

Persönliche Erinnerungen an Yellowknife 1998 (IPA 7th ICOP)



Gerhard Karl Lieb
Viktor Kaufmann

Mallnitz, 28.9.2023



Persönliche Erinnerungen an Yellowknife 1998 (IPA 7th ICOP)

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*Yellowknife / Viktor
Kaufmann am Ingraham Trail*

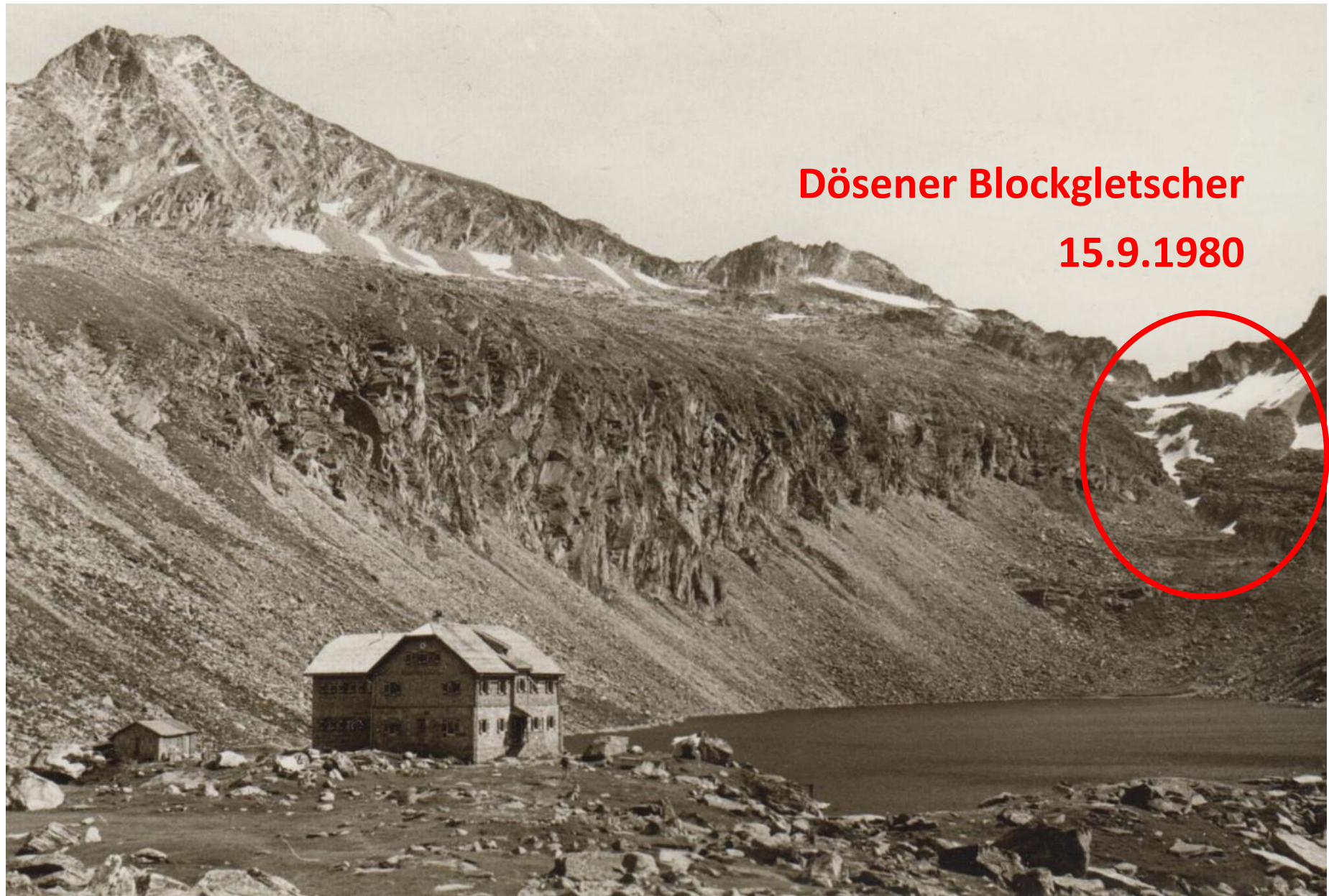
Von der Dösen nach Yellowknife

Wie alles begann: Liebs erste Besteigung des Säulecks (3086 m)



