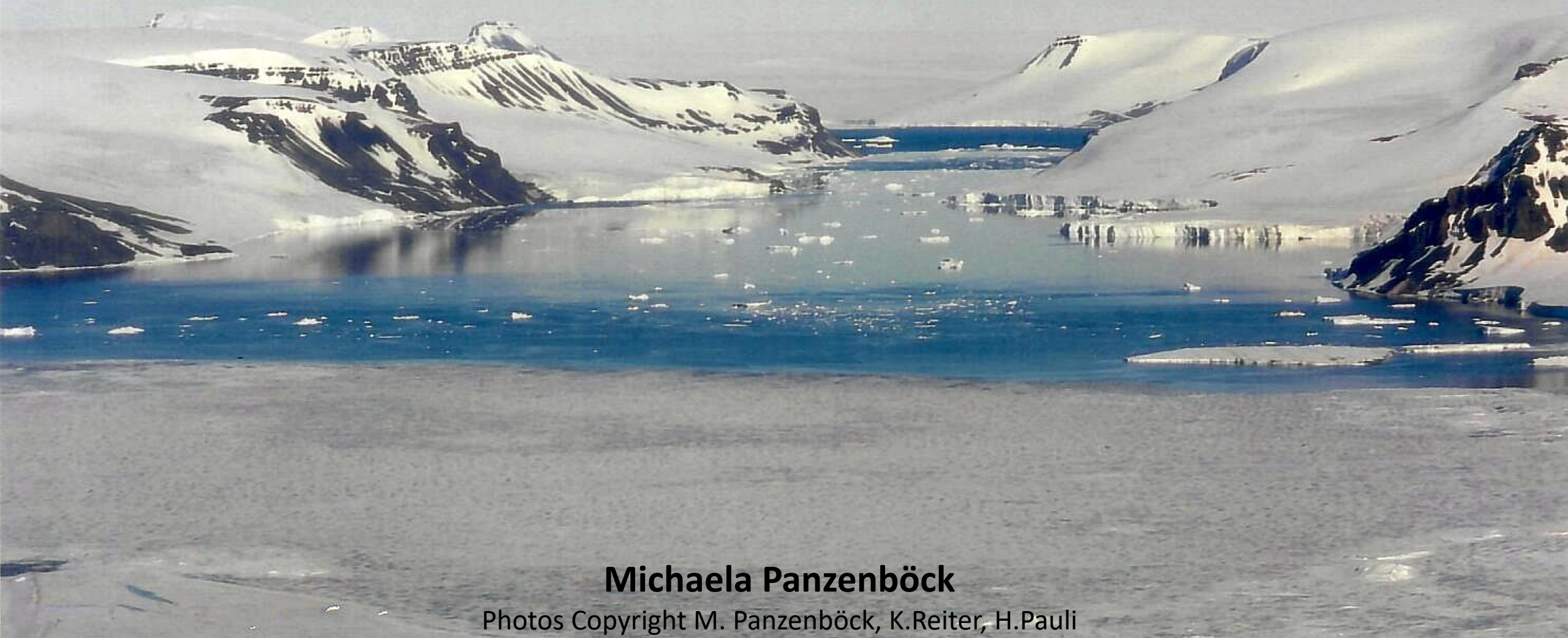


History of Austrian research on Franz Josef Land with focus on the 1990ies



Michaela Panzenböck

Photos Copyright M. Panzenböck, K.Reiter, H.Pauli



~ 5–10 % covered by vegetation in the high arctic („polar desert“)
- predominated by lichens (229 species) and mosses (102 species)

