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Field report from the journey to North-East Greenland 2022

Kulhus revivified !

This year Nanok had three field teams in North-East Greenland. As usual, our work was sponsored by Aage V. Jensens Fonde. One of the Nanok teams completed first phase of the restoration of the Lauge Koch expeditions' old expedition house, Kulhus, on Hochstetter Forland. The structural support and the exterior are now in order. Next year we will complete the interior. Read more about this and much more in this report.

32nd field season

Introduction

This year Nordøstgrønlandsk Kompagni Nanok has completed its 32nd field season as planned.

Three Nanok field teams have been in North-East Greenland. In addition, a team of scientists closely associated with Nanok. One of the Nanok teams has had its base at Ella Ø. The other teams have had their point of departure from Sandodden on Daneborg, restoring Kulhus on Hochstetter Forland and Kap Philip Broke huset on Shannon Ø respectively. The completion, especially of the two latter projects, has taken several years to plan and have been challenging to carry out. The Kulhus project had to be postponed one year due to the COVID-19 situation. Add to that the rather complicated logistical work planning the transport of the considerable amounts of materials and equipment for restoration to the localities in question. We succeeded thanks to benevolent assistance from the Danish Defense, supporting the project in the summer 2021 with assistance from Arctic Command, the inspection ship "Triton", Air Squadron 723, as well as the Sirius Sledge Patrol.

In contrast to the two previous years, there were no COVID-19 travel restrictions, and in comparison this made the journey to and from North-East Greenland noticeably easier to complete. Furthermore, it was nice to once more shake hands with the local Sirius men and pat their sledge dogs and puppies; something that was not permitted during the COVID-19 years.

One of Nanok's purposes is to *"assist in the completion of scientific and cultural projects in the area*". This part has really taken off in recent years. Not least in the Ella Ø-region, where we supported the scientist group from Arctic Research Centre (ARC) at Aarhus University, logistically as well as infrastructurally. Really, it is a crisscrossing collaboration, where assistance goes both ways in best North-East Greenlandic tradition. If anyone needs an extra hand, there is always someone willing to lend it unconditionally. It is a true pleasure working in such a work environment.

The weather during the field period has mostly been good, however, somewhat more unstable compared over a number of years. There have also been evident differences in the weather at the different localities, where we have been working. While we had sunshine in Ella Ø over a long period, at the same time, the team on Shannon Ø had to settle for fog, wind, rain, and grey skies. Still, the weather near the outer coast and the open sea being more unstable and less sunny than in the inner part of fiord systems is not an unusual phenomenon.

The ice conditions were good for sailing in the areas where Nanok worked this year. Yet, through Sirius we learned that the drift ice in the last part of August was pushed hard into the mouths of the fiords, i.e., at Foster Bugt. Fortunately, we were not going there this year.

AAGE V. JENSENS FONDE

First and foremost Nanok owe a pronounced thank you to our sponsor, Aage V. Jensens Fonde, for never failing trust and support. Without this continuous support, Nanok would not be able to carry out our work, which often can be costly, logistically challenging and take years of preparation.

We also owe a special thanks to a range of Danish Military units and individuals for an outstanding collaboration and for ready and immediate assistance solving various logistic challenges. Many different military units have contributed throughout our work, including Joint Arctic Command, the Sirius Sledge Patrol, Station and Patrol Service Greenland, and Defence Guard Mestersvig.

Also, a great thank you to logistics personnel and scientists at Ella Ø, Daneborg and Zackenberg research stations for willing assistance, collaboration and good neighbourly relations.

Furthermore, a great thank you for the support that family and friends show the dispatched Nanok'ers, who often spend an entire summer holiday doing work for Nanok. Such support and understanding from home mean the world to the individual Nanok'er.

Many thanks also to the large circle of individuals that continuously show positive interest in our work and support this.

Finally, a warm thank you to all other good collaborators as well as private and public authorities that in different ways have contributed in making our work possible.

On behalf of Nanok

Peter Schmidt Mikkelsen

This field report is available in English and Danish at: www.xsirius.dk/nanok.html

Field report for the "Ella Ø team" 2022

Tasks

a) complete restoration and furnish the expedition house "Fjøset" at Ella Ø [235]
b) furnish and relocate base facilities in order to assemble these in the area allocated to Nanok at Ella Ø.
c) inspect, count and maintain Nanok equipment on depot Ella Ø
d) receive goods for Nanok at Ella Ø
e) prepare for Nanok expedition Ella Ø 2023
f) collaborate with Arctic Research Centre

Nanok's area at the Ella Ø station.

Participants

Peter Schmidt Mikkelsen (Sirius '77)
Tommy Pedersen (Sirius '93)
Ole Schirmer Nielsen (Sirius '97)

Journey to North-East Greenland

On 11th August 2022 the ten participants of this year's three Nanok teams met for the first time. This was on the airport in Constable Pynt. Two participants had already been on "the Coast" for a few weeks and were now united with the other eight participants, who had arrived directly from Denmark that day. After a short break in Constable Pynt, all men boarded a Twin Otter heading towards Daneborg, where seven participants from the North-teams got off, while the three members of the Ella Ø-team continued in the Twin Otter with course towards the Ella Ø station. This team arrived late in the afternoon. at Ella Ø, seven researchers and logistics personnel from the Arctic Research Centre (ARC) had already installed themselves, so there was good need for all bunks in Tolvmandsbarakken plus a few extra bunks in "Fjøset".

Starting up at Ella Ø

At Ella Ø, the next morning's grey clouds were later replaced by that kind of beautiful, clear sunshine you hope for when you visit Ella Ø.
That morning Tommy immediately started on our main task, the expedition house "Fjøset", where the first subtask was to prepare one of the rooms for accommodation for two men during our stay.

This year's Nanok participants gathered for a brief moment on Daneborg 11th August 2022: F.l.: Peter Schmidt Mikkelsen, Leif Kjær Pedersen, Claus Birkbøll, Hasse Staunstrup, Birger Bjerregaard, Lars Kaas Nielsen, Thomas Peitersen, Tommy Pedersen, Ole Schirmer Nielsen, Anders Bjerregaard.








Row 1 and 2: The expedition house "Fjøset" before restoration.
Row 3, left.: Windows with mounted bear-proofing bars. Right: Arrival of RAL "Malik Arctica".
Row 4, left. Restoration materials outside "Fjøset". Right: Nanok's new Wiedemann mini loader is a big help at the station. The mini loader was sponsored by Aage V. Jensens Fonde in 2021.

Restoration of "Fjøset".
Ceilings and walls in all rooms are cleaned and painted. Tommy puts up a partition between the two large rooms. After the paint had dried, decoration started with assembling bunk beds, a.o.

Another startup job was to prepare Nanok's Buster dinghy and launched. This was an opportunity to use our new boat trailer for the dinghy for the first time. Ole and Simon gave the outboard motor an oil change and a thorough inspection. Then the dinghy was ready for launch, and we could establish that everything was functioning as it should, even though the dinghy had not been used since 2019. This was re-confirmed the following day, when Peter, Torben and Jeff made a test sail to Fladedal to inspect the area there. Furthermore, the test sail proved that Buster now is completely sealed after the reparation that Erik and Niels did on it in 2019. While we were sailing towards Fladedal, RAL's supply ship "Malik Arctica" arrived to deliver the container that ARC had asked to have delivered to Ella Ø, containing a so-called GIOS-container to be installed here, among other things. "Malik Arctica" only stayed at Ella Ø for two hours, so it sailed towards Daneborg, as we arrived back from Fladedal. In the container for ARC, Nanok had secured space for a good portion of equipment, for example for bear proofing the expedition houses at Ella Ø.

