

17th August 2022 NORDVESTFJORD

Flyverfjord - Lancaster Bugt. Making way through Nordvestfjord, landing at Eskimobugt

DATE	17 August 2022			
Time	08:00	16:00	20:00	24:00
Position	71° 34.7' N 027° 59.6' W	71° 55.5' N 027° 38.5' W	71° 38.5' N 027° 12.34' W	71° 31.2' N 026° 47.8' W
Wind	Variable Force 1	ENE Force 2-3	SE Force 3	SE Force 5
Temperature (°C)	5	8	8	7
Weather	Clear	Clear-Sunny	Clear	Clear
Atmospheric Pressure (hPa)	1008.6	1006	1004.4	1003.6
Sea state	Calm	Calm	Slight	Smooth
Landing Position	Anchor Lancaster Bugt until 13:55h	Variable courses amongst icebergs	19:00h-22:00h Anchor at Eskimobugt 71° 38.5' N 027° 12.34' W	Variable courses amongst icebergs

Flyverfjord branches off south side of Nordvestfjord between Hinks Land and Th. Sorensen Land. Often filled up by spectacular icebergs, is yet another remote and not extensively explored location. It was first mapped by Laugue Koch during flights in 1932

on the 1931–34 Treårsekspeditionen. Koch noted it as tribute to his pilot N. V. Petersen.

And indeed icebergs there were. From large tabular to bergy bits one come after the other, not letting have a good view of safe passages between them until the ship approaches. By last evening Rembrandt found a suitable anchorage at Lancaster Bay, the main embayment in the north coast of Flyverfjord. Lancaster is also home for countless icebergs, but due to reduced size and shallower waters, the largest of them can't make their way trough.

Surrounded baby them we spent the night, From the good anchorage, after breakfast the zodiacs brought us ashore to climb the Western cape of Lancaster Bay for a good view over the scenic fjord.

Like on every landing, we were split in two groups, both gaining some height to different shoulders of the large cliffs around.

From up here, Lancaster Bay shows its character of medium-small size iceberg collector. The largest ones amongst them stuck on the ground in the middle part of the bay, the smaller closer to its head. Along the main Flyverfjord several tabular plus other nicely shaped huge icebergs drift and calve.

For some, there was enough time for zodiac cruising amongst the ones closer to the ship and the landing site, before collecting the hiking group. A different experience than seeing them from the outer decks of Rembrandt.



Afterwards she starts engines, heave anchor and head deeper into Flyverfjord just to be stopped after a very short time by several large icebergs blocking the way. Turning around, the new course is set out to the main body of Norvestford, to attempt a landing on its northern shores, at the beautiful and loaded with Inuit history Eskimobugt.

Monumental icebergs are left behind as we approach the landing site, and at arrival, Rembrandt struggles close to the shore sounding the bottom, on an attempt to drop anchor close to the beach, where yet another large icebergs sits. At the end, her anchor and all her chain rattles down to hit the ground 100 metres below. After an early dinner we are ready to explore this seldom visited area.

Soon we come across several remains of Thule origin. Thule is the last wave of Paleo Eskimos that reached Greenland from the Canadian Arctic about the year 1300 AD. They are derived from the Siberian Birnirk people, and upon arrival to Greenland, they originally populated North-West Greenland. By the year 1500 they reached some of the areas on the Northeast coast, when their total population was already dwindling. Not much later they completely faded into the mists of the past

Around the same time as Palaeo-Eskimos died out completely, ancestors of modern day Inuit arrived in Greenland from Alaska.

Here at Eskimobugt look like a Thule little settlement thrived for a while, leaving behind numerous traces of their presence. Clearly visible are several of their houses, with their circular shape, rocky walls and low tunnelled entrances. Next to them heaps of bones of any kind and size, the middens. Some of their tools lay here as well, what seem to be broken harpoons, arrow tips or sort of knives. A bit further away and as usual in their culture, over a hill the graveyard can be seen. Piles of rocks carefully placed still contain the human remains from ancient times.

