IACS promotes the advancement of cryospheric sciences of the Earth and solar system

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IACS International Association of Cryospheric Sciences

IACS NEWSLETTER

December 2025

Two new IACS Working Groups

Co-chairs: JT Fischer and Scott Thumlert. Photos: Austrian Research Centre for Forests (BFW) and selfie by Scott.

International classification of snow avalanches

This WG in the Snow and Avalanches division has the overarching goal to publish a Renewed Avalanche Atlas – International Avalanche Classification. This atlas will serve as a global reference for hazard zoning, event documentation, and risk assessment, adaptable to mountain environments worldwide.

Motivation: The Avalanche Atlas – Illustrated International Avalanche Classification from 1981 has served as a trusted reference for researchers, practitioners, and educators in hazard management worldwide. Since its publication,avalanche science has advanced dramatically. Field experiments and laboratory observations, remote sensing observations, modeling and simulation or operational forecasting and hazard mapping have deepened our understanding of avalanche formation, dynamics, and impacts.

Organization: The working group will be organized with two co-chairs (Jan-Thomas Fischer and Scott Thumlert) and an international group of collaborators. Participation will be open to anyone interested in contributing. See full proposal and details on International classification of snow avalanches.

Cryosphere Stewardship

This WG aims to research and promote effective frameworks to address the diminishing cryosphere while strengthening coordinated action for cryosphere stewardship.

Motivation: There is an urgent need for a coordinated and multidisciplinary approach to cryosphere stewardship that integrates global governance, regional resilience pathways, responsible assessment of potential interventions, and the profound wisdom of Indigenous Knowledge systems

Objectives: The proposed IACS Working Group (WG) aims to research and promote effective frameworks to address the diminishing cryosphere while strengthening coordinated action for cryosphere stewardship. The WG has three objectives: 1) Local to Global Cryosphere Governance, 2) Regional Cryosphere Resilience, and 3) Indigenous Knowledge Integration.

Organization: The working group will be organized with three co-chairs (Caroline Clason, Amy Lauren Lovecraft and Bo Su), an international group of members and an advisory comittee. The WG will also conduct an open call for participation. The WG will collaborate with international experts and change makers in different regions and composition, as well as associated organizations. See full proposal and details on: Cryosphere Stewardship.

Co-chairs: Caroline Clason, Amy Lauren Lovecraft and Bo Su.

Bruce Raup retiring from GLIMS

This autumn Bruce Raup announced he will be retiring from the National Snow and Ice Data Center (NSIDC) at the end of 2025. Bruce Raup has been the driving force behind the Global Land Ice Measurements from Space (GLIMS) initiative, which has become the global reference database for multitemporal glacier outlines. GLIMS started as an ASTER Science Team project; using ASTER to image glaciers, and assembled a team of international collaborators who mapped glaciers visible in the ASTER images in their regions. GLIMS grew to use images from many sources -- mostly space-borne but also aerial. Today, the GLIMS Glacier Viewer at the NSIDC DAAC is the go-to place to explore and download glacier outlines; it has been used by students, researchers, journalists, and even reinsurance companies.

Beyond managing the GLIMS database, Bruce has represented GLIMS and NSIDC within the Global Terrestrial Network for Glaciers (GTN-G) and in several related working groups of the International Association of Cryospheric Sciences (IACS). He has also chaired the international GLIMS Core Team and contributed to numerous GLIMS- and RGI-related scientific publications, the latest about GLIMS list of extinct glaciers.

His work has quietly powered countless scientific advances, most recently by making GLIMS the sole data source for all glacier outlines and attributes in the Randolph Glacier Inventory (RGI) version 7.

Thanks to Bruce's vision and dedication, this legacy will continue: the automated, open-source workflows developed for GLIMS and RGI mean that future versions (RGI 8, 9 and beyond) will still carry the imprint of his contributions. We are immensely grateful for this remarkable service to the glacier community.

(Fabien Maussion, Michael Zemp and Liss Andreassen)

More about GLIMS

Bruce Raup gave a talk at NSIDC in October summarizing the thirty-year history of GLIMS, with emphasis on more recent activity. A recording can be seen at http://www.youtube.com/watch?v=odWYe0SFA9s

Read Bruce's latest paper:
Tracking extinct glaciers in GLIMS,
a letter in the Annals of Glaciology
collection of vanishing glaciers.
https://doi.org/10.1017/aog.2025.10027

Bruce Raup at a GLIMS workshop in August 2017, Boulder, Colorado, USA. Photo: Liss M. Andreassen

Decade of Action for Cryospheric Sciences (2025-2034)

The UN General Assembly has declared 2025–2034 as the Decade of Action for Cryospheric Sciences to advance climate science, strengthen international collaboration, and raise global awareness about the vital role of Earth's frozen regions. The decade will build on global initiatives such as the 2025 International Year of Glaciers' Preservation, the 5th International Polar Year (2032-2033) and the decade of Sciences for Sustainable Development (2024-2033).