Bear proofing Tolvmandsbarakken and Fjøset

To bear proof the two houses Tolvmands-barakken and Fjøset, during the course of the spring, we had had manufactured robust iron bars for installation on the windows in these houses. The bars and miscellaneous other parts were delivered to Ella Ø with "Malik Arctica". So right after "skibsmik", Tommy and Ole started bear proofing Fjøset and Tolvmandsbarakken. First the interior frames around the windows were removed. Then the exposed edges and surfaces



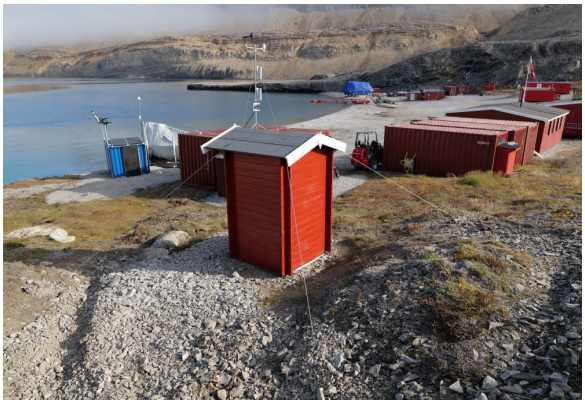

Housewarming in Fjøset with our neighbours from Sirius and cohabitants from Arctic Research Centre. A cosy evening and with plenty of space for all 14 participants in the new common room.

were grinded and painted. It took a while for the linseed oil paint to dry, but on 14th August Tommy and Ole could start mounting the window bars in Tolvmandsbarakken. For the installation were used long, strong bolts, so we are counting on that not even a polar bear will have the strength



Top left: Ole refreshes the large coal stove in Fjøset with a coat of blacking. Top right: The paneled doors are painted on the outside in fine summer weather. Below left: A grease separator installed on the drain from Fjøset. Below right: Winter preparation of the Buster dinghy's outboard motor.



Until now, we have shared plumbing facilities (toilet, shower, a.o.) with Sirius, but after Nanok has received its area allocation and researchers have arrived, it has become practical to have each our own. Therefore we made the lacking facilities on Nanok's area.

to rip off the window bars and enter the house this way. Hence people can sleep safely at night.
It was an extensive job to mount the total of 7 bars in Tolvmandsbarakken and twelve bars in Fjøset, so the work lasted until 17th August.

To Kjerulf Fjord in the footsteps of Louise A. Boyd

Torben Røjle Christensen, Jeff Kerby and Peter had during the winter discussed and planned a journey to the inner part of Kjerulf Fjord to locate some of the sites the American millionairess and polar enthusiast Louise Arner Boyd had visited and photographed in the 1930s. The purpose of our trip was to find some of the same locations to find out, what changes had happened to the nature over the last hundred years. At some point in the planning process, we considered chartering a helicopter for transportation to Kjerulf Fjord, but since this was not possible and time was scarce, we chose instead to use Nanok's Buster dinghy for the journey. A trip of approx. 300 km. It turned out to be a good and flexible solution. The work in Kjerulf Fjord is also described in a later chapter in this report. While Peter was travelling with Torben and Jeff on 15th - 16th August, Tommy and Ole continued the work at Ella Ø.

Fjøset after restoration and refurbishing.

Fjøset has become a nice and authentic expedition house with common room, workshop and bunks for up to six people. Holders for signal guns have been installed in all houses, so you know where to find the signal guns, in case the need to scare off a polar bear arises. Finally, all disposed wood was cut into kindling sticks.

Restoration of Fjøset

When we had finished bear proofing the houses, we continued restoring the rest of Fjøset. Fjøset consists of five rooms, now arranged as follows: an entrance of approx. 1.5 m^2, a common room of approx. 20 m^2 with a seating area large enough for 15 people. Another room of approx. 20 m^2 with a worktable and a bunk bed, which can be used both as a workshop and for accommodation. Two smaller rooms of about 10 m^2 each with a bunk bed. Fjøset can now accommodate up to six people.

The practical restoration has been comprehensive. First, all existing furniture and installations were removed, except the coal stoves in the dining room and in the workshop. Then, a new partition wall was put up between the two larger rooms. When this had been done, ceiling, walls, doors, and other surfaces were cleaned and painted. This process took quite some time, since everything was painted twice with linseed oil

paint, which covers very well, but unfortunately takes a long time to dry. For the furnishing of Fjøset, we had purchased some furniture, such as bunk beds, tables, bookcases, chairs, etc. Most of the furniture was delivered as assembly kits and assembled during the process.
On 23rd August we were so far in the restoration process that we could host a housewarming party for our neighbours from Sirius and ARC. Including us three Nanok-men we were a total of 14 persons in the dining room. It worked well, and we had a nice evening.
A few small jobs were left now, among other things reparation of the exterior staircase and painting of the panels; still, we finished the restoration of Fjøset on 30th August, and we were quite satisfied with the result.

Building a toilet (privy)

Up until now Nanok has been using Sirius' toilet facilities; but since Sirius and Nanok now have divided the Ella Ø station area between themselves, it has been a wish that Nanok would establish a toilet (privy) in their own area. The toilet assembly kit has been ready since last year. First, however, a suitable location for the privy had to be found, which had to be levelled and prepared, before we could start assembling the toilet. After this work was completed, the actual assembly of the kit was done pretty quickly. When the privy had been erected, it was anchored with steel wires, and the roof was covered with roofing felt. Then, the exterior surface was painted, which took a few days, as the linseed oil paint needed time to dry between layers. Finally, the house, which received the name "Trykkeriet" ("the press room"), received a name plate.

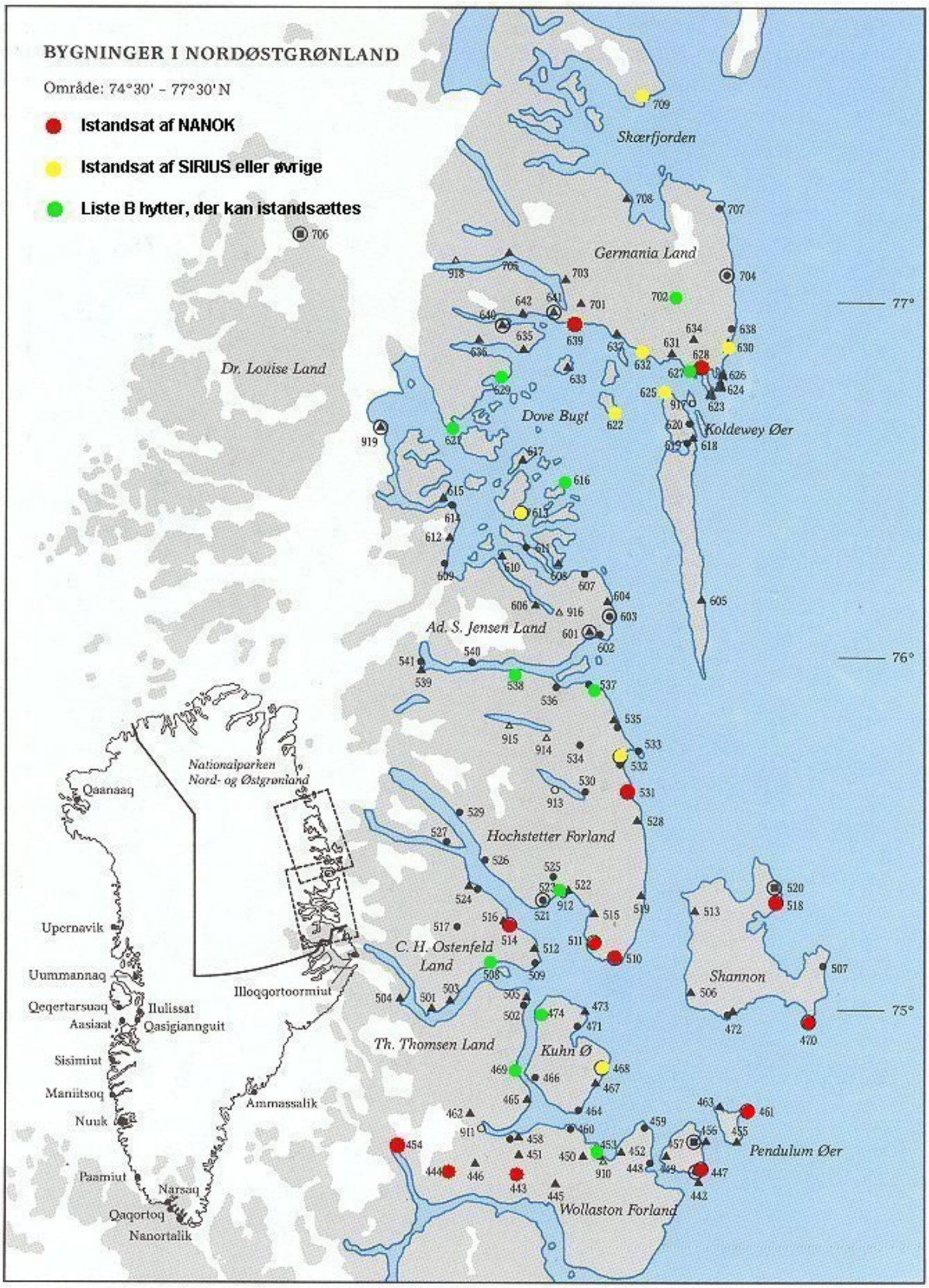
Miscellaneous work

During our stay, a range of improvements and facilities were done, such as a mixing battery for the outdoor faucet, a "garage" for the winch, holders for signal guns, an outdoor urinal, as well as a lot of other small things.