All located in the most scenic setup. At the front, views to the mighty Nordvestford filled up with its huge icebergs. At its back an open valley between hills, cut by a fresh stream that umps in a picturesque waterfall. High up, the steep rusty coloured tall cliffs that characterise the ford.

Musk ox seem to like it here too.

After a couple of hors enjoying the site and the evening light, it was time to return on board, heave the long anchor chain dropped and under headwinds make way Eastwards off the spectacular Nordvestjord. It will not be until tomorrow morning that will reach our planned destination in Scoresbysund, Bjorn Islands.



Picture: Christian

1931–34 Treårsekspeditionen til Christian X's Land (The Three-year expedition to East Greenland): Lauge Koch

Treårsekspeditionen was the largest and most comprehensive expedition hitherto sent to East Greenland by Denmark. The financial support came largely from the Carlsberg Foundation and from private contributions, while government support was in the form of transport in the ships GUSTAV HOLM and GODTHAAB and seaplanes borrowed from the Danish Navy. Topographical surveying was entrusted to the Geodetic Institute. The expedition was to extend over four summers and three winters, the scientists wintering in specially built stations. The specific tasks of the expedition included preparation of topographic maps of the region

72°–76°N, together with geological, zoological, botanical, archaeological and hydrographical studies in the same region.

Lauge Koch was empowered as the Danish police authority in East Greenland pending the verdict on sovereignty of East Greenland by the International Court of Justice at The Hague. After the decision in favour of Denmark, Ejnar Mikkelsen was appointed Inspector for East Greenland under the authority of The Greenland Administration, although in practice Lauge Koch continued to represent the police authority in East Greenland during his expeditions until 1939.

The 1931 expedition numbered 65, including 22 scientists and their assistants. The principal task of the first year was construction of the two main wintering stations at Eskimonæs and on Ella Ø, and two smaller houses at Nordfjord and Kap Brown. Scientific work of all kinds was commenced, but was not extensive during the summer because of difficult ice conditions and house building. Geological work was carried out mainly on Clavering Ø, Ymer Ø, Traill Ø and Hochstetter Forland.

Ten scientists overwintered in 1931–32, and a great deal of scientific work was carried out during autumn and spring sledge journeys.

The 1932 expedition numbered 95, including 37 scientists and their assistants. Two sea-planes were borrowed from the Danish Navy, one carried up aboard the GUSTAVHOLM, and the second brought up on the French ship POURQUOI PAS?

The air support meant a considerable increase in the effectiveness of the cartographic work, with aerial photography supporting the ground trigonometrical surveys. On the basis of reconnaissance flights a working chart was prepared of the region from 70° to 77°N and was published in 1932, it included many unexplored areas along the margin of the Inland Ice. A new house (Kulhus) was built during the summer on Hochstetter Forland. Scientific studies were carried out between Hochstetter Forland in the north and Traill Ø in the south. Zoological and hydrographical investigations based on the GODTHAAB were carried out in most of the fjord system from 72° to 74°N. Archaeological studies were made on the Thule culture sites on Clavering Ø and in the district around Ella Ø. Weather and ice conditions were more favourable than in 1931. Twelve scientists overwintered in 1932–33.

The summer of 1933 saw the culmination of the expedition, which numbered 109, of whom half were scientists. Weather and ice conditions were very favourable, and in August the GUSTAV HOLM reached as far north as the Norske Øer off Lambert Land (77°N), from where reconnaissance flights were made northwards to Peary Land. Aerial photography was undertaken throughout the region between 72° and 76°N, and the ground- trigonometrical survey was completed. Geological studies extended from Liverpool Land in the south to Skærfjorden in the north, and westwards to the innermost parts of the fjord systems. The GODTHAAB undertook zoological and hydrographical studies in the Scoresby Sund fjord system. Seven scientists overwintered in 1933–34.