57 vascular plant species on Franz Josef Land



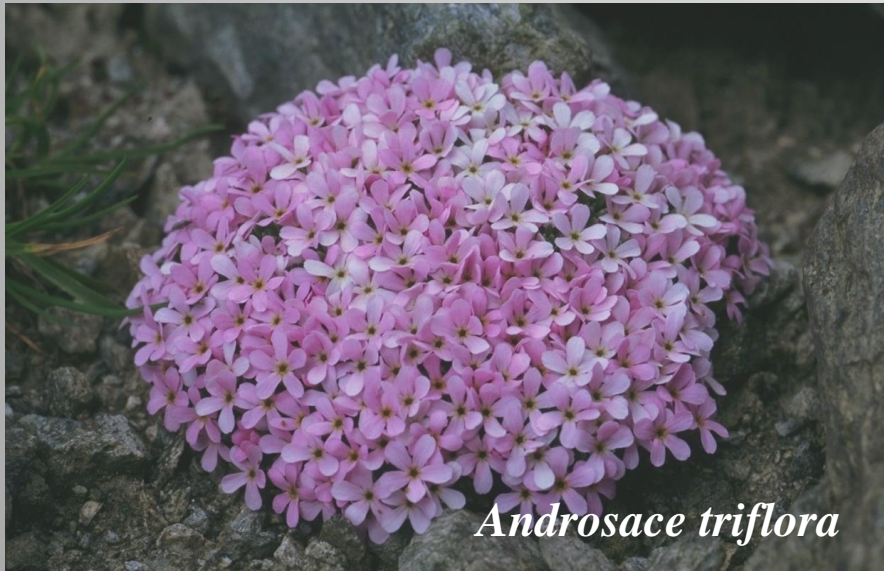
Draba subcapitata



Saxifraga oppositifolia



Potentilla hyparctica



Androsace triflora



Papaver polare



Poa arctica



Krabbentaucher
Grebe
(*Alle alle*)



Gryllteiste
Black guillemot
(*Cepphus grylle*)



Schmarotzerraubmöwen
Parasitic skuas
(*Stercorarius parasiticus*)



Dreizehenmöwe
Kittiwake
(*Rissa tridactyla*)


- **Franz Josef Land avifauna: 54 species**
- **Important role in nutrient cycling**
- **Influencing the vegetation near bird rocks**



Atlantic walrus


(*Odobenus rosmarus rosmarus*)