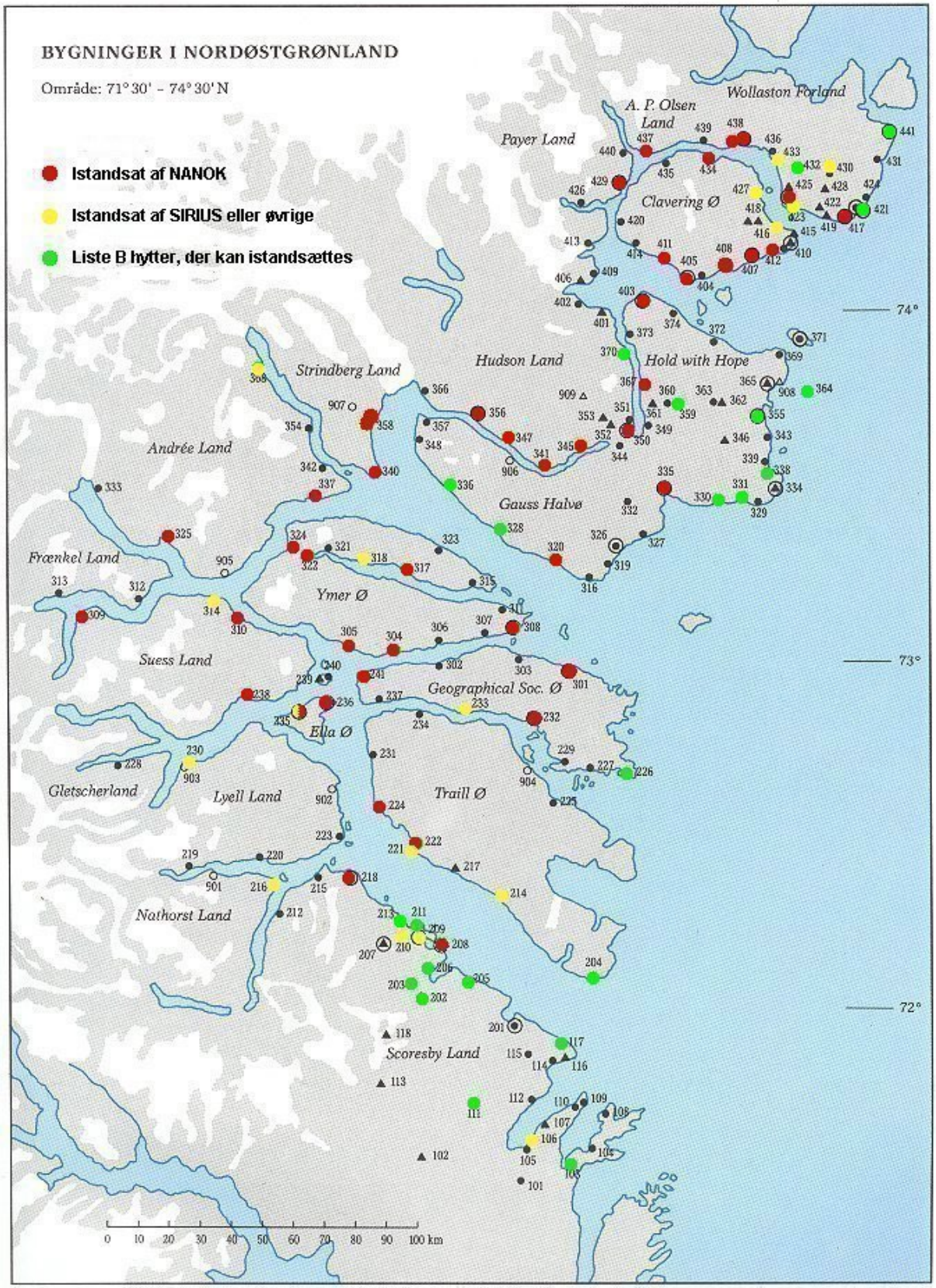
Closure

Time did not allow for any excursions from Ella Ø, except for a short but nice trip on 29th August with the Sirius-men to Ørkendal on the other side of Kempe Fjord. Arriving back from the trip, we pulled the Buster-dinghy ashore, and that was the beginning of the end of our stay at Ella Ø. In every way it has been a fine summer with good weather pretty much all the way. It has been a pleasure to be neighbours with Sirius and have the ARC-people accommodated with us. We send a big thanks to everyone who has contributed in some way or another to this.

Tommy – Ole - Peter



The map shows the maintenance status for the old huts, houses, and stations in North-East Greenland. The sites marked red or yellow can be expected to be in reasonably usable condition. Other sites, however, cannot be expected to be usable. Sites marked green are other huts with the classification B, which Nanok may renovate and maintain in the coming years.



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Field report for the "Kulhus team" 2022

Tasks

The Kulhus team had the following tasks:

a) complete restoration and cultural historical preservation of Kulhus [511] – Phase I
b) inspect, count and maintain Nanok's equipment and depot at Daneborg
c) receive goods for Nanok at Daneborg
d) prepare for the Nanok expedition Daneborg 2023

Participants

Anders Bjerregaard (Sirius '00)
Birger Bjerregaard (Sirius '97)
Lars Kaas Nielsen
Thomas Peitersen

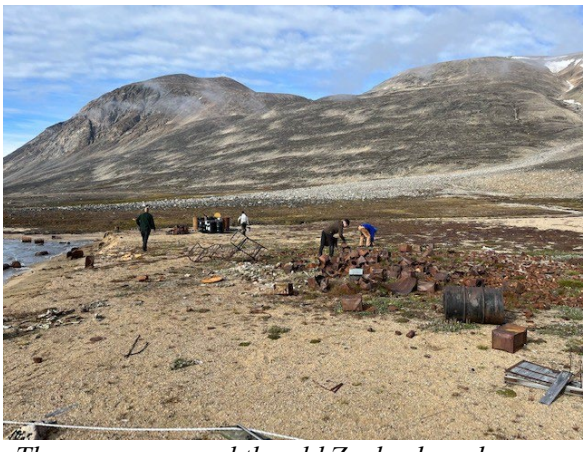
Journey up and arrival in North-East Greenland

We departed from Copenhagen on 11th August with stops in Keflavik, Reykjavik and Constable Pynt, arriving at Daneborg around 16.00 the same day. At that time, the supply ship from Royal Arctic Line (RAL) was delayed with expected arrival at Daneborg on 16th August, which meant that we had plenty of time to pack and prepare for the sail to Kulhus. However, on 12th August we received word from Sirius that the supply ship was now expected to arrive on 13th instead of 16th, as previously anticipated. In the meantime, we had prepared rubber dinghy (RIB) and motor as well as tools and equipment at Daneborg. Therefore, we were ready to sail to Kulhus after receiving goods for Nanok at Daneborg. Also, we spent the time testing the survival suits in Young Sund as well as the RIB, doing a test trip out around Sandøen and Basaltøen.

