Images of Arctic Science

INTERACT

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INTERACT

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Morten Rasch, Carsten Egevang and Elmer Topp-Jørgensen

Photo: Carsten Egevang.

Content

Photo: Morten Rasch.

About this book

The idea behind this book is to provide a visual impression of arctic science in pictures.

As scientists, we normally tell stories in words, figures and tables in scientific papers, in textbooks, at lectures and in popular science articles. However, many of us – if not all of us – have also experienced the Arctic through our cameras; both for more technical, research related pictures and for pictures simply catching the beauty of our workplace and what surrounds it.

For this book we have chosen 107 pictures to tell 107 different stories – every picture in the book is a story of its own – about arctic science, arctic landscapes, arctic nature and the people living there.

INTERACT is a network of research stations in the Cold North. The pictures in this book were submitted by INTERACT community members through an 'INTERACT Photo Competition' that took place in March – April 2020. For the competition, we received almost 800 pictures from almost 100 photographers.

The photo competition included the following themes for which the photographers could submit pictures:

Arctic Fieldwork
Climate Change
Glaciers
Landscapes
Local Communities
People
Remote Field Camps
Research Stations
Wildlife and Plants

For each category a winner, a 2nd and a 3rd place were chosen by an evaluation committee consisting of scientists from the INTERACT community in cooperation with internationally recognized photographers.

The pictures presented in the book have all been chosen by award winning photographer and biologist Carsten Egevang from among the pictures submitted for the INTERACT Photo Competition. Carsten Egevang was a member of the photo competition evaluation committee, but for the selection of pictures for this book he has had freedom to choose 10-15 pictures for each theme/chapter. His job was to find pictures in which the high photographic quality, the photographic aesthetics and the motive itself combined to tell a story of its own.

The photographers contributing to the book are Andreas Alexander, Andreas Palmen, Beatriz Fernandez, Birgitte Danielsen, Blair Fyffe, Carsten Egevang, Catherine Moody, Christelle Guesnon, Dan Cogalniceanu, Dorthe Dahl-Jensen, Elena Kavvatha, Fieke Rader, Grant Francis, Gregory Tran, Hanne Hendrickx, Helge Markussen, Jakub Pelka, James Bradley, Jennifer Kissinger, Jiri Lehejcek, Jon Leithe, Jonathan von Oppen, Kamilla Oliver, Kari Fannar Larusson, Kari Saikkonen, Katarzyna Wasak-Sek, Klemens Weisleitner, Lars Holst Hansen, Laura Halbach, Lorenzo Ragazzi, Maaike Weerdesteijn, Marek Ewertowski, Martin Lulak, Martin Nielsen, Michael Gardner, Mikkel Tamstorf, Morten Rasch, Nicholas Hasson, Ole Zeising, Oliver Bechberger, Paulina Wietrzyk-Pelka, Pierre Rasmont, Santiago Giralt, Sergey Kirpotin, Sinan Yirmibesoglu, Susan Christianen, Tom Versluijs, Tommi Nyman, Vasileios Gkinis and Yael Teff Seker.

In the preparation of the book we have been eager to reduce the number of words to an absolute minimum. Each chapter/theme is introduced by a very short introduction, and each picture is accompanied by a very short descriptive text, mainly telling 'what', 'where' and 'who'. It is the pictures themselves that tell the full stories.

We hope that you will enjoy the book and take the time to explore each individual story. They are all worth it!

Carsten Egevang, Morten Rasch and Elmer Topp-Jørgensen

Predictions of the future climate and ecosystem changes in the Arctic and northern boreal and alpine regions all start out with scientists working hard during long days in the field. We cannot make robust assessments or develop precise models to make realistic predictions without the empiri that originates from data collected in the field.

Fortunately, the adventure of doing fieldwork in the Cold North is also very much appreciated by most scientists. It may be exhausting with challenging climate and logistics and long days in the field, but it is also rewarding with breathtaking arctic landscapes, wildlife passing by, flowers blooming and pleasant interactions with local people. Regardless of the conditions you experience, the Cold North provides an astonishing scene for scientific endeavors allowing you to be very present in relation to the core of your research.

This is why so many scientists have chosen the Cold North as their ‘habitat’.

1 *Arctic Fieldwork*

Scientists from the Norwegian Polar Institute retrieving GPS information from a data logger at Kongsvegen Glacier in Svalbard, Norway.
Photo: Helge Markussen.

Biologist happily collecting survey sticks after having finished the very time consuming annual count of collared lemmings nests (*Dicrostonyx groenlandicus*) near Zackenberg Research Station, Northeast Greenland.
Photo: Lars Holst Hansen.

Researchers investigating plant species composition in a one square meter plot near Tarfala Research Station, northern Sweden.
Photo: Jakub Pelka.

Scientist collecting snow and soil samples in front of a glacier near Ny-Ålesund, Svalbard, Norway.
Photo: Klemens Weisleitner.

Two scientists making GPS measurements on the Kongsvegen Glacier in Svalbard, Norway.
Photo: Jon Leithe.

An adult muskox (*Ovibos moschatus*) bull slowly waking up after being tranquilized at Zackenberg Research Station, Northeast Greenland.
Photo: Lars Holst Hansen.

Fieldwork by helicopter on the Greenland Ice Sheet,
Southeast Greenland.
Photo: Laura Halbach.

Sampling of microbial communities in ice close to the Helheim Glacier, Southeast Greenland.
Photo: Laura Halbach.

Installing a vertical magnetometer at the EastGRIP field camp on the Greenland Ice Sheet.
Photo: Maaike Weerdesteijn.

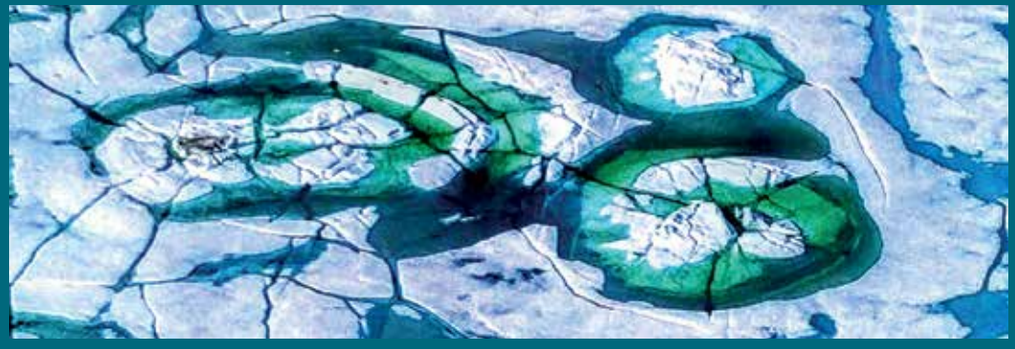
Scientists sampling lake water from one of several thermokarst lakes in the valley Mathiesondalen in central Svalbard, Norway.
Photo: Martin Lulak.

