

Break-out session: Hydrology / Cryosphere

Chairs:

Terry Prowse, Environment Canada & Univ. of Victoria
Jeff Key, NOAA

Rapporteur:

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1. *Initiate a process to identify which Arctic observing sites, systems, and networks currently exist.*
2. *Initiate a process to identify spatial, temporal, and disciplinary gaps.*



Existing Arctic Observing System and Gaps

Most of this work has already been done. Review and synthesize.

- U.S. National Research Council's "Toward an Integrated Arctic Observing Network" (2006). <http://www.nap.edu>.
- ICARP II (2nd International Conference on Arctic Research Planning) : Science Plan 7 "Terrestrial Cryospheric & Hydrologic Processes and Systems"
- Integrated Global Observing Strategy (IGOS) Cryosphere Theme Report (2007). <http://igos-cryosphere.org>.
- IPY activities

The above will be done by the CliC Project Office under Theme 1 activities (The Terrestrial Cryosphere and Hydrometeorology of Cold Regions)

IGOS Cryosphere Theme Report

- IGOS, 2007.

Integrated Global Observing Strategy
Cryosphere Theme Report - For the Monitoring
of our Environment from Space and from Earth.
Geneva: World Meteorological Organization.
WMO/TD-No. 1405. 100 pp.

- <http://igos-cryosphere.org>



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 - 9. Permafrost and Seasonally Frozen Ground
 - 10. Solid Precipitation
 - 11. An Integrated and Coordinated Observing System
 - 12. Implementation
- + Hydrology

3. *Identify opportunities for **new observing networks** to integrate into existing networks.*



4. *Discuss opportunities for **better coordination** in order to make use of synergies and to avoid overlaps.*



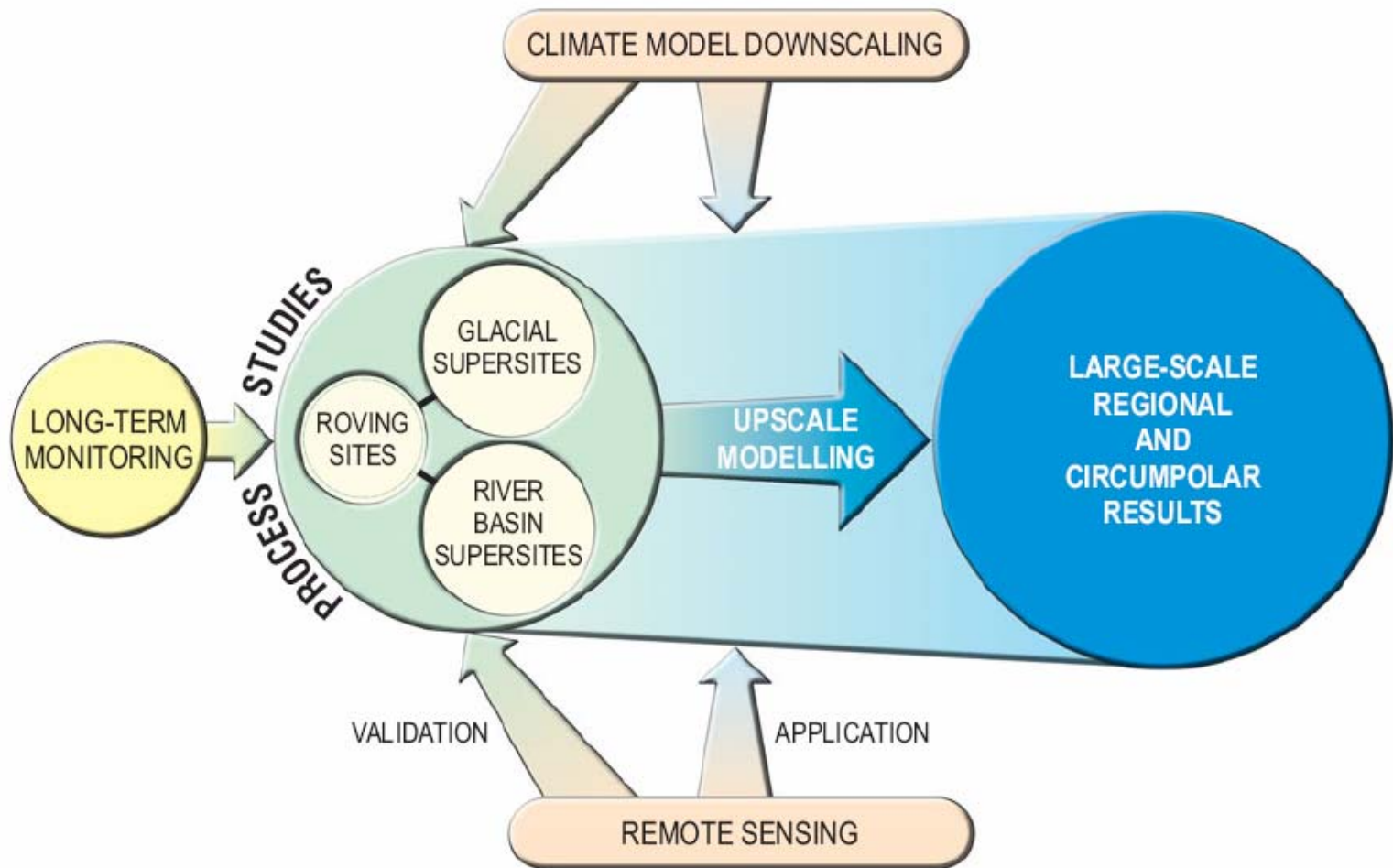


Figure 4: Major components of ICARPII study approach.