The 1934 expedition numbered only 65, including 31 scientists and assistants, and had only one ship, GUSTAV HOLM, and one sea-plane. The main work of the summer was geological, including work in the coastal region between Canning Land and Hudson Land, while inland Eugene Wegmann's party reached Cecilia Nunatak and Helge G. Backlund's party investigated the inner Scoresby Sund fjord system. Poor weather and bad ice conditions hindered activities, and in particular prevented planned relief and transport of supplies to hunters of the Nanok company.

The intensive scientific activity over most of the region north of latitude 70°N, reaching many previously unexplored regions, gave rise to the introduction of a very large number of new place names. More than 480 names are credited to members of the 1931–34 expedition.



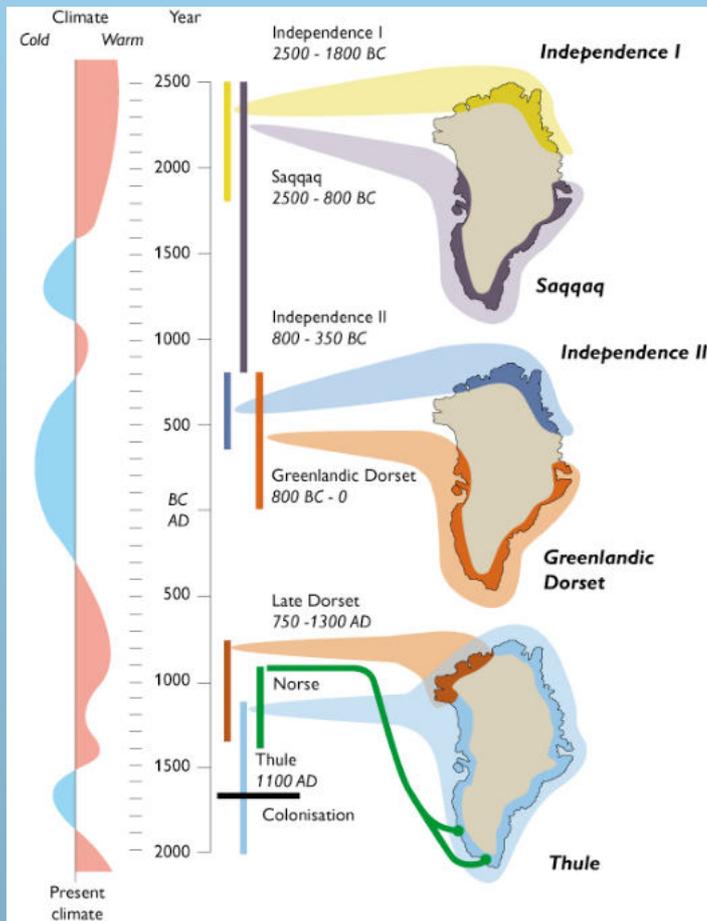
Picture: Christian









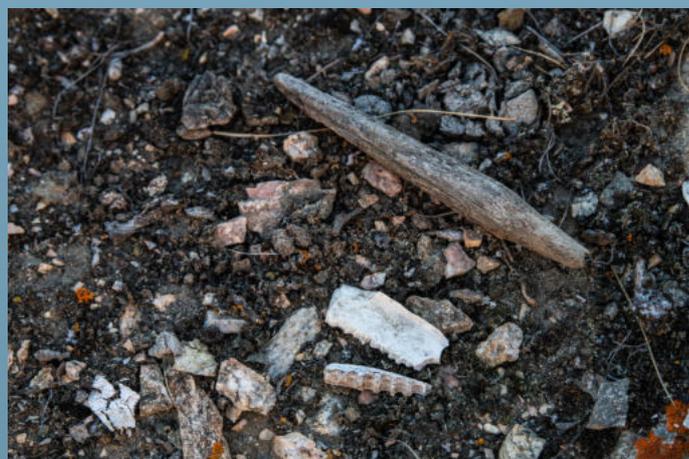


THULE CULTURE

The Thule-people are the cultures which all modern Inuit trace their roots to. They originated in Alaska along the coast of the Bearing straight before migrating east across the Canadian arctic. Eventually reaching Greenland around the year 1300 A.D. Groups of paleo-eskimo had reached Greenland before, but none of them were as adept to survival in the arctic as the Thule. The Thule-people developed hunting technology to hunt various game among which: reindeer, birds and seals to large Bowhead whales. They traveled great distances using boats of made of mostly skin and whale-bones (Kayaks and Umiaks). On the frozen icesheet and at land dog sleds were used. When the Thule reached Greenland they came into contact with other cultures, the Greenland Norse and the paleo-eskimo Dorset culture.

