

The background image is a polar landscape featuring a massive, layered ice wall or glacier face. The ice has various shades of blue and white, with visible textures and cracks. In the foreground, a small black inflatable boat with several people in orange gear is on the water. The sky is a pale, overcast blue. A large, semi-transparent 'TX' logo is overlaid on the image, with the 'T' on the left and the 'X' in the center. The text 'Science & Education Report' is centered over the 'X' in a dark blue, sans-serif font.

TX

Science & Education Report

MS Spitsbergen

01.09.- 10.09.2025

Serene Greenland —
Exploring the Largest
Fjord System on Earth





Science & Education Program

Our Science and Education Team accompanied you during your expedition to the remote nature of Scoresby Sund.

We had the opportunity to explore our destination's natural beauty and rich history. We organized lectures and interactive activities onboard and explored our destinations during community visits, nature landings and from the water.

Your trip's statistics!

Science and Education Program

- 12 Lectures
- 6 Tiny Talks
- 6 Workshops
- 9 Discovery Sessions
- 3 Science Boats

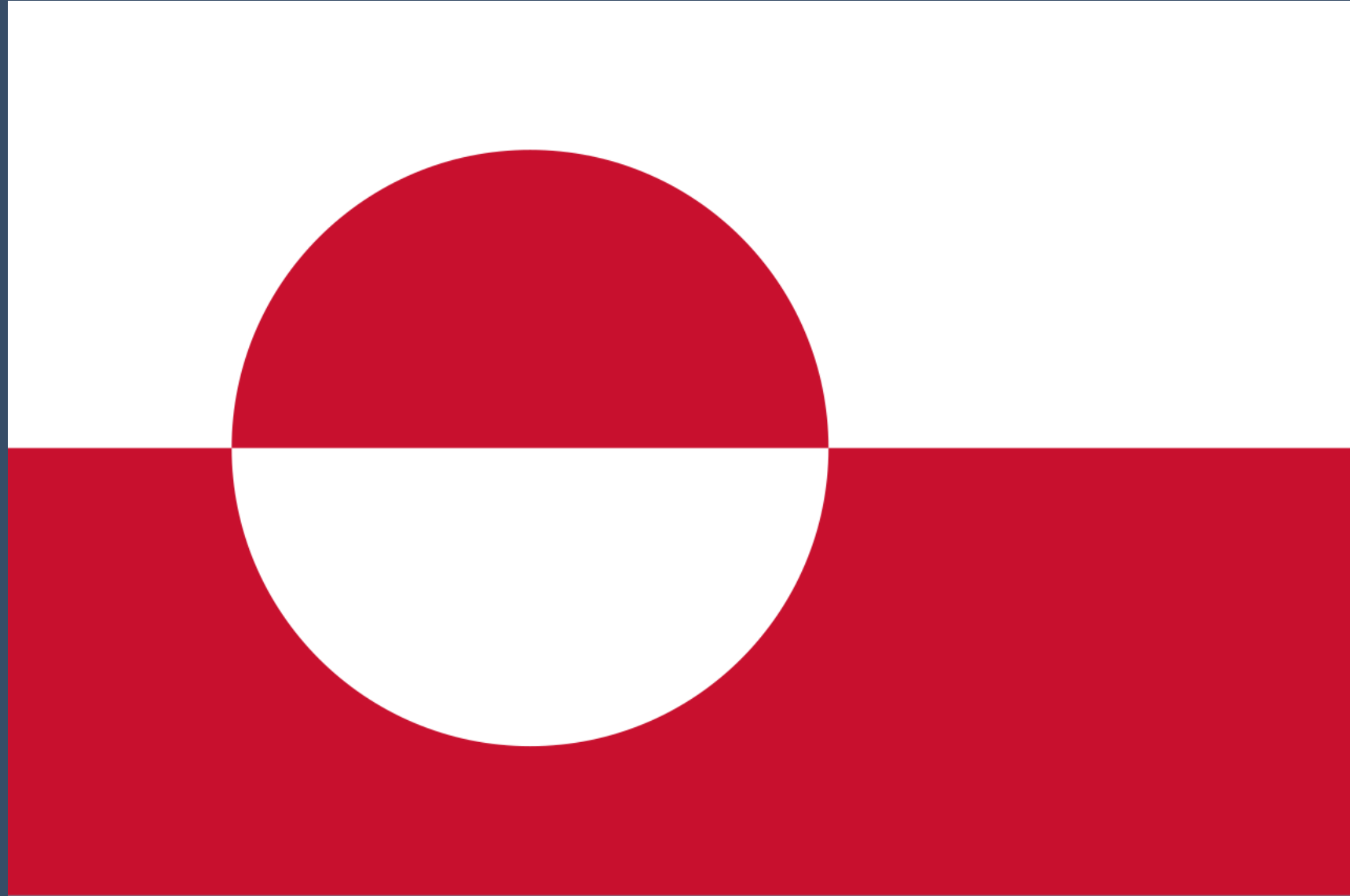
Citizen Science contributions

- 1 Secchi Disk submissions
- 2 eDNA samples for EPIC/University of Bergen
- 4 GLOBE Cloud submissions
- 22 eBird checklists with 29 species observed
- 81 iNaturalist observations of 44 different species



