

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



IACS

International Association
of Cryospheric Sciences

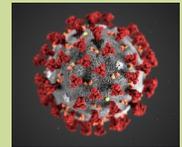
IACS NEWSLETTER

May 2020

Co-sponsored activities affected by COVID-19 pandemic

Three activities for which IACS approved 2020 financial support are postponed by 6-12 months. These are
-the International Summer School in Glaciology in McCarthy, Alaska,
-the third annual meeting of the Chilean Cryospheric Society, and
-the Juneau Icefield Research Program.

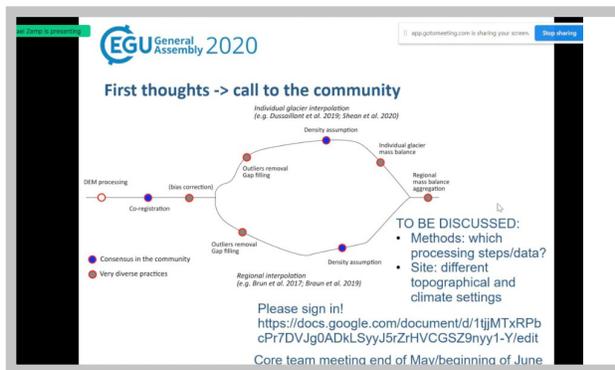
The IACS grants can be used for the postponed events.



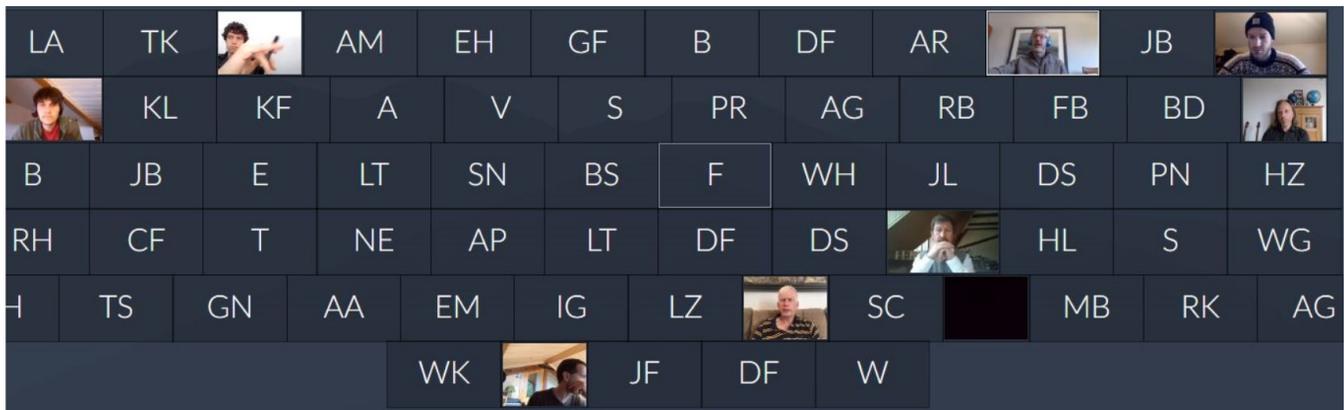
Note that the next deadline for support requests to IACS is 1 June.

IACS working group and other related meetings at EGU

The EGU General Assembly 2020 was held in an online format in response to the COVID-19 pandemic. The two newest working groups of IACS held open meetings on May 5. More than 60 participants joined to hear plans of 'RGI and its role in future glacier monitoring and GLIMS' and 'RAGMAC's plans on regional glacier mass assessments. In between the two WG meetings the GLIMS core team had an open meeting. The GTN-G executive board also met at EGU, this was a closed meeting with participation from IACS.



Screenshots from splinter meetings related to IACS at EGU online May 5 that were well attended. Bruce Raup from GLIMS and Fanny Brun from the RAGMAC WG were among the presenters.



IACS still plans for Busan 2021

The COVID-19 pandemic has caused many meetings and conferences to be cancelled, postponed or held entirely online. The next IACS assembly is still planned for 18-23 July 2021 in Busan, Republic of Korea. This symposium will be held in conjunction with the International Association of Meteorology and Atmospheric Sciences (IAMAS) and the International Association for the Physical Sciences of the Oceans (IAPSO) as BACO-21.

IACS has received many good session proposals and the BACO-21 Scientific Programme Committee are currently building the programme. It is not yet too late to propose sessions or show interest to be involved.

Please contact IACS Secretary General: richard.essery@ed.ac.uk if you have input. We will also investigate the possibilities for online participation or other alternatives.