After the disappearance of the Dorset and the Norse, the Thule-people became the only inhabitants of Greenland until Danish colonization in the 1700s.

What factors made the Thule migrate east across the Arctic has mystified scholars for years. Were they trying to follow the Bowhead whale summer/winter migration? Or was it simply due to overpopulation in their former habitat and a necessity to find new hunting grounds?













18th August 2022 Bjorne Islands (Jytte Havn) and Cruising Ø Fjord

DATE	18 August 2022			
Time	08:00	16:00	20:00	24:00
Position	71° 04.1' N 025° 37.3' W	71° 02.7' N 025° 40.3' W	71° 00.5' N 026° 11.1' W	70° 54.9' N 027° 03.5' W
Wind	Variable Force 2	SE Force 2	E Force 2	E Force 2
Temperature (°C)	7	8		8
Weather	Clear	Clear	Clear	Partially cloudy
Atmospheric Pressure (hPa)	1003.7		1004.4	1005.4.7
Sea state	Calm	Calm	Calm	Smooth
Landing Position	Anchoring 08:10h at Jytte Havn to 12:30h 71° 04.1' N 025° 37.3' W	Anchor At NE tip of Milne Land 13:40h to 17:00h 71° 02.7' N 025° 40.3' W		

Making way overnight since our landing at Eskimobugt, Rembrandt reaches in the early morning the entrance of the amazing Ø Fjord. That major channel stretches between Renland and Milne Land. It was discovered and named by Carl Ryder's 1891–92 expedition during the exploration of the Bjørneøer in September 1891. There are no islands within the main stretch of the fjord, and the name (Islands fjord) derives from Bjørneøer themselves (Bear island), right where we were heading for the activity ashore after breakfast.

The Islands form a small archipelago off NE Milne Land. So named by Carl Ryder's 1891–92 expedition, because a bear was shot during exploration of the islands on 4 September 1891. Interestingly Carl Ryder, in his very naturalistic and systematic view on place names, decided to number the islands 1-11 instead

of giving each one a unique name. But only one of the major place names put on the map by Ryder is named after a person, that is Scoresby land.

First order of business was to put down anchor in Jytte havn. That is a pronounced bay in the SW most island of the Bear Islands, it was regularly used as an anchorage by Geological Survey of Greenland 9-ton motor cutter JYTTE during the 1967–72 Scoresby Sund expedition. Its mission was to systematically geologically map the area between 70° to 72°N. This project was huge in terms of number of personal working on it, especially considering the difficult logistics of moving multiple survey team around Northeast Greenland. When the research project was the most active they had 2 helicopter, and 2 ship servicing multiple survey teams around this region of Greenland. The main role of the motor cutter Jytte was to conduct a somewhat small reconnaissance expedition in 1967 that was to provide important logistical and geological backgrounds that would help plan the larger expeditions during 1968-1972.

Soon we all set foot on this picturesque place, that some could describe as the paradise of landscape photographers.

