

Integrating Arctic Research *a Roadmap for the Future*

3rd International Conference on Arctic Research Planning
(ICARP III)



Dr. Volker Rachold and Dr. Larry Hinzman
Wednesday, 18 February 2015 at 8:00am AKST

Blackboard collaborate

Slides will be shown here

Exit the presentation

Click to Talk,
Unclick to finish talking

Raise your hand to ask a question

Share with emoticons

List of all participants

Chat with one person or the entire group

The screenshot shows the Blackboard Collaborate interface. On the right, a presentation slide is displayed with the text "Welcome to Blackboard Collaborate" and the ARCUS logo (Arctic Research Consortium of the United States). On the left, a control panel is visible with various icons and a list of participants. Blue arrows point from text labels on the left to specific icons in the control panel: "Slides will be shown here" points to the top-left corner; "Exit the presentation" points to the top-right corner; "Click to Talk, Unclick to finish talking" points to the microphone icon; "Raise your hand to ask a question" points to the hand icon; "Share with emoticons" points to the emoticon icon; "List of all participants" points to the participant list; and "Chat with one person or the entire group" points to the chat icon.

Please Note:

- Participants using the telephone can mute/unmute by **pressing *6** on the phone.
- Today's event will be recorded and archived.

Participant Introductions

Please type in the chat box:

- ✓ Name
- ✓ Affiliation (School, Institution, Etc.)
- ✓ The number of participants with you in the same location

Questions

During the Presentation:

- Type your question in the text chat box

At the End of the Presentation:

- Raise your hand with the “hand button”.
- ARCUS staff will call on you.
- Speak loud and clear and directly into the phone to ask your question.

Click on the Talk button to speak.

Unclick when you are done.



ARCUS

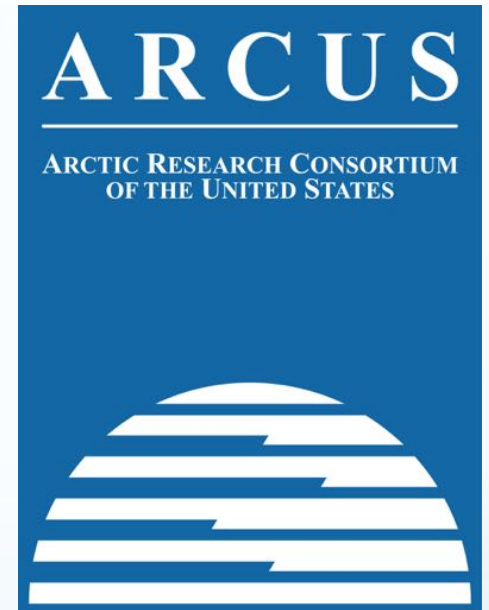
Arctic Research Consortium of the United States

www.arcus.org

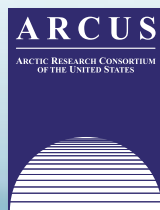
ARCUS is a catalyst for interdisciplinary thinking, acting, and education leading to the development of highly collaborative partnerships.

ARCUS IS...

- **Non-Profit Organization**
- **International**
- **Arctic focused**
- **Member based**
- **Located in Alaska**



current **ICARP III partners**



Northern Research Forum



ICARP III

provides a framework to help:

- ① **identify** Arctic research **priorities** for the next decade;
- ② **coordinate** various Arctic research agendas;
- ③ **inform** policy makers, people who live in or near the Arctic and the global community;
- ④ **build constructive relationships** between producers and users of knowledge.

ICARP III does not

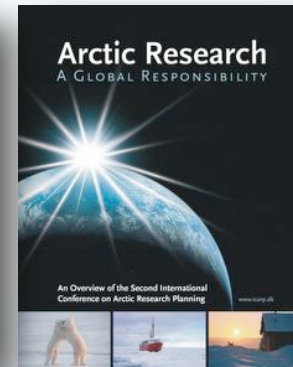
- ⊙ undertake the development of **new science plans.**

Rather:

- ⊙ ICARP III **builds** on the many comprehensive existing **science plans**;
- ⊙ and **compliments** existing activities with processes to identify and fill gaps that may need attention.



IPY



ICARP II

The process

is governed by a **Steering Committee**
established by the participating organizations



Participants of the ICARP III Steering Group meeting in Potsdam, 11-12 November 2014.