Collecting snow samples near the glaciers of Hoher Sonnblick near Sonnblick Observatory, Austria.
Photo: Grant Francis.

Looking at the lichen *Cladonia borealis* through a magnifying glass at Tarfala Research Station, Sweden.
Photo: Paulina Wietrzyk-Pelka.

Preparing for taking lake sediment cores for climate reconstructions at frozen lake near Zackenberg Research Station, Northeast Greenland.
Photo: Santiago Giralt.

Scientist making short cores of the uppermost snow and ice around the EastGRIP field camp on the Greenland Ice Sheet.
Photo: Vasileios Gkinis.



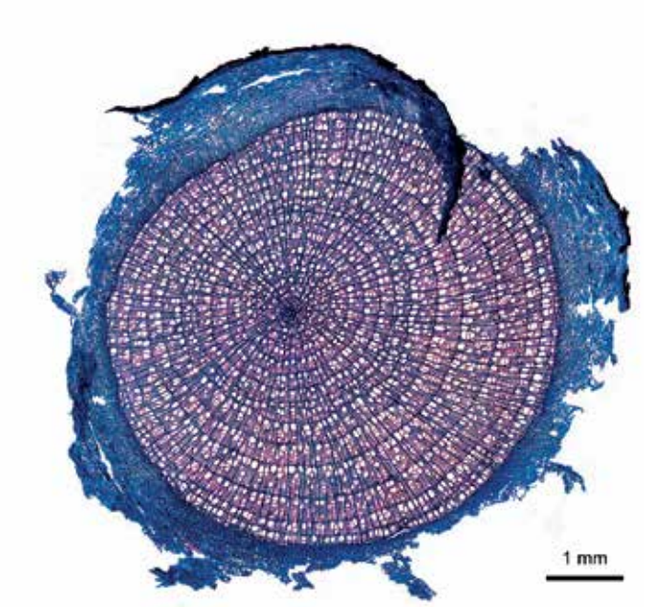
Climate is changing fast in the Arctic, and some of the changes already have influence on society. We can see it in the climate records, and we can see it in the societal statistics.

However, it is much more difficult to take a single picture to illustrate Climate Change. A series of photographs can illustrate a change over time of for example the extent of a glacier or the vegetation cover in a landscape. Individual pictures may also illustrate change, for example by showing a flooded town, a landslide hitting a house or the melting of permafrost leading to collapse of a road.

To prove that an event illustrated by one picture is caused by Climate Change does, however, still remain very difficult, if not impossible. In this chapter the photographers try to do the impossible and illustrate Climate Change in one single image.