Cleaning-up around the old Zackenberg base, before and after.

Cleaning-up around the old Zackenberg base

On 13th August "Malik Arctica" arrived, however, Nanok's equipment was placed among the last to get ashore. To use the wait effectively, it was decided to go to Zackenberg together with the Kap Philip Broke team, to clean-up the area around the



The scraps around the old Zackenberg base were collected and stored in empty barrels, which will be removed by the ZERO-station on a later occasion.









Kulhus upon arrival.

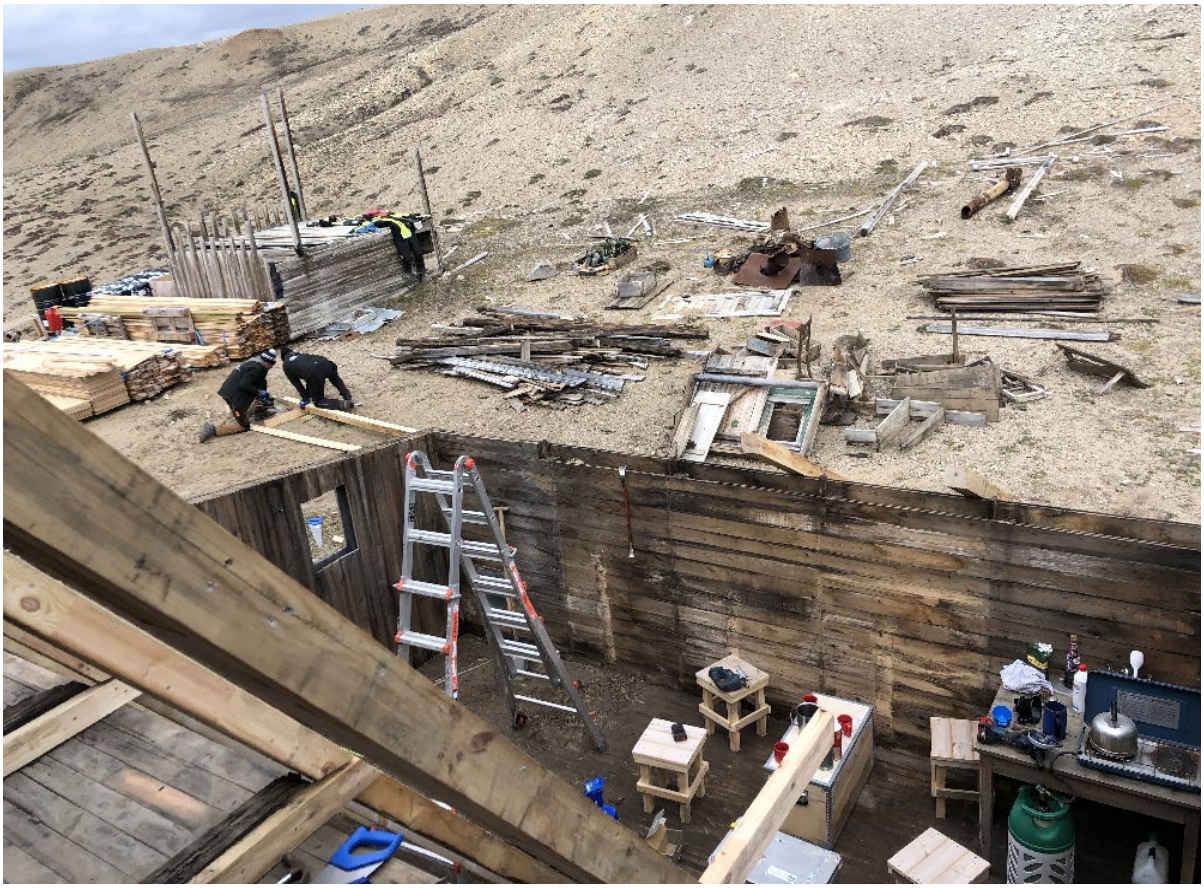

Restoration in process. It was necessary to remove the roof on the eastside of the house to restore the supporting structure.

old Zackenberg base, where there has been a lot of old cans, metal scraps, and pieces of glass scattered over a large area for many years. We collected everything we could and put it into the empty fuel barrels that the ZERO station had made ready for us last year. Then the barrels were sealed, so the ZERO-people, according to previous arrangement, can transport them to Daneborg for transport to Denmark later on. Some old, empty barrels still lie along the shore. They are filled with sand, and, unfortunately, we had neither the tools nor the time to dig them out. This will have to wait for a future opportunity.

Off to Kulhus

In the morning of 15th August, we left Daneborg in a heavily loaded RIB. We just barely were able to plane! The trip went along the outer coast up through Claveringstrædet and further east around Kuhn Ø. Between Hochstetter Forland and Kuhn Ø we met a lot of drift ice, and here we also saw a mother bear with two cubs. We spent 4-5 hours and 80 litres of fuel to sail the approx. 150 km from Daneborg to Kulhus.

Having arrived at Kulhus, we were now able to see the hut for ourselves for the first time. The



Open house - Kulhus!


Left: Roofing felt applied to the roof. Right: The new loft floor.

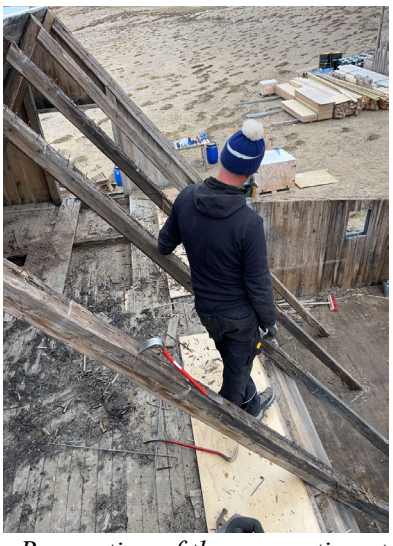
most recent photos we had of the hut and its condition were from 2019, and in the meantime weather and time had left their marks on the old station. We started by photographing the entire hut and then removed most fixture. Add to this approx. 20 wheelbarrows of sand, which had blown into the hut over the years. We quickly cleared the floor of one room, where we put out some roof tiles to sleep on that night. This installation served as our base throughout our stay, and the solution worked well. The necessities and materials that had been flown up in the summer 2021 with the helicopter of inspection ship "Triton" were nicely in place. Only the materials for insulation lay scattered in the area, prooving that a bear had had some fun here.

Visit by "Maria Merian"

The following morning we managed to contact the German research ship "Maria Merian" via the VHF radio. She was situated a bit further out in Ardencaple Fjord. They were very interested in seeing Kulhus and therefore launched a RIB, which sailed all 14 scientists and others ashore. We all had a couple of cosy hours, and while enjoying a cup of coffee we told them of Nanok's work. In return they told us of their research in the area. Also, to our joy, upon their departure, they left us with several bags with soda, beer and sweets!

Restoration of Kulhus

When "Maria Merian" had left Ardencaple Fjord, we continued removing old roofing felt, nails, damaged boards, and wet inventory. The old walls, functioning as partitions between bunks in the large room of the hut, were also taken down; otherwise, we would not have been able to repair the roof. It became increasingly clear that the hut was in a worse state than anticipated. The porch was in such a bad shape that it was unsalvable. The same was true for the supporting structure of the eastside of the hut. In addition, the floorboards



Reparation of the supporting structure of the eastside of the house. Insulation and felting of the roof.

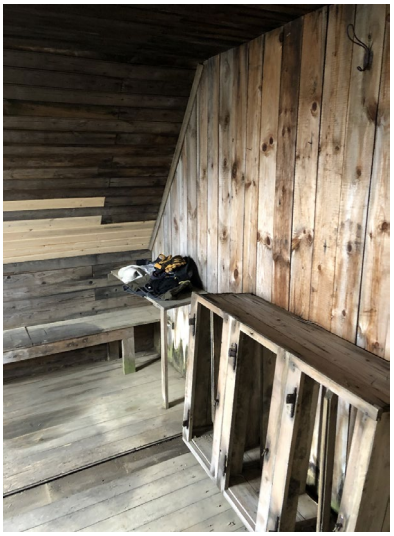

The supporting structure is now restored. Floors and attic will be restored in the next phase - in 2023.

on the attic were more or less collapsed. About a third of the roofboards were rotten. In addition, all doors and windows were destroyed or rotten.
On day three we decided to remove the entire roof and the supporting structure on the east side of the house. We replaced all rafters and then started to cover the roof itself with boards and roof tiles.