Flag of Greenland

The flag of Greenland, known as *Erfalasorput* (meaning "our flag"), features two horizontal stripes of white and red. The top stripe is white, representing the ice and snow, while the bottom stripe is red, symbolizing the ocean and the sun. The design includes a red disk slightly off-center towards the hoist side, reflecting the sun setting over the horizon and the icebergs reflecting in the sea. The flag was officially adopted on June 21, 1985, and it symbolizes Greenland's identity and cultural heritage.



History & Culture

During our expedition, we explored historical sites that reveal Greenland's rich history of human activity.

In this photo, you can see examples of maps—but not the kind you might expect. The Thule people didn't use paper maps. Instead, they carved **tactile wooden charts** that could be read by touch.

These pieces represented coastlines, islands, and fjords, allowing navigators to feel the landscape with their fingers. They were vital for traveling through East Greenland's icy, foggy waters where visibility was often poor.

Remarkably, early explorers later noted that these "driftwood charts" were often more accurate than European maps of the same period. They demonstrate the Thule people's profound geographical knowledge of the Arctic.



History & Culture

Our visit to Ittoqqortoormiit offered a glimpse into the blending of Greenlandic and European history and culture. This fusion is reflected in the local traditions, the village layout, and the vibrant colours of the houses. We also witnessed how the harsh natural environment continues to shape daily life here.

This year is particularly significant, as the village celebrates its 100th anniversary — a remarkable milestone for this remote community in East Greenland.



Ragnvald Knudsen

Ragnvald Knudsen was a Norwegian captain who played a significant but often overlooked role in the exploration of East Greenland's Scoresby Sound region. As captain of the sealing vessel Hekla, Knudsen made important contributions to both commercial hunting expeditions and scientific exploration in the Arctic during the late 19th century.

The expedition represented a major scientific and exploratory undertaking sponsored by the Danish government, aimed at thoroughly exploring and mapping the inner reaches of the Scoresby Sound fjord system.



NASA Globe Cloud Observer

Together with our Environmental Scientist Liam you observed the clouds and submitted your observations to NASA GLOBE Observer on 3 occasions. We will soon receive an email comparing your observations with satellite data. In the meantime, you can already see on the map how few observations there are in Greenland — which highlights just how valuable your data collection is for scientists studying clouds and climate.

These cloud observations can help NASA improve our understanding of Earth's atmosphere and climate by providing valuable data for scientific research and climate modelling.

[View our data](#) on the global map



NASA Globe Cloud Observer

You had a great trip observing clouds this trip, you spotted high level clouds like cirrus, mid-level clouds like altostratus and low level clouds like stratus/fog.

You helped collect data for NASA and climate science who require more data for these high polar regions.

This is an example of a high level cloud, if you look closely it actually looks like Greenland - you can even spot Scoresby Sound!





NASA Globe Cloud Observer

We also saw clouds which looked “stuck” between the sea and the mountains (as show on the next page). Orographic uplift is when this air encounters mountains, it is forced to rise. Adiabatic cooling happens as the air rises, it cools due to the lower atmospheric pressure at higher altitude and the clouds get trapped in this “parcel” of air.

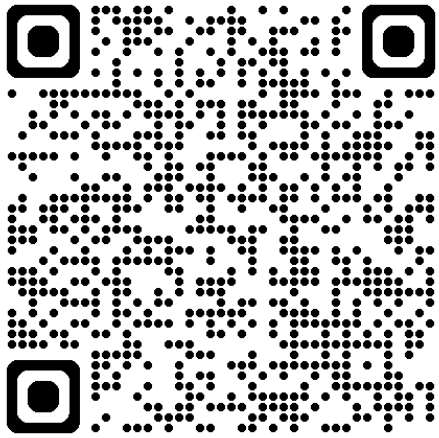
Geology of East Greenland

On your voyage you discovered a landscape that told a story through geological time from 3 billion years ago to the present day! The oldest rocks were just by your feet as you visited the community of Ittoqqortoormiit. You saw some spectacular geology folding along the metamorphic rock and the red sandstone which made you feel like you were in Utah, not Greenland. As you sailed through the Scoresby Sound fjord system the high mountains peak all around you uplifted by the Caledonian mountain belt 400 million years ago!



iNaturalist

Throughout our expedition, we documented the flora and fauna of Scoresby Sound and uploaded all our findings to the iNaturalist platform.

