 Consortium Introduction Saltzman
~5 PM End Meeting

Group Dinner

Friday, March 28

8:00 Updates from ICWG “Latest and Greatest” in area of expertise
 10 minutes each
10:00 Break
10:30 Discussions on Consortium
12:00 Lunch
1:15 Discussions on NICL-USGS relationship Part 2

~3:00 end meeting

Working Group on the Future Role of USGS in NICL

The **U.S. National Ice Core Laboratory** (NICL) is the Nation's premier facility for storing and curating the National Science Foundation's global collection of meteoric ice cores. NICL is supported by the Office of Polar Programs at the National Science Foundation (NSF) and the U.S. Geological Survey (USGS). Scientific management is coordinated by the University of New Hampshire.

The NICL, established in 1993, is located on the grounds of the Denver Federal Center in Lakewood, Colorado. The facility currently houses over 14,000 meters of ice cores from 34 drill sites in Greenland, Antarctica, and high mountain glaciers in the Western United States.

NICL's mission is to provide for the physical security of this collection, to ensure that these cores are readily available to our clients, to ensure currency and availability of all inventory records, to provide safe and convenient lab space for processing ice cores, and to promote ice core research by serving as an informational nexus for the US ice core research community. NICL also promotes international cooperation among ice core facilities by providing leadership for shared data and information on the global availability of ice cores for research

Ice cores contain an abundance of climate information—more so than any other natural recorder of climate such as tree rings or sediment layers. Although the ice core record is short (in geologic terms), it can be highly detailed. An ice core can contain an uninterrupted, detailed climate record extending back hundreds of thousands of years. This record can include temperature, precipitation, chemistry and gas composition of the lower atmosphere, volcanic eruptions, solar variability, sea-surface productivity and a variety of other climate indicators. It is the abundance and simultaneity of these properties recorded in the ice that makes ice cores such a powerful tool in paleoclimate research.

The NICL currently has 4 FTE and a total yearly operating budget of approximately \$924K. NSF, under a cooperative agreement, contributes 75% of the total operating budget of the NICL. USGS provides the remaining 25%.

The new USGS Science Strategy, *Facing Tomorrow's Challenges – U.S. Geological Survey Science in the Decade 2007-2017* (<http://pubs.usgs.gov/circ/2007/1309/>), was developed by the USGS Science Strategy Team in consultation with USGS scientists and managers and provides a comprehensive vision, science goals and priorities needed for the bureau to address future challenges. *Facing Tomorrow's Challenges* provides guidance to USGS science programs and currently is being used to begin initiatives across the Bureau. The Geology Discipline is currently creating a new Geology Science Strategy that builds upon *Geology for a Changing World* (Geologic Discipline Science Strategy, 2000-2010, USGS Circular 1172) and *Facing Tomorrow's Challenges*.

The time is right for the USGS to evaluate its future role in the NICL in light of these strategic plans. A small working group of USGS and external representatives will address the following issues:

(1) Overview of current structure

- a. What is working?
- b. What strategies or investments could make it better?
- c. Is the yearly operating budget an accurate portrayal of the true costs?

(2) Benefits

- a. What is the benefit to the USGS of operating the NICL?
 - i. What is the importance of NICL in the overall USGS-NSF relationship?
- b. What is the advantage to the USGS of operating the NICL?
- c. What are the potential benefits of continuing to operate the NICL?
- d. Is the benefit enough to justify the USGS investment in the NICL?

(3) Future science directions

- a. What science has USGS generated from the NICL samples?
- b. What is USGS use of NICL?
- c. How does the NICL fit into the future science directions of the USGS (Bureau Science Strategy, Geology Discipline Science Strategy, and the strategy for the climate change program)?
- d. Is there a unique science role USGS could have in ice core research?
- e. Should continued USGS operation of the NICL depend on active involvement of USGS in ice-core related research?

(4) Space

- a. The NICL would have to grow in size in order to accommodate future ice cores.
- b. What are the budgetary implications (capital investments, ongoing costs)?

(5) Recommendations

- a. Recommend a path forward with respect to the USGS involvement in the NICL.
- b. What should be the USGS's future investment in the NICL?

