

Minutes, IACS Open Bureau Meeting (BM09A), Davos

Saturday 13th July, 2013, 9:00 am-12:30 pm,
WSL-Institut für Schnee- und Lawinenforschung (SLF),
Fluelastr. 11 CH-7260 Davos, Switzerland.

IN ATTENDANCE:

IACS Bureau Members: Charles Fierz (President Elect), Andrew Mackintosh (Secretary General), Olga Solomina (Vice President), Valérie Masson Delmotte (Head of Division), Ralf Greve (Head of Division), Cecilie Rolstad Denby (Head of Division), Hiroyuki Enomoto (Head of Division).

Absences: Xiao Cunde (IACS Vice President), Andres Rivera (IACS Vice President).

Ian Allison (IACS president) joined by Skype approximately half way through the meeting. He expressed disappointment that he didn't make it to BM09a. This would have been his last chance to lead a BM as IACS President. Ian thanked everybody for coming along. He also thanked the organisers of DACA-13.

Guests: Michael Zemp (World Glacier Monitoring Service, WGMS), Penny Wagner (Association of Polar Early Career Scientists, APECS), Henning Löwe (IACS Working Group on quantitative snow stratigraphy), Andy Käab (representing Glacier and Permafrost Hazards in Mountains (GAPHAZ), Polona Vreca (IACS correspondent, Slovenia), Sandra Barreira (Secretary of the IACS National Committee, Argentina). Danny Marks (representing International Commission on Snow and Ice Hydrology (ICSIH) and IACS correspondent, USA).

ITEM 1. Welcome and opening remarks (Charles Fierz)

Ian Allison would have chaired the meeting but he could not attend for medical reasons. Charles explained how the meeting would be structured in Ian's absence, including Ian's presence for part of the meeting via Skype.

ITEM 2. Agenda additions/modifications (Charles Fierz; appBM09A-2)

There were no additions or modifications.

ITEM 3. Introduction to the mission and functions of IUGG (IUGG Secretary General, Alik Ismail-Zadeh)

Unfortunately, Alik cancelled at the last minute due to an urgent deadline. He sent his sincere apologies.

ITEM 4. Reports from IACS Standing Groups (SGs) and Working Groups (WGs)

4.1. IACS Working Groups. *Reports and Bureau review of activities*

WG on 'From quantitative snow stratigraphy to microstructure-based modelling of snow'

Henning Löwe (co-chair) gave a short presentation about this new WG. He described the recent workshop on snow grain size held in Grenoble (<http://snowgrain2013.sciencesconf.org/>). Around 50 scientists attended and it was judged to be a great success. The level of interest indicates that this working group is useful. For example, it is clear that the community needs to get together in order to standardise snow measurement techniques. One interesting aspect of the workshop was that scientists brought their own instruments for measuring snow grain size to Grenoble, and a preliminary comparison of methods was carried out. Charles noted that IACS could play a role in creating standards for snow measurement in the future.

Henning indicated that a follow up workshop would be held in Davos, Switzerland (9-14 March 2014).

WG on the flow law for polycrystalline ice

Ralf Greve reported on this working group. Unfortunately progress has not been good. Angelika Humbert, the original chair stood down because she moved to a new academic position and had little time to dedicate to this project. A new chair, Ilka Weikusat, was appointed in January 2013. Ilka is worried that this WG will not achieve its original objectives. Recently, Ralf suggested to Ilka that they might write a review paper about this topic as a way of demonstrating some progress. Ilka has not yet responded to this idea because she is currently on holiday. The Bureau agreed that this working group should remain open if Ilka agrees to this idea. If not, we might consider closing it.

Ralf also mentioned that there was a large European project on this topic (MICRODICE) and that it would be useful for the WG to assess the overlap and then clarify their own role.

ACTION: Ralf to report back to the bureau once he hears back from Ilka. The Bureau will then decide on the future of this WG.

Note: Ilka responded by email (26 July 2013) confirming that she would work on a review paper. She subsequently produced a "roadmap" of the paper by 17 September 2013.

WGs more generally

There was a short and general discussion about WGs. Henning Löwe suggested that the IACS bureau could be more proactive in approaching people and making suggestions. This echoed a comment that Georg Kaser made at the IACS Information session at DACA-13.