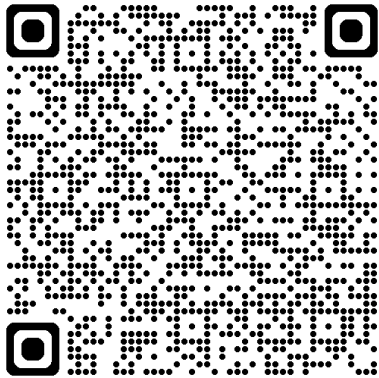


View our data submitted on our project by scanning the QR code



iNaturalist

During our voyage, we submitted 109 observations of 57 different species. This effort contributes to the creation of a comprehensive understanding of the current distribution of species in the archipelago and can aid researchers in their ongoing studies and conservation efforts to protect these species. Scan the QR code below to see all our observations!



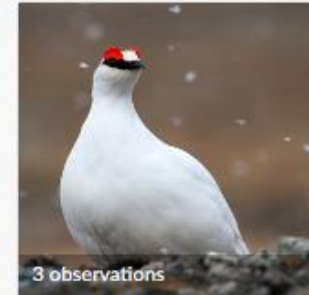
Muskox · Moschusochse · 麝牛
Ovibos moschatus



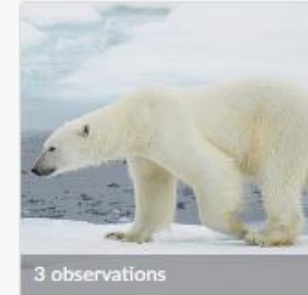
Arctic Willow · Arktische Weide · 北极柳
Salix arctica



Dwarf Birch · Zwerg-Birke · 沼桦
Betula nana



Rock Ptarmigan · Alpenschneehuhn · 岩雷鸟
Lagopus muta



Polar Bear · Eisbär · 北极熊
Ursus maritimus



Arctic Bell-Heather · Vierkantige Schuppenheide · 四棱岩须
Cassiope tetragona



Arctic Fox · Polarfuchs · 北极狐
Vulpes lagopus



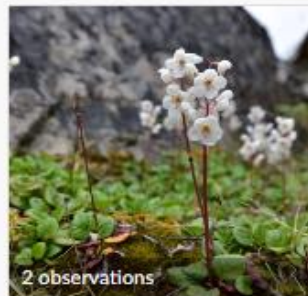
Crowberry · Schwarze Krähenbeere · 岩高兰
Empetrum nigrum



Meadow Puffball · Wiesen-Stäubling · 草地马勃
Lycoperdon pratense



Alpine Mouse-Ear · Alpen-Hornkraut
Cerastium alpinum



Arctic Wintergreen
Pyrola grandiflora



Woolly Fringe-Moss · Zottiges Zackenmützenmoos · 长毛



Rock Foam
Stereocaulon saxatile



Alpine Bearberry · Alpen-Bärentraube · 高山天枰
Arctous alpina



Crinkled Snow Lichen · Schneeflechte · 雪黄鸟衣
Flavocetraria nivalis

Science Boat

18 eager participants joined our 3 Science Boats in to study plankton and the hydrography of our destination.

Together we collected oceanographic information to better understand the marine environment and used a plankton tow net to collect samples of the microscopic creatures that are the foundation of the ecosystem.



Plankton Samples

We explored the microscopic world of plankton, the tiny organisms that drift in our ocean.

In our samples, we observed various types of phytoplankton, such as the Dinoflagellate captured in the picture.