Members:

Randy Schumann	rschumann@usgs.gov	USGS, NICL Director (Chair)
Richard Alley	ralley@geosc.psu.edu	Penn State University
Tammy Dickinson	tdickinson@usgs.gov	USGS, Program Coordinator, Data Preservation and Laboratories
Dan Fagre	dan_fagre@usgs.gov	USGS, Northern Rocky Mountain Science Center
Marty Goldhaber	mgold@usgs.gov	USGS, Crustal Imaging and Characterization Team
Pat Jellison	pjellison@usgs.gov	USGS, Program Coordinator, Earth Surface Dynamics
Woody (Sherwood) Wise	wise@gly.fsu.edu	Florida State University

DRAFT: March 7, 2008

A white paper on the need for a University consortium for ice core research.

*Prepared by Eric S. Saltzman and Ed Brook
on behalf of the Ice Core Working Group*

**COINCIDE: Consortium for Inter-University Cooperation on
Ice Core Drilling and Experimentation**

EXECUTIVE SUMMARY

It is proposed that a University Consortium for Ice Core Research be established to provide scientific leadership and oversight for critical aspects of the US ice core research program. These include long range scientific planning, scientific project management, ice core retrieval, archival and storage, and interaction with international partners in ice core research. This white paper briefly discusses the need for such an entity, a proposed organizational model, and some of the potential benefits and risks associated with this approach. This document is an outgrowth of discussions between the Ice Core Working Group, members of the US ice core research community, and the NSF Office of Polar Programs.

BACKGROUND AND RATIONALE

The US Ice Coring effort has been extraordinarily successful in terms of generating transformative, internationally recognized science. Unlike most other nations engaged in ice core research, the US does not have a national institute of ice core research or a single academic institution providing centralized leadership. The US community operates in a distributed fashion, with investigators residing at numerous different universities, research institutes, and government agencies. Support for the enterprise is provided primarily by NSF, with assistance from a patchwork of committees and various contracts. These support functions include scientific input from the Ice Core Working Group (ICWG; a group of PI's representing various aspects of ice core research, a Science Management Office (which provides administrative support for the ICWG, scientific and project planning workshops, ice core sample allocation, and specific ice core drilling projects), and separate contracts for ice core drilling services (ICDS), the National Ice Core Laboratory (NICL) ice core storage facility (NSF/USGS), and data archival and access (NSIDC).

The "distributed science" model has benefits in terms of the diversity of PI skills and interests, and the openness of the field to entry by new investigators. However, it does not provide strong scientific oversight of critical ice core facilities and capabilities (drill development, ice core storage, field archival operations), long-term planning of scientific priorities and activities, and effective interaction with international partners. The current model is not well-suited to maintain the information flow, community input,

and oversight needed to insure successful operation and interaction of the various components. Contractors for specific specific functions, such as data archival or ice core storage often lack the ability to integrate their functions tightly with scientific needs and to respond quickly to unanticipated events and opportunities. There is no direct “line authority” linking the scientific community to the management of the support facilities.

The Ice Core Working Group was established in 1987, and has been in operation continuously for more than 20 years. During that time, the US ice coring enterprise has grown considerably, in size, scope, and complexity. This growth is anticipated to continue, given the urgency of the climate change scientific agenda driving this research. At the same time, the international landscape for ice core science has evolved considerably and many nations have expanded their scientific ice coring operations and logistical capabilities. Future major ice coring operations are likely to have a stronger international coordination. A more comprehensive, integrated management structure for US ice core science is needed in order to manage our growth, maximize the scientific yield of drilling projects, and to take advantage of the opportunities for collaboration with international partners.

It is proposed that a University Consortium for Ice Core Research (hereafter referred to as a UCICR) would strengthen the management of the US ice core research enterprise, and help assure its continued success into the future. The explicit goals of this effort is to develop an organization by which the scientific community can provide direct oversight of critical planning, coordination, and support services. The proposed Consortium will also facilitate interaction of the US ice coring effort with federal agencies and international partners.

PROPOSED ORGANIZATIONAL STRUCTURE

The proposed model for the UCICR is based loosely on several existing entities within the US scientific research communities which involve close coordination between the University community and the NSF. No exact analog for the proposed consortium currently exists, but many existing entities have most of the major elements. Such entities include UCAR (University Corporation for Atmospheric Research), ARCUS (Arctic Consortium of the United State), AURA Association of Universities for Research in Astronomy) and CUAHSI (Consortium of Universities for the Advancement of Hydrologic Sciences).

