

Rock glaciers, Zailiysiky Range, Kungei Ranges, Tienshan, Kazakhstan, Version 1

USER GUIDE

How to Cite These Data

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

Gorbunov, A., E. Seversky, S. Titkov, S. Marchenko, and M. Popov 1998. *Rock glaciers, Zailiysiky Range, Kungei Ranges, Tienshan, Kazakhstan, Version 1*. [Indicate subset used]. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center.
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National Snow and Ice Data Center

TABLE OF CONTENTS

1	DETAILED DATA DESCRIPTION.....	2
1.1	Coverage of data set.....	2
1.1.1	Study location	2
1.1.2	Geographic extent - Describe the corners of the box representing data coverage:	2
1.1.3	Period of investigation - Years covered	2
1.2	Current storage of data - Mark with X as many as are appropriate.....	3
1.3	Datacenter	3
2	REFERENCES AND RELATED PUBLICATIONS.....	3
3	CONTACTS AND ACKNOWLEDGMENTS	4
4	DOCUMENT INFORMATION.....	4
4.1	Keywords.....	4
4.2	Publication Date	5
4.3	Date Last Updated.....	5

Notice: This data set was first published on the 1998 CAPS CD.
The text for this document was taken unchanged from that CD.

1 DETAILED DATA DESCRIPTION

1.1 Coverage of data set

1.1.1 Study location

Northern Tien Shan, Zailiyskiy Alatau Range.

1.1.2 Geographic extent - Describe the corners of the box representing data coverage:

Northwestern latitude: 43 15' N

Northwestern longitude: 76 00' E

Southeastern latitude: 42 55' N

Southeastern longitude: 77 5' E

1.1.3 Period of investigation - Years covered

Inventory of rock glaciers: 1979, 1988

Summary Description

The Zailiyskiy Alatau is the northernmost parallel latitudinal range of the Northern Tien Shan. The highest point of this range is the Talgar peak (4973 m a.s.l.). The central part of the range is strongly glaciated: 380 glaciers of total area about 510 sq. km occur here. There are 504 rock glaciers in the Zailiyskiy Alatau Range. Based on the morphological signs, 429 of this number, with a total area of 49.77 sq. km, are considered to be active. The most heavily studied rock glaciers are concentrated in the central part of the northern slope of the Zailiyskiy Alatau, in the basins of the Bolshaya (Big) and Malaya (Small) Almatinka rivers. The investigations of rock glaciers of the Northern Tien Shan started in 1923 by geodetic observations of the Russian glaciologist N.N.Palgov, near the front of the Gorodetsky rock glacier (Zailiyskiy Alatau). The observations were repeated in 1946, 1960, 1977 and 1994 (Gorbunov et al., 1994). Since 1975, the investigations of rock glaciers of the Northern Tien Shan have been carried out by the Kazakhstan Alpine Permafrost Laboratory.

In order to determine regularities in the distribution of rock glaciers, an inventory using aerial photographs and maps of 1:100000 scale was carried out (Gorbunov, 1979, Titkov, 1988). The following parameters of each rock glacier were measured:

1. Location (river basin, geographic extent).
2. Type (morainic/lobate).
3. Activity (active/inactive).
4. Size (length, width), m.
5. Square, sq. km.
6. Orientation.
7. Elevation of the source, m a.s.l.
8. Elevation of the front, m a.s.l.

1.2 Current storage of data - Mark with X as many as are appropriate

CD ROM

Paper X

Spreadsheet

Wordprocessor file(s)

Database X

1.3 Datacenter

Institute of Geocryology

Siberian Branch of Russian Academy of Sciences, Kazakhstan

Alpine Permafrost Laboratory

P.O. Box 138, 480091,

Almaty, Kazakhstan

Are your data at risk of being lost? Yes or No *** Yes ***

2 REFERENCES AND RELATED PUBLICATIONS

Gorbunov, A.P. (1979). Rock glaciers of the Zailiyskiy Alatau Range. In "Cryogenic Processes of Kazakhstan and Middle Asia". Institute of Geocryology, Yakutsk, p. 5-34 (in Russian).

Gorbunov, A.P., Seversky, E.V., Titkov, S.N. (1994). Geocryological research in the eastern part of the Northern Tien Shan. Annual report of Kazakhstan Alpine Permafrost Laboratory. Institute of Geocryology, Yakutsk, 29 p.p. (in Russian, not published).

Gorbunov, A.P. and Titkov, S.N. (1989). Rock Glaciers of the Central Asia Mountains. Institute of Geocryology, Yakutsk, 164 pp. (in Russian).

Gorbunov, A.P., Titkov, S.N. and Polyakov, V.G. (1992). Dynamics of rock glaciers of the Northern Tien Shan and the Djungar Alatau, Kazakhstan. Permafrost and Periglacial Processes. Vol. 3, p. 29-39.

Titkov, S.N. (1979). Movement of rock glaciers of the Zailiyskiy Alatau Range. In "Cryogenic Processes of Kazakhstan and Middle Asia". Institute of Geocryology, Yakutsk, p. 34-42 (in Russian)

Titkov, S.N. (1988). Rock glaciers and glaciation of the Central Asia Mountains. In Permafrost: Proceedings 5th International Conference, Vol. 1. Tapir Publishers, Trondheim, p. 259-262.

3 CONTACTS AND ACKNOWLEDGMENTS

Aldar P. Gorbunov

Eduard V. Seversky

Sergei N. Titkov

Sergei S. Marchenko

Mikhail V. Popov

4 DOCUMENT INFORMATION

4.1 Keywords

Keywords that describe the content of this data set:

1. Northern Tien Shan
2. Rock Glaciers
3. Surface Geodetic Survey
4. Photogrammetry
5. Rate movement of rock glaciers
6. Inventory of rock glaciers

4.2 Publication Date

1998

4.3 Date Last Updated

2021