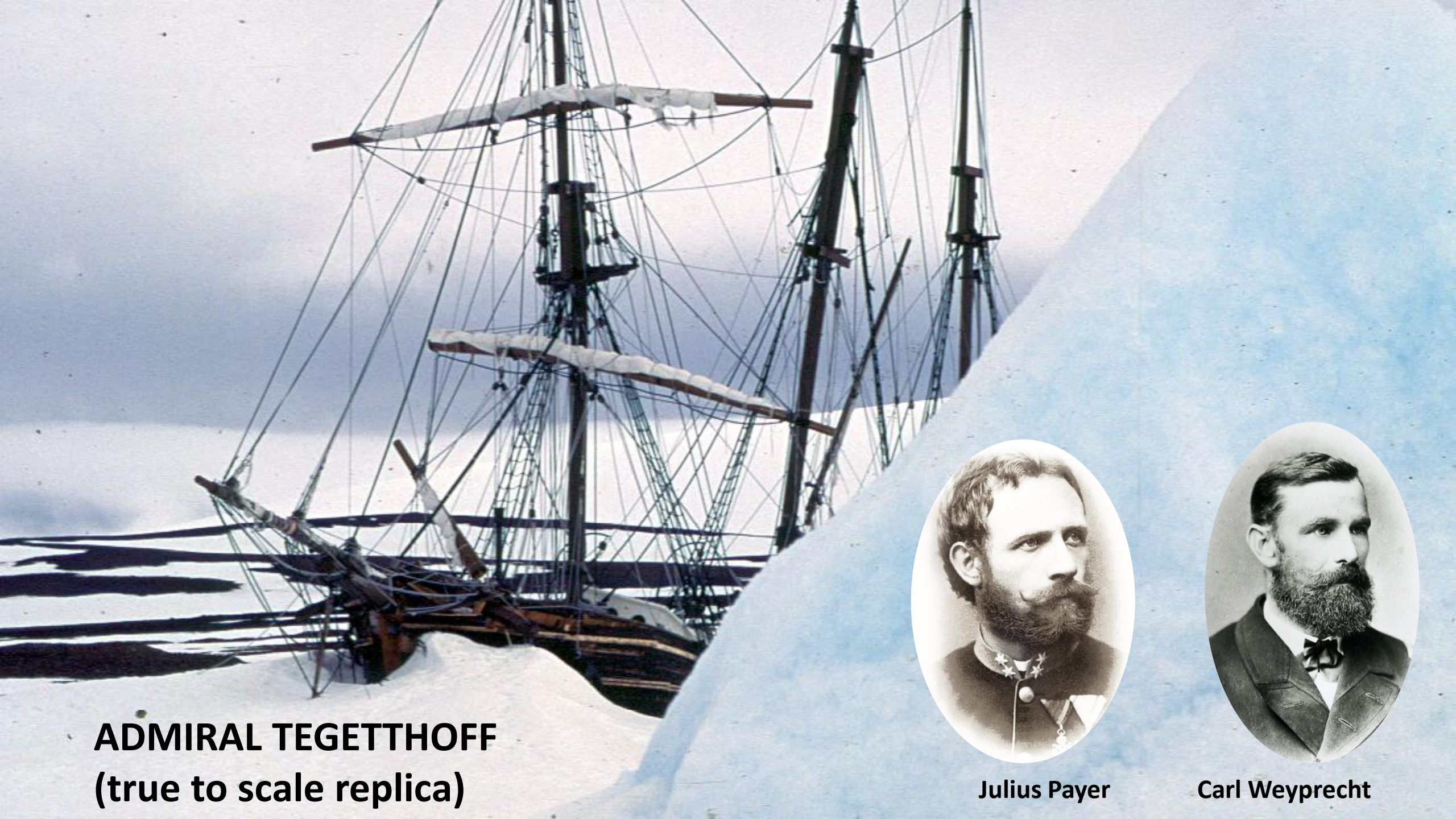
ORF
ARKTIS NORDOST

OneArcticOneWorld
Один Арктик один Мир



VCAAR AN SMG MSCO

ORF-project (four expeditions 1992 – 1994): Universum „Arktis Nordost“



**ADMIRAL TEGETTHOFF
(true to scale replica)**



Julius Payer



Carl Weyprecht

Initiator: Univ. Prof. Dr. W. Richter

1996 „Payer-Weyprecht-Gesellschaft –
Vereinigung zur Förderung der
österreichischen Polarforschung“