The proposed UCICR would be incorporated as a non-profit corporation. Any University or Non-profit Research Institution would be eligible for membership in the Consortium and the Board of Directors would be elected by the members from a pool of candidates solicited from the member institutions. The senior management of the Consortium would consist of an Executive Director, with scientific and administrative capability, and an Operations Director with logistics and management experience. Additional personnel would be added as needed to fulfill specific contractual obligations. Depending on the size and scope of those obligations, financial control and human resources functions would either be developed in-house, or contracted to an external entity such as a University or consulting service. Base operating funds for the Consortium would be provided by NSF via a grant or Cooperative Agreement.

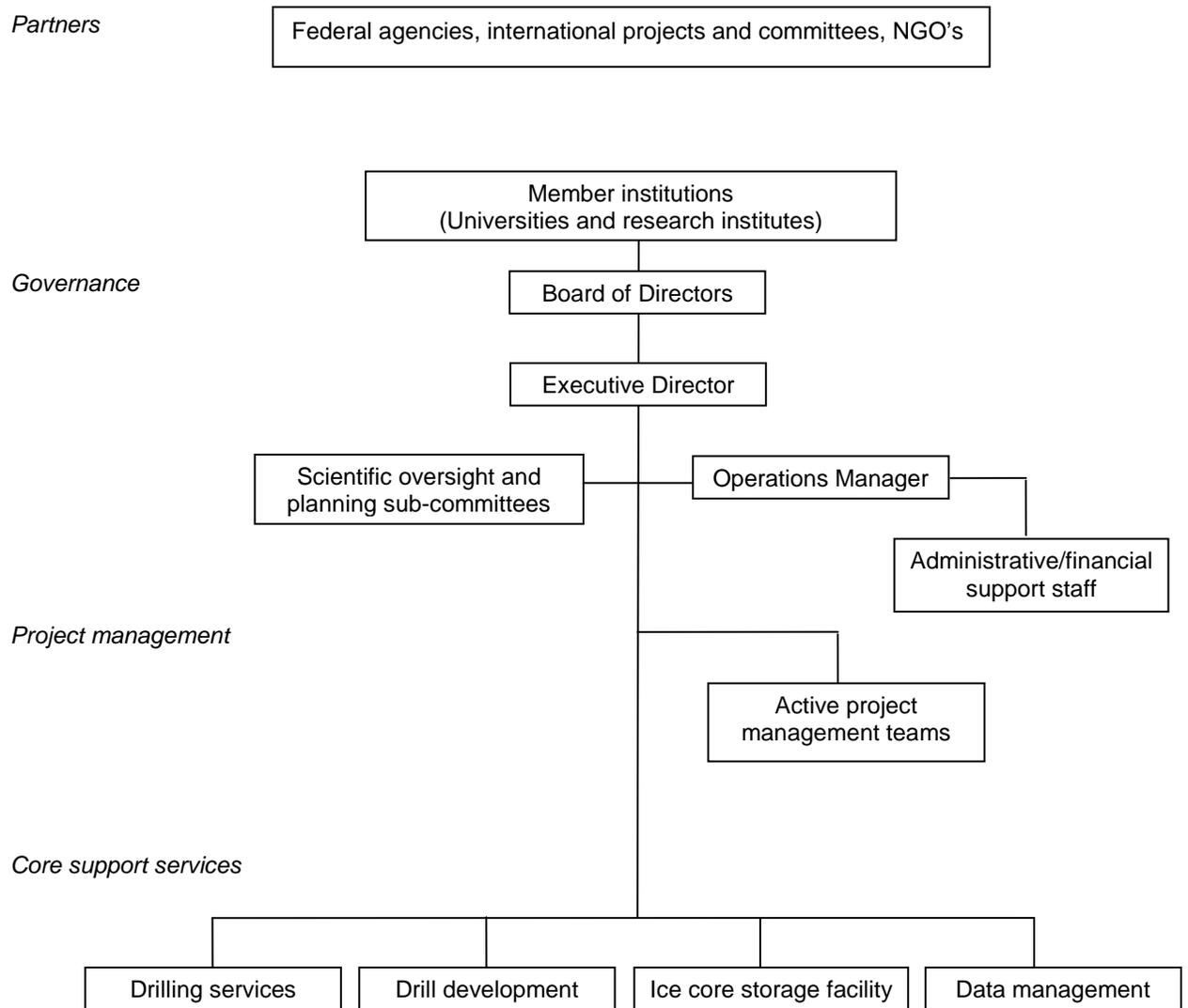


Figure 1. Organizational structure of the proposed Consortium for Ice Core Research.