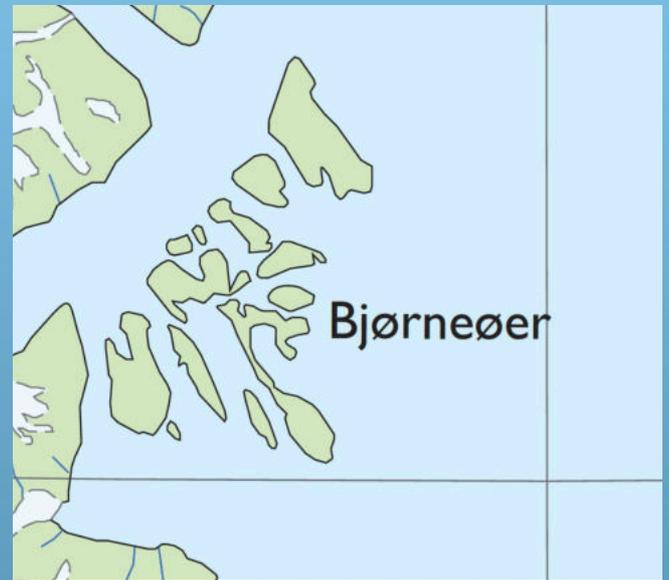
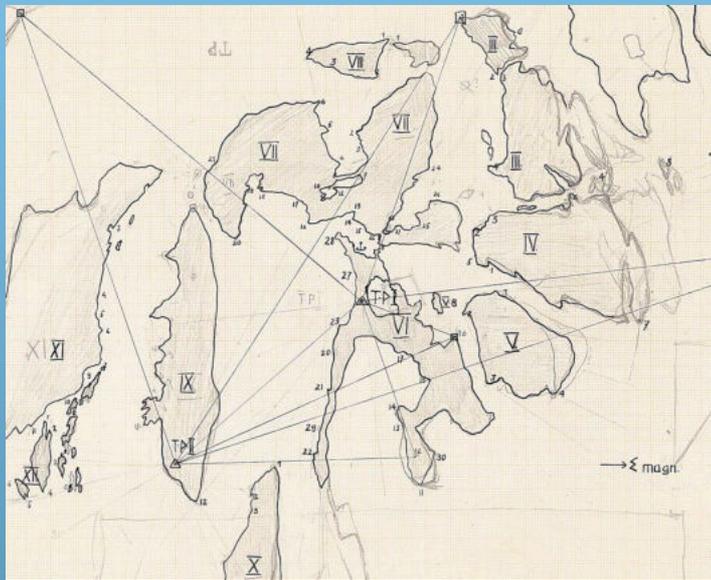
There we could see the high mountain ridge of Ø Fjord, dominated by Grundtvigskirken, ever-present during the whole day activities in the area. In the other direction long steep mountain chains of Bjorn islands were also a sight to behold. In the landing we could also easily find some nice foreground in the form of tundra vegetation or small pools of water, reflecting some of the scenery.

Two groups set their steps for different corners of the island, one up the hills, the other in the lower areas. Viewpoints come in succession one after the other and even a Polar fox is spotted close to the pick up beach.





