Workshop on the use of automatic measuring systems on glaciers

Program and Participants

IASC Workshop, 23-26 March 2011, Pontresina (Switzerland)

Institute for Marine and Atmospheric Research, Utrecht University, the Netherlands

(April 13, 2011)
Program

Wednesday 23 March

14:00 - 14:15 Welcome Carleen Tijm-Reijmer
14:15 - 14:35 WMO Guidelines for Automation of Surface Observations Miroslav Ondras
14:35 - 14:55 The Importance of in-situ Glacier Observations in the Global Cryosphere Watch (GCW) Barry Goodison
14:55 - 15:25 Technology for autonomous monitoring and investigations of polar environments Alberto Behar
15:25 - 15:55 Coffee break
15:55 - 16:15 New AWS - activities in Antarctica started by the Alfred-Wegener-Institute Bernd Loose
16:15 - 16:35 AWS measurements at the Belgian Antarctic station Princess Elisabeth, Dronning Maud Land Irina Gorodetrkaya, N. van Lipzig, M. van den Broeke, W. Boot, C. Reijmer and A. Mangold
16:55 - 17:15 High-elevation weather stations on glaciers in the Tropics, continued Douglas Hardy
17:15 - 17:35 On hose clamps and electric tape – eight years of maintaining a low-budget AWS network on McCall Glacier, arctic Alaska M. Nolan, Douglas Hardy
17:35 - 18:00 POSTER SESSION

Thursday 24 March

08:30 - 08:45 Automatic Weather Stations in the Cordillera Blanca (Peruvian Andes) Martin Großhauser and S. Galos
08:30 - 08:45 Innsbruck Tropical Glaciology Group East African AWSs R. Prinz, L. Nicholson, Michael Winkler, N. Cullen, G. Kaser and T. Mölg
09:00 - 09:20 24 weather stations on Greenland, 25 things to go haywire Dirk van As, S. Nielsen, A. Ahlstrøm, S.B. Andersen, M.L. Andersen, M. Citterio, R.S. Fausto and F.M. Nick
09:20 - 09:40 Internals and performance of the GEUS automatic weather stations Michele Citterio
09:40 - 10:00 Autonomous AWS and GPS observations at Helheim Glacier, East Greenland Morten L. Andersen, M. Nettles, P. Elósegui, J.L. Davis, G.S. Hamilton, E. Malikowski, I. Gonzalez, M. Okal and B. Johns
10:00 - 10:30 Introduction to the excursion to the Vadret da Morteratsch Hans Oerlemans

12:00 - 16:30 EXCURSION

Friday 25 March

08:30 - 09:00 Recent developments at the IMAU: a new AWS generation & wireless subglacial measurements Paul Smeets, W. Boot, M. van den Broeke and R. van de Wal

09:00 - 09:20 Glaciological field studies at Zhadang Glacier, Tibet Fabien Maussion

09:20 - 09:40 Glacioclim, a glacio-meteorological network to study ablation processes over glaciers and snow covers Patric Wagnon, J.E. Sicart, Yves Lejeune

09:40 - 10:00 Installing a network of high altitude weather stations in the argentinean Andes Sebastian Andres Crespo


10:20 - 10:50 Coffee break

10:50 - 11:10 Eddy covariance measurements on semi-arid Andean glaciers: power, memory and penitentes Shelley MacDonell

11:10 - 11:30 A versatile tower platform for glacier instrumentation: e.g. GPS and Eddy Covariance Measurements Alex H. Jarosch, F.S. Anslow, J.M. Shea

11:30 - 11:50 Using single frequency GPS receivers to determine glacier velocities Carleen Tijm-Reijmer and W. Boot

11:50 - 12:10 IceMole: An Autonomous Probe for Research in Ice Engelbert Plescher

12:10 - 12:30 Using geomatic techniques for glacier monitoring in the Pyrenees Ibai Rico Lozano, E. Serrano, M.J. González Amuchastegui, J.J. de San José and J. Matias

12:30 - 14:00 Lunch

14:00 - 14:20 Observing glacier processes with time-lapse photography Hans Oerlemans


14:40 - 15:00 Effects of soot, algae, and mineral dust on the albedo of the Plaine Morte Glacier, Switzerland Margit Schwikowski, E. Bühlmann, P.-A. Herren

15:00 - 15:20 AWS measurements on the Kahiltna Glacier, Central Alaska Range, USA Joanna Young, A. Arendt, R. Hock, R. Motyka, S. Herreid, J. Hulth

15:20 - 15:50 Automated ablation measurements using a pressure transducer Robert S. Fausto

15:50 - 16:00 Conclusions Carleen Tijm-Reijmer
Posters

Posters are on display throughout the meeting

- IMAU Automatic Weather Stations *Wim Boot*
- IMAU European Automatic Weather Stations *Wim Boot*
- iWS-5: A new 2012 generation of low temperature, rapid deployment weather stations *Wim Boot*
- AWS measurements on glaciers in the Italian Alps *G. Diolaiuti, Antonella Senese, C. Mihalcea, G.P. Verza, M. Mosconi and C. Smiraglia*
- AWS measurements on debris-covered glaciers in the Karakoram *Claudia E. Mihalcea, E. Vuillermoz, G. Diolaiuti, G. Verza, C. Mayer, A. Lambrecht and C. Smiraglia*
- Cryospheric monitoring Sonnblick-Pasterze, Austria: Instruments and methods *Gernot Weyss, W. Schöner, B. Hynek, R. Böhm, D. Binder, S. Reisenhofer, M. Olefs and R. Unger*
Participants

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45. Joanna Young (joanna.young@gi.alaska.edu)
Excursion

The excursion will be to the Vadret da Morteratsch. On the snout of this glacier an AWS has been running since October 1995. We will visit the station and enjoy the scenery.

The group will be split into two:

(1) Downhill skiers

We will take the Diavolezza cable car and ski down from the mountain station (~3000 m) to the Vadret da Pers, and then to the Vadret da Morteratsch to visit the AWS (located at an altitude of ~2200 m). The route is marked but not prepared, and the difficulty corresponds to that of a black ski run in the normal terminology (but there are also long gently sloping stretches to recover...). Normal downhill skis can be used. Safety equipment (harness etc.) is not needed. At the AWS site we will meet the other group that will come from below.

(2) Those who are not good downhill skiers

From the Landgasthaus Morteratsch (~1800 m) we will walk to the glacier front (easy trail) and then, on snow shoes (or on backcountry skies for the experienced) up to the AWS (at ~2200 m). Here we will meet the downhill skiers. We will spend some time at the AWS. Then we will all go back to the Landgasthaus Morteratsch in different styles, and have a beer or so on the terrace. The train will bring us back to Pontresina.

Equipment

Equipment can be rented in Pontresina (also snow shoes).

Costs

Costs have to be covered by the participants. Train/bus: about 12 Swiss francs. Ticket cable car (only for the downhill skiers): about 33 Swiss francs.