ARCSS/IARC/SEARCH Data-Modeling Workshop Planning
ARCSS Committee Briefing

2 November 2006

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Rationale

• Current focus of ARCSS is on synthesis
• Need strategy to improve model-data integration
• Consistent with NSF cyberinfrastructure goals
• Efforts of AON, IPY, SEARCH, and ISAC also need this integration
• Consistent with direction of IARC activities
Workshop Organizing Committee

- Charlie Vorosmarty (Co-Chair)
- Dave McGuire (Co-Chair)
- Marika Holland (AC)
- Larry Hinzman (IARC)
- Janet Intrieri (NSF)
- Maribeth Murray (AC)
- Josh Schimel (AC Chair)
- John Weatherly (Past Chair ARCSS Data Working Group)
Workshop Goal

Bring together representatives of the data provider and data user communities to identify innovative approaches for uniting data management & assimilation, recent developments in technology, and modeling that will advance synthesis studies of the Arctic system.
Community Representation

Participation is sought from a wide array of perspectives, with participants drawn from four major categories:

**Data Providers** -- Scientists and agency representatives who make available to others operational and/or benchmark data sets, thereby supporting the further processing of information for a variety of end uses.

**Technology and Information Technology Experts** -- Developers of innovation in sensor and sensor network design, including in situ and remote technologies, as well as data-serving, scientific visualization, and modeling frameworks.

**Data Consumers** -- "Power Users" of data, scientists who routinely ingest raw and/or processed data streams, who synthesize and use this information to produce value-added products.

**Information Users** -- “Downstream" data consumers including policy-makers, environmental managers, & outreach personnel, who use high level distillations of Earth system science data sets.
Workshop Structure

The workshop will assemble a group of 30-40 individuals who will interact on-site for 3 days. The workshop will begin with plenary talks and plenary discussion on the state-of-the-art in data-modeling-synthesis fusion. The workshop will consider a set of supporting discussion points:

• What are the data and modeling needs to advance synthesis-focused arctic system science?
• What's currently working and what is not in terms of applying data and modeling for analysis to advance science?
• What are the existing impediments limiting the assimilation of disparate data sources needed to advance arctic synthesis studies.
• What are the practical steps forward as far as mechanisms, approaches, tools and procedures, organization, standards, etc?

The smaller breakout group interactions will tackle a set of broad scientific challenges, each of which requires the innovative linkage of technology development, data base management, modeling, and IT fusion -- a set of "worked examples". To ensure a still broader set of perspectives, updates will be provided to and feedback solicited from the community prior to the workshop as well as after each day of the meeting.
Workshop Product

An Executive Summary of the effort, produced shortly after the workshop, will be prepared as a short report to NSF Program Managers and to the community at large. This will provide a summary of the key issue, common challenges, and general lessons that emerged during the workshop. It will include a set of recommendations for NSF investments in this arena. An expanded report will be issued 2 to 3 months after the workshop and will be targeted for a broad cross-section of readers, including policy-makers and the public.
Other Informational Items

• List of Participants to be Invited - ARCUS
• Broader Community Involvement - ARCUS
• Dates, Location, Venue
  – 8 to 10 January 2007
  – Santa Barbara, California
  – Venue - ARCUS