We discussed the request submitted by Ramesh Singh for a new WG on dust and black carbon and its influence on snow and ice, which followed from his DACA-13 session on Asian Glaciers and Climate Change. We agreed that this potential working group should be considered, and Valérie Masson-Delmotte offered to assist in assessing the proposal.

ACTION: Valérie to carry out initial assessment of proposal, and Andrew to convey feedback to Ramesh.

Note: this has now been carried out and we are waiting to hear back from Ramesh.

ITEM 4.2. IACS Standing Groups. Reports and Bureau review of activities

Commission on Volcano-Ice interactions (Charles).

Charles and Andrew met with Christian Huggel during DACA-13. Christian indicated that this Commission is currently active – with the recent IACS-sponsored workshop on Ice-Volcano Interactions in Anchorage in July 2012, being an example. We did not receive a report from this Commission, however, the leadership has changed and our request might not have been received.

ACTION: Andrew to send a new request for a report. Andres Rivera to follow up as he is the IACS representative in this commission.

GAPHAZ & IUGG GeoRISK (Andy Kääh).

Christian Huggel submitted an annual report on GAPHAZ, and Andy's summary closely followed Christian's report. Andy started by mentioning that he was the chair of GAPHAZ for ~ 8 years, during a time that GAPHAZ had been a working group of IACS (it is now a standing group). Andy remains on the advisory board of GAPHAZ.

GAPHAZ has recently undergone a transition from being focussed on geological/geomorphic processes (e.g associated with understanding mountain debris flow activity in permafrost regions), to a new focus on risk and social science. Christian Huggel is very active in these new areas. He gave a solicited talk at DACA 13 about this new focus.

Andy noted that GAPHAZ has been active in convening sessions at AGU and EGU (every year since its formation). He also noted that GAPHAZ leaders are writing a review paper on 'A decade of GAPHAZ'. Ken Hewitt is leading this.

GAPHAZ also plans to edit a book on 'The high mountain cryosphere: integrative risks and social sciences', to be published by Cambridge University Press). Charles suggested that IACS and IPA could write a foreword to this book.

Andy explained that GAPHAZ has been putting together a database of disasters (knml file). This also includes satellite images showing the locations before and after events. This database focusses on disasters where there was loss of life/damage to property.

Andy noted that the GAPHAZ webpage needs to be updated.

Andy Käab is the GAPHAZ link to GEORISK. Andy suggested that little progress had been made in GEORISK so far, other than making small changes to their terms of reference. Andy plans to take steps to make sure that GEORISK are aware of mountain hazards.

Charles informed Andy that IUGG requests nominations for scientists to sit on the 'Integrated Research on Disaster Risk' (IRDR) Scientific Committee (SC). Andy said that he would check with other members of GAPHAZ (e.g. Christian Huggel) and that they would get back to us with some names.

Note: Christian Huggel suggested Dr John Reynolds as a nominee for the IRDR SC. Charles forwarded this nomination to IUGG SG Alik Ismail-Zadeh, although slightly after the deadline.

ITEMS 4.3 and 4.4. Report on World Glacier Monitoring Service (WGMS) and Report from Global Terrestrial Network - Glaciers (GTN-G) (Michael Zemp)

Michael Zemp gave one presentation about both WGMS (4.3) and GTN-G (4.4). Michael's presentation closely followed his report. Michael also reported on the GTN-G executive meeting that was held during DACA-13.

Michael indicated that WGMS was currently in a relatively strong position, with 2 full-time equivalent (FTE) staff. The U.S. National Snow and Ice Data Center (NSIDC, a partner under GTN-G) in contrast, is currently in a difficult position with only ~0.1 FTE working on glacier-related projects, e.g. the Global Land Ice Measurements from Space (GLIMS). Michael mentioned that attempts are currently being made to increase the number of staff.