After the supporting structure in the roof had been renewed, we could remove the old floor of the attic and install a new one.
Two coal stoves had been delivered at Kulhus to replace the existing ones in the house. The old stoves were completely rusty, and one of them collapsed as we tried to move it. We installed and








The interior of Kulhus after the renovation. Ready for phase II in 2023.


Visit from the research vessel"Maria Merian".

tested the new stoves, and we could then begin to dry out the hut as much as was possible. We gathered coal from the surrounding coal deposits and could confirm that the coals burned well, but that the heating value is somewhat lower. Furthermore, the collected coal also left more soot than the coal we had brought ourselves.

The next day the sea ice drifted in and settled close to the shore. Luckily, we managed to place our RIB safe and sound in a small "lagoon" in the riverbed south of the hut, where it remained during our stay. Several times, we succeeded in catching one of those Arctic chars we saw in the water right down the cliff near the hut. Preparing fresh fish every evening was not to our own pleasure exclusively, but also to the joy of the three "station foxes", who every day diligently searched the site around the hut. With time they became so trustful that we by the end of our stay were able to hand feed them.

We first nailed inner roofing felt to the roof, then we burned on outer roofing felt. At first, the steep roof gave us some challenges, until we found a method that worked for us: namely to drill on some boards for steps to stand on while working.




The outside result of the summer's work.

The Kulhus-team 2022 upon departure.
From the left: Anders Bjerregaard, Lars Kaas Nielsen, Birger Bjerregaard, Thomas Peitersen.

A new porch was made, and, luckily, it was possible to reuse the old door just as we could reuse old boards as cover inside the porch. We put in window glass in the old windows, which, by the way, all can be opened! The most-rotten panels of the gables had to be replaced with new ones. Finally, all exterior wood was treated with linseed oil, and the old wind- and sand-blown wood immediately got a completely different, dark glow! Around the hut we dug a deep ditch, which we then filled with stones to create a better draining solution for the spring thawing period. Also, we mounted a roof in the annex.

Closure

By 27th August we had finished the outer shell of the house. We took the last photos, measurements´, and notes for next year's "Nanok indoor team". After having mounted shutters on the windows, we sailed towards Daneborg through Fligely Fjord. There was a strong eastern wind, and we hoped to get a bit of shelter going west around Kuhn Ø. Nevertheless, it was a rather cold and wet trip, and we chose to go ashore at Albrecht Bugt to find shelter and continue on the following day instead. The next morning the wind had calmed down, and the last 100 km to Daneborg were covered in fine style. Safely back at Daneborg we met the Kap Philip Broke team and over the next few days we exchanged many stories in Sandodden.

Thank you from team Kulhus 2022 for an amazing trip! Thanks to team Kap Philip Broke for the good times and the help. Thanks to Sirius for their always great helpfulness and kindness, and not least thanks to Aage V. Jensens Fonde and the Board of Nanok for making this trip possible.

Birger - Thomas - Lars - Anders

Field report for the ”Kap Philip Broke team” 2022

Tasks

The Kap Philip Broke team had the following tasks:

a) carry out restoration and cultural-historical preservation of Kap Philip Broke [470]
b) inspect, count and maintain Nanok’s equipment and depot at Daneborg
c) receive goods for Nanok at Daneborg
d) inspect huts and houses in the Daneborg region
e) prepare for the Nanok expedition Daneborg 2023

Picking up wood left in Albrechtbugten. Since last summer it had been partly covered in gravel.

Participants

Hasse N. Staunstrup (Sirius ’78)
Leif Kjær Pedersen (Sirius ’78)
Claus “Tavse” Birkbøll (Sirius ’73)

Journey to Daneborg

All three Nanok teams met at Constable Pynt on 11th August. After a short stay our team and team Kulhus were flown to Daneborg, where we arrived late in the afternoon. Upon arrival we were met by a lovely sight, the newly restored Sandodden. We got well organized and planned the following days activities during dinner.

Preparations at Daneborg

During the laying out of materials and equipment in the summer 2021 for Kap Philip Broke (KPB), a pile of laths were left near the Sirius depot on Albrechtsletten. Therefore, through Arctic Command an agreement was made concerning the assistance of Sirius to transport these materials from Albrechtbugten to KPB. Due to the management of this year’s supply ship on Daneborg (DNB), the departure

Kap Philip Broke upon arrival. A fixer-upper!

Restoration of the hut.
A new coal stove is installed, and window and doors are mounted. The zink casing is repaired, and the dried-up wood is freshened up with a protective layer of linseed oil tar.

to KPB was arranged for 17th August. It was not possible for Sirius to spare crew members before this date. We prepared a Nanok rubber dinghy (RIB) for our trip and began collecting miscellaneous equipment and materials for the trip.

In the meantime, we had a little extra task clearing debris around the old Zackenberg Base [438-3]. So, we went there with team Kulhus on 14th August and spent the day gathering primarily metal scraps into empty fuel barrels, which had been readied for us by the crew of the ZERO station. Back at DNB we received Nanok's goods from the supply ship and emptied the containers, which had been placed near Sandodden.

The following day, 15th August, we said goodbye to team Kulhus, who left for Kulhus. Then we checked, sorted, and stored the received goods and provisions in Nanok's depot containers. Especially the provisions were subject to a thorough sorting and clearing to make the upcoming count more manageable.

As part of our preparations from home, we had discussed how to pull the RIB ashore using tackle and boat rollers. In the beginning of the summer, we became familiar with an anchoring method, which seemed more applicable. We therefore used a good deal of time to practice

Reconstruction of the porch.

this anhoring method, used by the local hunters in Ittoqqortoormiit. It later turned out to be an extremely practical way of anchoring.

Trip to Kap Philip Broke

As previously arranged with Sirius, we sailed towards KPB via Albrechtbugten in the morning of 17th August. We went by the patrol vessel (PV) "Sirius 3" until just before Clavering Strædet. From here Sirius went ahead of us to supply their depot on Albrechtsletten. As we arrived, Sirius was still doing their supplying, so concurrently, using our RIB, we therefore started transporting laths out to PV, which, due to shallow water, was anchored 200-300 m from the coast. We finished loading the laths on the PV and sailed towards Kap Berlin, where we had agreed to meet before crossing Hochstetterbugten to KPB together. Along the way, the PV observed a female bear with a cub, first on land and later in the water.

In calm sea and in the wake of the PV, we crossed the bay in record time and arrived late that evening to KPB. Here we quickly affirmed that landing near the hut was not possible. Thus, we searched along the coast and found an appropriate anchoring site around 800 m further down the bay (NNE of the hut). The intended method of pulling the RIB ashore using boat rolls and tackles was changed for the new method, meaning anchoring approx. 40 m from the coast, making it possible to pull the RIB in and out by using the anchor rope. We then carried our personal gear and equipment to the KPB hut. Having cleared an appropriate area inside the hut, we put out some boards on the floor and closed off the largest openings for the time being. We then crawled into our sleeping bags in the middle of the night.

Staying in and restoration of the Kap Philip Broke hut

It was clear that a restoration of this old travellers hut was necessary to avoid its complete decay. Straightaway we started a thorough clearing inside, as well as outside in the immediate vicinity of the hut in order to generally be able to move safely in the area of work. In addition, we unpacked the supplied materials, equipment and provisions. Fortunately, there were no damages to these, but the boards and laths were soaking with water. Also, all woodwork inside the hut was very moist. The first day we installed a new Nanok stove, stovepipe feedthrough, and smoke extractor. Immediately thereafter we lit up the coal stove to start the drying process.

From day one, despite its very poor condition, we used the hut for stay and accommodation. Gradually, we then got installed a coal stove, mounted doors, repaired the floor, and made bunks.

