

Metadata Report

Project Name: Survey of Valley Rockwalls, Lauterbrunnen Valley, Bernese Oberland, Switzerland, April 2012

Summary: This dataset contains 3D point clouds (raw data) from TLS measurement of valley walls and talus deposits beneath them in the Lauterbrunnen Valley, Switzerland. The point clouds of valley walls were collected as part of an ongoing monitoring study of the valley walls since 2012. The data files included here are those that have been used for talus volume calculations which were used for calculating the long-term (~11 ka) wall retreat rate (Mohadjer et al., in review in Geology*).

Personnel

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- Field staff: Daniel Brehm & Gabriel Merli
- Additional team members

Site Information

- Site description: The Lauterbrunnen Valley is a deglaciated valley with near vertical walls that are almost devoid of vegetation.
- Site objective: The walls and talus slopes were scanned for estimating long-term (~11 ka) wall retreat rates.
- Site location (GPS cords and/or map): The scans have been taken from different positions (E5, E6, E7, W4, W5, W6 and W7). These positions are marked on the map shown in page 3 of this document.
- Site conditions:
- Date/time spent at each site: April 1-2, 2012

Survey Results

- Equipment used: Optech ILRIS-LR
- GPS solutions
- Errors
- Alignments
- Collection methods: See Strunden et al. (2015)**

Products

- Date of dataset collection: April 1-2, 2012
- Coordinate system of datasets: CH1903 LV03, EPSG: 21781
- Spatial resolution
- Horizontal Accuracy
- Vertical Accuracy
- Data formats: Raw data was converted to PTX using Optech Parser and saved as LAS in CloudCompare.
- Data processing methods: No processing (raw data)

Misc Notes

*Mohadjer, S., Ehlers, T.A., Nettesheim, M., Ott, M.B., Glotzbach, C., and Drews, R. (*in revision*). Temporal variations in rockfall and rockwall retreat rates in a deglaciated valley over the last 11 ka. *Geology*.

**Strunden, J., Ehlers, T.A., Brehm, D. and Nettesheim, M., 2015. Spatial and temporal variations in rockfall determined from TLS measurements in a deglaciated valley, Switzerland. *Journal of Geophysical Research: Earth Surface*, 120(7), pp.1251-1273.



Figure 1 –Topographic map of the Lauterbrunnen Valley including the scan positions and look direction. Labels “E” and “W” indicate on which side of the valley the LiDAR scanner was positioned to collect point cloud data from the opposite side of the valley. Figure from Strunden et al. (2015).