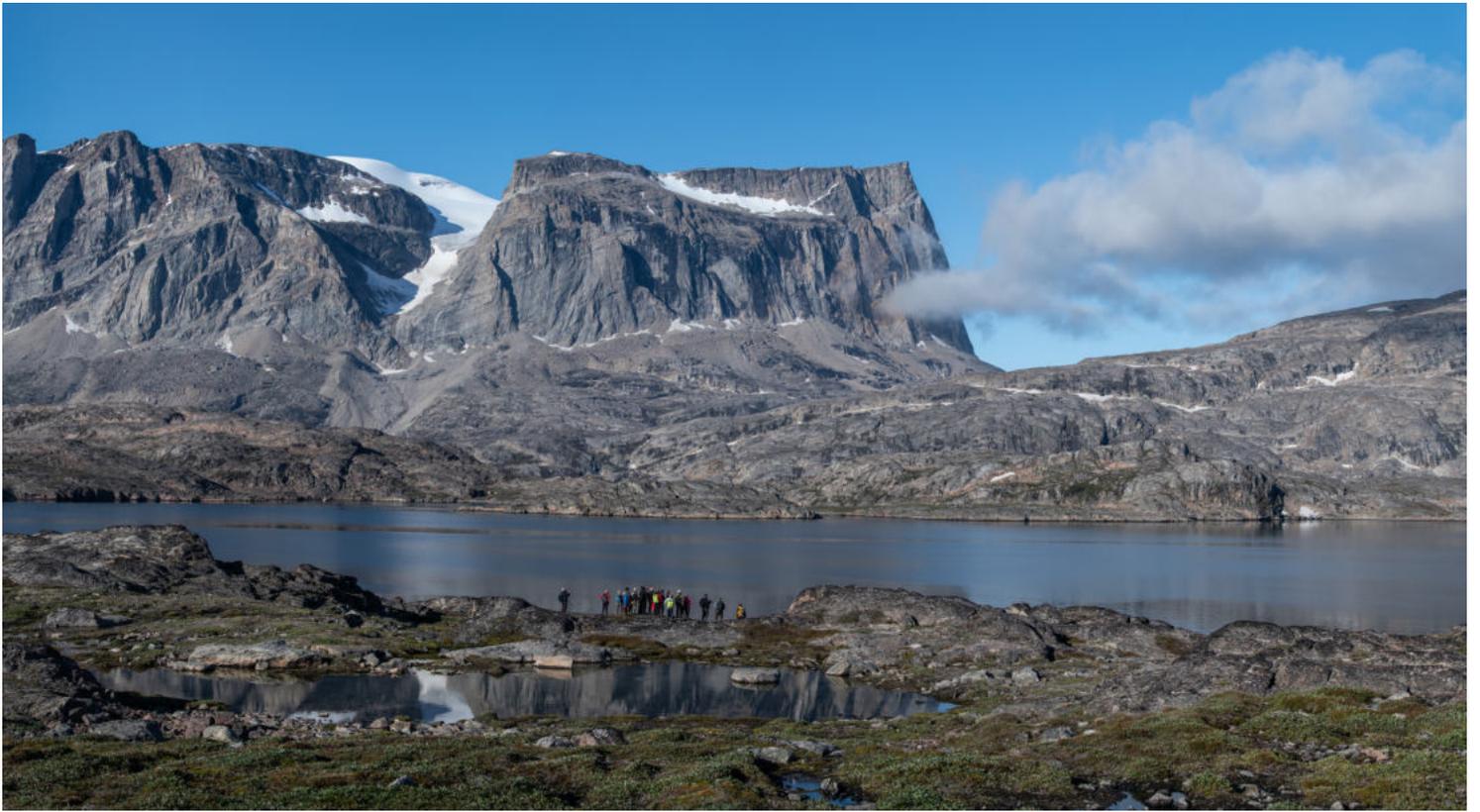




Original survey of Bjørneøer, the island group south of the mouth of Nordvestfjord, drawn by Helge Backlund and Eduard Wenk in 1934. The sketch map shows sight lines from trigonometric points (TP) and the numbering system in Roman numerals. GEUS archive.











Rembrandt heads towards the channel that separates Milneland from Bjorne Islands. There we drop anchor in front of the hidden valley chosen for the afternoon landing.

The spot offers great views over Ø Fjord mountains and Bjone Islands. The ample valley we followed for our leg stretch and photo session lay under an impressive square-shaped cliff of about 1000m of vertical granite. At its foot runs a scenic little river that builds ponds and lakes of different sizes as we advance upstream. All an all making of this corner one of the most amazing and picturesque areas in Scoresbysund.

Faster and slower groups both reached different vantage points through adventurous terrain of hills, valleys and gullies, but all with gorgeous views over the surroundings. Standing out amongst them, the spectacular Grundvigskirken, located on the northern coast of Øfjord, and this afternoon its been again and again in many of our photographs. Its name derives from the large protestant church of the same name, Grundvigskirken, that is located in northern Copenhagen, with which it shares a resemblance. Again the several ponds and little lakes down the valley offer great mirroring images of the mighty cliffs all around us.

The day was not over yet, as straight away after coming back on board, anchor comes home and we set course along the length of Ø Fjord. Ahead of us between 50 to 60 nautical miles of the most spectacular fjord-scenery. A day under bright blue skies gradually gives way to an arresting sunset, painting the gneisses and granite surrounding big-walls in a range of orange tonalities.