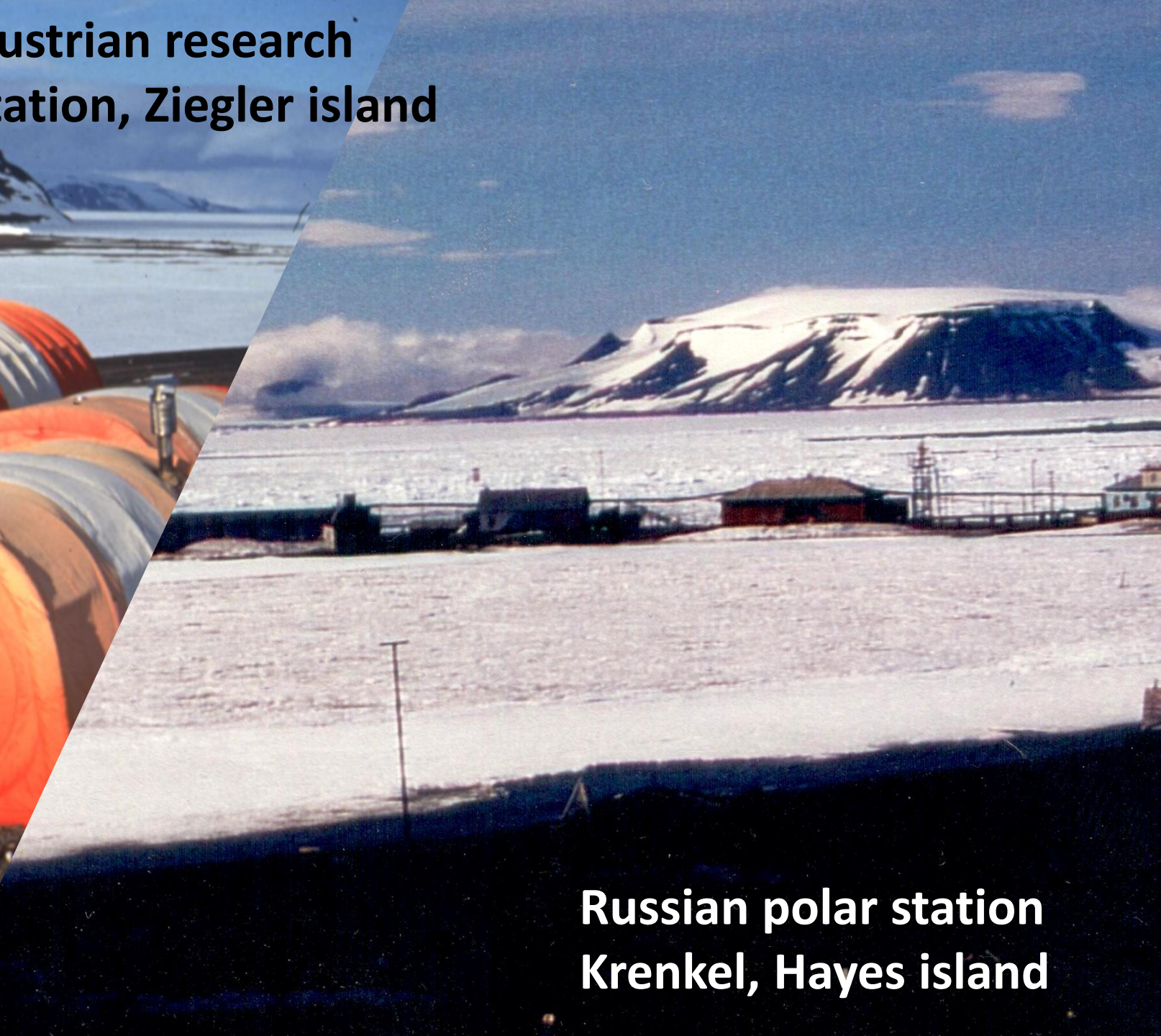




**Austrian research
station, Ziegler island**



**Russian polar station
Krenkel, Hayes island**





Eur. J. Mineral.
2003, 15, 649–663

Geochemical constraints on the origin of the Continental Flood Basalt magmatism in Franz Josef Land, Arctic Russia

THEODOR NTAFLS and WOLFRAM RICHTER

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Pumhösl, H. (1998): Petrographische und geochemische Untersuchungen an den Deckenbasalten der Insel Salisbury, Franz Joseph-Land, russische Arktis. University of Vienna, Master thesis, 120 p.

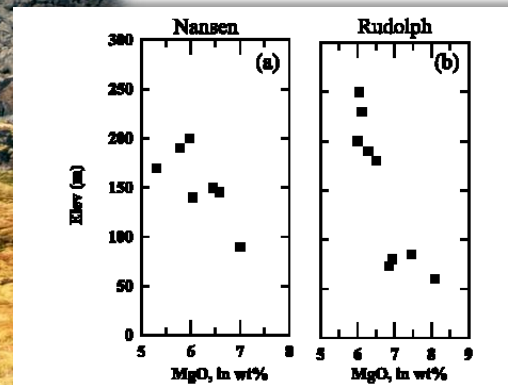
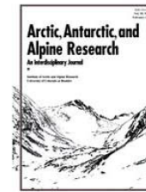


Fig. 6. Variations in MgO content of FJL lavas in selections a) from Nansen Island in the southern part of the archipelago and b) from Rudolph Island, the northernmost part of archipelago. There is a general tendency for lavas to become successively less magnesian up-succession.

