

Name of research institute or organization:

WSL Institute for Snow and Avalanche Research SLF

Title of project:

Permafrost in the Jungfrau East ridge

Project leader and team:

Dr. Marcia Phillips, project leader
Martin Hiller, electronics
Christian Bommer, engineer, construction in permafrost

Project description:

In 1995 two boreholes located at around 3600 m ASL were drilled in the Jungfrau east ridge, one in the Northern sector, the other in the Southern one. They are equipped with thermistors and borehole temperatures are measured automatically. The measurements deliver valuable information on the state of permafrost in high altitude rock walls and on the reaction of permanently frozen rock walls to changes in air temperature. This information is of relevance with regard to the formation of natural hazards (e.g. rockfall) and in the context of the construction and maintenance of high mountain infrastructure. The boreholes are part of the PERMOS (Permafrost Monitoring Switzerland) network. Onsite controls have shown that recurring technical problems due to lightning occurred in 2008 and the instruments must now be tested in the laboratory, recalibrated and protected to ensure the quality of the data.

Key words:

Mountain permafrost, active layer depth, frozen rock walls, borehole measurements

Internet data bases:

www.permos.ch

Collaborating partners/networks:

PERMOS (Permafrost Monitoring Switzerland)

Scientific publications and public outreach 2008:

Magazine and Newspapers articles

(Report on snow, glaciers and permafrost in the Swiss Alps, including contributions from SLF):

Bauder A., Marty C., Nötzli J. (2008). Kryosphäre in den Schweizer Alpen: Schnee, Gletscher und Permafrost 2005-2006/2006-2007. Die Alpen 9, 2008, 47-56.

Address:

WSL Institute for Snow and Avalanche Research SLF
Flüelastrasse 11
7260 Davos Dorf

Contacts:

Marcia Phillips

Tel.: +41 81 417 02 18

Fax: +41 81 417 01 10

e-mail: phillips@slf.ch

URL: www.slf.ch