The program

- ⊙ **formal launch** at the **Arctic Science Summit Week (ASSW) 2014** in Helsinki, Finland;
- ⊙ **many meetings and events during 2014/15;**
- ⊙ culminating in a **final conference** during **ASSW 2015** in Toyama, Japan



<http://www.assw2014.fi/>



<http://www.assw2015.org/>

include workshops, writing team meetings, conference sessions, townhall meetings, outreach and capacity building events etc., organized around 4 themes:



- ③ Climate System and Transformations
- ③ Societies and Ecosystems
- ③ Observing, Technology, Logistics and Service
- ③ Outreach and Capacity Building



What will be the outcomes of ICARP III?

Activity Summaries & Reports



All ICARP III partners will play a role in shaping the future of Arctic research needs

Consensus Statement



Roadmap



Primary audience:

- Science funders and decision makers
- Policy makers

Users:

- Indigenous and Local people
- Scientific community
- Next Generation



International Polar Partnership Initiative (IPPI)

Co-Chairs: D. Hik, J.-G. Winther; Vice-Chair: Ø. Hov



[http:
icarp.iasc.info](http://icarp.iasc.info)

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The screenshot shows the website for the 3rd International Conference on Arctic Research Planning (ICARP III). The main header features the ICARP III logo and the title "Integrating Arctic Research - A Roadmap For The Future". Below the header is a large image of a person in a white protective suit measuring snow with a yellow ruler. To the right of the image are social media icons for Facebook and Twitter. Below the image is a navigation menu with three items: "ICARP", "THEMES", and "PARTICIPANTS". The "THEMES" section is highlighted and contains a list of bullet points: "Identify Arctic science priorities for the next decade;", "Coordinate various Arctic research agendas;", "Inform policy makers, people who live in or near the Arctic and the global community and,", and "Build constructive relationships between producers and users of knowledge." To the left of the "THEMES" section is a smaller image of a drilling rig in the snow. Below the "THEMES" section is a "LATEST NEWS" section with two items: "Follow ICARPIII on Facebook and Twitter 08-01-2015" and "5G Meeting Report Available 15-01-2015". At the bottom of the page is a footer with the text "Third International Conference on Arctic Research Planning" and a navigation bar with links for "Related events", "Downloads", "Contact", and "ICARP Newsletter". The footer also includes the International Arctic Science Committee (IASC) logo and contact information: "International Arctic Science Committee (IASC) Telegrafenberg A43, DE-14473 Potsdam, Germany info@iasc.info - www.iasc.info".

ICARP III

Integrating Arctic Research - A Roadmap For The Future

Photo: Luca Bracci

ICARP THEMES PARTICIPANTS

ICARP III provides a framework to:

- Identify Arctic science priorities for the next decade;
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LATEST NEWS

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IASC

08-01-2015

What ICARP Means to the Arctic Research Community

To best understand what ICARP may provide, it is useful to look back at ICARP I and ICARP II to see what was promoted and to see what has been accomplished.

- **ICARP I was held at Dartmouth University in Hanover, New Hampshire, 5 - 9 December 1995.**
- **ICARP II was held in Copenhagen, Denmark, 10-12 November 2005.**

ICARP I

- With the end of the Cold War in the 1990s and the emergence of big science and collaborative projects stretching across disciplines and borders, it became apparent to the founding fathers of IASC that international planning would benefit all.
- More than 250 scientists, including 33 from Russia, attended the week-long conference in Hanover.
- The conference yielded two important documents: an Executive Summary and a Final Report on the work of ICARP I entitled “Arctic Systems: Natural Environments, Human Actions, and Nonlinear Processes.”

Oran Young, 2015. First International Conference on Arctic Research Planning (ICARP I). IASC after 25 Years.

ICARP I

- ICARP I emphasized the importance of nonlinear processes affecting Arctic systems.
- Concepts that have become influential recently, such as tipping elements and tipping points, planetary boundaries, and the idea of the Anthropocene were not familiar. But there was an awareness of the importance of rapid and often turbulent change in what is now known as coupled socio-ecological systems.
- Linkages between development in the Arctic and broader concerns about global environmental change emerged as a priority.