From home we had had prefabricated new and (we hope) bear-proof doors and windows. Where the old ones had been were now gaping empty openings. Our primary focus, of course, was as quick as possible, to install the new windows and doors in order to close the holes the bears had made. Furthermore, replacing the boards and laths destroyed by time, moist, and wind, both inside and outside. In addition to reusing the original zinc plates, we used the zinc plates we had brought with us to patch and replace in the areas, where the covering had been destroyed or weathered. It seemed like the hut's original construction had been completely covered with zinc. Unfortunately, we did not bring sufficient zinc to replace all that had disappeared. When the hut outwardly had been protected against the forces of nature, we restored the porch from 1923. Then we could put the new (outermost) outer door in its place. The boards from the old Norwegian whaleboat, which served as roof over the porch, are still very solid. The porch therefore appears authentic.

We also made a rough alignment of the floorboards, supporting the drip cap with stones. When the entire exterior of the hut was completed, we finished off with a treatment of linseed oil tar (50% linseed oil varnish / 50% light wood tar). Hereafter we continued inside the hut making three bunks and a combined kitchen table/shelf. We also had to replace 2/8 of the floor, as it had been completely weathered by moist. Both laths and floorboards were renewed. Kap Philip Broke hytten has now been

Kap Philip Broke upon departure.

preserved, so it can be used for many years to come. Another layer of linseed oil tar and further sealing - as icing on the cake - will serve the hut well.
Simultaneously with the restoration of the hut, we did a thorough cleaning-up of the area around the hut. Naturally, with respect for the original items that were found. These items were placed under the remains of the Norwegian whaling boat on the northside of the hut. Among other things three old fox saxes from the beginning of the trappers' era were found. We also made daily trips to check up the anchored RIB, which was not visible from the hut. Despite a few strong storms, it stayed put and only took in a little water. In spite of a lot of drift ice in the area, none of it got near the RIB.

Preparing departure from Kap Philip Broke

As the trip back to Daneborg, like the trip out, had to be made with RIB, we could not bring other cargo than personal gear, emergency equipment, fuel, and a bit of provisions. Therefore, we counted all the left-behind equipment, materials, tools, and provisions. Two piles of boards as well as a transport case were prepared for eventual transport by helicopter. All tools and gear were placed in the case. One pile of laths can be found just east of the hut, the other, containing only a few laths, can be found on: 74.939242N - 17.641268W.

The trip back to Daneborg

In nice weather and with a good forecast, we started our journey home in the early morning of 28th August. The trip over Hochstetterbugten to Kap Buchenau was made in good weather and with relatively calm sea. However, there were several areas with drift ice along the way; these were easy to pass, though. As we sailed through Pendulumstrædet the sea started to rise. At the same time heavy showers with sleet and snow came reducing visibility during the trip along Sabine Ø. In Germaniahavn we took a break, assessing the situation. We agreed to continue the trip, as the forecast predicted better weather for sailing later. This did not happen, however; on the contrary we had more wind, waves, rain, and sleet. We therefore went into Flade Bugt at Dronning Augusta Dal, to wait for an improvement in the weather, which was expected within 12-18 hours. We put up a tent, put out a bear alarm, and had a much-needed rest. About 12 hours later, wind and sea had calmed so much that we judges it responsible to continue the trip towards Daneborg. Nevertheless, it appeared that the RIB in the meantime had become half filled with silt, which


From the trip back to Daneborg.
Our camp at Dronning Augusta Dal, where the RIB became half filled with silt.

appeared to derive from the swells coming in over the aft of the RIB. Furthermore, the aft had worked itself into the silt on the beach. After unsuccessful attempts to free the RIB, we reckoned that we were unable to do the job with our own means. We talked to Sirius about the challenge, and they offered to help us with the task. A few hours later two PV's arrived and helped free the RIB and transport us home to Daneborg, where we arrived mid-afternoon on 29th August. We might mention that, while we were resting in the tents, a bear passed along the beach less than 75 m from the tent.

Closure on Daneborg

Well back at Daneborg, we rearranged ourselves in Sandodden and had a well-deserved shower in the scientist house. The following days we spent on cleaning the RIB, the equipment, and the gear that we had brought from KPB. Also, together with team Kulhus, we made a complete count of Nanok's equipment and depot. Leif was supposed to travel back with team Kulhus on 1st September, but the departure was delayed until 3rd September due to weather and technical challenges. Hasse Staunstrup and Claus "Tavse" Birkbøll stayed at Daneborg - with Peter Schmidt Mikkelsen, who had arrived from Ella Ø - until planned departure on 8th September. In the process of completing our tasks we received great help and forthcomingness from many sides, not least from the Sirius men on Daneborg, from the Station and Patrol Service Greenland (SPG), and the Joint Arctic Command. With this a great thank you to everyone.

Claus - Leif - Hasse

Team Kap Philip Broke at Sandodden.
From the left: Claus "Tavse" Birkbøll, Hasse Staunstrup, and Leif Kjær Pedersen.

Field report for Ella Ø 2022 "scientist team"

Tasks

The Ella Ø scientist team had the following tasks:

a) measure oceanographic conditions, record, and put out measuring instruments in the fiord system
b) get an overview of accommodation and storage of equipment in warehouse in Nyhavn at Mestersvig – new options
c) inspect and collect data from automatic cameras for monitoring fauna and flora on land
d) new boat garage and safety upgrade of Mopa boats
e) "Skibsmik"
f) put up GIOS monitoring station at Ella Ø
g) put up GIOS-light monitoring station at Ella Ø and in Sverresborg in Vega Sund
h) test traditional helicopter drone for collecting oceanographic data in front of glacier
revisit historical photo localities in Kjerulf Fjord
i) packing and journey home

Participants

Bjarne Jensen (Arctic Research Centre, Aarhus University)
Ebbe Poulsen (Arctic Research Centre, Aarhus University)
Egon Frandsen (Arctic Research Centre, Aarhus University)
Geoffrey Johnen (VLIZ - Flanders Marine Institute (VLIZ)
Jeff Kerby (Arctic Research Centre, Aarhus University)
Marcin Antoni Jackowicz-Korczynski (Arctic Research Centre, Aarhus University)
Peter Schmidt Mikkelsen (Arctic Research Centre, Aarhus University & Nanok)
Simon Kortegaard (Mopa Både, Vilsund, Thy)
Søren Rysgaard (Arctic Research Centre, Aarhus University & Nanok)
Torben Røjle Christensen (Arctic Research Centre, Aarhus University)
Wieter Boone (VLIZ - Flanders Marine Institute (VLIZ)

Journey to Ella Ø

This year Ebbe, Simon and Søren arrived at Ella Ø on 28th July, one day late due to a slippery runway in Constable Pynt. Descending through the clouds, the landscape around Ella Ø showed its most beautiful side, and the landing went well and even in first attempt. Finally back. Down at the station area, we quickly discovered that a bear had been visiting. A collection of coal sacks lay scattered over a large area. Our cheap weather station had been eaten, and SIM card with data had disappeared without a trace. The bear had also found it interesting to consume some wires from an outboard motor, chew on tarpaulins, dig up drains from the house, and move batteries and solar panels for the automatic cameras. The first few days a polar bear was sneaking around up behind the runway, but if he was the culprit, we do not know yet.

Mounting of GIOS-light solar panel.

Measure oceanographic conditions, record, and put out measuring instruments in the fiord system

We quickly got started on this year's tasks. The weather was great, the boats were quickly launched, and everything went smoothly with help from Nanok's new Weidemann mini loader. At first attempt we grabbed the cables for our underwater buoys and brought them ashore. They were put out last year and have been measuring since then. One of the buoys have been doing a series of standard oceanographic measurements every half hour; the other is a self-made prototype which is to collect water samples for isotope categorizations (18O & 2H) every week all year. The prototype went "cold" in the early spring, probably because the new lithium batteries cannot cope with the frost or some funny business with the electronics; something we will test, once we get back home. However, basically, the instrument is a success: The principle works, as we are able to collect samples in the area, while not being physically present. Over the next days we collected the corresponding underwater instruments at the bottom of Röhss Fjord and Sofia Sund (off the Sverresborg trapper station) and carried out oceanographic section

measurements in the upper 400 m in Röhss Fjord, Rhedin Fjord, Sofia Sund, Dickson Fjord, Kempe Fjord, and Kong Oscar Fjord.