*Eintragung in Gerhard Liebs
Tourenbuch Nr. 6: 14./15.9.1980*

Von der Dösen nach Yellowknife

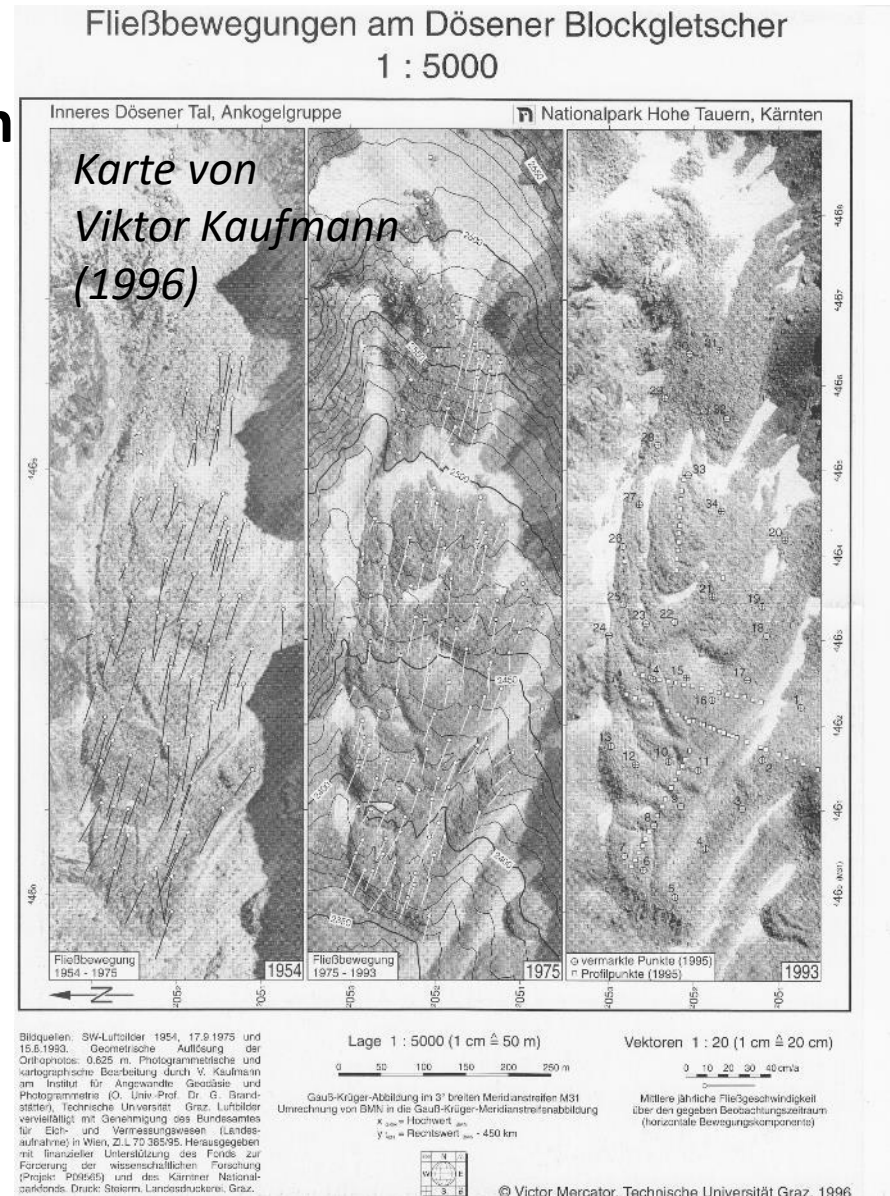


Dösender Blockgletscher

15.9.1980

Von der Dösen nach Yellowknife

Forschungsprojekt in der Dösen FWF „Hochgebirgspermafrost“ (1993–1995)



ICOP in Yellowknife

International Conference on Permafrost Yellowknife, 23.–27.6.1998

7th International Conference on Permafrost
23–27 June 1998, Yellowknife, N.W.T., Canada
Contact: J.A. Heginbottom, Geological Survey of Canada,
601 Booth Street, Ottawa, Ontario K1A 0E8, Canada
Tel: 1 613 992 7813; Fax: 1 613 992 2468;
permafrost.conference@gsc.nrcan.gc.ca