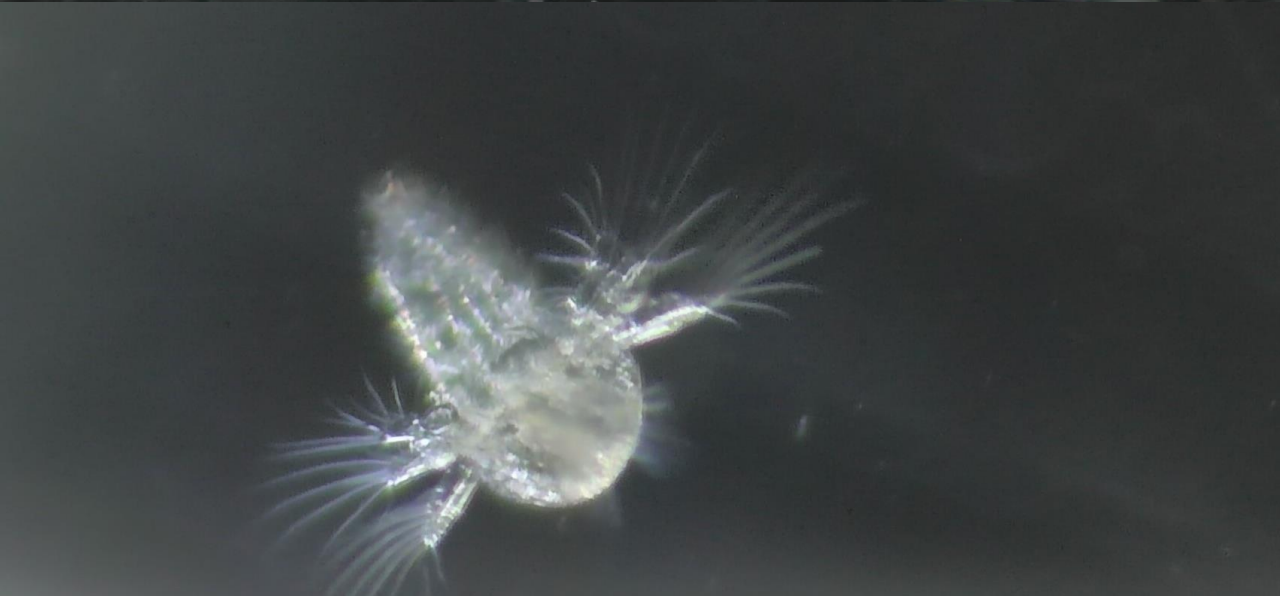
These single-celled organisms possess two flagella for movement and are known for their ability to create bioluminescence in oceans, contributing significantly to marine biodiversity and nutrient cycling.



Phytoplankton - Dinoflagellate



Copepod



Juvenile Copepod, called Nauplii

Plankton Samples

In one of our plankton samples we found Copepods, the keystone organism of the marine food web in the Arctic.

These small crustaceans are crucial in marine food webs as primary consumers of phytoplankton, transferring energy to higher trophic levels and influencing nutrient cycling in the oceans.

We also observed several Nauplii, the earliest, simplest larval stage of a Copepod.



EPIC Project

During our voyage, we also collected environmental DNA samples for the EPIC project (Innovative approaches to understanding marine pelagic ecosystems through eDNA biodiversity data).

The samples we collected at two locations during our trip will contribute to groundbreaking research by capturing eDNA from the waters we traversed, helping to build a comprehensive picture of marine biodiversity in the North Atlantic-Arctic interface. This effort supports the scientific community in monitoring ecosystem health and understanding the impacts of environmental changes.



eBird

During our wildlife watches and landings, our naturalists conducted detailed bird surveys, recording observations for the citizen science platform eBird. We recorded 29 different species of birds in 22 checklists.

This initiative helps contribute valuable data to global bird conservation efforts, enhancing our understanding of bird populations and their habitats.

View our data on our [eBird Trip Report](#)

Wildlife List - Birds



Wildlife List — Seabirds

Scientific Name	English	Deutsch	Français
<i>Fulmarus glacialis</i>	Northern Fulmar	Eissturmvogel	Fulmar boréal
<i>Ardenna gravis</i>	Great Shearwater	Kappensturmtaucher	Puffin Majeur
<i>Ardenna grisea</i>	Sooty Shearwater	Dunkler Sturmtaucher	Puffin Fuligineux
<i>Puffinus puffinus</i>	Manx Shearwater	Schwarzschnabelsturmtaucher	Puffin des Anglais
<i>Morus bassanus</i>	Northern Gannet	Basstölpel	Fou de Bassan
<i>Stercorarius skua</i>	Great Skua	Große Raubmöwe	Grand Labbe
<i>Stercorarius pomarinus</i>	Pomarine Skua (Pomarine Jaeger)	Spatelraubmöwe	Labbe pomarine
<i>Stercorarius parasiticus</i>	Arctic Skua (Parasitic Jaeger)	Schmarotzerraubmöwe	Labbe parasite
<i>Stercorarius longicaudus</i>	Long-tailed Skua (Long-tailed Jaeger)	Falkenraubmöwe	Labbe à longue queue
<i>Rissa tridactyla</i>	Black-legged Kittiwake	Dreizehenmöwe	Mouette tridactyle
<i>Xema sabini</i>	Sabine's Gull	Schwalbenmöwe	Mouette de Sabine
<i>Larus hyperboreus</i>	Glaucous Gull	Eismöwe	Goéland Bourgmestre
<i>Larus fuscus</i>	Lesser Black-backed Gull	Heringsmöwe	Goéland brun
<i>Larus marinus</i>	Great Black-backed Gull	Mantelmöwe	Goéland marin
<i>Larus glauciodes</i>	Iceland Gull	Islandergaense	Gulles d'islande
<i>Sterna paradisaea</i>	Arctic Tern	Küstenseeschwalbe	Sterne Arctique
<i>Alle alle</i>	Little Auk	Krabbentaucher	Mergule nain