- FJL basalts are probably common with the basalts of Kong Karls Land (Svalbard) and the basalts of Axel Heiberg Island (Canadian Arctic) associated with the opening of the Arctic Ocean
- Erupted magmas originated from an asthenospheric mantle plume showing no assimilation of continental crust



Ion Content of the Snowpack on Franz Josef Land, Russia

Ulrike Nickus

To cite this article: Ulrike Nickus (2003) Ion Content of the Snowpack on Franz Josef Land, Russia, Arctic, Antarctic, and Alpine Research, 35:3, 399-408, DOI: 10.1657/1523-0430(2003)035f0399:ICOTS012.0.CO;2

- Ion concentrations showed a high seasonal and local variability
- Sodium and chloride contributed up to 70% of the ion balance in the snow cover on FJL (contrasting to alpine snow predominated by nitrate and sulfate)

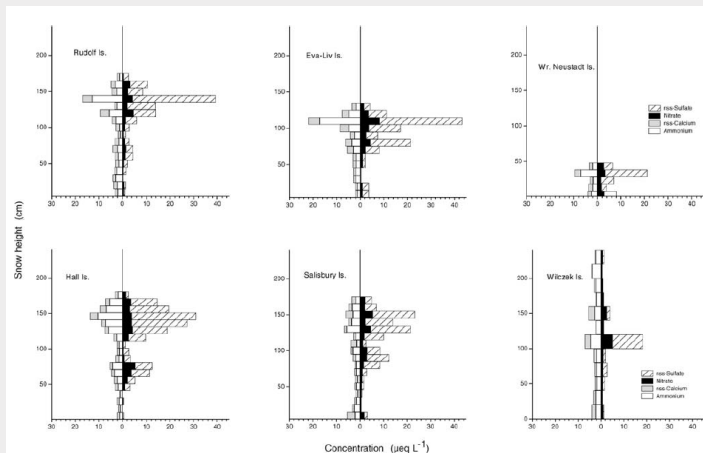
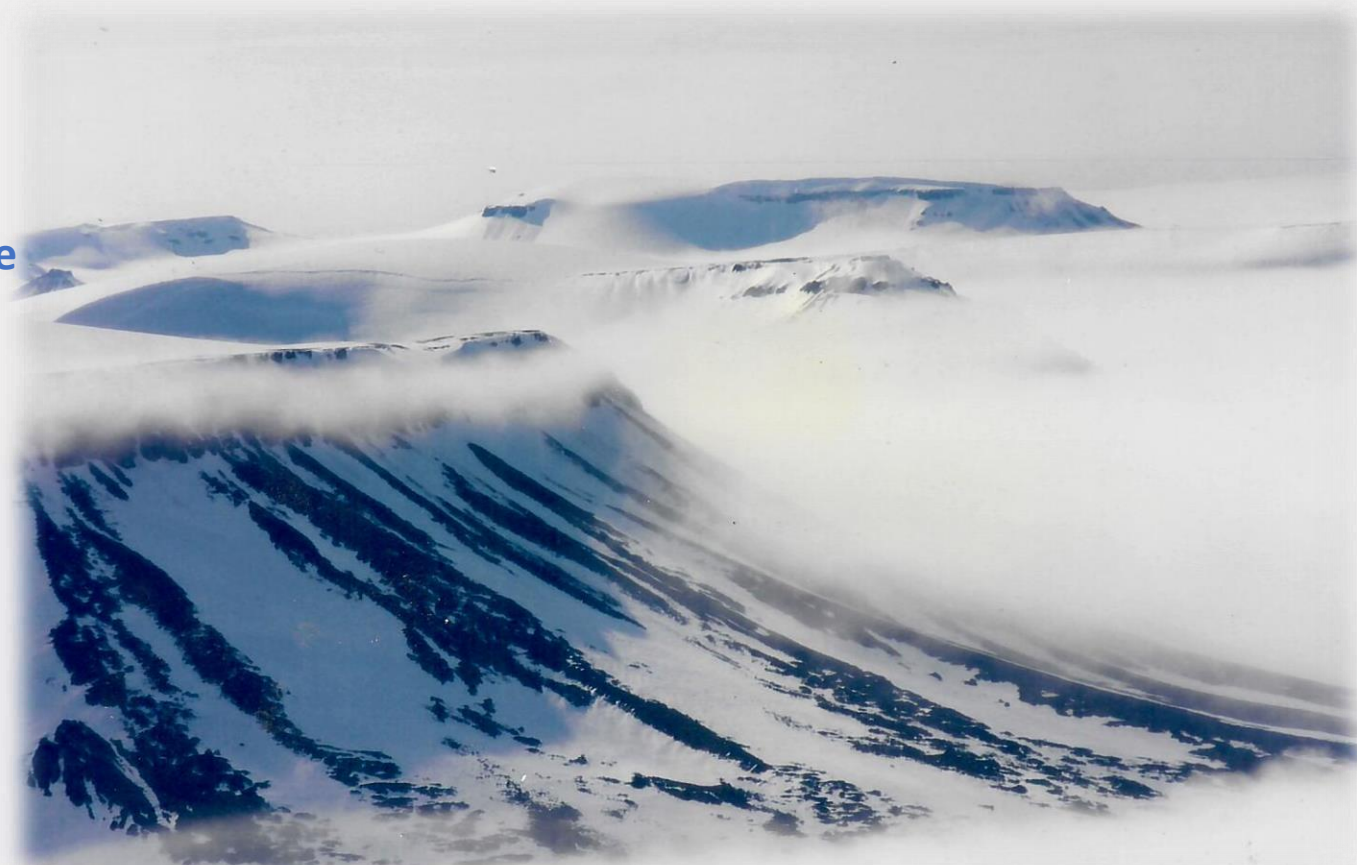


