

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



IACS

International Association
of Cryospheric Sciences

IACS NEWSLETTER

September 2021

Liss Andreassen new president of IACS

At the IACS annual business meeting (held online on September 6 and 13) the IACS presidency was transferred from Regine Hock to Liss Andreassen. Liss is a senior research scientist at the Norwegian Water Resources and Energy Directorate (NVE) in Oslo, Norway. She has been part of the IACS bureau since 2015, including one term as division head for glaciers and ice sheets followed by two years as president-elect. The terms of the IACS president, president-elect and immediate past president are staggered to maintain continuity.

The previous president Regine Hock will now function as immediate past president for two years. A new IACS president-elect will be elected at the IUGG General Assembly in Berlin in July 2023. An open call for nominations will be issued for all positions available in the IACS Bureau before the Assembly. Other issues discussed at the business meeting included:

- Adoption of an implementation plan to reduce the IACS related carbon footprint (see page 3)
- **Session preparation and planning for IUGG General Assembly in Berlin in July 2023. If you are interested in convening a session, please contact Secretary General Richard Essery. Any suggestions are welcome.**
- Discussion of activities of Working Groups, Standing Groups and other IACS bodies, as well as possible new initiatives
- Update of Terms of Reference to define the mode of operation for new commissions joint with other IUGG Associations.

As has become the norm (even in pre-pandemic years) the business meetings were held virtually. In total 15 bureau members from many time zones including China, Japan, Russia, Australia, New Zealand, Canada, USA and Europe participated.

Liss and Richard will participate in the biennial 2-day virtual business meeting of the Executive Committee of the IUGG held virtually in mid September 2021.



Upper photo: Screenshot of online meeting on 6 September. Lower photo: Regine Hock and Liss Andreassen at the annual bureau meeting on 13 September 2021. The meeting was held online, but Regine and Liss met in person as they both work in Oslo. Photo: Kristine Ugstad

Joint Volcano–Ice Interactions Commission

Although glaciovolcanism (the interaction between magma and ice/snow/meltwater) may seem to be a niche area of geoscience research, it is a growing field that has the potential to “blow up” in the next decade. There are 245 active volcanoes on Earth that host glaciers today(1), and many more mountains on the blue and red planets of our Solar System have been shaped by coincident eruptive and glacial histories in the past. Glaciovolcanism is therefore relevant to studies of volcano mapping, eruption histories, glacier and ice sheet dynamics, planetary volcanology, natural hazards, and volcano–climate feedbacks. Indeed, the connection between fire and ice calls for more opportunities for volcanologists and glaciologists to collaborate.

The Volcano–Ice Interactions Commission (VIIC) is a joint commission of IAVCEI (International Association of Volcanology and Chemistry of the Earth’s Interior) and IACS (International Association of Cryospheric Sciences). Following on from past iterations between 2007 and 2019 as an IAVCEI Commission and IACS Standing Group, VIIC was re-established as a Joint Commission in 2020/2021. New officers were elected, and new Terms of Reference were defined in August 2021 to ensure that representatives from both IAVCEI and IACS contribute to the promotion and participation of interdisciplinary research on glaciovolcanism.

The new VIIC officers are Shaun Eaves (co-chair, IACS; Victoria University of Wellington), Rosie Cole (co-chair, IAVCEI; University of Iceland), Rodrigo Soteres (vice-chair, IACS; Pontificia Universidad Católica de Chile), Chris Conway (vice-chair, IAVCEI; Geological Survey of Japan) and Erin Fitch (secretary, IAVCEI; University of Oregon).

In the last year we have created a new website (<https://sites.google.com/view/volcano-ice>), which includes a list of recent publications and links for volcano observatories, and started a Twitter account (@volc_ice) to share the latest glaciovolcanism news and research. We sponsored an EGU 2021 session and have initiated a quarterly virtual seminar series for members to present new research. The next seminar will be at 14:00 BST on September 14, and will feature two speakers on the topic of subglacial volcanism. Other upcoming activities include promotion and sponsorship of conference sessions at the 2022 EGU annual meeting. We will make presentations to the Quaternary Science Chilean Association and the Geoscience Society of New Zealand to enhance international networking. We have plans to curate a glaciovolcano image database and have our sights set on a journal special issue to highlight new advances and future directions in glaciovolcanism. For more information, please visit our website and follow us on Twitter.

(Report by Cole, Conway, Eaves, Fitch and Soteres)

IAVCEI/IACS VIIC Leadership

Representing IAVCEI

Rosie Cole
Co-Chair



Chris Conway
Vice-Chair



Erin Fitch
Secretary

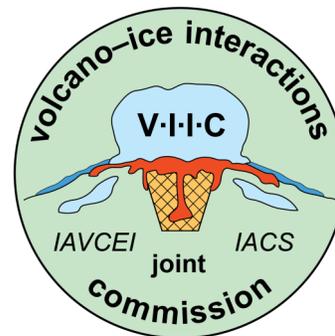


Representing IACS

Shaun Eaves
Co-Chair



Rodrigo Soteres
Vice-Chair



An active volcano is defined as one that has erupted in the last 10,000 years

Reference:

(1) Edwards et al. 2020:
<https://doi.org/10.1016/j.gloplacha.2020.103356>

IACS action plan to implement IUGG Resolution 1: "Reducing the Carbon Footprint by the Research Community"