Some recent highlights of WGMS activity include:

- Publication of 'Fluctuation of Glaciers Volume 10 (2005-2010).
- Publication of a paper on 'uncertainty and reanalysis of glacier mass balance' to be published shortly in The Cryosphere (lead author M. Zemp, subsidized by IUGG[??]).
- A forthcoming summer school on glacier mass balance, to be held between the 2nd and 7th of September 2013 near Zermatt, Switzerland. More information is available at http://www.wgms.ch/mb_summerschool.html

Michael mentioned that one problem the WGMS faces is incorrect or lack of citation of their work. This is because authors often refer directly to scientific papers which cite WGMS data, bypassing the original source. Danny Marks suggested that WGMS could publish their papers in journals which are dedicated to the publication of data. Valérie suggested that one such journal is Earth Science System Data (Copernicus). Andrew agreed with Danny that WGMS could consider modernising their publication process rather than risk continuously being bypassed in the publication process. Michael mentioned that this might not be necessary as WGMS has a DOI (doi:10.5904/wgms-fog-2012-11) to encourage citation of data and publications.

There was also a discussion about the Randolph Glacier Inventory and whether this can be added to the GLIMS database. This is dependent on having appropriate human resources at GLIMS (see above), although it could still be an issue to be addressed by a new working group.

Michael mentioned that there will be an effort to improve the GTN-G website after they receive feedback from the GTN-G advisory group.

Charles asked Michael how much advice WGMS receives from other top level, (e.g. GCOS, TOPC) organisations. Michael replied that these organisations do not provide scientific advice in the way that IACS does.

Valérie asked Michael how 'Future Earth' (ICSU) might affect WGMS. Michael responded that it is uncertain at this stage

Cecilie made a closing comment thanking Michael for his input and congratulating him on the excellent work that he has been carrying out for WGMS and GTN-G.

ITEM 5. Reports from National Committees and National correspondents

We started this item with a short general discussion of IACS National Reports. Ian suggested that we could compile them thematically, and make this information available on our website. This might be more useful for the community than the original information that is provided on a country-by-country basis, and is by nature, incomplete (see appBM09A-5).

Andrew suggested that we could continue collaborating with the International Glaciological Society (IGS), by publishing certain reports within the IGS newsletter 'ICE'. This activity is consistent with our MoU with the 'cryospheric organisations' (including IGS).

ACTIONS:

- Ian to explore the option of organising reports thematically.
- Andrew to discuss publication of IACS reports in ICE with IGS President and Secretary General.

Note: Andrew discussed this issue at the IGS council meeting in Beijing. Magnus Magnusson and Douglas Macayeal (President) agreed that this practice was useful to both communities. The 2013 IACS report for the UK will be the first example, and should be published soon in ICE.

IACS Argentina (Sandra Barreira)

Sandra reported on IACS activities within Argentina. She plans to send us a final version of her report a week after DACA-13 (Andrew notes that this has not yet been received). Sandra explained that there is a small IACS group within Argentina, with most participants located in Mendoza, near the Andes. Cryospheric sciences in Argentina tend to be represented by small sessions within much larger (e.g. Geological) conferences. Sandra noted that she is not sure how IACS may be of benefit to the cryospheric community within Argentina. Charles noted that we can write a letter to the Argentinean community explaining how IACS can help.

ACTIONS:

- Andrew to chase up Sandra's report.
- Charles to write a letter to IACS representatives in Argentina. This will most likely be translated into Spanish.

IACS Slovenia (Polona Vreca)

Polona explained that she became aware of IACS using the International Classification for Seasonal Snow on the ground for her work and by meeting IACS representatives at the EGU General Assembly. Polona told us that there was no official representation of Slovenia within IACS until this year. Slovenia is a small country (2 million people) and cryospheric scientists work in only a few institutions such as the Slovene Meteorological Forum (cold temperature science), Geodetic Institute of Slovenia (small glaciers) and the Institute of Geography of the Slovenian Academy of Sciences and Arts (avalanches). Polona has sent out an email about IACS and has so far received about 30 replies showing interest.

Polona explained that topics of interest to Slovenia include:

- Ice caves.
- Small snow/ice patches.
- Isotopic composition of water in winter snow.
- Avalanche forecasting, where there is good collaboration between Austria and Slovenia.

Charles and Andrew thanked Polona for attending the Bureau meeting, and noted that we look forward to continuing involvement. Polona responded by saying that they will be active.

