

## REPORT ON

### Workshop on the Dynamics and Mass budget of Arctic glaciers & IASC Network on Arctic Glaciology annual meeting (25-27 January, Benasque, Spain)

#### Short abstract:

From 25 to 27 January 2016 the workshop on the Dynamics and Mass Budget of Arctic Glaciers including the IASC Network on Arctic Glaciology annual meeting took place in Benasque, Spain. This workshop builds on very successful meetings held in previous years in e.g. Obergurgl (Austria), Ottawa (Canada), and Zieleniec, (Poland). It provided an excellent opportunity for participants in international Arctic projects, including the Network Tidewater Glacier initiative, to discuss the results emerging from these projects and to plan future initiatives. There was a special session on glacier-ocean interactions. The workshop also hosted the annual open forum meeting of the national contacts of the NAG where Dr. Thorben Dunse was elected new Chair of the NAG, following the end of Dr. Carleen Tijm-Reijmer's term.

#### Extended abstract:

From 25 to 27 January 2016 the workshop on the Dynamics and Mass Budget of Arctic Glaciers including the IASC Network on Arctic Glaciology annual meeting took place in Benasque, Spain. This workshop builds on very successful meetings held in previous years in e.g. Obergurgl (Austria), Ottawa (Canada), and Zieleniec (Poland). The objective of this meeting was:

- to present and discuss new results on observations and modelling of the dynamics and mass budget of Arctic glaciers,
- to plan and coordinate field work on Arctic glaciers with the aim of using the available infrastructure and logistics in the most efficient way,
- to develop ideas for future projects and collaboration.

During the meeting, the participants presented their research in oral and poster sessions. A variety of topics within the field of the dynamics and mass budget of Arctic glaciers was discussed, ranging from in situ observations to satellite techniques, observational to modelling approaches, and geographically covering glaciers and ice caps across the whole Arctic region, as well as the Greenland ice sheet. Two key-note lectures were given. The first, by Dr. Regine Hock (University of Alaska, Fairbanks): *Global-scale glacier modeling - Challenges and recent progress*, provided an overview of methods used to estimate global scale glacier mass budget and its contribution to sea-level change in a warming climate. A second, given by Prof. Gordon Hamilton (University of Maine): *Glacier-Ocean Interactions in the Arctic: Past Work and Future Directions*, introduced the subject of glacier-ocean interactions. These lectures introduced the special session on glacier-ocean interactions, which was a contribution to the Network's Tidewater Glacier initiative. Deliberate long breaks provided an excellent opportunity for participants in international Arctic projects to discuss the results emerging from these projects and to plan future initiatives. Participants are encouraged to write an (extended) abstract of their contribution to the workshop, which will be published digitally in a book of abstracts. This

book will also contain information pertaining to the workshop such as the final program, a list of participants and a report of the open forum meeting.

In the annual open forum meeting of the network general issues related to the network were discussed, such as changes in national contacts, new and on-going network activities and the location of next year's workshop. Regarding on-going activities, as part of the Tidewater Glacier initiative the possibility of repeating the successful 2012 workshop on board of the Polish research vessel r/v Horyzont II was discussed. The Polish representatives are positive about arranging a similar tidewater-glacier workshop on board of r/v Horyzont II in 2017. Furthermore, Martin Sharp reported on the status of the action to update the existing mass balance records started during the MAGICs project, and on a combined activity (involving 10 network members from the USA, Canada, the Netherlands and Norway), in producing an annual report on the Mass Balance of Arctic glaciers in the "State of the Climate" report published by the *Bulletin of the American Meteorological Society* (BAMS).

Another topic discussed at the meeting was the organisational structuring of the Network around a group of National Contacts supporting a Chair and Vice Chair. It was decided that each current national contact would be asked to commit to engage actively in the work of the Network and to attend its meetings or, if that is not possible, to suggest a successor as the contact point for their country. Finally, Dr. Thorben Dunse (Norway) was elected new Chair of the NAG, following the end of Dr. Carleen Tijm-Reijmer's term.

The Network workshop was organised by Dr. C. Tijm-Reijmer (former Chair NAG), Prof. M. Sharp (Vice Chair NAG), and Prof. F. Navarro. Prof. Navarro chaired the local organising committee which also included E. de Andrés (Secretary), C. Recio-Blitz, J. Lapazaran and J. Otero. The IASC Cryosphere Working Group kindly provided travel support for 12 early career scientists. Prof. Martin Sharp coordinated the applications for support. The meeting itself, i.e. location and coffee breaks, was financed by a registration fee paid by the participants. A total of 44 participants attended the workshop representing about 12 different countries. Next year's meeting will be held in Maine, USA.