

Peer-reviewed Publications in 2010

- Amundson, J., Fahnestock, M., Truffer, M., Brown, J., Lüthi, M., and Motyka, R. (2010). Ice mélange dynamics and implications for terminus stability, Jakobshavn Isbræ, Greenland. *J. Geophys. Res.*, 115:F01005. doi:10.1029/2009JF001405.
- Bogdal, C., Nikolic, D., Lüthi, M. P., Schenker, U. W., Scheringer, M., and Hungerbühler, K. (2010). Release of legacy pollutants from melting glaciers: Model evidence and concept understanding. *Environ. Sci. Technol.*, 44:4063–4069.
- Brown, J. (2010). Efficient nonlinear solvers for nodal high-order finite elements in 3D. *Journal of Scientific Computing*, 45:48–63.
- Faillietaz, J., Sornette, D., and Funk, M. (2010). Gravity-driven instabilities: interplay between state-and-velocity dependent frictional sliding and stress corrosion damage cracking. *Journal of Geophysical Research*, 115(B03409).
- Farinotti, D., Magnusson, J., Huss, M., and Bauder, A. (2010). Snow accumulation distribution inferred from time-lapse photogrammetry and simple modelling. *Hydrological Processes*, 24:2087–2097.
- Gilbert, A., Wagnon, P., Vincent, C., Ginot, P., and Funk, M. (2010). Atmospheric warming at a high-elevation tropical site revealed by englacial temperatures at Illimani, Bolivia (6340 m above sea level, 16°S, 67°W). *Journal of Geophysical Research*, 115(D10109). doi:10.1029/2009JD012961.
- Huss, M., Hock, R., Bauder, A., and Funk, M. (2010a). 100-year glacier mass changes in the Swiss Alps linked to the Atlantic Multidecadal Oscillation. *Geophysical Research Letters*, 36(L23501). doi:10.1029/2009GL040789.
- Huss, M., Jouvett, G., Farinotti, D., and Bauder, A. (2010b). Future high-mountain hydrology: a new parameterization of glacier retreat. *Hydrol. Earth Syst. Sci.*, 14:815–829. doi:10.5194/hess-14-815-2010.
- Huss, M., Usselman, S., Farinotti, D., and Bauder, A. (2010c). Glacier mass balance in the south-eastern Swiss Alps since 1900 and perspectives for the future. *Erdkunde*, 64(2):119–140.
- Leysinger, G. and Gudmundsson, H. (2010). A numerical study of glacier advance over deforming till. *The Cryosphere*, 4:359–372.
- Lüthi, M. and Bauder, A. (2010). Analysis of Alpine glacier length change records with a macroscopic glacier model. *Geographica Helvetica*, 65(2):92–102.
- Lüthi, M. P. (2010). Greenland’s glacial basics. *Nature*, 468:776–777.
- Lüthi, M. P., Bauder, A., and Funk, M. (2010). Glacier volume change reconstruction from length change data of the Swiss Alps. *Journal of Geophysical Research; Earth Surface Processes*, 115(F04022).
- Pellicciotti, F., Bauder, A., and Parola, M. (2010). Effect of glaciers on streamflow trends in the Swiss Alps. *Water Resources Research*, 46:W10522.

- Riesen, P., Hutter, K., and Funk, M. (2010a). A viscoelastic rivlin-ericksen material model applicable to glacier ice. *Nonlinear Processes in Geophysics*, 17(6):673–684.
- Riesen, P., Sugiyama, S., and Funk, M. (2010b). The influence of the presence and drainage of an ice-marginal lake on the ice flow of Gornergletscher, Switzerland. *Journal of Glaciology*, 56(196):278–286. doi:10.3189/002214310791968575.
- Roux, P., Walter, F., Riesen, P., Sugiyama, S., and Funk, M. (2010). Observation of surface seismic activity changes of an Alpine glacier during a glacier-dammed lake outburst. *Journal of Geophysical Research*, 115(F03014). doi:10.1029/2009JF001535.
- Sugiyama, S., Bauder, A., Riesen, P., and Funk, M. (2010). Surface ice motion deviating toward the margins during speed-up events at Gornergletscher, Switzerland. *Journal of Geophysical Research*, 115(F03010). doi:10.1029/2009JF001509.
- Walter, F., Dreger, D., Clinton, J., Deichmann, N., , and Funk, M. (2010). Evidence for Near-Horizontal Tensile Faulting at the Base of Gornergletscher, a Swiss Alpine Glacier. *Bulletin of the Seismological Society of America*, 100(2):458–472.
- Werder, M., Schuler, T., and Funk, M. (2010a). Short term variations of tracer transit speed on alpine glaciers. *The Cryosphere*, 4:381–396.
- Werder, M. A., Bauder, A., Funk, M., and Keusen, H. R. (2010b). Hazard assessment investigations in connection with the formation of a lake on the tongue of the Unterer Grindelwaldgletscher, Bernese Alps, Switzerland. *Natural Hazards and Earth System Sciences*, 10(2):227–237.