Kanadischer Archipel
Foto: V. Kaufmann

ICOP in Yellowknife

Lage von Yellowknife

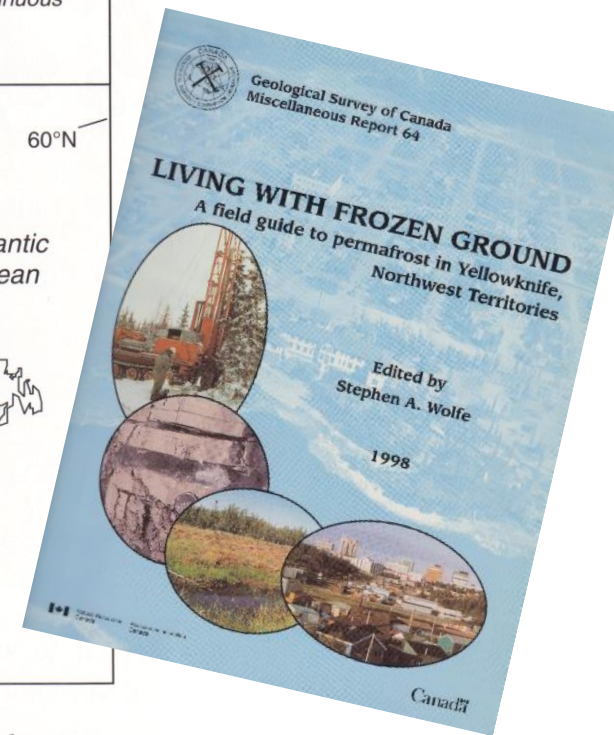
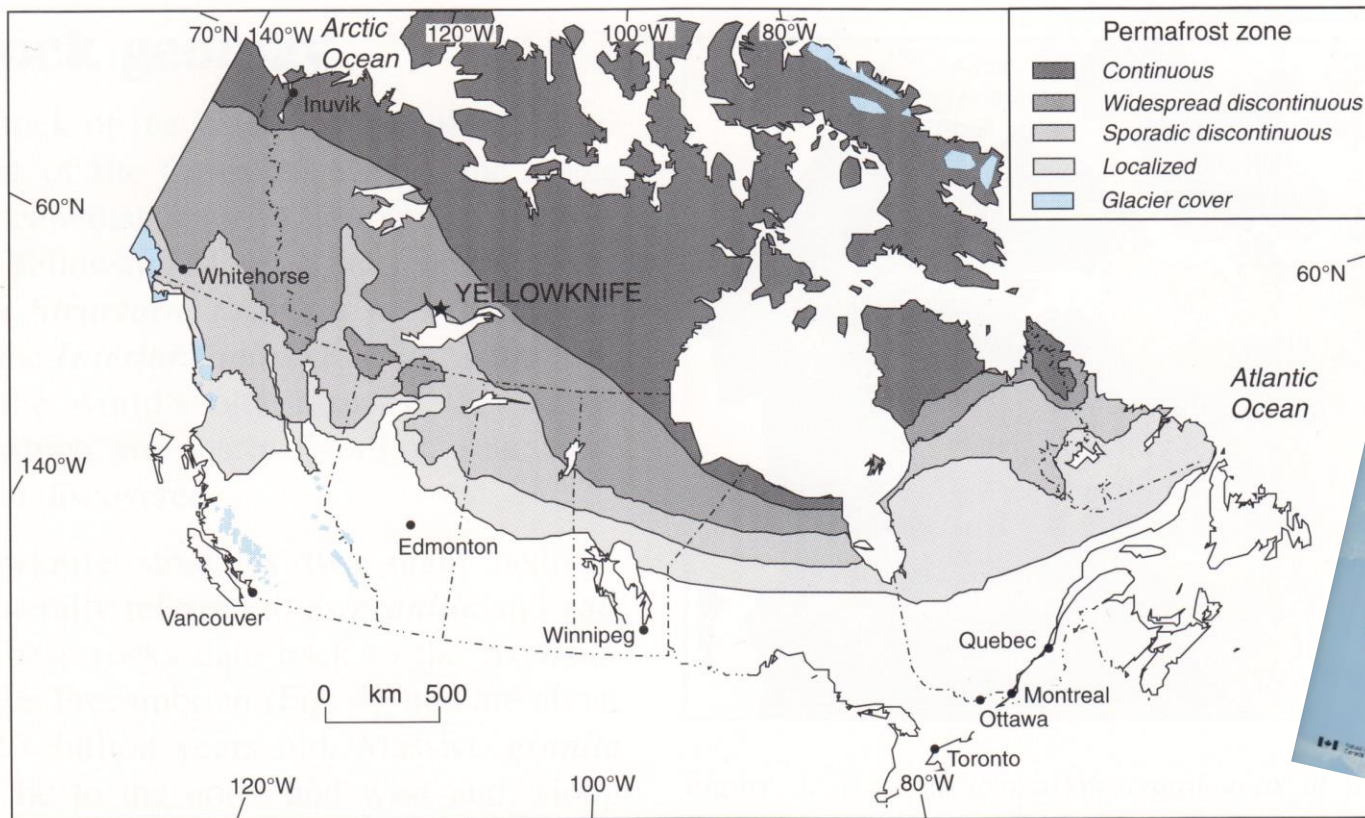
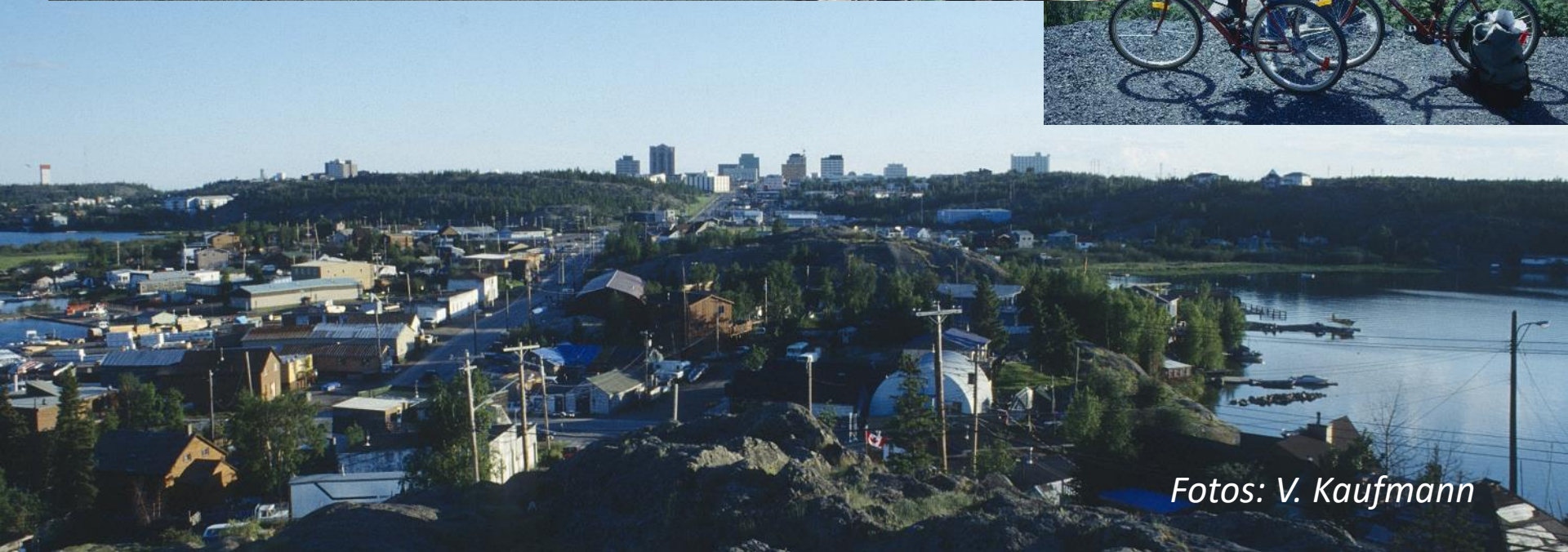