This fjord is framed by the mountains of Milne Land to the south and Renland to the north (part of mainland Greenland). There were several beautiful mountain tops and vertiginous cliffs all around, but one of the highlights here is of course the very pointed and steep - cathedral shaped - Grundvigskirken (1882 m) straight up from the water level, while the fjord is about 1000 m deep.

Countless hanging glaciers fall over the steep slopes that fall into the sea straight from the ice cap that shows its edges above the high mountains.







GEOLOGY OF SYDKAP AREA AND THE NORTHERNMOST TIP OF MILNE LAND, WEST OF BJORNEOER

The geology of Sydkap area is made up of massive and hard banded gneisses with abundant garnet. Garnet is a mineral that has generally the size of a few centimetres and can be of clear reddish colour. Sometimes the garnet shows good transparency and clarity. Such garnets can reach semi-gemstone qualities and are used in the manufacture of jewellery. At Sydkap the garnets are of centimetre size and are of a reddish colour.

From our both landing spots today we were able to see from distance the famous mountain peak named “Grundvikskirken” which is located at the entrance of the Ojffjord, at the southern shore of the Renland. The spectacular peak of “Grundvikskirken” is made of quartz monzonite. Quartz monzonite is a rock that is somewhat similar to a granite but that has a bit less quartz than a granite and with somewhat more abundant Feldspar minerals than granite. These granites and quartz monzonites occur as intrusions and are genetically associated with mountain chain formation. They have formed below the earth surface, and because of uplift and erosion these rocks are now exposed and are cropping out and form these nice peaks that we see now on the northern shore of Ojffjord.

After the formation of an alpine chain the next phase is the erosion that is caused by weathering of the mountains. As a result of this weathering large volumes of such erosion products are transported via large river systems in sea or lake deltas. The Caledonian mountain range was also subject to such erosion. These sediments that derived from the weathering of the Caledonian mountain range are broken up rocks (named clastic rocks) and were transported in the Scoresby Sund area by rivers and deposited on land in river delta systems. These basins were formed and filled over long periods in the Carboniferous and the Permian epoch at about 359 to 299 million years ago in the Scoresby Sund area and were deposited on the gneiss basement. There are also known basements of younger ages during the Trias, Jurassic and Cretaceous epochs. This gneiss basement seen e.g. at Sydkap and the northernmost tip of Milne Land served not only as a basement for the sediments that resulted from the erosion of the Caledonian mountain chain but also for basaltic lava flows. Such voluminous lava flows were extruded in relation with the opening of the Atlantic about 60 to 55 million years ago in the Scoresby Sund area.

In summary the areas visited in Sydkap and west of Bjorneoer are of similar gneiss rock, however in Sydkap more dyke and pegmatite intrusions occur.











19th August 2022 Rode fjord (Rolige glacier) and Rode Island

DATE	19 August 2022			
Time	08:00	16:00	20:00	24:00
Position	70° 36.6' N 028° 06.7' W	70° 28.3' N 028° 04.9' W	70° 27.7' N 028° 04.0' W	70° 21.6' N 027° 56.9' W
Wind	Variable Force 1		Variable Force 1	
Temperature (°C)	6			
Weather	Overcast		Overcast	
Atmospheric Pressure (hPa)	1010.7		1012.3	
Sea state	Calm		Calm	
	09:55h - 13:10h Anchored at Rolige Glacier	15:00h - 19:55h Anchored at Rode Island	22:50h Anchored at East of Ankervig	22:50h Anchored at East of Ankervig

Sunset in Ø Fjord proceeded a night making way towards Rodefjord in open waters. But before breakfast the speed of the ship slows down and we find ourselves at the edge of dense brash ice mixed with growlers and icebergs calved from the large Rolige Glacier. Translation of Rolige means Peaceful, so named by Carl Ryder's 1891–1892 expedition because it seemed to Carl Ryder to be inactive. Maybe by then, but today it almost blocked the way through, with ice of any kind. Actually Ryder found the icebergs at the front of the glacier had not changed their positions between two visits several months apart. When more research was done, it turned out the glacier was not peaceful at all. The bay of Rolige Bræ is also very interesting for its geology, as the area represents a geological contact point between the conspicuous red rocks that name the fjord (made of oxidised conglomerates deposited during the Carboniferous and Lower

Permian) and the old Greenlandic basement rocks (gneiss), that count up to a billion years of age.

