

International Workshop

Glacier Hazards, Permafrost Hazards and GLOFs in Mountain Areas: Processes, Assessment, Prevention, Mitigation

10 – 13 November 2009, Vienna

Second Circular

Registration: 1 April – 31 August 2009



IACS/IPA Working Group on
Glacier and Permafrost Hazards
in Mountains



Mountain Research Initiative



Institute of Applied Geology,
Univ. of Natural Resources and
Applied Life Sciences, Vienna



Workshop Theme:

Cryosphere related hazards pose growing yet often cryptic threats to human lives and infrastructure in high mountain areas. Related disasters can kill hundreds of people at once and cause damages on the order of tens of million Euro worldwide annually. A single 100-year disaster can cause over billions of Euro of damage and thousands of deaths.

Global change will further challenge our ability to predict such disasters. Changes in glacier and permafrost equilibrium driven by warming and changes in precipitation patterns are creating hazards in zones hitherto considered safe. At the same time human settlements and activities extend towards danger zones. As a consequence, historical knowledge is not sufficient alone any more for hazard assessments and needs to be complemented with improved process understanding. In the perspective of rapidly vanishing glaciers and increasingly severe droughts, water resources from glacierized mountains have become of highest importance, and interests of water resource exploitation have to be carefully considered against risk issues. These challenges require integrated analysis based on advanced technologies and interdisciplinary approaches. Political decision making, prevention and mitigation strategies, and engineering approaches must be adapted to these rapidly changing environmental conditions.

The purpose of this workshop is to

- Review and enhance state-of-the-art methods for glacial and permafrost hazard assessments
- Identify current research gaps
- Provide an overview of the current and likely future situation of glacial and permafrost hazards in mountainous regions
- Outline ongoing and expected impacts from climate change
- Facilitate the exchange between the scientific community, and implementing and decision-making agencies

The workshop will bring together scientists, engineers, and officials from governmental and non-governmental institutions involved in decision making related to glacier and permafrost hazards in mountain areas.

Topics

- Glacier lakes and outbursts (GLOFs)
- Ice avalanches
- Glacier surges
- Ice-clad volcanoes
- Earthquake triggering of glacier disasters
- Interactions between glaciers and permafrost
- Glacier- and permafrost-related slope instabilities
- Threat to glacial water resources
- Impacts on structures, infrastructure and human activities
- Understanding of processes and interactions
- Remote sensing and geophysics
- Monitoring and early warning technologies
- Hazard assessment
- Prevention and mitigation
- Risks and benefits of glacial and periglacial water resources
- National and local decision-making processes
- Cross-boundary implications of disasters and mitigation
- Socio-economic analysis of disaster potential and mitigation

Workshop products:

Review paper(s); draft guidelines, recommendations to decision makers and stakeholders; special journal issue; press release

Programme outline:

The workshop programme consists of **keynotes, according discussions and extensive poster sessions** including short presentations and discussions in front of the posters during plenary poster tours. Thematic poster contributions are highly welcome.

- 10 November: 15:00 Preparatory meeting of advisory committee, keynote speakers and session chairs
 18:00 Welcome drinks and registration
- 11 November: 8:30-9:00 Opening
 9:00-13:00 Keynotes + discussions, incl. break
 14:00-16:00 Break-out groups on keynote topics, 1st plenum report and discussion
 16:00-18:30 Poster sessions with tour led by session chairs
 Evening: Viennese “Heurigen” (included in registration)
- 12 November: 8:30-12:30 Keynotes + discussion, incl. break
 13:30-16:00 Break-out groups on keynote topics, 2nd plenum report and discussion
 16:00-18:30 Poster sessions with tour led by session chairs
 18:30 Closing
 Evening: Dinner (not included in registration)
- 13 November: Work on workshop products and conclusions by advisory committee, keynote speakers
 and session chairs

Keynotes:

Processes and interactions (Wilfried Haerberli)
Criteria for hazard assessment (John Reynolds)
Remote sensing and international earth observation programs (Jeff Kargel)
Ground based monitoring and technical early warning methods (Andrea Tamburini)
Monitoring and evaluating hazards (Hugo Delgado)
Mitigation and prevention (Jörg Hanisch)
International institutional and economic aspects (tba)
Social aspects (tba)
Regional aspects I: Caucasus and Central Asia (Sergey Chernomorets)
Regional aspects II: Andes (Marco Zapata)

Poster sessions

Climate Change and Slope Stability in High Mountains (John Clague, Steve Evans)
Hazards related to volcano-ice interactions (Hugo Delgado)
Political economy and sociology of glacier disasters (Christine Jurt, Greg Greenwood)
Climate change & glacier lakes: hazards or potential water resource? (Christian Huggel, Markus Stoffel)
Modeling mass movements and floods in high-mountain environments (tba)
Ground-based monitoring and detection (Andrea Tamburini)
Remote sensing based monitoring (Duncan Quincey, Andreas Kääh)
Prevention and mitigation (tba)

Venue:

Welcome reception: University of Natural Resources and Applied Life Sciences (BOKU), Vienna
Workshop: Hotel Modul, BOKU area, Vienna

Registration and Abstracts:

Participants wishing to give a poster should submit a short abstract (1 page max) with their registration. Registrations and abstracts should be sent before 31 August 2009 through the online-form on the workshop webpage. The number of participants will be limited to about 100. If necessary, participants will be selected based on a review of their abstract and the sequence of registration dates.

Details on registration fee, payment and accommodation can be found on the workshop webpage and will be handled by direct e-mail contact. Workshop costs including breaks, lunches, local arrangements and a “Heurigen” are 250 EUR for registrations until 31 July 2009, 280 EUR for registrations until 31 August. Late registrations for 300 EUR from 1 September on are accepted subject to place availability. Student registration is 70 EUR until 31 August.

Organizing Committee:

Jean Schneider, Hermann Häusler, Jürgen Reitner, Christian Huggel, Greg Greenwood, Andreas Kääh

Logistics and Administration:

Friederike Hintermüller (iag@boku.ac.at)

Advisory Board:

Sergey Chernomorets, Marta Chiarle, John Clague, Hugo Delgado Granados, Stephen Evans, Jeff Kargel, John Reynolds, Hari Shresta, Marco Zapata, and others.

Further Information / Webpage:

Continuously updated information on the workshop can be found under

<http://www.baunat.boku.ac.at/workshop09.html>

An initiative by the

- IACS/IPA working group on Glacier and Permafrost Hazards in Mountains (GAPHAZ)
- Institute of Applied Geology, BOKU, Vienna (IAG-BOKU)
- Mountain Research Initiative (MRI)

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IACVETWIG/IACS Commission on Volcano-Ice Interactions



International Association for the Cryospheric Sciences (IACS)



International Centre for Geohazards, Norway (ICG)



International Permafrost Association (IPA)



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and others.