Figure 2. Distribution of permafrost in Canada (modified from Kettles et al., 1997, based on Heginbottom et al., 1995, and Zoltai, 1995). Yellowknife lies in the discontinuous permafrost zone, near the boundary between widespread and sporadic permafrost.

Wolfe (ed.) 1998

ICOP in Yellowknife

Impressionen aus Yellowknife



Fotos: V. Kaufmann

ICOP in Yellowknife

Die Konferenz

PERMAFROST - Seventh International Conference (Proceedings),
Yellowknife (Canada), Collection Nordicana No 55, 1998

HIGH-MOUNTAIN PERMAFROST IN THE AUSTRIAN ALPS (EUROPE)

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Abstract

Permafrost research in the Austrian Alps (Eastern Alps) is based on a variety of methods, including at large scales, the measurement of the temperature of springs and of the base of winter snow cover, and at small scales, mainly an inventory of some 1400 rock glaciers. Taking all the information available into consideration, the lower limit of discontinuous permafrost is situated near 200 m in most of the Austrian Alps. These results can be used for modelling the permafrost distribution within a geographical information system. Detailed investigations were carried out in the Doesen Valley (Hohe Tauern range) using additional methods, including several geophysical soundings. In this way, realistic estimates of certain permafrost characteristics and the volume of a large active rock glacier (some 1000 m³) were possible. This rock glacier has been chosen as a monitoring site to observe the effects of past and future climate change.

Introduction

Although mountain permafrost in the Aust has caused construction problems and damage at several high-altitude locations, specific studies of the distribution and certain characteristics of permafrost have been carried out at a sites. Earlier observations, especially surface measurements, had been performed on some glaciers since the time between the two world wars considering them to be permafrost features last few years, the status of knowledge has considerably, due to multidisciplinary research focussing on small- and large-scale permafrost. The following report outlines the main activities of the results, with special emphasis research methods used, the horizontal and vertical distribution of permafrost in the Austrian Alps (Figure 1), and a detailed study of a particular (Figure 2).

Methods of permafrost prospect

LARGE-SCALE INVESTIGATIONS

Almost all the methods for prospecting high mountain permafrost described by Kienast et al. (1998)

snow cover (GIS) and geophysical soundings, such as seismic, geoelectric, electromagnetic and ground-penetrating radar.

PERMAFROST - Seventh International Conference (Proceedings),
Yellowknife (Canada), Collection Nordicana No 55, 1998

DEFORMATION ANALYSIS OF THE DOESSEN ROCK GLACIER (AUSTRIA)

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Abstract

In the framework of a multidisciplinary research project on high mountain permafrost in the Austrian Alps, a comprehensive deformation analysis of the active Doesen rock glacier (Hohe Tauern range) was carried out using various geodetic and photogrammetric methods. In 1995 a monitoring program was established in order to obtain geomorphometric parameters of the Doesen rock glacier for the past, present and future. Precise geodetic measurements within an observation network are acquired on a regular basis applying classical and also navigation satellite-based methods. Aerial photographs (1954, 1969, 1975, 1983 and 1995) were photogrammetrically evaluated. The flow vectors reveal that the horizontal velocity observed in the center of the rock glacier has decreased from 29 cm a⁻¹ (1954-1975) to 17 cm a⁻¹ (1975-1995), whereas recent measurements (1995-1996) indicate a significant increase in flow velocity (29 cm a⁻¹). Furthermore, this analysis also includes an evaluation of volumetric changes of the Doesen rock glacier.