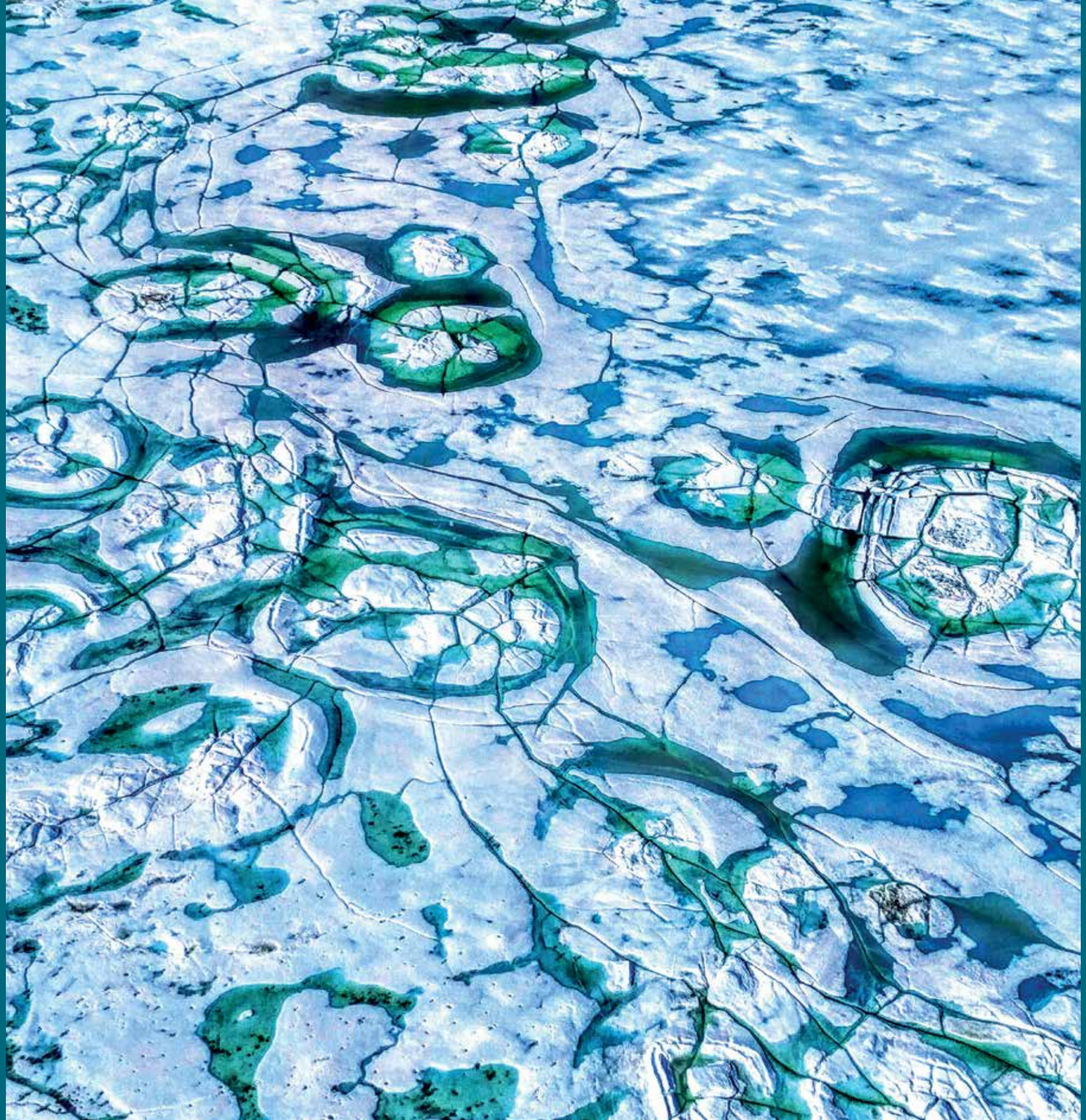
2 *Climate Change*

Research engineer doing maintenance on a 150 meter high tower for scientific measurements at Svartberget Research Station, near Vindeln, Sweden.
Photo: Andreas Palmen.



Annual rings in a willow branch found close to Nördenskioldbreen glacier in Central Spitzbergen, Svalbard, Norway.
Photo: Jiri Lehejcek.

Spectacular patterns on melting
sea-ice outside Somerset Island
in Nunavut, Canada.
Photo: Jennifer Kissinger.



Desiccation cracks in tundra soil on the Lyngmarksfjeld mountain on Disko Island, West Greenland.
Photo: Jonathan von Oppen.

A piece of melting sea-ice at Zackenberg, Northeast Greenland.
Photo: Lars Holst Hansen.

Sea-ice breaking up extremely early outside the town of Qeqertarsuaq in West Greenland in March 2020.
Photo: Martin Nielsen.

Erosion caused by melting of permafrost
at Zackenberg Research Station,
Northeast Greenland.
Photo: Marek Ewertowski.

Igniting methane emitted from a frozen lake near Fairbanks in Alaska, USA.
Photo: Nicholas Hasson.

Iceberg calving among birds looking for food off the west coast of Svalbard, Norway.
Photo: Sinan Yirmibesoglu.

Glaciers are quite common across most of the Arctic. In Greenland, one big glacier, the Greenland Ice Sheet, covers more than 90 percent of the country. But thousands of smaller local glaciers occur throughout the Arctic, in North America, Greenland, Iceland, Scandinavia and Russia.

In recent years, glaciological research has focused on the 'well-being' of the glaciers, i.e. whether they are increasing or decreasing in volume; and most glaciers are currently decreasing in volume – due to Climate Change.

Besides having great importance in relation to future sea-level and climate, glaciers are also very beautiful landscape features that have attracted scientists, adventurers and artists over the past many centuries.

3 *Glaciers*

The glacier Monacobreen in Northwest Svalbard, Norway, is currently surging into the sea.
Photo: Andreas Alexander.

Reindeer herd on the glacier Kebnepakteglaciären
near Tarfala Research Station, Sweden.
Photo: Paulina Wietrzyk-Pelka.

Cloudy spring day in Svalbard, Norway, seen from an
airplane between Longyearbyen and Ny-Ålesund.
Photo: Fieke Rader.

Huge iceberg in morning sunlight
with rising fog at Tiilerilaaq,
Southeast Greenland.
Photo: Kamilla Oliver.

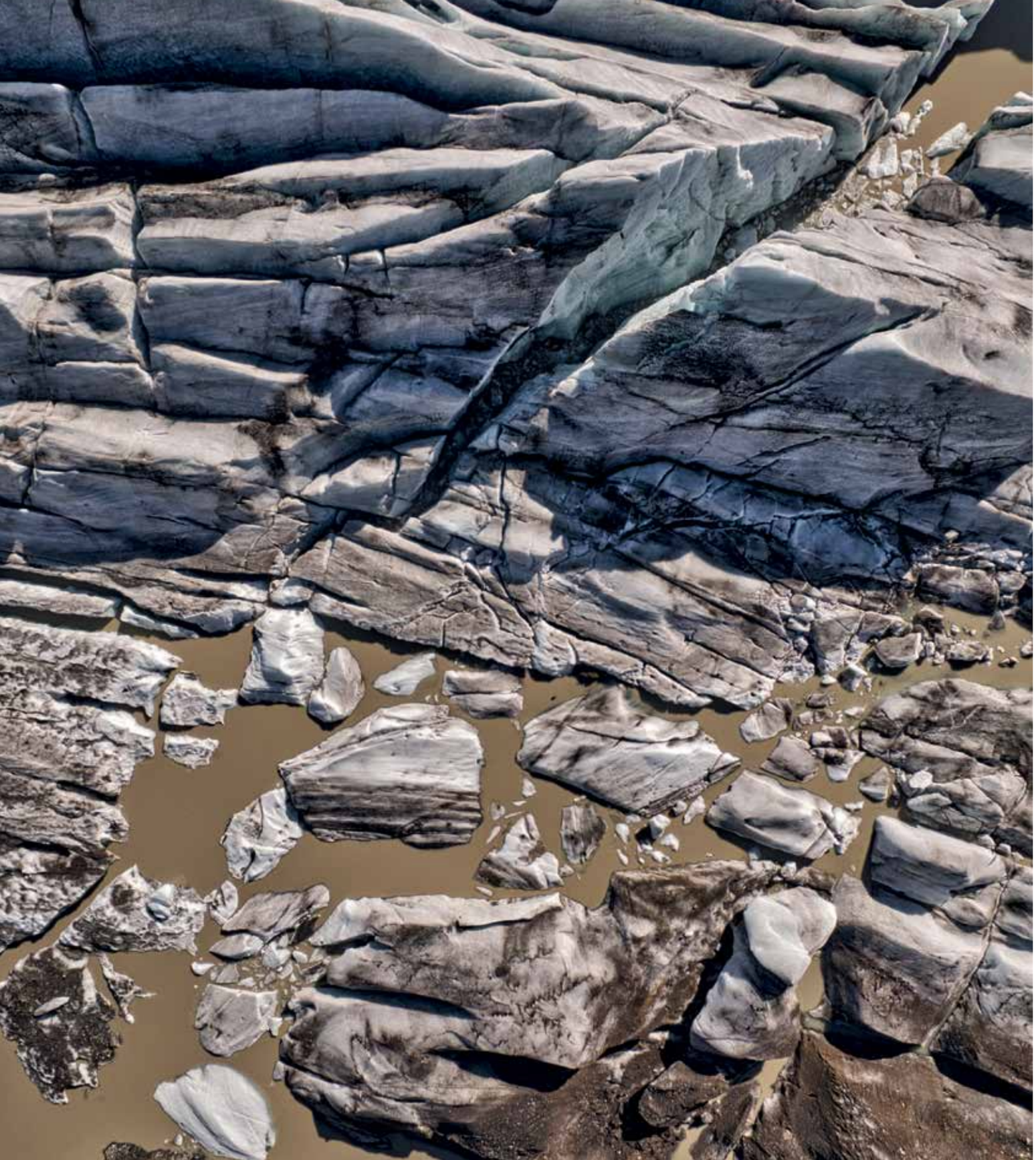
Returning to the surface after mapping the internal drainage system of the glacier Austre Broggerbreen near the research village of Ny-Ålesund in Svalbard, Norway.
Photo: Blair Fyffe.

