



International Association of Cryospheric Sciences

<http://www.cryosphericciences.org>

IACS is a constituent Association of the International Union of Geodesy and Geophysics IUGG and aims at promoting the study of the cryosphere in all of its aspects

This report covers the period from February 2014 to January 2015.

INTRODUCTION

The International Association of Cryospheric Sciences (IACS) is the Association of the International Union of Geodesy and Geophysics (IUGG) that is concerned with snow and ice science and which provides expert advice on cryospheric issues to governmental and non-governmental organisations. The objectives of IACS are to:

- Promote studies of cryospheric subsystems of the Earth and solar system.
- Encourage research in the above subjects by members of the cryospheric community, national and international institutions and programmes, and individual countries through collaboration and international co-ordination.
- Provide an opportunity on an international basis for discussion and publication of the results of the above research.
- Promote education and public awareness on the cryosphere, and facilitate the standardisation of measurement or collection of data on cryospheric systems and of the analysis, archiving and publication of such data.

ADMINISTRATION

A Bureau of 11 elected officers manages the business of IACS. IACS held its most recent bureau meeting 10-12 July 2014 in Tokyo, Japan. In attendance were bureau members: Charles Fierz (President; CF), Ian Allison (Immediate Past President; IA), Hiroyuki Enomoto (Head of Division III, HE), Olga Solomina (Vice President; OS), and Ralf Greve (Head of Division V, RG). Attending via videoconference were: Andrew Mackintosh (Secretary General, AM), Xiao Cunde (Vice President, XC), Cecilie Rolstad-Denby (Head of Division II, CRD). Apologies and input in advance of the meeting was provided by Valérie Masson-Delmotte (Head of Division IV, VMD), Ethan Greene (Head of Division I, EG) and Andres Rivera (Vice President, AR).

IACS facilitates the transfer of research methods and explores new avenues in cryospheric science through Standing Groups (SGs) and Working Groups (WGs) devoted to a theme or subject and composed of experts in the particular field of study. Previously established WGs of IACS are 'Flow law for polycrystalline ice' (2010-2014) and 'From quantitative stratigraphy to microstructure-based modelling of snow' (2012-2016). In addition, two new WGs were established in 2014 at the Toyko Bureau Meeting, both dealing with different aspects of glacier mass balance: The WG "[Randolph Glacier Inventory and infrastructure for glacier monitoring](#)" and the "[Glacier thickness estimation](#)" WG. Both are already active and will be present at the IUGG GA in Prague.

The current Standing Groups (SG) are the Joint commission on Volcano-Ice Interactions (with the International Association of Volcanology and Chemistry of the Earth's Interior - IAVCEI),



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ACTIVITIES

- The WG “Flow law for polycrystalline ice” ended in 2014. However, the members of the WG agreed to write a review paper on their efforts, to be submitted in 2015 to an international peer-reviewed journal.
- The Working Group “MICROSNOW: From quantitative stratigraphy to microstructure-based modelling of snow” organised an Intercomparison Workshop organized by Martin Schneebeli in March 2014 in Davos, Switzerland. Researchers tested their state-of-the-art instruments to measure Specific Surface Area both in the lab and in the field. The results were discussed later that year prior to a second Workshop held August 2014 in Reading, UK. The outcome is a special issue of The Cryosphere Discussions/The Cryosphere with the title "Intercomparison of methods to characterise snow microstructure". A summary of the second workshop can be found in [EOS](https://doi.org/10.1002/2014EO470005) (doi:10.1002/2014EO470005). We are looking forward to the next WS organized by the WG “MicroSnow” 2015 in the USA.
- SG GAPHAZ: GAPHAZ, the SG on Glacier And Permafrost HAZard in mountains launched a new [webpage](#) and has organized a one-day “retreat” Workshop 14 September 2014 in Torino, Italy. About 35 participants including CF discussed in depth activities and goals of the SG (see [report](#)).
- SG GTN-G: WGMS organised 2-7 September 2013 a summer school on mass balance measurements and analysis in Zermatt, Switzerland ([report](#)). CF gave a short welcome address at the beginning of the course.
 - In June 2014, an advisory board consisting of C.R. Denby, L.M. Andreassen, A. Arendt, J.G. Cogley, A. Gardner and V. Ryabinin formally evaluated GTN-G. This included a site visit to the National Snow and Ice Data Center (NSIDC) in Boulder, USA. Although the final version of the report (containing supporting documentation) has not yet been officially released, the draft report is comprehensive; it is both supportive of GTN-G activities and offers a number of useful suggestions for future activities.

Sponsorship of meetings and symposia during 2014

- IACS co-sponsored the *International Summer School in Glaciology* organized by Regine Hock (University of Alaska, Fairbanks) in McCarthy, Alaska, USA. IACS funding partially supported two early-career scientists to attend.



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- International Symposium on *Sea Ice in a changing Environment*, 10-14 March 2014, Hobart, Tasmania, Australia. IACS sponsored an ECS award, copies of Willy Weeks' comprehensive textbook "On Sea Ice" that was presented by the author.
- *International Workshop on Calving*, 1&2 June 2014, Grenoble, France. IACS provided support for early career scientists to attend.
- *Joint Model-data workshop for the Late Pleistocene evolution of the Greenland and Antarctic ice sheets*, 22-24 May 2014, Grenoble, France. IACS provided support for early career scientists to attend.
- *Special Session on Cryosphere Science*, XIX Geological Congress of Argentina, 2-6 June 2014, Cordoba, Argentina. IACS sponsored an ECS award.

FUTURE ACTIVITIES

- IACS is looking ahead to the 26th IUGG General Assembly in Prague. IACS will lead Union Symposium U10 (Ian Allison, lead convener) at IUGG Prague. IACS is involved in a number of other union and joint symposia, as well as 17 IACS symposia.
- We have established an IACS Early Career Scientist Prize, for the best cryospheric publication by an early career scientist in the calendar year (first year will be 2014). The Selection Committee will announce the winner late-March 2015 and the 2015 Prize will be formally presented during the IACS Plenary Administrative Session.
- In addition to the scientific activities, the following important bureau activities will be carried out in Prague:
 - IACS will hold its Plenary Administrative Session on Friday 26th June (6-8 pm), where the new Bureau will be confirmed. The current four-year term of most Bureau members finishes in July 2015, and a "nominating panel" of members independent of the Bureau (Kumiko Goto-Azuma, Japan; Martin Sharp, Canada; Danny Marks, USA) was established in October 2014 to identify suitable candidates for election to the Bureau. The nominating panel's role is to ensure that candidates for the IACS Bureau provide a good coverage of world regions and cryospheric disciplines. The new slate of candidates is currently being confirmed. According to our Statutes and Bylaws, this is due to be sent to National Committees at least three month prior to the Plenary Administrative Session.
 - The IACS dinner known as *Festa Cryospherica* will be held at Bastion Restaurant in Prague, immediately following the Plenary Administrative Session.
 - IACS will hold its annual Bureau meetings in Prague. The closed bureau meetings will be held on Monday 22nd June and Monday 29th June.
 - IACS will hold its open Bureau meeting on Wednesday 24th June in the evening (6-8 pm).
 - IACS is co-sponsoring an event by the Association of Polar Early Career Scientists (APECS) in the evening of Saturday 27th June.

