

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



IACS

International Association
of Cryospheric Sciences

IACS NEWSLETTER

September 2022

IUGG General Assembly July 2023

IACS will be hosting a full programme of symposia on cryospheric topics during the 28th IUGG General Assembly in Berlin, many of them jointly arranged with the other Associations of IUGG. Travel grants for early-career scientists will be available.

Within the longer assembly, all of the cryospheric symposia will be scheduled between 12 and 16 July 2023. The full programme will be announced and the assembly will open for registrations on <https://www.iugg2023berlin.org/> at the end of September. The deadline for abstract submissions and travel grant applications will be **14 February 2023**.

IACS will have an open plenary meeting for its members and correspondents, and we will elect new officers for the 4-year term 2023-2027. Read more on IACS activities and deadlines at IUGG 2023: <https://cryosphericosciences.org/iugg-berlin-2023/>



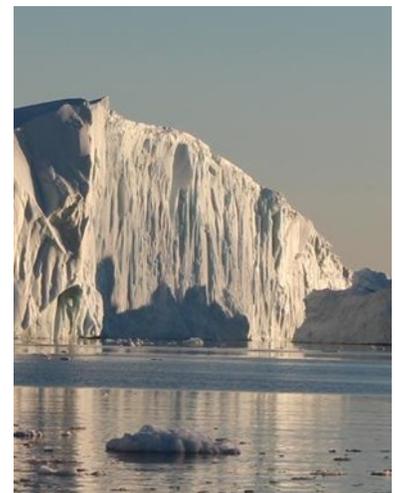
Online workshop on ice-ocean interaction

The joint Joint IACS-IAPSO Commission on Ice-Ocean Interactions (JCIOI) invite you to join an online workshop on ice-ocean interactions **17-19 October 2022**. The workshop aims to draw together researchers interested in the processes that govern ocean-driven melt of glaciers and ice sheets across a range of locations and timescales. The workshop will address four key science themes:

1. The physics of the ice-ocean boundary
2. The role of glacial melt in the wider ocean
3. The impact of ocean-driven melt on glacier and ice sheet mass balance
4. New and emerging technologies for studying ice-ocean interaction

We hope that this meeting will draw together the community, sharing knowledge across different research areas, and identifying critical knowledge gaps. The workshop will be entirely online, with a mixture of keynote presentations and breakout sessions spread over a broad schedule to facilitate interactions across time zones. The meeting is open to any interested participants. There is no **registration fee**.

See program, circular and register link at: <https://sites.google.com/view/jcioi/news>



IACS awardees—Graham Cogley award

The award was established in memory of Graham Cogley and recognizes excellence in glaciological research by early career scientists. The award was initiated and is generously sponsored by the Cogley family for a period of 20 years, and is shared between IACS and the International Glaciological Society (IGS). The awardees receive a certificate from IACS or IGS and a cash prize of CAD 500 each due to the generous support from the Cogley family.

Every other year beginning in 2019 the award will be given by IACS to two students to recognize an oral and a poster presentation of exceptional quality at an IACS Assembly (held every two years). In 2021 IACS was not able to give out the award due to the COVID-19 pandemic. Instead we decided to give it out at the Cryosphere 2022 conference in Reykjavik, Iceland, August 2022, which IACS was co-sponsoring.

At Cryosphere 2022 three awardees were selected as the poster award was split between 2 recipients:

Gavin Piccione for his oral presentation: *“A radiometrically dated record of Antarctic Ice Sheet response to millennial-scale climate cycles during glacials and interglacials”*.

Devon Dunmire for her poster presentation: *“Investigating the future of firn air content on Antarctica’s ice shelves using a physics-based snow model”*.

Jonathon Preece for his poster presentation: *“Summer Greenland Ice Sheet surface conditions linked to spring North American snow cover extent via a stationary Rossby wave response”*.

We thank IACS bureau members and all friends of IACS who helped in judging the oral and poster presentations by students at the meeting.

The next Graham Cogley award by IACS will be given at IUGG Berlin July 2023.



Graham Cogley at a poster session.



IACS Graham Cogley awardees 2022: from left Gavin Piccione, Devon Dunmire and Jonathon Preece.

Short news

- IACS will hold its **annual bureau meeting on 20 October**. IACS bureau members, working groups, joint commissions, standing groups and joint bodies are asked to submit a short report (max 1-2 p) by 30 September.
- **Anais Orsi**, IACS division head for Cryosphere, Atmosphere and Climate, has taken over from Charles Fierz as the IACS liaison on the **Association of Polar Early Career Scientists (APECS) advisory committee**.

37th Delegates Meeting of the Scientific Committee on Antarctic Research

The Scientific Committee on Antarctic Research (SCAR) is an interdisciplinary committee of the International Science Council (ISC). SCAR is charged with initiating, developing and coordinating high quality international scientific research in the Antarctic region including the Southern Ocean, and on the role of the Antarctic region in the Earth system. IUGG has been one of nine Union Members of SCAR since its inception in 1958, and IUGG is entitled to send a voting Delegate to the biennial SCAR Meetings. The 37th Delegates Meeting of SCAR was hosted by India and held as a hybrid meeting in Goa and on-line. The associated 10th SCAR Open Science Conference (OSC), originally planned for Hyderabad, India, was held totally on-line from 01 to 10 August. Over 2,700 participants registered for the OSC.

