

Name of research institute or organization:

WSL-Institut für Schnee- und Lawinenforschung

Title of project:

Permafrost monitoring at high Alpine sites

Project leader and team:

Dr. Marcia Phillips (project leader, permafrost researcher)
Martin Hiller (electronics)
Andreas Moser (electronics)
Christian Simeon (technical support)
Andreas Moser (electronics)

Project description:

The evolution of permafrost temperatures in boreholes located at high altitudes in the Swiss Alps are monitored in the context of this project. The aim is to determine how rock walls react to temperature changes and determine long-term trends. The thermal regime strongly determines the stability of rock walls containing ice in cracks and fissures. In addition, the data obtained is highly relevant for construction projects at high altitudes, where the engineering challenges can be significant. Rock temperatures are essential for the determination of the choice of technical solutions used to ensure a prolonged service-life of high mountain infrastructures such as those found at Jungfraujoeh.

Key words:

Mountain permafrost; thermal regime; active layer; stability of rock walls; construction in permafrost

Internet data bases:

www.permos.ch

Collaborating partners/networks:

PERMOS network (Permafrost monitoring Switzerland)

Scientific publications and public outreach 2009:

Edited books

Bommer C., Phillips M., Keusen H.R., Teyssere P. (2009). Bauen im Permafrost: Ein Leitfaden für die Praxis. Birmensdorf, Eidg. Forschungsanstalt für Wald, Schnee und Landschaft, SLF. 126 S.

<http://www.slf.ch/dienstleistungen/buecher/9819.pdf>

Data books and reports

PERMOS (2009). Permafrost in Switzerland: 2004/2005 and 2005/2006. Glaciological Report (Permafrost), No. 6/7. Noetzli J., Naegeli B., and Vonder Muehll D. (eds.). 100 pp.

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