The 20 meter high water fall Aldeyjarfoss in the valley Bárðardalur near the glacier Vatnajökull, Iceland.
Photo: Kari Fannar Larusson.

The UNESCO World Heritage Site ‘St. Elias Icefields’ in Kluane National Park in Yukon, Canada, has the largest non-polar icefields in the World.
Photo: Kari Saikkonen.

A glaciated landscape somewhere between
Longyearbyen and Ny-Ålesund in Svalbard, Norway.
Photo: Klemens Weisleitner.

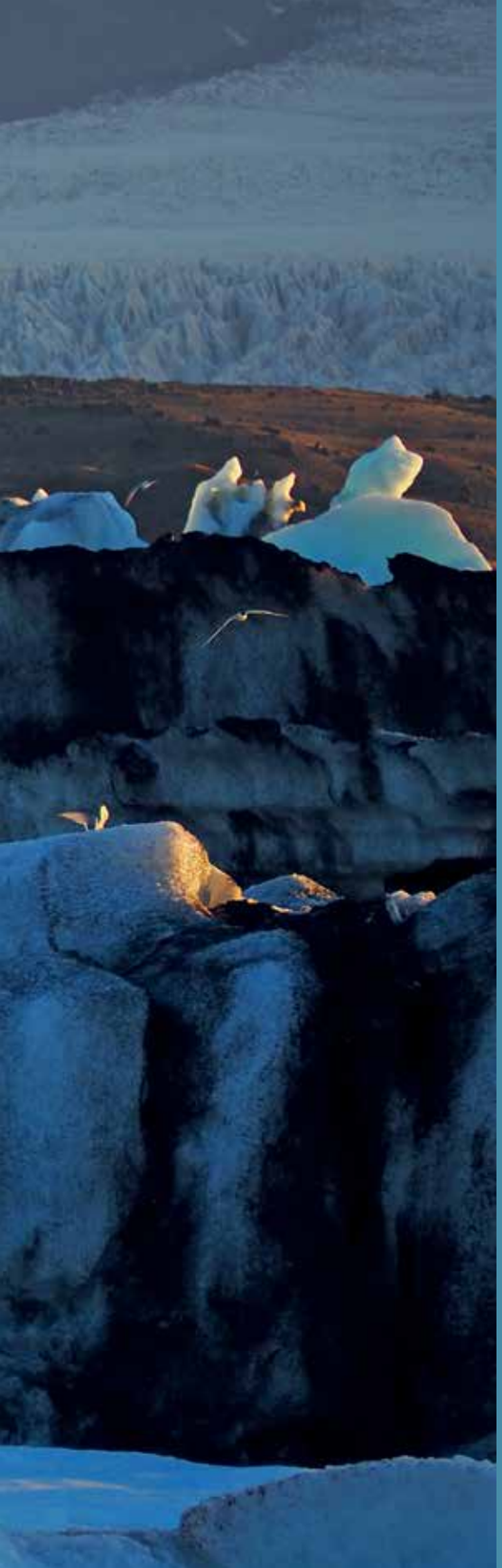
Sampling of micro-organisms
on the Mittivakkat glacier,
Southeast Greenland.
Photo: Laura Halbach.



Crevasses on the glacier Svínafellsjökull, Iceland.
Photo: Marek Ewertowski.

The Elephant Foot Glacier on the Kronprins Christian Land peninsula, Northeast Greenland, is a textbook example of a so-called Piedmont Glacier.
Photo: Ole Zeising.

The two retreating glaciers, Ringhornbreen (left) and Royal Societybreen (right) in the valley Ringhorndalen in Svalbard, Norway.
Photo: Paulina Wietrzyk-Pelka.



The surroundings of the glacier Vatnajökull, Iceland, is the natural habitat for a variety of wildlife, including the arctic tern (*Sterna paradisaea*).
Photo: Susan Christianen.

The Arctic and northern boreal and alpine regions include open landscapes shaped by wear and tear over thousands of years, and in the coldest parts of the regions, vegetation does not exceed more than half a meter in height. At the same time, a generally low air humidity at the Worlds higher latitudes increases the visibility, i.e. our ability to see things far away. The Arctic and northern boreal and alpine regions are therefore an excellent place for looking at landscapes, and the scientists going there are aware of this.

4 *Landscapes*

Dusk at the glacial lake
Jökulsárlón in the southern part of
Vatnajökull National Park, Iceland.
Photo: Elena Kavvatha.

The 454 meters high mountain Vestrahorn, southern Iceland.
Photo: Kari Fannar Larusson.

Lonely low clouds at the mountain Zackenberg, Northeast Greenland, during a georadar snow depth survey.
Photo: Mikkel Tamstorf.

Students in the crater of the active Mutnovsky volcano in Kamchatka, Russia. Photo: Nicholas Hasson.

Scientist observing the Aurora Borealis / Northern Lights during the Polar Night outside the Gåsebu camp-site near Ny-Ålesund in Svalbard, Norway.
Photo: Helge Markussen.

Blue iceberg in the fjord Kongsfjorden, Svalbard, Norway.
Photo: Gregory Tran.

The rapids Kiutaköngäs in
Oulanka National Park, Finland.
Photo: Katarzyna Wasak-Sek.