The 6th Snow Science Winter School

The 6th Snow Science Winter School took place in Col du Lautaret, France, from 16 - 22 February 2020 and brought together 24 students from 12 countries, including one student from Argentina whose travel cost was supported by IACS (many thanks!). Organized by the Snow Research Center, CNRM (France), SLF (Switzerland) and FMI (Finland), the snow school aims at teaching traditional to modern techniques of snow measurements. State-of-the-art field instruments were available for the students to get hands-on experience in the field, together with introductory lectures. This year, the theme was on snow in a changing climate, impact on humans and nature, including an evening event that gathered local actors involved in mountain environment and climate change topics. Two full field days were organized at sites near Col du Lautaret and gave a first feeling for a self-organized measurement campaign. Located at 2100 m elevation, surrounded by high alpine peaks, the Col du Lautaret site is very much suited to offer the students a real experience of field measurements in an alpine environment. The students were very motivated, which makes for a stimulating and successful snow school. The 7th snow school will be organized by FMI, Finish Meteorological Institute, in Sodankylä, Finland.
(Report by Neige Calonne)



The happy students and lecturers of the SSWS 2020. Photo: D. Charlieu

IACS passes resolution on reducing our carbon footprint

IACS is committed to supporting IUGG “Resolution 1: Reducing the Carbon Footprint by the Research Community” adopted at the 2019 General Assembly in Montreal, by reducing travel (particularly by air), related to symposia organization and other IACS business. IACS acknowledges the importance of close ties and communication with the local organizers of IUGG/IACS Assemblies, and will strive to provide input via video-, tele-conferencing or other suitable means, rather than participating in site visits that require carbon-intensive travel. Video-conferencing will also be used to conduct annual bureau meetings between IACS Assemblies and to allow remote participation in bureau meetings at the Assemblies.

IACS will have its annual bureau meeting in late autumn 2020 as online meeting as planned.



New IACS working group continues the work on the Randolph Glacier Inventory (RGI)

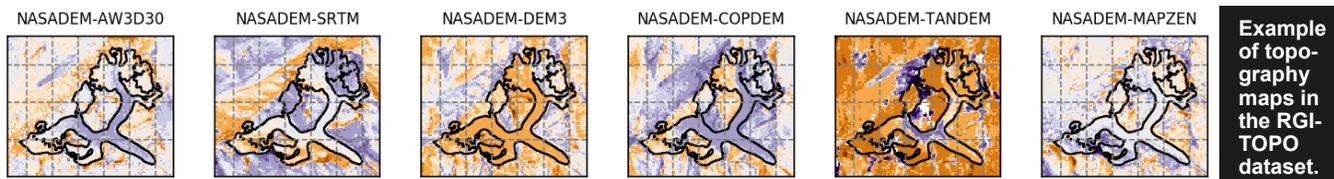
The RGI is a globally complete dataset of glacier outlines with a ‘frozen’ time stamp for use primarily in global/regional scale glacier mass change assessments and modeling. The RGI is hosted at GLIMS (Global Land Ice Measurements from Space). In 2020, the International Association of Cryospheric Sciences (IACS) renewed the Working Group (WG) on the Randolph Glacier Inventory (RGI) with the overall goal to maintain and further develop the RGI. The new working group called ‘**Randolph Glacier Inventory (RGI) and its role in future glacier monitoring and GLIMS**’ is co-chaired by Fabien Maussion, University of Innsbruck, Austria and Regine Hock, University of Alaska, Fairbanks, USA.

The WG is organized with two co-chairs, a steering committee, a list of WG members and a list of WG contributors. The WG is well on its way and has already held several meetings, the latest an open meeting at EGU on May 5 to inform the community of the plans and endorse updated datasets for the next RGI version.

More details on RGI structure, objectives and deliverables can be found on the IACS webpage.