Introduction

In order to get a better understanding of the genesis and the dynamics of active rock glaciers, various direct and indirect observation methods can be applied. The modelling of the flow of rock glaciers depends on numerous time-variant and often interrelated variables, e.g., geomorphometric parameters, air temperature, precipitation, debris supply, internal structure, physical and chemical processes, etc. In this respect the repeated mapping of the surface of the rock glacier in a three-dimensional co-ordinate system is of great importance. Surface flow velocities, volumes and superficial principal strain rates and changes thereof in the course of time have to be determined with high precision to describe the kinematics of a rock glacier. Detailed information on photogrammetric and geodetic methods and results of practical work are given in Haeblerli (1985), Haeblerli and Schmid (1988), Barsch (1996), Käb (1996), and Zick (1996). Various authors, e.g., Whalley and Azizi (1994) and Barsch (1996), state that precise geometric measurements, especially long-term ones, are lacking.

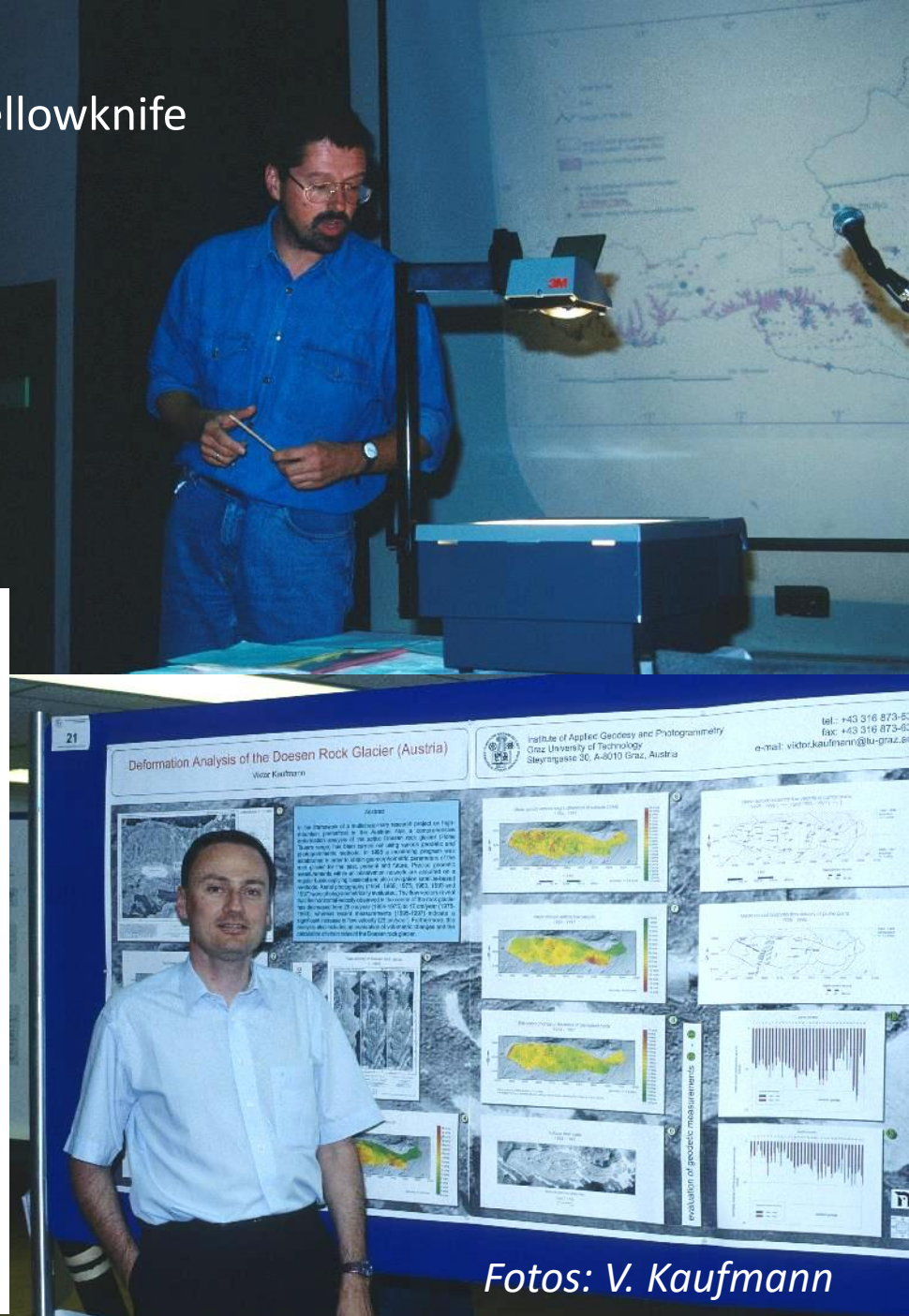
A review of past and ongoing rock glacier mapping and monitoring projects in Austria is given by Kaufmann (1996). The outer Hohebenkar rock glacier (Figure 1) has the longest record of continuous rheo-

process still remain to be answered. In 1995 a renewed terrestrial photogrammetric survey was carried out at this rock glacier. An evaluation is still pending (Kaufmann, 1996).



Figure 1. Location of main rock glacier study areas in the Austrian Alps.