FIGURE 3. Vertical profiles of ion concentrations (nitrate, nss-sulfate, nss-calcium, ammonium) in the snow cover at six islands of Franz Josef Land, July 1995.

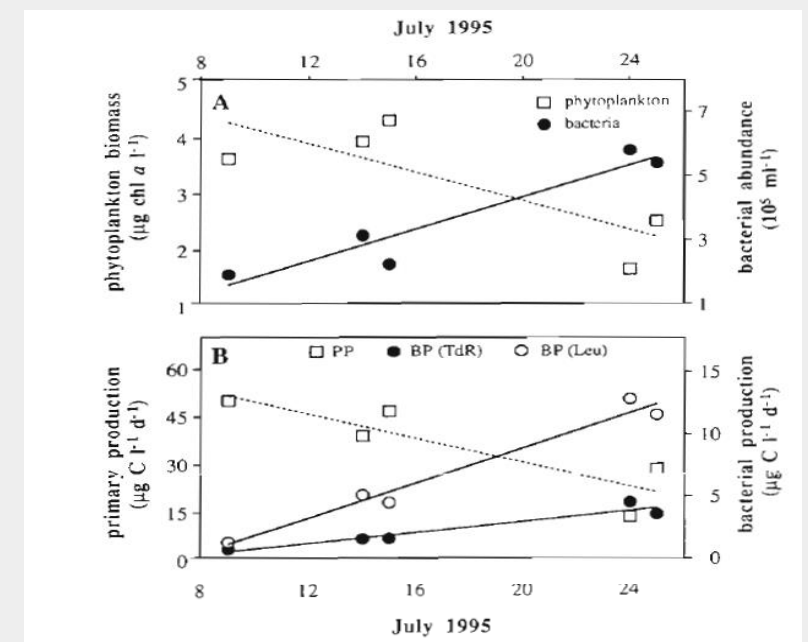


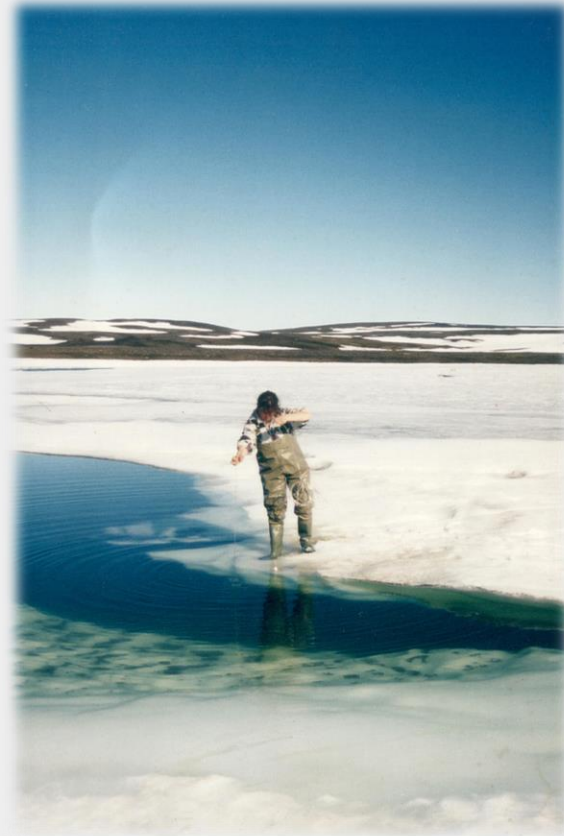
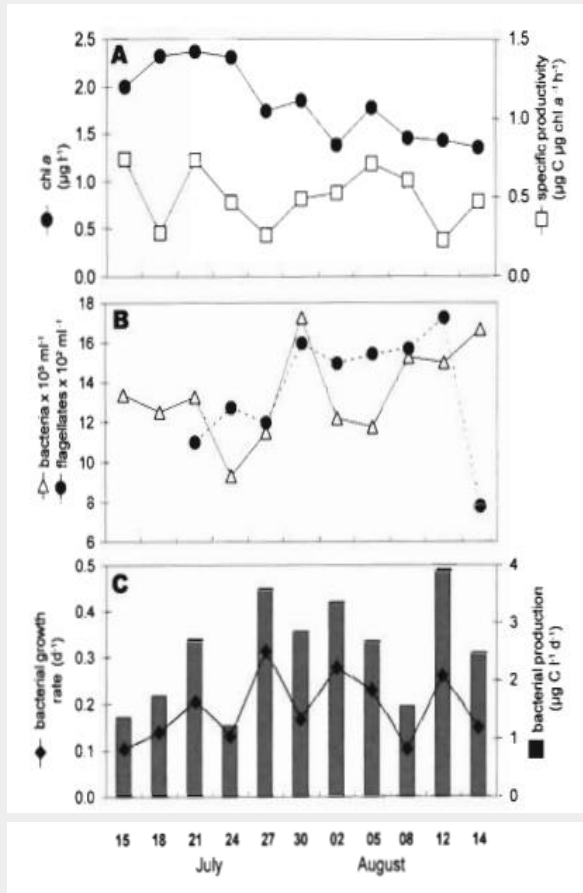
Dynamics of bacterioplankton during a phytoplankton bloom in the high Arctic waters of the Franz-Joseph Land archipelago

Gerald Müller-Niklas, Gerhard J. Herndl*

Department of Marine Biology, Institute of Zoology, University of Vienna, Althanstr. 14, A-1090 Vienna, Austria

- The ratio between autotrophs and heterotrophic bacteria of the nearshore systems of FJL changes within weeks from periods with high phytoplankton biomass and production to a net heterotrophic system during the summer season





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Dynamics of phyto- and bacterioplankton in a high Arctic lake on Franz Joseph Land archipelago

Michaela Panzenböck^{1,*}, Britta Möbes-Hansen¹, Roland Albert¹, Gerhard J. Herndl²