cryosphericciences.org/activities/working-groups/rgi-working-group/

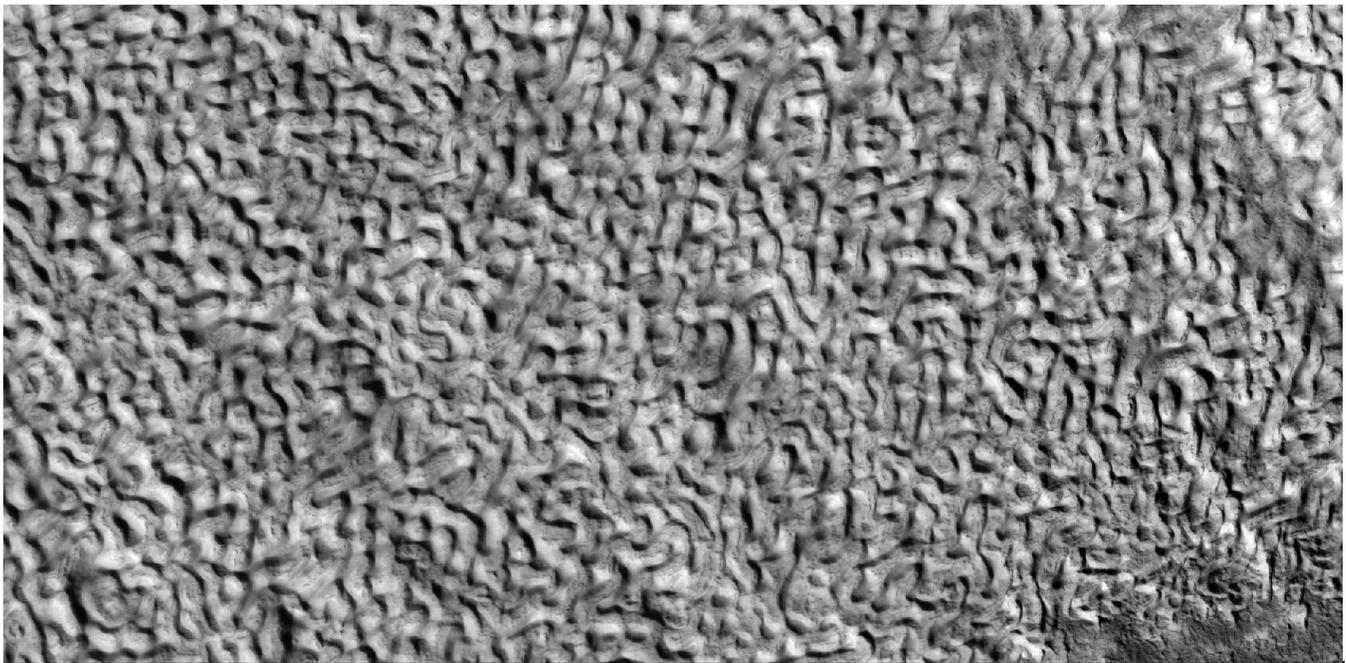
The funding received from IACS for the previous WG phase (2014-2019) was used to develop automated glacier attributes and rgitools. RGI 6 refers roughly to year 2000, as will the RGI 7 to be released by the end of the year. Therefore data analyses requiring a topographic map should use digital elevation models (DEMs) as close as possible to year 2000 too. The WG tested 13 different regional or global DEMs and a new dataset (RGI-TOPO) was generated and made freely available. **New outlines to be considered in RGI 7 must be submitted to GLIMS by the end of June 2020.**



rgitools is an open source python package for processing DEMs and RGI outlines. It allows simple but automatic quality checks on all RGI outlines. It also offers functionality, e.g. to calculate outline intersections or glacier hypsometries. The package will also be used to calculate and provide additional glacier attributes such as slope or mean altitude with the upcoming RGI version 7.
(Report by Matthias Dusch and Fabien Maussion)

rgitools.readthedocs.io/en/latest/dems.html

github.com/GLIMS-RGI/rgitools



Martian “brain terrain” is found throughout the mid-latitude regions of Mars. This HiRISE image is in Protonilus Mensae with a scale of 5 km across. The origin of this terrain is one of the unsolved mysteries on Mars. One hypothesis is that the terrain forms due to sublimation of the buried water-ice. The layers are found in a glacier on Mars. Text by Shannon Hibbard. Image credit: NASA/JPL/University of Arizona).

IACS supported Conference on Mars Polar Science and Exploration

IACS supported the Seventh International Conference on Mars Polar Science and Exploration, held January 13-17, 2020 in Ushuaia, Argentina. www.hou.usra.edu/meetings/marspolar2020/

The IACS support was used for two IACS travel grants for students and early career scientists. Congratulations to the two recipients: Jacqueline Campbell (University College London) and Shannon Hibbard (University of Western Ontario, Canada). Both gave oral presentations of their work at the conference. Jacqueline presented “Hyperspectral Mapping of the Martian South Polar Residual Cap Using Laboratory Analogues and Orbital Imagery”. Shannons talk was entitled: “Terrestrial Brain Terrain and the Implications for Martian Mid-Latitudes - Brain terrain on Earth / Periglacial or glacial? / What about on Mars?”.



Jacqueline Campbell and Shannon Hibbard at the conference. Photo: Ali Bramson.

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.cryosphericsscience.org

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