It took a while and skilful steering to leave behind all this ice and approach its southern shores for dropping the zodiacs and do our morning landing. Ashore we split as usual in a more energetic hike and a quieter one. both with the goal to get closer and have a look at the glacier front from above. The views from the different viewpoints were spectacular and revealed the whole of the glacier, connected to the Greenlandic Ice Cap on its higher slopes and running down all the way until offering its calving front to the waters of Rodefjord.













From there just a handful of miles separate us from the afternoon destination at Røde island, located at the entrance of Røde fjord, west of Milne Land. It was also named by Carl Ryder's during his 1891-92 expedition for its onspicuous cliffs of red sandstone, breccia and conglomerate.

The afternoon plans involved a combination of iceberg cruising and landing at the island itself.

We set foot ashore at a small bay on the northern side of the island. There we walked over to a ridge overlooking the grandiose icebergs stranded in the channel below. We spread out along the ridge while countless pictures were taken of the large icebergs stuck in the channel. We happened to be super lucky! Soon as we came to the ridge the large iceberg closest to us calved in spectacular fashion hurling waves in all directions, starting a chain reaction of activity over the its neighbours.

A powerful show of the natural forces that we deal with here in the arctic, and we had front row tickets to this amazing display. After spending some more time photographing on the ridge it was time for the zodiac to come pick us up for cruising around the island.

We first visited the basalt dykes and columns of Røde Ø. An impressive basaltic dike cuts through the sedimentary rocks offering good photo opportunities. From then on, we dove deeper into the unbelievable landscape. From the majestic red cliffs to the grandiose icebergs stranded here, we happily cruised while countless pictures were taken. Large amounts of icebergs have accumulated in what could be called an iceberg Graveyard – brought here by the prevailing winds and currents running through the fjord, getting grounded on the surrounding shallows.

We cruised through the channel with our cameras clicking away.

A great site and a well known one for the fleet working here. While conducting our activities two other sailing ships joined us, also zodiac cruising and landing.

A few miles southwards, just across Fonfjord, lay the anchorage we planned to use for the night.





GEOLOGY OF THE RØDE Ø (RED ISLAND)

At the Røde Ø we had the opportunity to investigate spectacular sedimentary formation of continental clastic origin (which means that it has been deposited on land, and that rocks were broken up before they deposited). It is also thought that these rocks have been initially deposited in a fluvial river system. It is also suggested that these river deltas have been formed during a dry and warm period under arid climatic conditions. These rocks have been formed during the Carboniferous (359 to 299 million years ago) to the lower Permian (the Permian period started after the Carboniferous 299 million years ago). These thick beds of conglomerate and breccia were formed because of the erosion of the Caledonian mountain chain which was about 1300 km long, and can be found in Greenland, Svalbard, North Africa and North America. The erosional products of this large Caledonian mountain chain were then afterwards deposited as sediments in younger sedimentary basins during the Carboniferous and the lower Permian and have made up among other formations the rocks of Røde Ø. The rocks at Røde Ø are very red and these strong colours are caused by the oxidation during weathering of iron rich minerals that are contained in this sedimentary rocks of the Røde Ø. It was also possible to observe the bedding and the stratification of these rocks. Sedimentary structures such as river channels and graded bedding were also seen. From the exposures that we have seen from the zodiac the larger components of the rocks are mainly angular or sub angular, which means that the transportation cannot have been very far from the source of these rocks. It was also possible to see from the zodiac and from very near distance several dykes of brownish-greenish coloured basaltic rocks and with typical columnar texture. These rocks were intruded in the red sedimentary rocks of Røde Ø in connection with the opening of the Atlantic at about 50 million years ago.











Picture: Christian