The decade website is: https://www.un-cryosphere.org/en

2025 2034 Decade of Action for Cryospheric Sciences

Arctic Frontiers Abroad Greenland: Workshop on Indigenous Knowledge and Local Collaboration

On 31 July 2025 Arctic Frontiers, the Association of Polar Early Career Scientists (APECS), and the University of Bergen (UiB) held a workshop in Nuuk, Greenland, focused on bridging Indigenous knowledge and science in the Greenlandic context. The event, attended by 65 participants, included graduate students from the UiB One Ocean Course, graduate students in Greenland, Greenlandic bachelor's students, and experienced researchers.

Morning sessions featured talks from experts like Dr. Lorenz Meire and Dr. Sascha Schiøtt from the Greenland Institute of Natural Resources, Axel Ingemann-Jeremiassen from the Inuit Circumpolar Council Greenland, and Juhan Nicolaus Wuolab Wolberg – a Sami reindeer herder and biology student at the University of Tromsø. They covered topics like ice-ocean interactions, glacier effects on ecosystems, Inuit hunters and fishers' knowledge, and Sami Indigenous knowledge.

In the afternoon, participants split into groups to discuss two topics: education and research. First, participants brainstormed how to better integrate Indigenous Knowledge in education systems around the changing cryosphere. The groups suggested to teach Greenlandic history alongside scientific discussions of the ice sheet, to introduce Indigenous Peoples and their knowledge in early learning, to offer courses on different worldviews, ethics, interdisciplinarity and field courses with local engagement

Afterward, participants reflected on how research practices could be made more inclusive of Indigenous Knowledge and collaborators. The participants proposed involving communities in developing research questions, translating results into Indigenous languages, training more Indigenous researchers, building Greenlandic databases easily accessible to communities, making more funding available for non-academic contributors, enabling longer term projects to build trusting relationships with communities, and having more Indigenous representation in research governing bodies.

We thank the International Association of Cryospheric Sciences (IACS) for supporting the workshop.

(Report by Julia Morales-Aguirre, Arctic Frontiers)

The students from the UiB One Ocean Expedition Course onboard Statsraad Lehmkuhl. Photo: Juliana Burrill.

Axel Ingemann-Jeremiassen from the Inuit Circumpolar Council Greenland presenting his work. Photo: Julia Morales-Aguirre.

Snow avalanches can be classified into two general release types - slab and loose - and their size is described on an ordinal five level scale based on the destructive potential. This Size 3 deep slab avalanche released January 15, 2014 in the Northern Monashee mountain range in BC, Canada. The properties of the avalanche were investigated by a field team from the Applied Snow and Avalanche Research University of Calgary (ASARC) as part of a research project to improve forecasting for deep slab avalanches. Photo and text: Scott Thumlert.

October grant proposal outcomes

The October call for IACS grants received an unprecedented 16 proposals. After review by the IACS Bureau, we are pleased to support these events:

- Patagonian Icefields Research Program, Bernal Glacier, Chile, 12 November - 1 December 2026;
- IPICS Open Science Conference, Banff, Canada, 10 - 16 October 2026;
- Juneau Icefield Research Program, Juneau Icefield, Alaska, June - August 2026;
- International Summer School in Glaciology, McCarthy, Alaska, 8-18 June 2026;
- Summer School on Ice Sheets and Glaciers in the Climate System, Karthaus, Italy, 18-29 May 2026;
- Saroma Sea Ice School, Saroma, Japan, 27 February - 10 March 2026.

The next deadline for proposals will be 1 April 2026.

About IACS

The International Association of Cryospheric Sciences (IACS) is a constituent Association of the International Union of Geodesy and Geophysics (IUGG).

IACS promotes and sponsors workshops, symposia and educational activities.

IACS has targeted working groups, joint commissions and bodies on cryospheric topics.

IACS offers free individual membership: www.cryosphericsciences.org

The IACS newsletter is issued 2-4 times a year.

Previous newsletters are found on: cryosphericsciences.org/newsletter/