In 1995, the Doesen rock glacier (Figure 1) was selected as a test site in the framework of a comprehensive study on permafrost in the Austrian Alps. The geographical location (inner Doesen Valley, Hohe Tauern range) and the main characteristics of the rock glacier have already been outlined by Lieb (1998, in this volume). An important issue of this study has been to set up a long-term monitoring program on the Doesen rock glacier based on photogrammetric and geodetic methods in order to derive time-series of precise surface flow



Fotos: V. Kaufmann

ICOP in Yellowknife

Aufnahme Österreichs in die IPA: Antragstellung durch die Schweizer Vertreter



D. VonderMühl

W. Haeberli

Foto: V. Kaufmann

ICOP in Yellowknife

Aufnahme Österreichs in die IPA

Einstimmigkeit bei der Abstimmung



Foto: V. Kaufmann

ICOP in Yellowknife

Aufnahme Österreichs in die IPA

Lieb darf in der Delegiertenrunde Platz nehmen



Foto: V. Kaufmann

ICOP in Yellowknife

Österreichs ist Mitglied der IPA

TWELFTH COUNCIL MEETING, 23 JUNE 1998

The meeting convened at 5:15 p.m.

1. WELCOME

President Cheng Guodong opened the meeting, with Vice Presidents Hugh French and Nikolai Romanovskii and Secretary General Jerry Brown present. Twenty Members were present; Marchenko from Kazakstan was temporarily absent and Germany acted as a proxy for Spain.

2. APPROVAL OF AGENDA

The agenda was approved as proposed.

3. STATUS OF PREVIOUS MINUTES

The minutes were reviewed and approved unanimously with no changes (moved by Hallet and seconded by King).

4. NEW MEMBERS

Daniel Vonder Mühll (Switzerland) made a motion nominating Austria for membership. Austria has three institutes actively involved in mountain research. The Austrian Geographical Society will be the Adhering Body, with H. Fischer (head of the Commission of Geomorphology) as the official representative. Information on the membership and national activities is to be provided by Gerhard Karl Lieb, Institute of Geography, University of Graz. Dramis seconded the nomination. The vote was unanimous. Gerhard Lieb represented Austria at the Council meeting as the twenty-third Adhering Body.



EXECUTIVE COMMITTEE

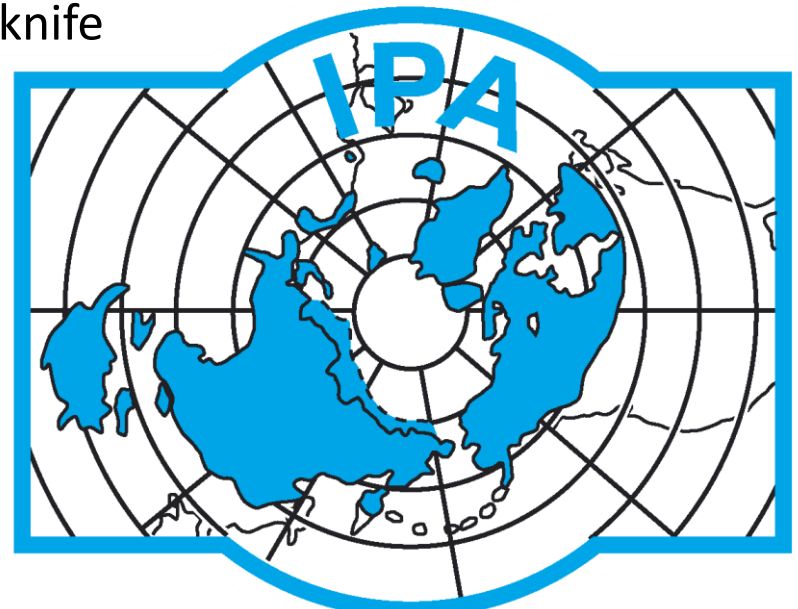
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Zurück in die Dösen

Die ÖGG als Trägergesellschaft von Österreichs Mitgliedschaft in der IPA



Österreichische Forschungsgruppe für
Geomorphologie und Umweltwandel
Teil der Österreichischen Geographischen Gesellschaft

Austrian Research Association on
Geomorphology and Environmental Change
Part of the Austrian Geographical Society

[START](#) | [ÜBER UNS](#) | [GEOMORPHOLOGIE](#) | [KONTAKT](#)



ÖSTERREICHISCHE GEOGRAPHISCHE GESELLSCHAFT

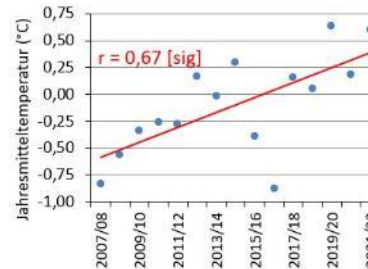
ÖGG



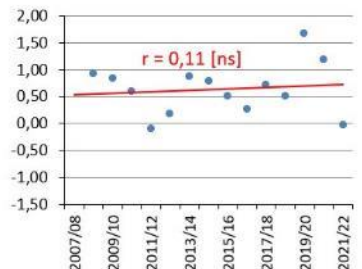
Zurück in die Dösen

Weiterführung der Forschungen in der Dösen ... z. B. Monitoring

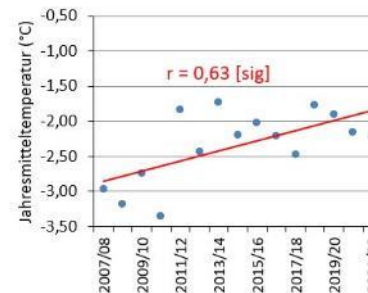
Hinteres Langtalkar (MTD 2693 m)