The SCAR Delegates Meetings conduct administrative business and formulate scientific policy and strategy. The 2022 meeting was run as five 3-hour on-site/on-line sessions from 5-7 September 2022. It was attended by over 70 Delegates and observers, including Delegates representing six of the nine ISC Unions. About 30% attended in person, and the rest online. Ian Allison was the IUGG Delegate and Andrew Mackintosh attended as an Observer for IACS, both online. IACS has a 3-party MoU on collaboration with SCAR and the International Arctic Science Committee (IASC) that was developed following the International Polar Year 2007-2008 and renewed in 2013 and 2020.

SCAR scientific activities are managed by three Science Groups (SGs) for Physical, Geo-, and Life Sciences. In addition to these, there is a Standing Committee on the Humanities and Social Sciences. Under each of these disciplinary bodies there are a number sub-groups which deal with specific research areas: Expert Groups deal with ongoing issues and Action Groups tackle issues that can be addressed within a limited time period of several years. Several of these groups undertake activities that are relevant to IUGG. For example, one recent Geosciences group is the Expert Group on Antarctic Volcanism (AntVolc). This Expert Group, which promotes the study of Antarctic volcanism and dissemination of relevant data, has strong overlaps with the Joint IACS-IAVCEI Commission on Volcano-Ice Interactions. Another is the RINGS Action Group sponsored by the SCAR Geoscience and Physical Science groups. RINGS aims to better characterise the margin of the Antarctic Ice Sheet, providing improved knowledge of ice-ocean interactions and particularly the ocean cavities beneath ice shelves. This activity overlaps with the IAPSO-IACS joint commission on Ice-Ocean Interaction, and the two groups share personnel (e.g. Felicity McCormack is the IAPSO co-chair of the IAPSO-IACS Joint Commission, and a SCAR RINGS Steering Committee member).

SCAR focuses its internationally collaborative science efforts on high priority topics through Scientific Research Programmes (SRPs), which are often multi-disciplinary and are approved by Delegates. These receive modest management funding (not implementation funding) from SCAR for a fixed period. Three new programmes began in January 2021. These address conservation and management of Antarctica and the Southern Ocean (“Ant-ICON”), Antarctica’s contribution to sea level and the way in which interactions between the ocean, atmosphere and cryosphere influence ice-sheets in the past and future (“INSTANT”) and the prediction of near-term conditions in the Antarctic climate system on timescales of years to multiple decades (“AntClimNow”). Progress on advancing these SRPs has been somewhat curtailed by COVID. Details of the SRPs, past and present, can be found on the SCAR web pages (www.scar.org). AntClimNow and INSTANT are leading a large number of climate and ice sheet activities of primary interest to IAPSO, IAMAS and IACS.

One item that generated more than usual feedback at the meeting was discussion of a proposal to conduct a fifth International Polar Year in 2032/33, 25 years after the last. To gauge interest from the Antarctic research community in this proposal, SCAR ran a community survey. Nearly 80% of the respondents agreed that there should be an IPY in 2032/33 and that they would participate, and nearly 90% thought that SCAR should take a leadership role in planning for the next IPY. Delegates hence endorsed the creation of an IPY planning committee within SCAR to participate in discussions and planning within the wider polar community. Discussions within the wider polar community have already started, and IACS Vice President Andrew Mackintosh has participated in the early planning meetings for the fifth International Polar Year as a representative of the International Science Council.

Delegates also reviewed and approved the Strategic Plan for 2023-28. This had been drafted by a committee with diverse membership representing SCAR leadership, members, partners, and other stakeholders. The 2023-28 Strategic Plan maintains a strong focus on facilitating international science coordination; addressing scientific issues related to Antarctica’s role in global climate change and in Southern Ocean biodiversity; and in providing evidence-based advice to the Antarctic Treaty System and to other policy bodies. Two new issues introduced in this Plan were consideration of a SCAR carbon footprint reduction, and of Equality, Diversity and Inclusion.

(Report by Ian Allison and Andrew Mackintosh)



A 40 m by 10 m snow patch at Ciste Mhearad (1100 m, ENE facing, 57.12N), Cairngorm, Scotland on 3 August 2022. The discoloration of the surface is due to dust, vegetation debris and pink *Chlamydomonas nivalis* algae. A citizen science initiative (<https://en-gb.facebook.com/groups/snowpatchesscotland/>) records late-lying Scottish snow patches, some of which survive the summer in some years. This is remarkable in a mid-latitude maritime climate, and can only occur in favoured locations where deep snow is trapped in winter and shaded in summer. Photo: Richard Essery.

1000 members

IACS reached 1000 individual members in August. You can see our membership statistics here: <https://cryosphericciences.org/members/membership/>

Summer School in glaciology

Nearly 30 Ph.D. students from 10 countries gathered in June 2022 for more than a week of studies at the International Summer School in Glaciology in McCarthy, Alaska. IACS was one of several sponsors.

Our next deadline to request support for workshops or other events is **1 October**.



This photo of Root glacier was taken at the summer school in Alaska by first-year PhD student Albin Wells.

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 can be found on: cryosphericciences.org/newsletter/