Get an overview of accommodation and storage of equipment in warehouse in Nyhavn at Mestersvig – new options

Egon and Jeff arrived on 4th August directly from Denmark, landing in nice weather. The next day we went on a short trip to Nyhavn at Mestersvig to look at the options for storing some equipment (snow scooters, ATV, boat, research gear) for later measuring campaigns in the Kong Oscar Fjord region in the winter and spring, when the area is covered with snow and sea ice. There is a lack of oceanographic and sea ice measurements here in the winter season. The nice thing about the Kong Oscar Fjord and Kejser Franz Josephs Fjord (and Ella Ø) fiord systems is that there is easy access to measurements of cold Polar water in the upper couple of hundred meters as well as warmer water from the Atlantic Ocean in the lower layers. There are deep thresholds out to the Greenland Sea, and the warm water deep down can therefore stream unhinderedly in and out the fiord system, making it possible for us to follow the heat exchange between the open sea and the glaciers in the head of the fiords. Oceanographic time series made off Ella Ø can therefore give us a good insight into this exchange in a large area. Furthermore, the measurements made in the winter could reveal if the meltwater from the Inland Ice still flows out from under the glaciers in the fiord, as model calculations suggest. While the "old" (Egon, Simon, and Søren) took a trip to Mestersvig to gain knowledge into buildings and possible future research projects, Ebbe and Jeff went for a trip up to Bastionen to get an overview over the situation regarding various drones. We met up again in the evening for a dinner in Tolvmandsbarakken with a Sirius-man, who was the only one holding the fort.

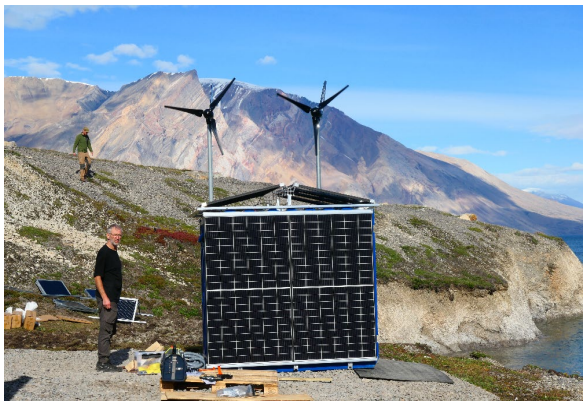
Inspect and collect data from automatic cameras for monitoring fauna and flora on land

The following days Jeff and Simon visited Röhss Fjord, Ella Ø, and Sofia Sund to inspect and collect data from the automatic cameras for monitoring fauna and flora on land. The bears have been rough with the gear and destroyed most of it in Röhss Fjord. We have collected all camera systems and cleared up in Röhss Fjord. Luckily, the time series from the cameras mounted directly on to Tolvmandsbarakken were intact and had taken photos all year round. Three camera clusters behind Ella Ø had only been damaged a little and will continue to take photos until next year. The rest was cleared up and sent home with Royal Arctic Line (RAL). Apart from the fact that the bears had disconnected a few wires and thereby stopped a couple of cameras from taking photos in Sofia Sund, these clusters seemed to have worked perfectly. Many of the cameras had photos on the SIM card, and we are looking forward to looking through the hundreds of thousands of photos after returning home. Jeff has put out two of Toke's new photo systems, which hopefully are more bearproof, and experimented with different colours to avoid catching the attention of the bears from a long distance.

New boat garage and safety upgrade of Mopa boats

While waiting for skibsmik and our gear, we built another boat garage. By expanding a 20-foot container, we quickly made another boat house. Thank you, Nanok, for giving us the container. We now have the possibility of storing two smaller boats at Ella Ø. It is a big advantage when sailing great distances from the station to have two boats that can sail together, so you can come to each other's rescue in the event of an accident such an engine stalling or the like. We also

Left: A short break at Kap Hedlund in Kempe Fjord.
Right: A barge is good to have, when putting out moorings.




Left: Another GIOS measuring unit placed.
Right: Our instruments have been working and collecting data since last summer.

upgraded the boats installing VHF-radios and antenna on Ella Ø, so we can improve communication in a larger area in the fiord system between boats and station. In addition, a life raft, a toolbox, extra propeller, and waterproof case for rifle and signal gun were mounted, in the event that you should encounter a grumpy bear outside the station area.

Skibsmik

Wieter and Geoffrey arrived at Ella Ø on 10th August to help setting up the GIOS-systems (Greenland Integrated Observing System). The RAL supply ship arrived 8 days late, and we had grown nervous as to whether we had time to complete all tasks this year, as much of the equipment we needed was sent by ship. Every day we were on the lookout for the ship, and people were running around restlessly to prepare as much as possible and thereby save time when the equipment would finally arrive. On 12th August the ship finally arrived at Ella Ø. We received our 20-foot container and emptied it quickly. In the days prior to the arrival of the ship, we had cleared the station area together with Nanok, and now we put broken cameras, old fuel barrels, glass fragments, cans, and the old trailer of the cutter "Agsut" into the container. The skibsmik was done in only 4 hours – quickly and effectively.

Put up GIOS monitoring station at Ella Ø

In the following days we worked hard to establish the new GIOS monitoring station at Ella Ø. We constructed a stable foundation for the GIOS container, mounted solar panels, windmills, and 1 ton of batteries. The GIOS-container can supply power all year round to all the various instruments in the landscape and in the sea off Ella Ø. On land we set up new cameras and erected a mast for atmospheric measurements. Bjarne and Marcin arrived at Ella Ø on 17th August and made sure that the atmospheric mast and appertaining measuring instruments were erected near the coast and anchored in a large rock. Data from these instruments in the landscape will be sent to the "mother station" via a wireless WIFI connection and stored on a server. At low tide, we dug a passage from the container to the sea. The sea cable was pulled through a PVC pipe from the container to the sea and covered with gravel and stones. The cable needs protection from sea ice and waves in the waterline. This method worked in Daneborg, where we mounted a similar GIOS-container last year, and hopefully it will also function at Ella Ø. We used our barge, which was set up last year, to lay a sea cable further out into the sea and place an advanced underwater buoy with various instruments at approx. 50 metres depth. The measuring instruments transmit data from the upper 50 m of the water column as well as the thickness of the sea ice through an inductive cable to the "mother station". Here, also, the data are stored on a server. Each midnight the measurements of the day are transmitted by satellite, so you can follow a range of measurements of the conditions in the atmosphere, on land and in the sea "real-time" and from anywhere on your phone or computer.

Put up GIOS-light monitoring station at Ella Ø and at Sverresborg in Vega Sund

We had given ourselves the challenge of developing a cheap version of the GIOS-monitoring station, called GIOS-light. The aim was to make a system that can easily be packed and shipped in our small boats to be put up in the Greenlandic fiord areas and cover measurements in the atmosphere, on land and in the fiords. The cost price for equipment had to be kept below DKK 150,000 in comparison with the DKK 2,5 million for the advanced GIOS-station. Two


Left: Tommy bear-proofing Fjøset.
Right: New, secured windows in Tolvmandsbarakken.