A fishing boat is coming back to the settlement Tiilerilaaq, Southeast Greenland, on a tranquil summer evening.
Photo: Kamilla Oliver.

Aurora Borealis / Northern Lights
reflected in the fjord Ersfjordbotn
near Tromsø, Norway.
Photo: Lorenzo Ragazzi.

Icebergs floating on the glacial
lake Fjallsárlón, Iceland.
Photo: Marek Ewertowski.

A typical valley formed by glacial erosion over thousands of years in the Aktru valley in Southeast Altai Highlands, Russia, near the border to Mongolia.
Photo: Sergey Kirpotin.

Giant terraces formed as ‘giant gravel-boulder bars’ during a catastrophic outburst of a glacier-dammed lake in Central Altai, Russia.
Photo: Sergey Kirpotin.

In Cairngorms National Park, Scotland, scientists use so-called ‘walking interviews’ with visiting tourists and local residents to assess cultural ecosystem services of protected areas.
Photo: Yal Teff-Seker.

Scientist on the daily trip to the glacier Storglaciären near Tarafala Research Station to gather data on the algae communities darkening the ice surfaces.
Photo: Michael Gardner.

Northern Iceland as seen from a 'Twin Otter' aircraft flying at low altitude on its way to Northeast Greenland.
Photo: Santiago Giralt.

Autumn sheep migration in northern Iceland.
Photo: Susan Christianen.

Despite the very low population density in the Arctic and northern boreal and alpine regions there are still local communities with people living their daily lives.

Arctic and northern boreal and alpine communities have traditionally depended on natural resources for their subsistence, and while different new ways of living have spread across the region, the relationship with nature is still central to many inhabitants.

Many commnunities of the Cold North have infrastructure like schools, medical facilities, shops/supermarkets etc., and occasionally you can even find yourself in a larger town with public offices, cinemas, café's, swimming pool, high school and a university.

While many INTERACT research stations are located in remote settings, some are also situated close to local communities, and over the last decades, cooperation between scientists and local people have increased considerably.

5 Local Communities

The research village of Ny-Ålesund in Svalbard, Norway, in late October, just before the beginning of the Polar Night.
Photo: Helge Markussen.

The village Kvívík on the island of Streymoy, Iceland.
Photo: Catherine Moody.

The research village of Ny-Ålesund in Svalbard, Norway, in early February, when the light returns after a long dark winter.
Photo: Helge Markussen.

The research village of Ny-Ålesund seen from the Zeppelin Obervatory on Zeppelin Mountain in Svalbard, Norway. Photo: Jon Leithe.

On a short winter day, a local fisherman is coming home with a red fish to the settlement Tiilerilaaq, Southeast Greenland.
Photo: Kamilla Oliver.

Local hunters bringing their catch home during winter in Tiilerilaaq, Southeast Greenland.
Photo: Kamilla Oliver.

Visit to an indigenous boarding school in Volochanka on the Taymyr peninsula, Siberia, Russia.
Photo: Susan Christianen.

The capital of Greenland, Nuuk, with the mountain Sermitsiaq in the background.
Photo: Kari Fannar Larusson.

The ‘Arctic Henge’ is a sundial aiming to capture sunrays and cast shadows at Raufarhöfn near the RIF Field Station, Iceland.
Photo: Kari Fannar Larusson.

Soccer game on the beach in the
town Qeqertarsuaq on Disko Island,
West Greenland.
Photo: Kari Saikkonen.

Old piano in the town Pyramiden
in Svalbard, Norway.
Photo: Marek Ewertowski.

The town of Kirkenes, located
close to the Barents Sea and close
to Svanhovd Research Station,
northern Norway.
Photo: Tommi Nyman.

View towards the south from Arctic Station in the town Qeqertarsuaq, West Greenland.
Photo: Marek Ewertowski.

Drying of sealskins during the winter in the town of Qeqertarsuaq on Disko Island, West Greenland.
Photo: Martin Nielsen.

The human being (*Homo sapiens*) is a relatively rare species in arctic and northern cold regions compared to temperate and tropical areas. The Cold North is probably also one of the places on Earth least affected by local people. However, even in the most remote parts of the Arctic, you still encounter people once in a while; picking berries, out hunting, herding their reindeer, passing by in a small fishing boat, or sitting on a dog sledge with the latest catch of fish and seal. You may also meet more temporal residents of the Arctic and northern boreal and alpine regions, i.e. scientists, tourists, military personnel, control officers and people employed by e.g. mining industries or shipping companies.

Artists have for centuries been fascinated by people being able to persist at what they thought was the End of the World, living isolated in the great arctic and northern boreal and alpine landscapes. For the people living in the Cold North and for the scientists working there, it is just a normal way of living.

6 *People*

Scientific leader at Arctic Station, West Greenland, Martin Nielsen, hunting ptarmigans during the winter.
Photo: Birgitte Danielsen.

Scientists counting plant specimens in a plot at Vindeln Experimental Forests near Svartberget Research Station, Sweden.
Photo: Andreas Palmen.

Logistics Manager Jon Leithe from the Ny-Ålesund Research Station – Sverdrup, is welcoming the return of the sun after almost four months of Polar Night in Svalbard, Norway.
Photo: Helge Markussen.

Nenets boy Pavlov with his reindeer and sledge, near the River Yenisei in the Siberian tundra, c. 150 km north of the town Dudinka on the Taymyr peninsula, Russia.
Photo: Susan Christianen.

Nenets reindeer-herder Vadim Yaptune has lived his entire life in a ski-equipped mobile home insulated by reindeer skin on the Siberian tundra of the Taymyr peninsula, Russia.
Photo: Susan Christianen.

Expedition Leader Burcu Ozsoy is posing with a handmade picture created by a student from Turkey during a scientific research expedition in Svalbard, Norway, to raise awareness about Climate Change.
Photo: Sinan Yirmibesoglu.

Leader of the Ny Ålesund Research Station – Sverdrup, Helge Markussen, admiring the Blomstrandbreen glacier and the fjord Kongsfjorden during a mid-summer hike in Ny-Ålesund, Svalbard, Norway.
Photo: Helge Markussen.