BENEFITS AND RISKS

The UCICR would provide scientific community input to NSF and contractors involved in ice core archival, storage, drilling, drill development, and data management. These functions are currently performed by the NICL-SMO (Science Management Office) and ICWG. The UCICR would assume the role of the SMO in managing ice sample allocation, conducting workshops relating to ongoing scientific projects, planning of future programs, and interaction with the international community. The UCICR would also actively manage contracts and/or operate facilities for critical support functions in cases where direct scientific oversight is needed. This is a major benefit of the proposed organization and a key difference from the current model. Direct management of the support services will insure that tasking and performance evaluation are closely aligned with the needs of the scientific community. This will achieve a higher level of integration than is possible under the current system.

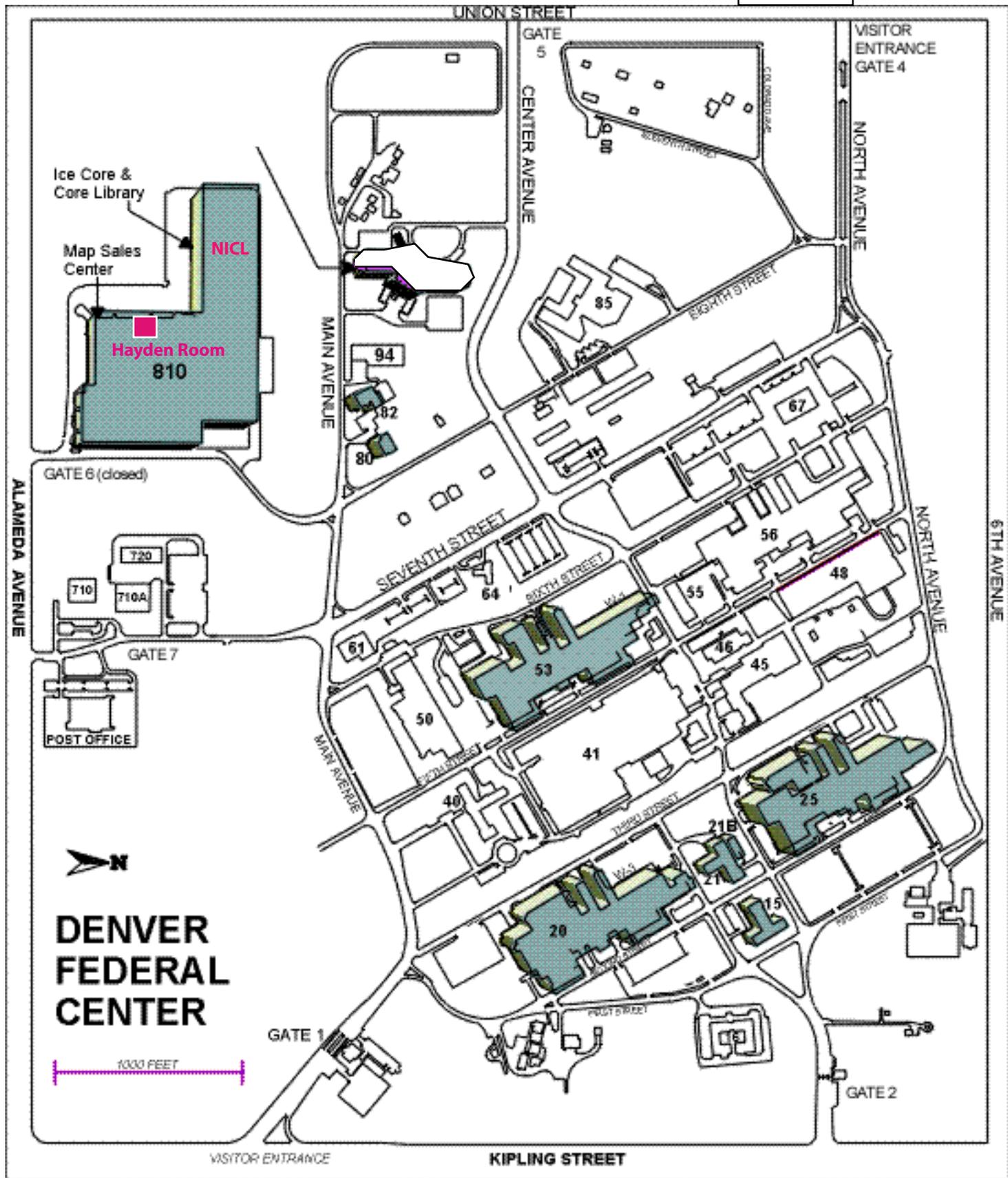
The principle recurring additional costs associated with the establishment of the proposed consortium involve the hiring of the Executive Director and the rental of office space. The consortium will in some cases represent an additional level of overhead associated with support contracts. There are also one-time costs associated with the incorporation process. Many of the costs associated with the consortium are already allocated via various contracts, cooperative agreements and grants, such as the SMO.

