

Rock glaciers, Entremont, Valais, Switzerland, Version 1

USER GUIDE

How to Cite These Data

As a condition of using these data, you must include a citation:

Delaloye, R, E. Reynard, and L.Wenker 1998. *Rock glaciers, Entremont, Valais, Switzerland, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NSIDC: National Snow and Ice Data Center. <https://doi.org/10.7265/4mxc-ja51>. [Date Accessed].

FOR QUESTIONS ABOUT THESE DATA, CONTACT NSIDC@NSIDC.ORG

FOR CURRENT INFORMATION, VISIT <https://nsidc.org/data/GGD290>



National Snow and Ice Data Center

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Notice: This data set was first published on the [1998 CAPS CD](#).

The text for this document was taken unchanged from that CD.

1 DATA DESCRIPTION

1.1 Coverage of Dataset

1.1.1 Study Location

Central/Western Alps, Valais, Switzerland

1.1.2 Geographic Location

Northwestern latitude : 46- 05' N

Northwestern longitude : 7- 05' E

Southeastern latitude: 45- 51' N

Southeastern longitude: 7- 19' E

1.1.3 Period of Investigation

Inventory of rock glaciers 1995

Geophysics 1995 - 1997

1.2 Summary Description

The Entremont area is 300 square-km wide and located in the western part of the Swiss Alps between the Mont-Blanc Massif and the Valaisian Alps, slightly north of the main crest of the alpine range. Altitude varies between 4313 m above sea level (a.s.l.) at the top of the Grand-Combin and 714 m a.s.l. for the outlet of the valleys system. The geological composition is essentially dominated by metamorphic rocks (gneiss, shale, quartzite), however some sedimentary layers (limestone, dolomite) are inserted.

The mean annual air temperature is about 0°C at 2300 m a.s.l. and annual precipitation ranges between 1000 and 1500 mm at 2000 m a.s.l. with a maximum value of about 2000 mm on the alpine crest (Grand-St-Bernard pass). Equilibrium line of glaciers is over 3000 m a.s.l. in the north-facing slopes, the timberline is at about 2100 m a.s.l. and permafrost creeping features exist between 2000 and 3000 m a.s.l., what results in a great variety of mountain and morphological landscapes.

Aerial photographs analyses and field morphological observations have been performed during summer 1995 in order to inventory and map (1:25000) 321 well-developed to embryonic rock

glaciers and protalus lobes (coexisting features have been separated) of total area 10.4 sq. km. Rock glacier activity classification results from interpretation of both geomorphological and environmental signs. Some geophysics (BTS measurements and DC resistivity soundings) have been performed between 1995 and 1997 on a few rock glaciers in order to confirm the initial interpretation.

Are described in this file:

1. Location (X, Y): Swiss coordinates near the center of the feature.
2. Front elevation (Z): Elevation (m a.s.l.) at the foot of the front (accuracy: 10 m).
3. Length: Maximal distance (m) between front and roots (accuracy: 10 - 20%).
4. Width: Mean width (m) of the feature (accuracy: 10%).
5. Orientation: Global exposition of the rock glacier.
6. Activity: Interpretation by field indicators observation, only in a few cases by geophysics.
7. Surface (ha): Calculated by 1:25'000 numerical mapping (accuracy: 5 - 10%).
8. Origin: Talus or moraine (debris) derived rock glacier

1.3 Current Storage of Data

Hardware : Diskette
Paper
Software : GIS - System

1.4 Datacenter

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These data are not at risk of being lost.

2 CONTACTS AND ACKNOWLEDGMENTS

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3 REFERENCES AND RELATED PUBLICATIONS

Delaloye, R. and Morand, S. (1997a). Du Val Ferret au Grand-Combin (Alpes Valaisannes): Inventaire des glaciers rocheux et analyse spatiale numerique du pergélisol a l'aide d'un Systeme d'Information Geographique (IDRISI). - Trav. Diplome, Inst. de Geographie, Univ. Fribourg, Suisse, 115 p. + Annexes (in french, not published).

Delaloye, R. and Morand, S. (1997b). Du Val Ferret au Grand-Combin (Alpes Valaisannes): Inventaire des glaciers rocheux et analyse spatiale numerique du pergélisol a l'aide d'un Systeme d'Information Geographique (IDRISI). - Aktuelle Beitrage laufender Projekte zum Thema Permafrost, Arbeitsheft Nr. 19, Versuchsanstalt fuer Wasserbau, Hydrologie und Glaziologie der Eidg. Technischen Hochschule Zuerich, Ed. D. Vonder Muehll, pp. 34-35 (in french).

Delaloye, R. and Morand, S. (1998). Les glaciers rocheux de la region d'Entremont (Alpes Valaisannes): Inventaire et analyse spatiale a l'aide d'un SIG. - Beiträge aus der Gebirgs-Geomorphologie. Mitteilungen der Versuchsanstalt für Wasserbau, Hydrologie und Glaziologie (VAW) ETH-Zürich 158, 75-86 (in French, with abstract in English).

4 DOCUMENT INFORMATION

4.1 Publication Date

1998

4.2 Date Last Updated

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