

Rock glaciers, Austria, Version 1

USER GUIDE

How to Cite These Data

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

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NSIDC: National Snow and Ice Data Center. <https://doi.org/10.7265/txhq-nd10>. [Date Accessed].

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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

Austrian part of the Eastern Alps, East of approximately 12E

1.1.1 Geographic extent

(Based on Gauss/Krueger-x,y,z-System, where "x0" is defined by meridian M31 (31e Ferro = 1320' 00" e Greenwich) and "y0" is defined by the Equator. Distances are measured in meters from the central meridian (Rechtswert; + = e or - = w) respective in meters from the Equator (Hochwert; + = n). Because of easier handling the real value of Hochwert is reduced by 5000000 meters).

Xmin: -94500m (w M31); Xmax: 16500m (e M31) Ymin: (5)195800m (n Eq.); Ymax: (5)234150m (n Eq.)

1.1.2 Period of investigation

The inventory was derived from aerial photographs (different years, most of them 1980-1990) and does not include measurements on dynamics of rock glacier permafrost.

1.2 Summary description

The Austrian Alps are part of the Eastern Alps which consist of three main mountain ranges. The Northern Alps as well as the Southern Alps are predominantly built of limestone and have poor glaciation in spite of high amounts of precipitation (2000-3000 mm/a) due to the fact that they reach elevations of not more than 3000 m. In contrast the Central Alps consist of metamorphic rocks and receive less precipitation, but are glaciated on large areas (highest mountain of Austria: Groglockner, 3797 m). Recent permafrost and rock glaciers are best developed in the Central Alps, where discontinuous mountain permafrost occurs above a mean altitude of 2500 m. Rock glaciers were mapped from aerial photographs completely covering the area described above. The inventory comprises 1451 rock glaciers with data on their horizontal and vertical position, activity, and morphometric characteristics of each rock glacier. The distinction between active and inactive rock glaciers within the activity class "intact" was not possible due to the quality of the photographs. Only 19 % of the rock glaciers were classified as intact, while 81 % are relict ones and in most

cases of Late Glacial age (great part of the investigated area situated below present day lower limit of permafrost). In detail the inventory contains information of the following parameters:

1: River basin 2: Number of rock glacier according to river basins 3: Topographic name out of the official map 1:50.000 4: Mountain group 5: Number of official map 1:50.000 6: Number of official aerial photograph map 7: Exposure (8 classes) 8: Lower limit of rock glacier (m above sea level) 9: Maximum length (m, in estimated flow direction) 10: Maximum width (m) 11: Activity (2 classes: intact, relict=fossile) 12: Highest point of the catchment area of the rock glacier (m above sea level) 13: Difference between 12 and 8 (m)

Current storage: paper/database/spreadsheet/GIS

Datacenter: Institute of Geography KFUNI Graz Heinrichstrae 36 A-8010 Graz

Risk of being lost: Yes

2 CONTACTS AND ACKNOWLEDGMENTS

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3 REFERENCES

Lieb, G.K. (1991). The horizontal and vertical distribution of rock glaciers in the Hohe Tauern Range (Austria). - Z. Geomorph. N.F. 35/3, 345-365 (in German).

Lieb, G.K. (1996). Permafrost and rock glaciers in the Eastern Austrian Alps. - In: Contributions to permafrost research in Austria. Arbeiten aus dem Institut fr Geographie der Universitaet Graz 33, 9-125 (in German).

Keywords: 1. Eastern Alps 2. Austria 3. Inventory of rock glaciers

4 DOCUMENT INFORMATION

4.1 Please cite these data as follows:

Leib, G.K. 1998. Rock glaciers, Austria. In: International Permafrost Association, Data and Information Working Group, comp. Circumpolar Active-Layer Permafrost System (CAPS), version 1.0. CD-ROM available from National Snow and Ice Data Center, nsidc@kryos.colorado.edu.

Boulder, Colorado: NSIDC, University of Colorado at Boulder.

4.2 Publication Date

January 1998

4.3 Date Last Updated

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