Conversations with various agency and University personnel provide anecdotal examples of community concerns associated with Consortia. One such concern is “mission creep”, meaning rapid expansion of the organization in response to agency needs, leading to growth beyond the original scope, and a loss of focus. This reflects the strong demand for non-governmental scientific management. Another concern is “overreaching”, or attempting to dictate, rather than inform, agency priorities. Among the academic community, the issue of “openness” is sometimes raised. This reflects concern that the consortium priorities may overly reflect self-interest or that of a small group of investigators. In the case of the proposed UCICR, these concerns are somewhat alleviated by the history of productive and open agency/academic interactions associated with the ICWG and SMO.

RECOMMENDATION

It is recommended that a University Consortium for Ice Core Research be established as a means of strengthening and centralizing the management of the highly distributed US ice coring program. The new organization would incorporate the existing ICWG and SMO, provide scientific oversight of ice coring projects, and directly manage and operate critical support facilities. A UCICR would represent an incremental, but significant step in the evolution of the US ice core enterprise, and help ensure that the US ice core community continues to play a leadership role in global climate research.

Denver
Sheraton
West



Ice Core & Core Library
Map Sales Center
NICL
Hayden Room
810

GATE 6 (closed)

710
710A
720

GATE 7

POST OFFICE



DENVER
FEDERAL
CENTER

1000 FEET

GATE 1

KIPLING STREET

GATE 2

VISITOR ENTRANCE

VISITOR
ENTRANCE
GATE 4

GATE 5

CENTER AVENUE

NORTH AVENUE

MAIN AVENUE

ALAMEDA AVENUE

SEVENTH STREET
SIXTH STREET

NORTH AVENUE

6TH AVENUE

MAIN AVENUE

THIRD STREET

FOURTH STREET

FIFTH STREET

Ice Core Working Group (ICWG)

Sheraton Denver West
360 Union Boulevard
Lakewood, CO 80228
720-963-2059

Last Name	First Name	Check in	Check out	Room Number
Baker	Ian	27-Mar	29-Mar	629399
Bay	Ryan	26-Mar	28-Mar	629400
Bentley	Charles	26-Mar	28-Mar	629402
Brook	Ed	26-Mar	28-Mar	629403
Christner	Brent	26-Mar	28-Mar	629404
Conway	Howard	26-Mar	28-Mar	629405
Edwards	Ross	26-Mar	27-Mar	629406
Johnson	Jay	26-Mar	28-Mar	629408
Kreutz	Karl	26-Mar	28-Mar	629409
Lane	Lonne	26-Mar	28-Mar	629410
Lebar	Don	26-Mar	28-Mar	629411
Neumann	Tom	26-Mar	28-Mar	629412
Palais	Julie	26-Mar	28-Mar	629413
Saltzman	Eric	26-Mar	28-Mar	629414
Shturmakov	Alex	26-Mar	28-Mar	629415
Skidmore	Mark	26-Mar	29-Mar	630660
Souney	Joseph	26-Mar	29-Mar	629416
Sowers	Todd	26-Mar	29-Mar	629417
Taylor	Ken	25-Mar	28-Mar	629418
Twickler	Mark	25-Mar	28-Mar	629419

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Cell 603-988-8057