ITEM 6. Reports and/or statements from collaborators and partners

6.1 Scientific Committee on Antarctic Research (SCAR), Ian Allison

Ian Allison proved a report about SCAR, using a powerpoint presentation put together by Mike Sparrow and Ian (appBM09A-6.1). The aim of Ian's presentation was to stress the associations between SCAR and IACS.

Ian started by explaining that SCAR provides advice to the Antarctic treaty system. In terms of its scientific work, SCAR is structured somewhat like IACS, with SCAR standing groups, that lead to SCAR scientific research programmes such as Antarctic Climate Change in the 21st Century (AntClim21), Past Antarctic Ice Sheet dynamics (PAIS), Solid Earth Response and influences on Cryospheric Evolution (SERCE).

One SCAR group that has recently been revitalised is ISMASS (Ice Sheet Mass Balance and Sea Level), which deals with Ice sheets (both poles), and present and future sea level rise. Ian noted that glaciers are presently contributing as much to sea level rise as ice sheets and thermal expansion, and that ISMASS has considered broadening its objectives to include glaciers. This is where IACS can help, and we have recently encouraged ISMASS to discuss this matter with IACS standing group GTN-G. One particularly important issue is distinguishing between glaciers and ice

sheets in polar regions. Andrew noted that some progress had been made in this area recently (Randolf Glacier Inventory).

Ian noted that SCAR had recently established the prestigious 'Martha T Muse prize' and that Professor Martin Siegert (University of Bristol, UK) was its most recent recipient

Ian noted that SCAR is currently carrying out a strategic process known as 'horizon scanning', with the aim of identifying the most compelling questions in Antarctic science from the present to the year 2035. Ian indicated that IACS needed to keep an eye on this and that we should think about where we might overlap and contribute.

Ian noted that we can most likely use his presentation (in pdf format) as an appendix to the minutes, although he will check this with Mike Sparrow.

Valérie asked the question 'how do we stimulate more ice-ocean interaction work within SCAR?'. Ian noted that the horizon scanning feedback received so far has been dominated by this subject. Ian thinks that IACS should focus on some of the smaller issues (not big ice sheets), and that (for example) we should work more on tidewater glaciers. Andrew agreed and mentioned that understanding iceberg calving remains a poorly understood but hot topic.

ACTION: Ian to confirm that we can use pdf version of SCAR presentation as an appendix to BMO9A minutes.

6.2 International Arctic Science Committee (IASC)

Hiroyuki reports on the IASC council meeting in April 2013, Krakow, Poland. The IASC - SCAR- IACS letter of agreement was re-confirmed. IASC president David Hik and SCAR president Jeronimo Lopez-Martinez very much appreciate this collaboration.

IASC is seeking input from IASC to ICARP-III. IACS has many common interests with the IASC cryosphere working group (CWG) and will join the initiatives of IASC CWG. The chair of CWG is Martin Sharp and leading person of CWG for ICARP-III is Jan Ove Hagen (Vice-chair of CWG).

6.3 Association of Polar Early Career Scientists (APECS) (APECS President Penny Wagner)

Penny Wagner reported on the Association of Polar Early Career Scientists (APECS). She explained that APECS is international and interdisciplinary, with over 4000 members in 76 countries. APECS is focussed on career development, for example, by providing guidance in scientific skills (e.g. grant writing), making connections, and encouraging others. APECS will also be organising the next IPY, a high-profile international scientific event.

APECS held a workshop one day before DACA13 in association with IACS. 45 people registered but only 20 attended. Despite this, Penny and Charles think that the workshop was a success. One topic that came up was whether APECS could broaden

its scope to include young scientists working in mountainous (Alpine) regions. This might even involve a name change, to the ‘Alpine and Polar Early Career Scientists’ (no change to acronym). Penny noted that a useful first step would be to specifically mention Alpine sciences on their webpage. She also said it would be useful for Alpine processes to be represented on the APECS council.

Charles suggested that APECS might play an active role in planning IUGG sessions in Prague, and that we need suggestions in advance of the Scientific Programme Committee (SPC) meeting in Prague (2013). Penny agreed that this would be a good idea.

ACTION: Andrew to contact Penny with a request for ideas for IUGG-Prague sessions, once we have worked out a structure.