Much of the research being carried out in the Arctic and northern boreal and alpine regions is centered around research stations. However, for some scientific questions, the scientists need to move even further out in the wilderness. In the remote field camps, the scientists have the full responsibility for their own survival and well-being, and still many scientists prefer this setting. Here they experience undisturbed nature, reduced transport time for going to and from their research sites, and absence of anything that can disturb their scientific work. The reward for moving far away from any modern infrastructure and logistics support is also the silence and the proximity to nature.

7 *Remote Field Camps*

Jean Corbel Research Station is situated five kilometers outside Ny-Ålesund in Svalbard, Norway.
Photo: Christelle Guesnon.

The Jean Corbel Research Station in the fjord Kongsfjorden in Svalbard, Norway, photographed by the end of the Polar Night.
Photo: Gregory Tran.

Hot springs provide ideal growth conditions for plants in the otherwise poorly vegetated area around the fjord Bjorkfjorden in Svalbard, Norway.
Photo: Hanne Hendrickx.

A sledge with food outside a small hut at the field camp EastGRIP on the Greenland Ice Sheet.
Photo: Maaike Weerdesteijn.

Scientists relaxing after a long day in the field in a remote field camp near Rabots Glacier, northern Sweden.
Photo: Jakub Pelka.

Camping under Aurora Borealis / Northern Lights in a small field camp somewhere near Zackenberg Research Station, Northeast Greenland.
Photo: Lars Holst Hansen.

During an expedition on the Taymyr peninsula in Siberia, Russia, these field huts from local Nenets people provided shelter from wind and extreme cold temperatures, occasionally dropping to ca. –55 °C.
Photo: Susan Christianen.

Field camp on Traill Island in Kong Oscars Fjord,
Northeast Greenland.
Photo: Oliver Bechberger.

A Lockheed C-130 Hercules on skis bringing scientists and cargo to the EastGRIP field camp on the Greenland Ice Sheet.
Photo: Maaike Weerdesteijn.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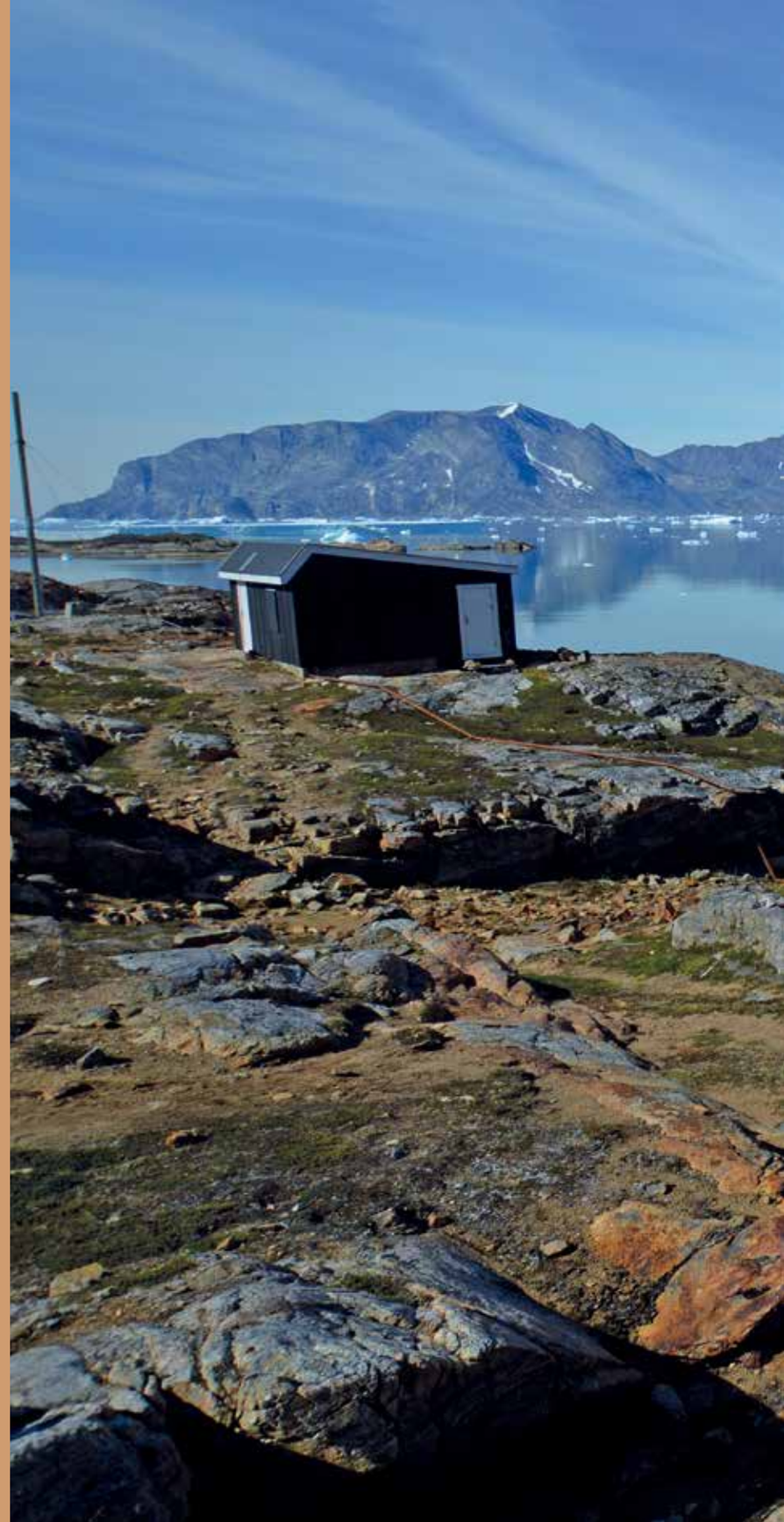
Chief Driller Steffen Bo Hansen during ice core drilling operations in the underground trench of the EastGRIP field camp on the Greenland Ice Sheet.
Photo: Vasileios Gkinis.

The first research stations in the Arctic were established in the beginning of the 20th Century, a few decades after the first stations were established in northern alpine regions. Before that, research in the Arctic was mainly carried out during shorter research expeditions. The research stations have the obvious advantages of providing a persistent infrastructure of relevance to polar researchers in an area of scientific interest. Most stations have permanent staff that can help visiting scientists with research related issues, with contacts of relevance to locals and with the necessary logistics.