Wildlife List — Water birds

Scientific Name	English	Deutsch	Français
<i>Anser brachyrhynchus</i>	Pink-footed Goose	Kurzschnabelgans	Oie à bec court
<i>Branta leucopsis</i>	Barnacle Goose	Weißwangengans	Bernache nonnette
<i>Somateria mollissima</i>	Common Eider	Eiderente	Eider à duvet
<i>Gavia stellata</i>	Red-throated Diver (Red-throated Loon)	Sterntaucher	Plongeon catmarin
<i>Gavia immer</i>	Common Loon	Gemeiner loon	Plongeon huard
<i>Clangula hyemalis</i>	Long-tailed duck	Eisente	Harelde boréale

Wildlife List — Waders/Shorebirds

Scientific Name	English	Deutsch	Français
<i>Charadrius hiaticula</i>	Common Ringed Plover	Sandregenpfeifer	Pluvier grand-gravelot
<i>Calidris maritima</i>	Purple Sandpiper	Meerstrandläufer	Bécasseau violet

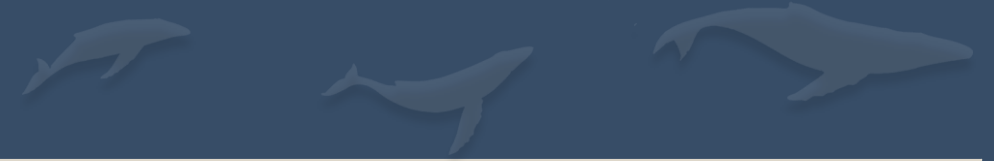
Wildlife List — Land birds

Scientific Name	English	Deutsch	Français
<i>Lagopus muta</i>	Rock Ptarmigan	Alpenschneehuhn	Lagopède alpin
<i>Oenanthe oenanthe</i>	Northern Wheatear	Steinschmätzer	Traquet motteux
<i>Acanthis flammea</i>	Redpoll	Birkenzeisig	Sizerin flammé
<i>Corvus corax</i>	Northern (Common) Raven	Kolkrabe	Grand corbeau
<i>Plectrophenax nivalis</i>	Snow Bunting	Schneeammer	Bruant des neiges
<i>Nyctea scandiaca</i>	Snowy owl	Schneeule	Harfang des neiges
<i>Falco peregrinus</i>	Peregrine falcon	Wanderfalke	Faucon pelerin

Wildlife List - Marine Vertebrates



Wildlife List — Marine



SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
<i>Pusa hispida</i>	Ringed Seal	Ringelrobbe	Phoque Annelé
<i>Erignathus barbatus</i>	Bearded Seal	Bartrobbe	Phoque Barbu
<i>Ursus maritimus</i>	Polar Bear	Eisbär	Ours polaire
<i>Orcinus orca</i>	Orca, Killer Whale	Orca, Schwertwal	Orque
<i>Lagenorhynchus albirostris</i>	White-beaked Dolphin	Weißschnauzendelfin	Lagénorhynque à bec blanc



Polar Bear
Ursus maritimus

Bearded Seal
Erignathus barbatus



Polar Bear
Ursus maritimus

Wildlife List - Land Mammals



Wildlife List – Land mammals



SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
<i>Dicrostonyx groenlandicus</i>	Northern Collared Lemming	Nördlicher Halsbandlemming	Lemming du Groenland
<i>Lepus arcticus</i>	Arctic Hare	Polarhase	Lièvre Arctique
<i>Ovibos moschatus</i>	Muskox	Moschusochse	Boeuf Musqué
<i>Vulpes lagopus</i>	Arctic Fox	Polarfuchs	Renard Arctique

Arctic Hare
Lepus arcticus



Northern collared lemming
Dicrostonyx groenlandicus



Muskox
Ovibos moschatus



Arctic Fox
Vulpes lagopus



**Thanks for exploring
with us!**

THX