Ian finished by saying that he very much appreciates the work of APECS, and is particularly glad to see the establishment of an Oceania branch. He also thinks that APECS does a great job of passing on its corporate memory, in spite of a high flux of people through its organisation.

6.4 International Permafrost Association (IPA)

No report.

6.5 World Climate Research Programme, Climate and Cryosphere (CliC). *Reports from 8th and 9th Scientific Steering Group meetings*

Penny also provided some feedback about the WCRP Climate and Cryosphere (CliC) initiative, noting that she attended the 9th Steering Group meeting in Postdam. One outcome of that meeting was that ISMASS (also mentioned under SCAR) is currently being revamped and co-sponsorship of ISMASS by CliC was suggested. CliC 2013 Minutes! CliC is open to provide a platform for workshop organizers and Penny drew our attention to, for example, the Sea Ice Modeling and Observing Workshop that took place June 2013 in Tromso, Norway ([seaice2013](#)).

Michael Zemp then asked whether WGMS could have its report published in CliC newsletter. With respect to this Charles suggested that the 11 CryoOrganisations having signed the MoU should consider publishing a common annual report. He also noted that the Bureau would discuss CliC again in the closed meeting.

6.6 Global Cryosphere Watch (GCW). *Report from 2012 meeting, CryoNet Vienna. Further participation in WMO activities.*

This item was not discussed further but a report is available (appBM09B-4.1.1c).

6.7 IAHS International Commission on Snow and Ice Hydrology (ICSIH; appBM09A-6.7).

Building stronger links. UNESCO?

Danny Marks began by describing some recent activities in the USA relevant to IACS. Danny participates in the US National Committee for IUGG (USNC/IUGG) as our correspondent together with Tad Pfeffer. The National Science Foundation (NSF) funded this committee, but NSF recently decided to cancel its funding to USNC/IUGG. We will find out soon what the consequences are, although it seems almost certain that the USA will have a more limited role within IUGG. Danny will keep us informed.

Andrew asked Danny for his opinion on why these changes are occurring. Danny responded that it is due to the US national debt, but he thinks it is unfortunate, because the international nature of IUGG brings with it certain advantages (e.g. long term, international, coordinated strategy), which are not part of other organisations such as AGU. Valérie noted that this problem is common to all countries that have a national debt.

Danny also suggested that IUGG needs to make sure that its strengths and usefulness (e.g. the international nature of its organisation and focus on collaboration between countries) are apparent to governments.

Danny then gave his report on the International Commission on Snow and Ice Hydrology (ICSIH). He explained that ICSIH is the section of the International Association of Hydrological Sciences that remained when IACS formed. Danny has written a report on ICSIH activities for IACS, but we have not yet received it.

Danny explained that ICSIH has recently been active. DACA-13 was in particular a focal point for recent activity, with two full days of sessions, representing ICSIH activities and collaborations with IACS. Danny said that ICSIH has also been active in other forums, for example AGU.

Ian Allison commented that building bridges between ICSIH and IACS is important, and DACA-13 provided an excellent example of how this is being achieved. Charles noted that we are already thinking about the next IUGG General Assembly in Prague (2015), and that we plan to have joint ICSIH/IACS sessions. Danny agreed and promised that we will work on this together.

ACTIONS:

- Danny to report on US Government/IUGG relationship to IACS.
- Danny to provide ICSIH report to Andrew and Charles.
- Andrew and Charles to coordinate with Danny over joint IACS-ICSIH sessions at IUGG 2015 Prague.

6.8 Other IUGG Associations

No reports

6.9 Report on IUGG Union Commission ‘Geophysical Risk and Sustainability’ (A. Kääb)

See item 4.2 GAPHAZ (A. Kääb).

6.10 Cryo-organisations MoU

Not discussed.

ITEM 7 Other business

There was no other business.

ITEM 8 Next meeting

Bureau members and guests suggested that the next bureau meeting should accompany a well-attended cryospheric event. The IGS meeting in Chamonix was suggested as a possibility. This topic will be discussed further during the closed part of the Bureau Meeting.

ITEM 9 Close

Charles thanked the attendees of our Open IACS Bureau Meeting (BM09a) and declared the meeting closed.