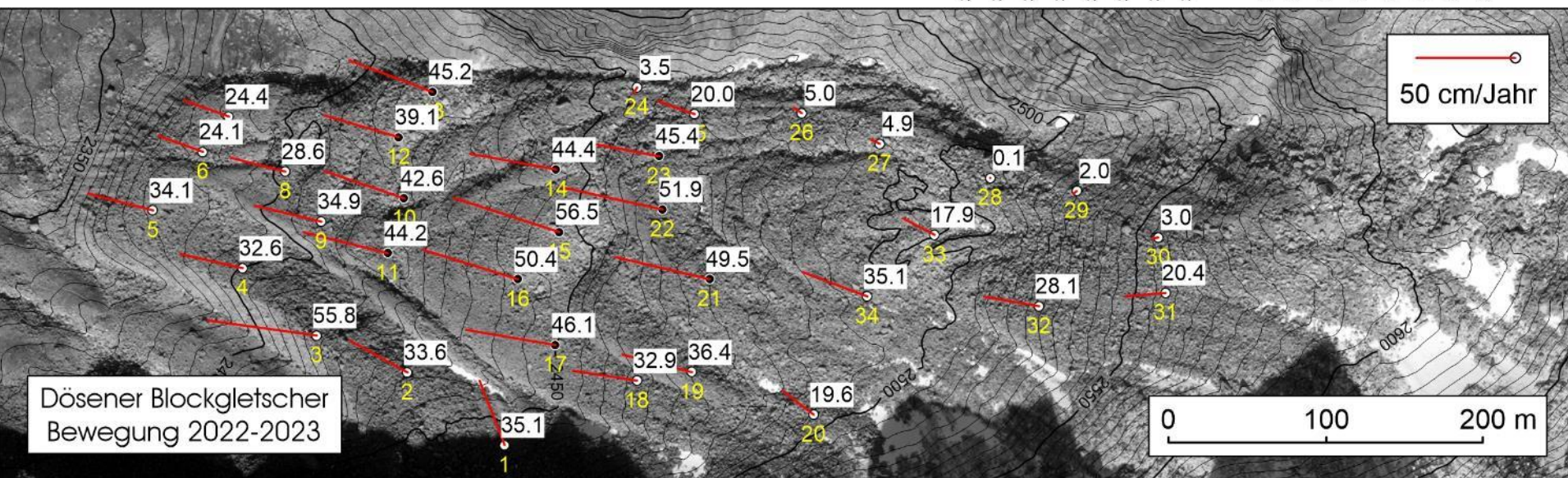
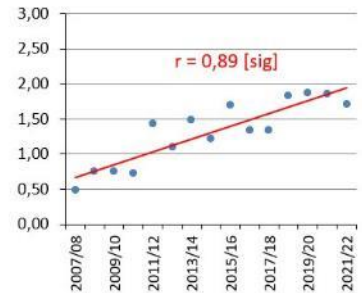
Fallbühl (MTD 2345 m)



Dösen (MTD 3002 m)