On 6 September IACS adapted an action plan to reduce its carbon footprint. As a constituent organisation of IUGG, IACS hosts a major in-person scientific meeting every two years, one of which is in conjunction with the General Assembly of IUGG held every 4 years. In-person meetings bring many benefits, including networking opportunities and time for in-depth discussion of scientific and administrative issues. IACS supports the continuation of air travel to these bi-annual meetings, although IACS will work to reduce the overall carbon footprint of these meetings with specific actions, including:

- Meeting locations should be optimised to reduce travel (for example by holding meetings at or near transport hubs or global population centres).
- IACS Assemblies should encourage and facilitate more online engagement to complement the in-person programme.
- IACS encourages the use of ground transportation instead of air travel, in particular if the meeting site can be reached in under eight hours by ground transportation.
- From 1 January 2022, IACS will participate only via video-conference for any stand-alone IUGG business meetings not held during an IUGG General Assembly. In-person participation may be supported only in exceptional cases if the business meeting site can be reached by train or other ground transportation.
- IACS will continue to hold its annual bureau meetings via teleconferencing or as hybrid meetings.

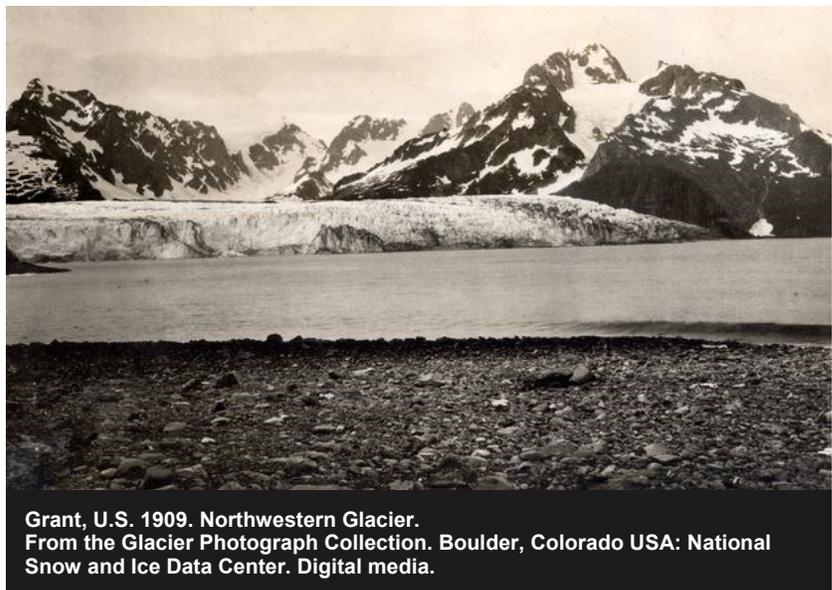
Read full plan with background here:

<https://cryosphericsscience.org/wp-content/uploads/2021/09/IACS-Carbon-footprint-action-plan-2021.pdf>

Alaska's Kenai Fjords National Park Glacier Photographs

The GTN-G Glacier Photograph Collection holds over 25,000 photographs dating back to 1857. These now include photographs of an ongoing repeat photography project documenting coastal glacier change in Kenai Fjords National Park in southcentral Alaska. The oldest photos were taken in the summer of 1909 with a detailed survey of the tidewater glaciers along the southeastern coast of the Kenai Peninsula. Nearly 100 years later, in 2004 and 2005, the locations of the photo sites were identified and repeated, providing a 94-year comparison of change at individual glaciers. Most of these photos, including images of tidewater, alpine, valley, and hanging glaciers, are taken from boat-based photo point locations.

(Report by Florence Fetterer)



Grant, U.S. 1909. Northwestern Glacier.
From the Glacier Photograph Collection. Boulder, Colorado USA: National Snow and Ice Data Center. Digital media.

GTN-G Glacier Photograph Collection: <https://nsidc.org/data/g00472>

To see the Kenai fjords photos, go to the Search & Order Interface [https://nsidc.org/data/glacier_photo/search/]; under 'Choose a Collection' select Kenai Fjords National Park Glacier Photographs.



The Logan Ice Expedition team, led by Dr. Alison Criscitiello, Director of the Canadian Ice Core Lab at the University of Alberta, navigating King Col Icefall in May 2021. The team climbed Mt. Logan, Canada's highest mountain, to complete several objectives, including ice-core site selection work on the summit plateau, consisting of a large ground penetrating radar (GPR) survey.

Photos: Alison Criscitiello and Zac Robinson (inset)

Presentations from the VACO21 meeting

The Virtual Atmosphere-Cryosphere-Ocean 2021 seminar series replaced our postponed joint assembly with IAMAS and IAPSO in Busan (South Korea). The program was organized in 5 days from Monday 19 July to Friday 23 July. Over the week, 187 individuals joined the audience. Recordings of the excellent presentations are available [here](#).

Award to Regine Hock

Our immediate-past president has been awarded the Richardson medal for 2021 by the International Glaciological Society (IGS) for her long-standing and ongoing service in support of glaciology within the IGS and much more broadly. We congratulate her.

<https://www.igsoc.org/awards/richardson/hock.html>



Regine Hock

New member of GLIMS core team

The GLIMS core team has been extended with Fabien Maussion from University of Innsbruck, Austria. Fabien is co-chairing the IACS WG on RGI and its role in future glacier monitoring and GLIMS.



Fabien Maussion

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 on cryospheric topics.
- IACS offers free individual membership: www.cryosphericciences.org
- The IACS newsletter is issued 2-4 times a year.
- Previous newsletters are found on: cryosphericciences.org/newsletter/