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

IUGG

IACS
International Association of Cryospheric Sciences

IACS NEWSLETTER

January 2020

New working group: Regional Assessments of Glacier Mass Change (RAGMAC)

IACS is pleased to announce a new working group (WG) focusing on bringing together the research community that is assessing regional glacier mass changes from various observation technologies. The ultimate goal is to come up with a new consensus estimate of global glacier mass changes and related uncertainties.

The WG is organized in three work packages (WPs), two related to different remote sensing technologies and a third that aims at regional comparisons of corresponding results:

WP1: Glacier mass changes based on glaciological and geodetic (DEM differencing) methods

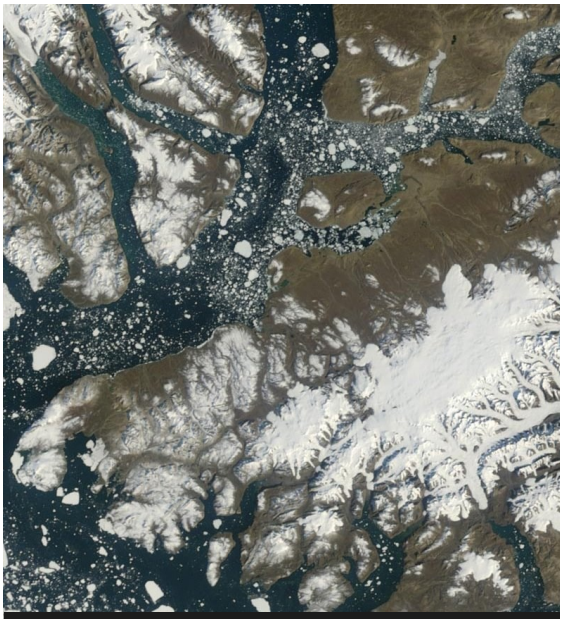
- Develop best practises for geodetic estimates of glacier mass changes and related uncertainties.
- Improve the global coverage of geodetic glacier change assessments.

WP2: Glacier mass changes based on altimetry and gravimetry

- Develop best practices for the propagation of errors in glacier mass-change estimates derived from satellite altimetry and gravimetry.

WP3: Regional comparisons of glacier mass changes from different methods

- Encourage regional assessments of glacier mass changes.
- Foster open and free access to glacier data.
- Define a common framework for regional mass change estimates.
- Develop a consensus estimate of regional and global mass changes from glaciological, geodetic, altimetric, and gravimetric methods.



Terra satellite image of Axel Heiberg from August 29, 2008 (NASA Earth Observatory).
Note: Northward direction is to the right.

Coordination and participation

The WG proposal was prepared by a core team of scientists currently active in regional glacier change assessments. Participation is open to everybody who is willing to contribute actively to one or several of the objectives listed above. WG members are expected to make their observational results - latest after publication - available to the scientific community after to an international data repository. If you are interested in joining the WG, please contact the WG co-chairs and declare your interest in participation, and specify how you intend to contribute to the goals of any of the work package above:

Co-chairs: Michael Zemp (CH), Matthias H. Braun (DE), Fanny Brun (NL), Alex Gardner (US), Bert Wouters (NL), Geir Moholdt (NO), and Regine Hock (US).

More inforrmation on the IACS webpage: https://cryosphericsciences.org/activities/working-groups/

IACS introduces deadlines for support requests

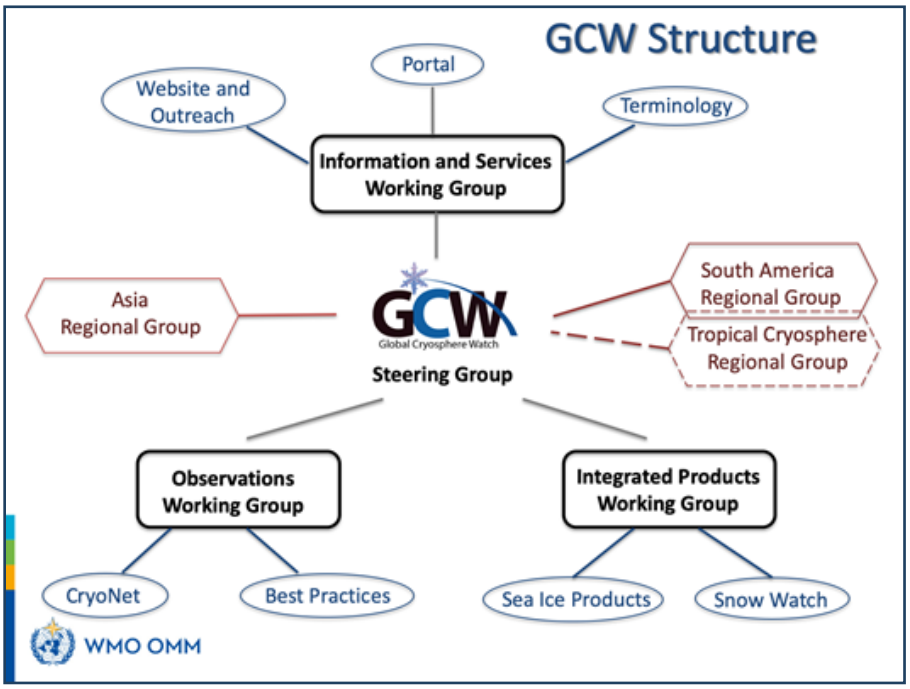
IACS co-sponsors cryosphere-related workshops, educational or other events, typically up to a maximum of 2000 Euros per event. Organizers of such events can request support from IACS by sending a support request form. Awardees must be IACS members. IACS must be acknowledged in relevant event-related material, such as homepages and flyers. A report of how the funding was spent is required within two weeks after the event. The form is available at the IACS webpage.