Research stations normally attract scientists from many different science disciplines. Having such platforms for inter-disciplinary interactions are quite unique in the scientific community, where scientists normally meet at conferences, attracting people with more or less identical scientific interests. Polar scientists often spend quite long periods on the research stations having the possibility to talk with colleagues with a completely different scientific background and perception to whatever is at stake. This might be the secret behind the relatively inter-disciplinary character of arctic research.

8 *Research Stations*



Arriving at Sermilik Research Station, Southeast Greenland, to study microbial processes and carbon cycling on the nearby Mittivakkat Glacier and the Greenland Ice Sheet.
Photo: James Bradley.

The Sonnblick Observatory, Austria, on a clear day in December.
Photo: Grant Francis.

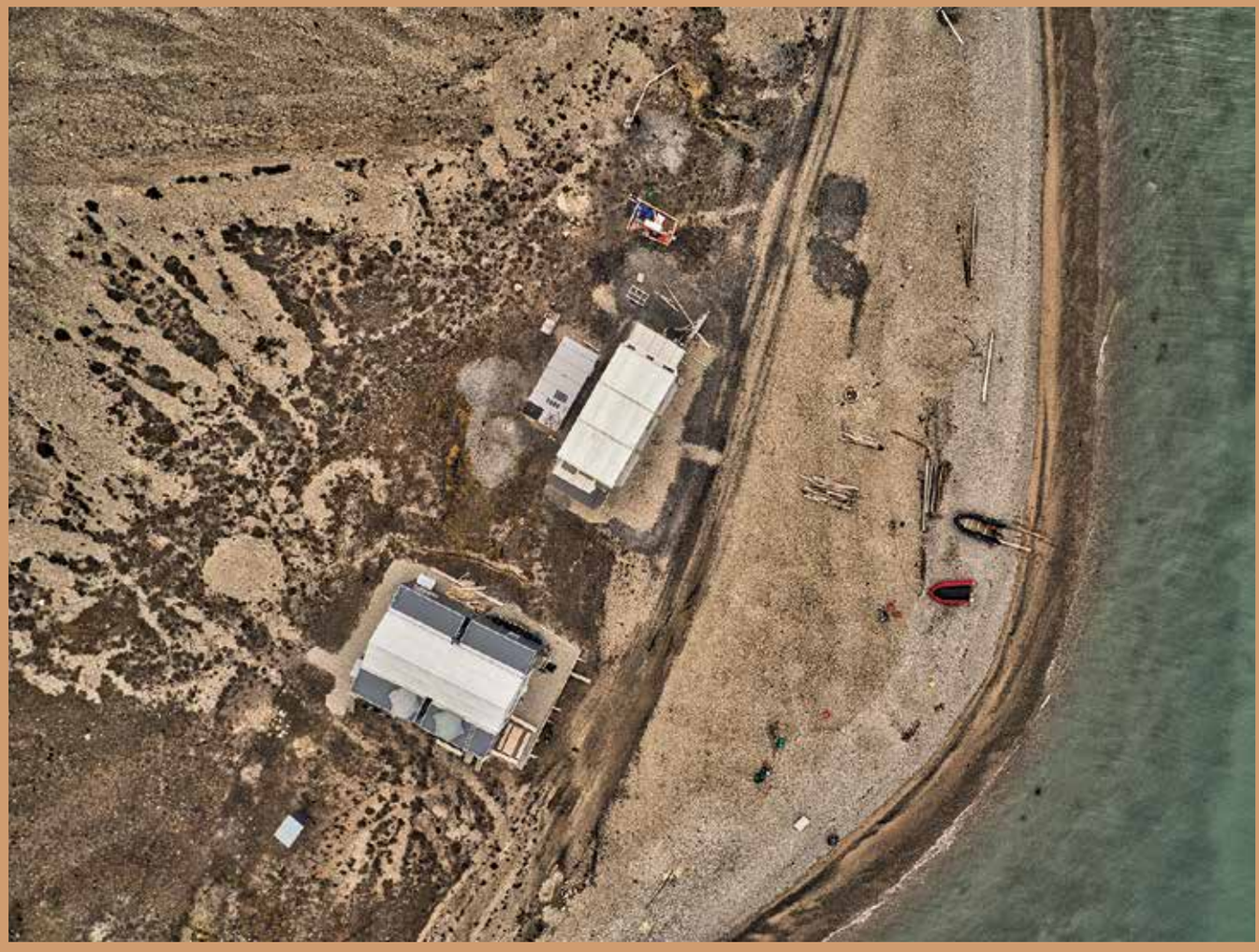
LiDAR measurements to detect aerosols and clouds during the winter at the German and French, AWIPEV Arctic Research Base, in Ny-Ålesund, Svalbard, Norway.
Photo: Christelle Guesnon.

Sunset at EastGRIP ice core drilling research station on the Greenland Ice Sheet.
Photo: Dorthe Dahl-Jensen.

Snow storm outside the italian CNR Arctic Station ‘Dirigibile Italia’ in Ny-Ålesund, Svalbard, Norway.
Photo: Fieke Rader.

The Zeppelin Observatory, located on the Zeppelin Mountain, overlooks the research village of Ny-Ålesund in the fjord Kongsfjorden, Svalbard, Norway.
Photo: Helge Markussen.

The Ny-Ålesund Research Station – Sverdrup in Svalbard, Norway, has prepared for the winter season.
Photo: Helge Markussen.



The Czech Arctic Research Station of Josef Svoboda is located in the northernmost part of Billefjorden in Svalbard, Norway.
Photo: Marek Ewertowski.

Photographer Burcu Camcioglu taking close up pictures of seagulls from the window at the Polish Polar Station Hornsund, Svalbard, Norway.
Photo: Sinan Yirmibesoglu.

Zackenberg Research Station, Northeast Greenland, during the first weeks of the field season after a snow rich winter.
Photo: Mikkel Tamstorf.

In comparison with the tropics, the Cold North is relative poor in number of plant and animal species. However, the Arctic hosts unique species adapted to arctic living conditions, including some of the most iconic animals on Earth, like Narwhale, Walrus and Polar Bear.

Over the years, arctic wildlife has attracted many high-end international film production companies with extremely high budgets. There is something very fascinating in the story about life in a very harsh environment. However, despite a much more limited budget, scientists working in the Arctic often also have great photo stories to tell, probably because they spend much more time in the Cold North than a million dollar per day film production company would ever be able to afford.