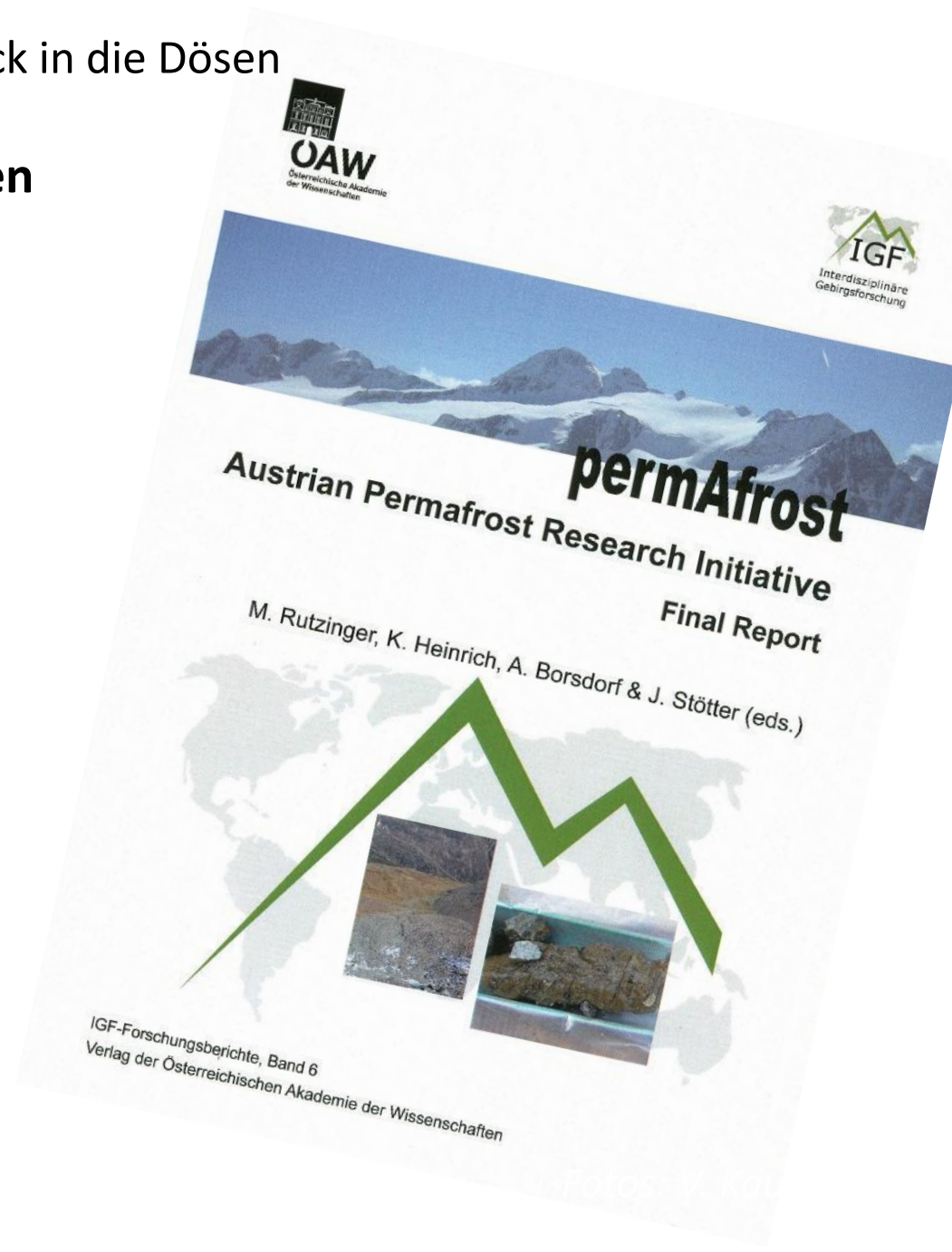
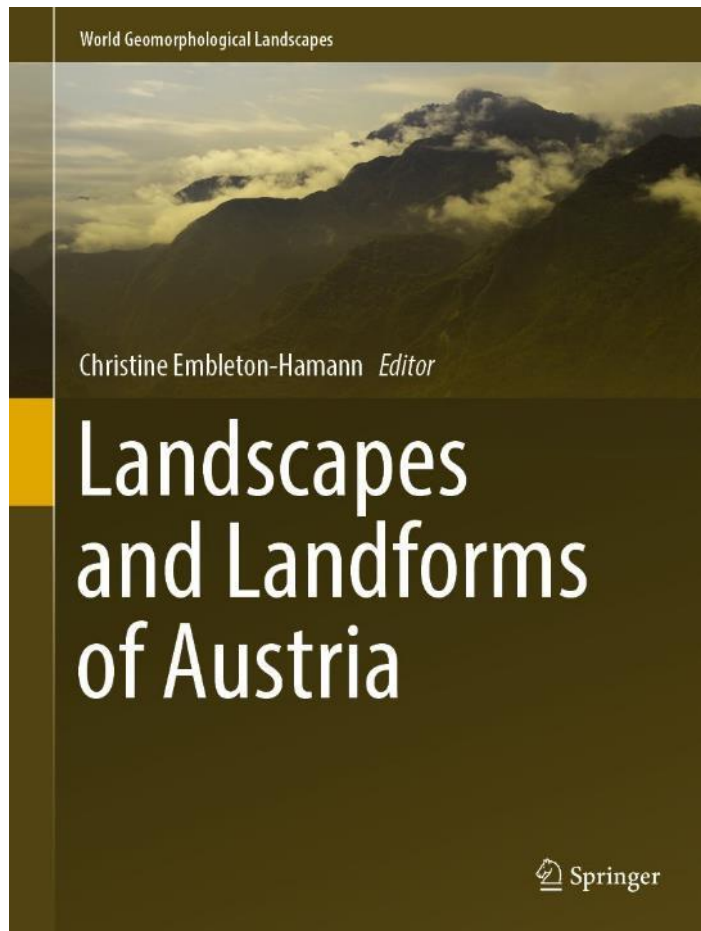


Pasterze (MTD 2628 m)



Zurück in die Dösen

Weiterführung der Forschungen ... und vielerorts in den österreichischen Alpen



Zurück in die Dösen

Einladung für morgen: Exkursion in die Dösen



Ar. v. Schmid-Haus gegen Döserer Blockgletscher und Säuleck

Persönliche Erinnerungen an Yellowknife 1998 (IPA 7th ICOP)



Danke für die Aufmerksamkeit!



Gerhard Karl Lieb
Viktor Kaufmann

Mallnitz, 28.9.2023