IACS now introduces three deadlines per year: 1 February, 1 June and 1 October. Funding requests must be submitted for a deadline at least two months prior to the event that is to be supported. Proposers will be informed of decisions approximately two weeks after the deadline. **The first deadline is 1 February 2020 for support requests to IACS.**

The Global Cryosphere Watch – current status

Proposed in 2007 and kicked off in 2011, the Global Cryosphere Watch (GCW) just entered its pre-operational phase on 1 January 2020. GCW was initiated by the WMO as a mechanism to sustain the knowledge gained following the International Polar Year 2007-2009 and to provide a focused approach to the cryosphere for supporting delivery of Earth System monitoring, modelling, and prediction services. It is a strong joint venture of the scientific community with National Meteorological and Hydrological Services (NMHS). The first achievement of GCW was to build up a network of ~120 stations measuring cryospheric variables (CryoNet). But GCW is far more than a network, as it aims to establish best practices for measurements on snow, glaciers, sea ice, permafrost, etc., providing a comprehensive cryospheric glossary, defining metadata, and assessing the maturity and accuracy of products related to the cryosphere (see for example SnowWatch).

Interoperable data exchange between operational and scientific networks is made possible through the GCW data portal, which delivers data in a standard format (NetCDF) including all necessary metadata according to the Climate and Forecast convention. IACS, as a GCW partner, has provided input to several GCW task teams from the beginning through its focal point (currently C. Fierz) and members.



New IACS division: Ice Sheets

IACS is happy to announce Sophie Nowicki as the new, and first, divison head for Ice Sheets. The former division II Glaciers and Ice Sheets was split into two separate divisions in September 2019 when the IACS Statutes were updated.

Sophie is a Research Scientist and Deputy Chief for the Cryospheric Sciences Laboratory at NASA Goddard Space Flight Center, USA.

Sophie Nowicki is the division head for the new division Ice Sheets in IACS.

The WMO High Mountain Summit - outcome

From 29-31 October 2019, about 150 participants gathered at WMO headquarters in Geneva, Switzerland, to attend the WMO High Mountain Summit (HMS). The summit was co-chaired by two well known scientists, John Pomeroy and Carolina Adler, underlining the cooperation needed between operational and scientific communities to provide products focusing on availability of observations and service delivery to local mountain communities. The summit noted “the scarcity of meteorological, hydrological, climate, and cryosphere observations in mountain regions, and the difficulties in accessing existing data” and issued both a call for action and a roadmap to science-based, user-driven knowledge and information systems supporting sustainable development and risk reduction in mountain and downstream regions. This call for action was borne by all attendees, notwithstanding the wide diversity of fields and communities (meteorology, hydrology, environmental and atmospheric sciences, development agencies, NMHS, etc.) represented and shows the very constructive and collaborative spirit that prevailed during the summit.

IACS was represented by Secretary General Richard Essery, who contributed to the panel session on “Research, innovation and synthesis: towards and integrated mountain prediction system”. As one of the convening partners, IACS facilitated the attendance by an Early Career Scientist and provided support to make GCW more familiar to summit attendees.

High Mountain Summit, 29-31 October 2019, Geneva, Switzerland

The latest deep ice core is being drilled at the East-GRIP site (75°N, 36°W), at the source of the North-East Greenland Ice Stream. This core will provide ice from the past 50 ka, with unprecedented ice quality through the Holocene. This is the first time that a deep ice core has been drilled in a fast flowing ice stream, and the core will also provide insight into the dynamics of the ice flow in an ice stream by ice rheology, deformation studies, and borehole observations. The deep drilling operations started in 2017, reached 2120 m in 2019, and will continue in 2020. Photo: Anais Orsi

The EastGRIP project is an international partnership between Denmark, the USA, Germany, Japan, Norway, Switzerland, China, France and the UK. https://eastgrip.org/

Planning the IACS assembly in Busan 2021

IACS has started planning its next IACS assembly (18-23 July 2021 in Busan, Republic of Korea). This symposia 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).

We are currently seeking sessions for the scientific programme, and although we have received several proposals for sessions it is not too late to propose more sessions.

If you are interested in participating in Busan and chairing a session (IACS or joint session), please contact IACS Secretary General: richard.essery@ed.ac.uk.

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.cryosphericsciences.org

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