5 *Comment on the potential for **long-term funding** by better meeting user needs.*



Potential for Long-Term Funding

Methodological approaches to obtaining long-term funding:

- Multi-country peer-pressure effect
 - Portals / data integration access
 - Multi-country agreements



- How to better meet user needs?
 - Data rescue and coordination
 - Data center support
 - Improve the accuracy and robustness of measurements
- Improved articulation of hydrologic / cryospheric observing system value. Cost-benefit analyses.
- Improve articulation of societal impacts / benefits, e.g. water supply, sea level rise, coastal erosion, transportation, building from the GEO Work Plan.
(working group to be identified – WCRP / CliC ?)

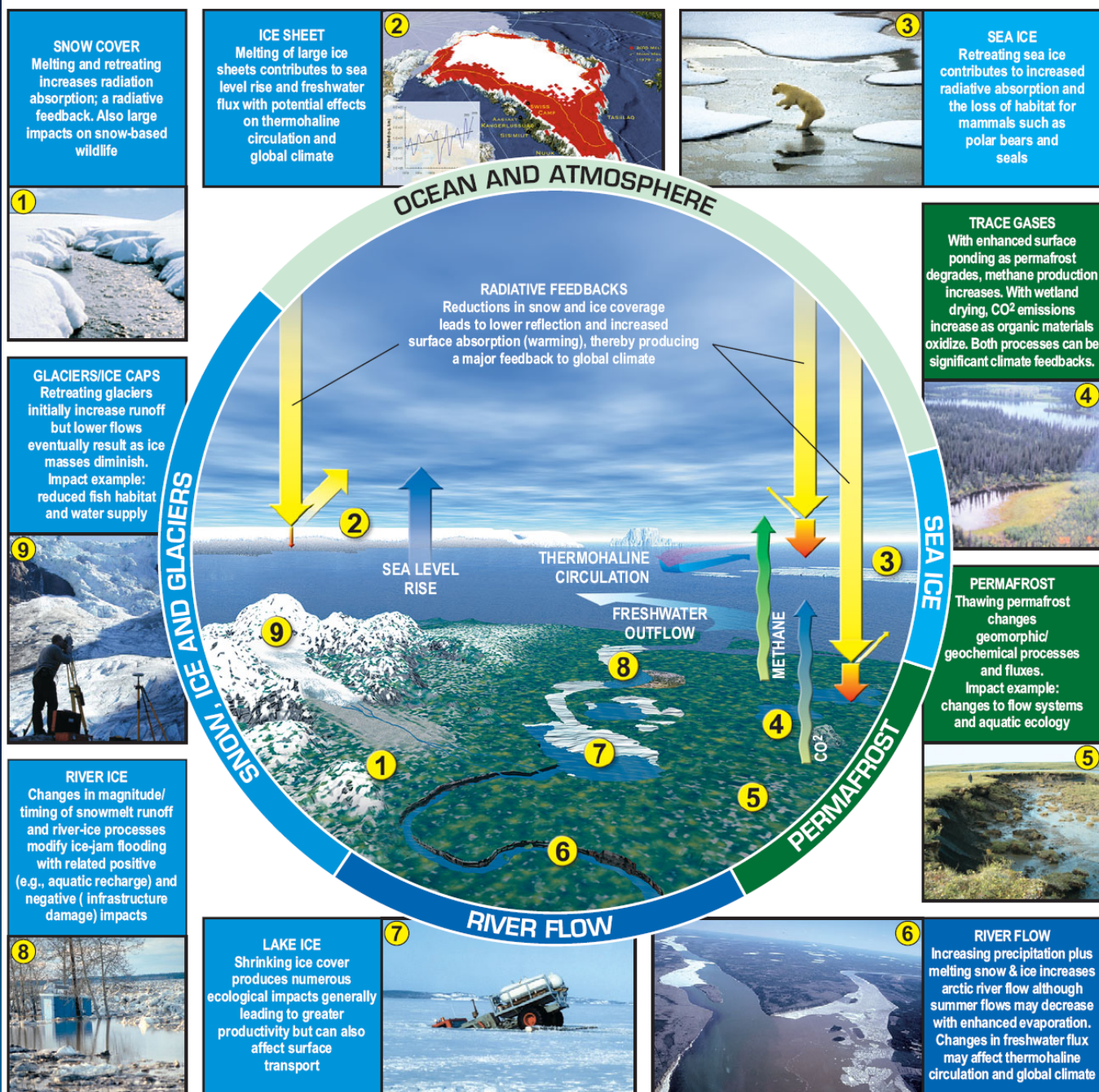


Figure 1. Examples of major climate feedbacks and bio-geophysical impacts resulting from major changes to cryospheric and hydrologic processes and systems in the Arctic.



GROUP ON EARTH OBSERVATIONS

Tasks by Societal Benefit Area

Importance of the Cryosphere
for Society (including GEO SBAs)

Disasters



Health



Energy



Climate



Water



Weather



Ecosystems



Agriculture



Biodiversity



Participants (20)

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Prick Angélique (rap.)

Prowse, Terry (chair)

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Vorosmarty, Charles

Walter, Kathy

Thank you !