

International Workshop

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

10 – 13 November 2009, Vienna

*First Circular*

Registration: April 1st – August 31<sup>st</sup>, 2009



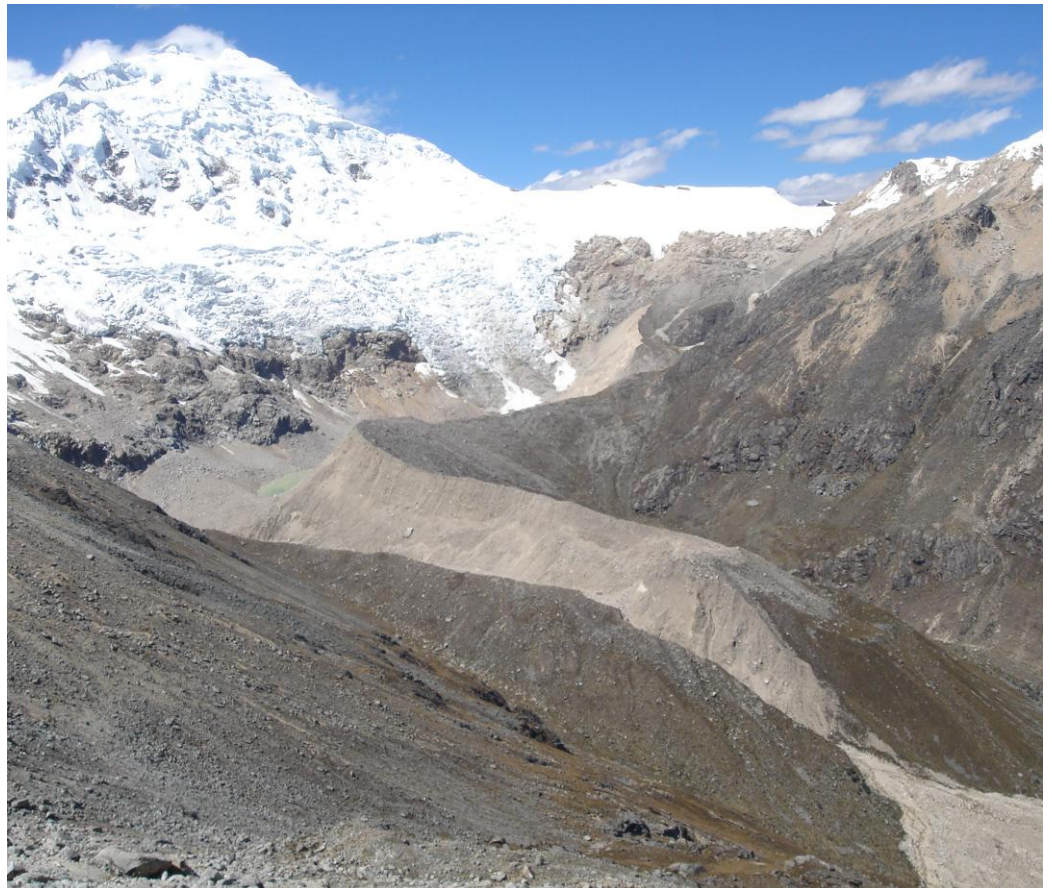
IACS/IPA Working Group on  
Glacier and Permafrost Hazards  
in Mountains



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 mountains. 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 has become less useful as a guide 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 the most recent 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:

- 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
- Economic analysis of disaster potential and mitigation

**Venue:**

University of Natural Resources and Applied Life Sciences (BOKU), Vienna

**Registration and Abstracts:**

Registration will open on April 1<sup>st</sup>, 2009 and will close August 31, 2009.

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

Details on registration fee and payment will be announced in the second circular. Depending on the number of participants, we estimate a contribution of approximately 250-300 Euro to breaks, lunches, local arrangements and a workshop dinner. Early registrants and students will get a rebate.

**Organizing Committee:**

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

**Logistics and Administration:**

Friederike Hintermüller (iag@boku.ac.at)

**Advisory Board:**

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

**Further Information / Webpage:**

Continuously updated information on the workshop can be found under

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<http://www.geo.uio.no/remotesensing/gaphaz/>

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## An initiative by the

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

## Supported by

Global Land Ice Measurements from Space project (GLIMS)



International Association for the Cryospheric Sciences (IACS)



International Permafrost Association (IPA)



IAVCEI/IACS Commission on Volcano-Ice Interactions



International Centre for Geohazards, Norway (ICG)



and others.