ICARP I

- **(1) Effects of Increased Ultraviolet Radiation in the Arctic;**
- **(2) Regional Cumulative Impacts—Barents Sea;**
- **(3) Regional Cumulative Impacts—Bering Sea;**
- **(4) Mass Balance of Arctic Glaciers and Ice Sheets;**
- **(5) Terrestrial Ecosystems and Feedbacks on Climate Change;**
- **(6) Arctic Marine/Coastal/Riverine Systems;**
- **(7) Disturbance and Recovery of Terrestrial Ecosystems;**
- **(8) Dynamics of Arctic Populations and Ecosystems;**
- **(9) Sustainable Use of Living Resources;**
- **(10) Environmental and Social Impacts of Industrialization on the Arctic;**
- **(11) Rapid cultural change, human dimensions of Arctic systems;**

ICARP II

- ICARP II was proposed in 2003. At the time the Arctic Climate Impact Assessment (ACIA) was nearing completion. The first Arctic Human Development Report (AHDR) was just getting underway and the International Polar Year was just being discussed as a possibility.
- Unlike ICARP I, which was planned almost entirely by IASC, ICARP II was designed to be an international and multidisciplinary effort involving the whole community and with sponsors from across the breadth of Arctic science organizations and agencies.
- Also unlike ICARP I, ICARPII did not directly result in new IASC projects, but produced a set of forward-looking science plans.

Sara Bowden, 2015. Second International Conference on Arctic Research Planning (ICARP II). IASC after 25 Years.

ICARP II

- **The Working Group themes, as developed by the Conference Steering Committee with broad input from the conference sponsors, were:**
- **WG 1: Sustainable Development and Arctic Economies (Chairs: Henry Huntington and Gorm Winther)**
- **WG 2: Indigenous Peoples and Change in the Arctic: Adaptation, Adjustment and Empowerment (Chair: Jens Dahl)**
- **WG 3: Coastal Processes (Chairs: Volker Rachold and Christopher Cogan)**
- **WG 4: Deep Central Basin in the Arctic Ocean (Chair: Bernie Coakley)**

ICARP II

- **WG 5: Arctic Ocean Margins and Gateways (Chair: Jackie Grebmeier)**
- **WG 6: Arctic Shelf Seas (Chair: Heidi Kassens)**
- **WG 7: Terrestrial Cryosphere and Hydrologic Processes and Systems (Chair: Terry Prowse)**
- **WG 8: Terrestrial & Freshwater Biosphere and Biodiversity (Chairs: Torben Christensen and Terry Callaghan)**
- **WG 9: Modeling and Predicting Arctic Weather, Climate and Ecosystems (Chairs: Lennart Bengtsson and Klaus Dethloff)**
- **WG 10: Resilience, Vulnerability, and Rapid Change (Chair: Gary Kofinas)**
- **WG 11: Sciences in the Public Interest (Chairs: Lars Kullerud and Chris Southcott)**
- **WG 12: Presence and Fate of Heavy Metals, Persistent Organic Pollutants, Petroleum Hydrocarbons and Radionuclides (Chair: Lars-Otto Reiersen)**

The Value of Planning

- Intensive effort was expended by these organizing committees and by the working groups associated with these conferences to synthesize the state of the science and project where future needs would take us.
- Most of the themes identified in ICARP I and II did evolve into funded research programs, not necessarily as originally envisioned, and we can in almost all cases identify remaining knowledge gaps, but we also identify advances in each of these topics.
- In some cases, these reports provided justification to funding agencies for the need to support specific research investments... In other cases, these clear descriptions of research needs helped focus the attention and efforts of the research community.

The Need for Planning

- With each year of added warming, the urgency of research needs in the Arctic intensifies, while the potential funds available for Arctic research must compete with other societal needs.
- International collaborations have demonstrated the value that results from partnering through sharing of facilities, platforms, resources and understanding. These collaborative research programs are facilitated through ICARP conferences.

The Benefits of Participation

- The challenges we face in understanding the Arctic system are intimidating. The subtleties and complexities of the interactions, thresholds and feedbacks require cooperation and collaboration, building upon prior research and sharing of our discoveries and ideas.
- ICARP, with its focus upon present and future needs, in light of our mutual capabilities will help us achieve greater accomplishments with greater efficiency.

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ICARP III

Integrating Arctic Research - A Roadmap For The Future

Photo: Luca Bracci

ICARP THEMES PARTICIPANTS

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ARCTIC RESEARCH PLANNING

Thank You!

An archive of the event will be available shortly.