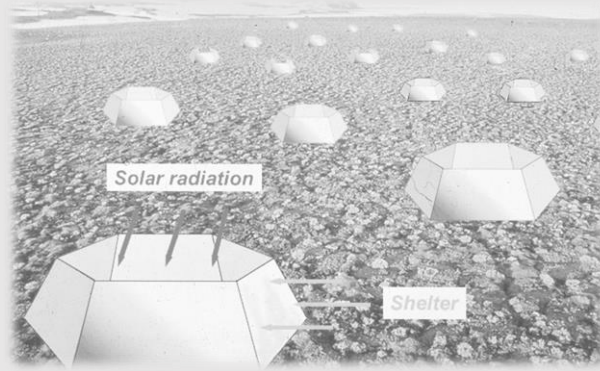
¹Institute of Ecology, Althanstr. 14, 1090 Vienna, Austria
²Dept of Biological Oceanography, Netherlands Institute for Sea Research (NIOZ), 1790 AB Den Burg, The Netherlands



- Investigation of a permanently ice-covered lake characterized by a very simple food web structure
- Quick response of bacterial production to temperature increase and phytoplankton exudate availability

Die Arktis als Feldlabor zur Beobachtung des Klimawandels

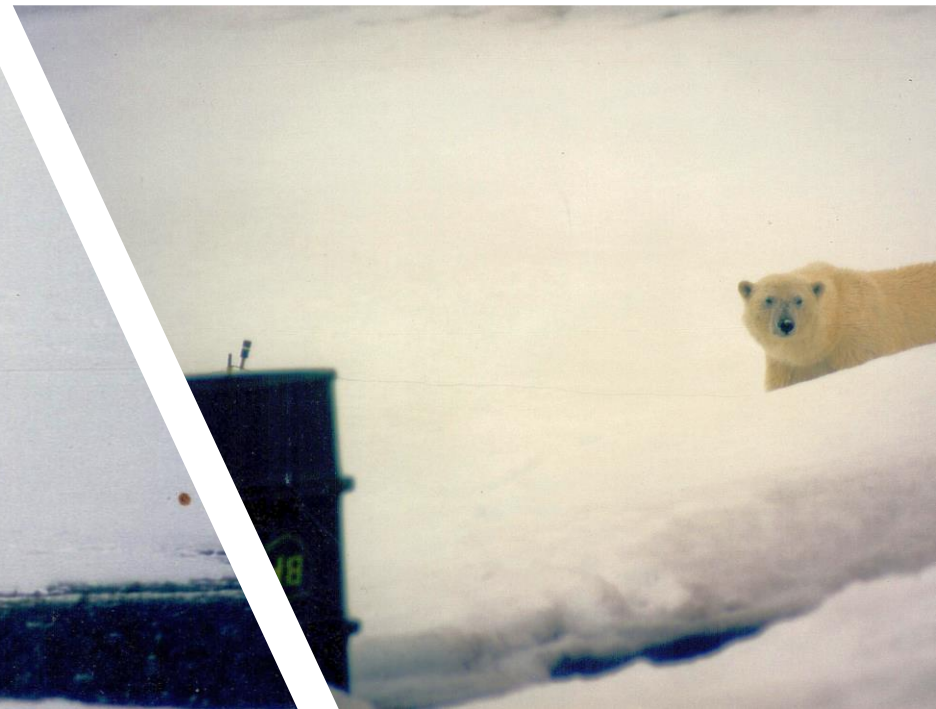
Karl REITER, Michael GOTTFRIED, Harald PAULI, Michaela PANZENBÖCK & Wolfram RICHTER



Open top chambers (ITEX)









1997



Thanks for your attention and to all FJL-colleagues!

W.Richter, T.Nftalos, H.Pumhösl, U.Nickus, B.Möbes-Hansen, M.Gottfried, K.Reiter, H.Pauli, G.Müller-Niklas, N.Queric, G.Markl, G.Herndl, R.Albert