9 Wildlife and Plants

Every winter hundreds of humpback whales (*Megaptera novaeangliae*) migrate from the Gulf of Mexico and Cape Verde to the Norwegian coast to feed on herrings.
Photo: Lorenzo Ragazzi.

Arctic fox (*Vulpes lagopus*) enjoying sunset in Ny-Ålesund, Svalbard, Norway.
Photo: Christelle Guesnon.

A moose (*Alces alces*) and its newly born calf at the Kenai River in Alaska, USA.
Photo: Kari Fannar Larusson.

Bryophytes in forest understorey at Värrio Research Station (SMEAR II), Finland.
Photo: Beatriz Fernandez.

A red-throated diver (*Gavia stellata*) in the ponds next to Zackenberg Research Station, Northeast Greenland.
Photo: Tom Versluijs.

Bearded seal (*Erignathus barbatus*) resting on an ice floe in Adolfbukta, near the glacier Nordenskioldbreen in central Svalbard, Norway.
Photo: Martin Lulak.

Muskoxen (*Ovibos moschatus*) near Zackenberg Research Station, Northeast Greenland, enjoys access to vegetation during the last rays of sun in October.
Photo: Mikkel Tamstorf.

The World's largest mammal, the blue whale (*Balaenoptera musculus*), was observed several times in the fjord Kongsfjorden in Svalbard, Norway, during the summer of 2019.
Photo: Helge Markussen.

White cotton-grass (*Eriophorum scheuchzeri*) on Disko Island, West Greenland.
Photo: Kari Saikkonen.

A representative from the aquatic plant genus *Sagittaria* popping up from a shallow lake bottom in Finland.
Photo: Dan Cogalniceanu.

Arctic hare (*Lepus arcticus*) at Zackenberg Research Station, Northeast Greenland.
Photo: Lars Holst Hansen.

Arctic fox (*Vulpes lagopus*) looking for food on a nice summer day near the fjord Kongsfjorden in Svalbard, Norway.
Photo: Helge Markussen.

An empidid fly (*Empis borealis*) searching for nectar in tea-leaved willow (*Salix phylicifolia*) at Svanvik, Norway.
Photo: Tommi Nyman.

The lappon bumblebee (*Bombus lapponicus*), one of the most important pollinating bees in the Arctic, near Kytalyk Scientific Station in Chokurdakh in North Sakha, Siberia, Russia.
Photo: Pierre Rasmont.

INTERACT

International Network for Terrestrial Research and Monitoring in the Arctic

INTERACT is a circum-arctic network with more than 85 terrestrial field stations in the Arctic and adjacent boreal and Alpine areas. INTERACT seeks to build capacity for research and monitoring in the Arctic and beyond, and offers access to the numerous research stations that are part of the network.

www.eu-interact.org

INTERACT has received funding from the European Union through the Horizon 2020 Research and Innovation Programme under grant agreement No730938 for 2016-2020 and under grant agreement No871120 for 2020-2023 and through the EU 7th Framework Programme for 2011-2015.

Photo: Morten Rasch.

Other publications from INTERACT

INTERACT Station Catalogue is describing all research stations that are part of INTERACT. For each research station, the catalogue contains a description of the station, its facilities, its monitoring efforts and its natural environment.

INTERACT Science Stories contains stories of the cutting-edge arctic research being supported by INTERACT Transnational Access, as told by 138 scientists from 17 countries.

INTERACT Fieldwork Planning Handbook is a textbook for scientists to facilitate safe fieldwork and maximise the results of research and monitoring activities in the Arctic and other cold regions of the Northern Hemisphere.

INTERACT Practical Field Guide is a guide book to be taken into the field with information on best practices and safety aspects in relation to fieldwork in the Arctic.

INTERACT Research and Monitoring provides an overview of research and monitoring activities conducted at INTERACT stations. It presents an overview of scientific disciplines and monitored parameter groups and it provides recommendations for monitoring.

INTERACT Management Planning for Arctic and Northern Alpine Research Stations is a textbook in which research station managers from the INTERACT network share their knowledge of relevance to management of research stations in cold regions.

About the editors

Morten Rasch is the chairman of INTERACT's Station Managers' Forum. He has a background as a polar scientist but has spent most of his professional life on coordinating research projects and leading different research stations in Greenland. Morten is an enthusiastic amateur photographer (Charlotte Sigsgaard).

Carsten Egevang is a biologist and visual storyteller. His main interest as photographer is to show traditional life, nature and wildlife in Greenland. He has been exhibiting his photographs at a number of exhibitions, has published a number of photo books, and has received a number of international awards, and among them 'Wildlife Photographer of the Year' in 2009 (Dan Normann).

Elmer Topp-Jørgensen is a biologist working for INTERACT Station Managers' Forum. Elmer has worked with circumarctic logistics organisations, Arctic Coucil working groups, the Government of Greenland and alongside local communities in the Arctic and beyond. As a long-time member of the polar science community, Elmer knows how to discern between a good and a less good story (Freia Lund Sørensen).

Images of Arctic Science

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Graphic design: Juana Jacobsen and Kathe Møgelvang – Bioscience Graphics Group, Aarhus University

Published in 2020, First Edition
Publisher: Aarhus University, DCE – Danish Centre for Environment and Energy
Printed in Denmark 2020 by Narayana Press

Citation:
INTERACT 2020. Images of Arctic Science. Eds. Rasch, M., Egevang, C. and Topp-Jørgensen, E. Danish Centre for Environment and Energy. Denmark. 182 p.

Cover photo: Blair Fyffe

ISBN: 978-87-93129-16-0
DOI: 10.5281/zenodo.4024160

The book is available on the INTERACT website, www.eu-interact.org.

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Images of Arctic Science

The Arctic, one of the Earths extremes, is the scene for magnificent land- and seascapes, snow and ice, cold climate adapted species and expanding science endeavors. Despite the often harsh conditions, people have been living there for thousands of years and in closer contact with nature than we are used to further to the South. Capturing the essence of the Arctic, Climate Change, life in the Arctic and the science conducted there in a single image is challenging. In this book members of the INTERACT community provide an insight into arctic wonders as experienced through the lens by scientists and other stakeholders working in the fascinating and breath taking Cold North.

INTERACT

ISBN: 978-87-93129-16-0