GIOS-light test stations were unpacked and set up. One of them next to the more expensive GIOS-station to verify whether the two systems measure the same year-round. The other test station was sailed out to the old Sverresborg trapper station in the central part of Vega Sund. The idea is to find out if it is possible to establish monitoring stations in connection with the old trapper huts, where you can utilise the fact that you are able to install electronics and battery box inside the hut and thereby protect it from weather and nosy bears. Also, here, data are transmitted almost "real-time". We are excited to see if the systems work year-round. If that is the case, we will place more of these along an east-west gradient from the Inland Ice to the Greenland Sea in the Ella Ø fiord systems next year to get a better understanding of the local climate variations in the area. At the same time, it will make an expansion to a "Greenland scale" possible along the north-south gradient. The actual installation of the GIOS-light system on Sverresborg was carried out over two stages. One day was spent on putting up mast and measuring gear in the mast, which is mounted directly onto the hut. From here we have laid cables into the hut, where the power supply and the electronics are installed, well-protected from the weather, bears, musk oxen, and the like. This quickly proved necessary, as a bear showed up that evening. Having caught eye of it, we had good time to move all equipment into the hut and went ourselves into the boats and watched the bear pass by from a safe distance. A few days later we were back again at Sverresborg to complete the marine part. We had hardly arrived, when a bear with two big cubs came the same way, as it had a few days earlier. Same procedure, but it took a good hour before mother and cubs were done exploring and sniffing our installations. Afterwards, we manually dug down approx. 100 m cable from the hut to the coast, out through a plastic pipe in the tidal zone and approx. 100 m out into the water, where we measure every half hour and send online data home.

Test traditional helicopter drone for collecting oceanographic measurements in front of a glacier

Since last year, Ebbe has been working on developing his bachelor project constructing a helicopter that can carry a measuring probe able to repeatedly measure near a glacier front to investigate how the sea affects the melting of the Inland Ice, and how the meltwater affects the salinity of the sea. Ebbe, Simon, Torben, Jeff, and Søren sailed to the head of Dickson Fjord to test if the helicopter would operate in real conditions in front of a glacier. Ebbe, Jeff, and Torben went ashore on a rocky shelf a few kilometres from the glacier front. We carried out three very controlled flights up till a few metres from the glacier and measured profiles of temperatures and salinity down to the seabed. The sea depth right in front of the glacier is approx. 100 m, and Jeff used a drone to measure the topography at the glacier front and in the surrounding areas. We still need to complete the maps, but the glacier was around 30-50 m high near the front. The tidal melt line on the glacier shows that it stands firmly on the seabed. Søren and Simon did simultaneous measurements with traditional oceanographic instruments as close to the glacier as it was safe. They also took water samples with a home-made water sampler at 13 different depths in the upper 250 m throughout the fiord. Torben and Jeff went to see if it is possible to hike from Dickson Fjord to Kjerulf Fjord, where they had plans to revisit historical localities and photograph these to find out the extent of the changes that have happened in the area over the last 90 years due to climate change. Unfortunately, it turned out to be impossible to cross on foot due to steep rocky walls and a combination of huge stone blocks mixed with glacier ice. On the way back to Ella Ø

we did measurements of oceanographic conditions throughout Dickson Fjord and in Kempe Fjord to trace how far out the glacier affects the temperature and salinity of the sea.

Revisit historical photo localities in Kjerulf Fjord

Earlier this year, Torben, Jeff, and Peter had initiated a project on visiting localities that have been documented photographically in detail by the earliest expeditions in the area. The first case of the project is based on the photo material, which the American milionairess and Polar enthusiast Louise A. Boyd produced from the valleys between the head of Kjerulf Fjord and Hisinger Gletscher, which empties into Dickson Fjord. Boyd visited the area twice, and especially the photo material from August 1931 is very detailed. The aim of the project was to find the precise locations from where she took her photos. When these had been located, we would use drones and other technologies to assess the extent of rockslides and not least the changes in ice caps and the glacier, which has altered in size and scope over the past 91 year.

In the days 14th-16th of August, Torben, Jeff, and Peter visited a range of the localities utilised by Louise Boyd in 1931. The weather was cooperative, so visibility was fine, and that was good for the collection of photo material that we now will analyse and compare in detail with the historical photos. We found four significant sites from where Boyd had photographed most of her photos in this valley. A single site we were not able to visit physically, since a polar bear was in the way, but we succeeded in sending up a drone, and with it also this site could be identified and rephotographed. To our help, in her book Louise Boyd had described that she had built a cairn at the site. With the drone we quickly managed to identify the cairn which clearly was entirely undamaged after 91 years, and thereby it was possible to photograph from this site, too. Thus, the expedition was extremely successful, and now the collected, interesting photo material will be analysed in detail. The Sirius hut in Engdalen was used for accommodation 15th-16th August, and a big thank you to the Joint Arctic Command for permission to do so.

Packing and return

The last days was spent on getting the boat out of the water, changing the oil, counting and packing and counting. Egon has seen to that all equipment and consumables have been registered. We have sailed about 3.500 km with the new Mopa boats. Charging of batteries was done via 2 solar panels. It worked well for charging of computers and other electronic equipment. A petrol generator was, however, needed for our use of angle grinders and charging of drone batteries. Nanok's mini loader was a great help when launching and hauling boat and barge.

On 18th August Simon, Ebbe, Torben, and Søren were picked up by a Twin Otter and left via Constable Pynt and further to Iceland the same day, while Søren stayed for a couple of days to nurse his broken toe (never kick a cardboard box unless you're absolutely sure it is empty!) before embarking on the next trip in Scoresby Sund on the schooner "Livet". The idea with this trip is to make oceanographic surveys from glacier to the mouth of the fiord similar to those at Ella Ø. With the schooner we will be able to bring measurements across the Atlantic back to Denmark. We really ought to have started doing

Left: Jeff and Torben walking through the valley in Kjerulf Fjord.
Right: One of the locations where Louise A. Boyd in the 1930's took her photos.

A helicopter drone heading to take oceanographic measurements.

this 27 years ago. That would have provided us with an invaluable database of measurements with regard to the distribution of glaciers meltwater, Polar oceans meltwater, and the Atlantic ocean meltwater from the Ice sheet out though the fiords, the near-coastal environment and across the continental shelf in one of the least studied ocean areas in the world. But who knows – perhaps we just have to start now …! Somebody has to take care there are sufficient measurements to determine whether satellites and models correspond to reality.

The last days at Ella Ø we also dug down cables from the GIOS container to the atmosphere pole so bears wont mess with them, and the back of the GIOS container was covered with a board to shield the cables coming from the container. There was also time for Wieter, Marcin, Geoffrey, and Egon to take a hike to Bastionen before the housewarming of the old expedition house, Fjøset, which Nanok renovated this summer. The very last day everything was packed into the containers together with the boats and Egon's lists were updated; we now also have quite a few photos of our equipment. And so, our stay at Ella Ø ended, whereafter Jeff went southwards and home, while Wieter, Geoffrey, Bjarne, Marcin, and Egon on 25th August continued onwards to Daneborg and Zackenberg to service the GIOS systems that was established there last year.

Service and more at Daneborg

At Daneborg we recovered our online mooring that had stopped transmitting data in April in order to locate the fault and get it working again. We succeeded in changing the CTD-instrument, which had taken in a little water and therefore causing the problems. It is now working again. The installation of the atmospheric measuring station at Daneborg was completed, so now it is identical to the one established at Ella Ø this year. Finally we fitted our pontoon bridge as an extension to the small pier we built last year. And so the pier-ramp project at Daneborg is completed. At Daneborg we also found time to some cosy gatherings with the Nanok-members who had returned from Kulhus and Kap Philip Broke as well as a trip to the glacier behind Skrænthytten in Tyrolerfjord.

Closure

It has been a pleasure to visit the Coast once again. The collaboration with Sirius and Nanok worked extremely well. We've enjoyed many communal dinners and cosy hours in the sun as well as in Tolvmandsbarakken in the evening,

where Simon accompanied by his guitar, incited even ‘rusty voices’ to join in and sing along to old blues and rock-songs. Thank you all for a great season. We all look forward to returning one day.

Søren, Bjarne, Egon, Ebbe, Geoffrey, Jeff, Marcin, Peter, Simon, Torben & Wieter

The Ella Ø 2022 – teams from Nanok og Arctic Research Centre.
From left: Wieter Boone, Peter Schmidt Mikkelsen, Torben Røjle Christensen, Geoffrey Johnen, Ebbe Poulsen, Simon Kortegaard, Søren Rysgaard, Egon Frandsen, Bjarne Jensen, Tommy Pedersen, Ole Schirmer Nielsen, Marcin Antoni Jackowicz-Korczynski, Jeff Kerby.

About Nanok

Nordøstgrønlandsk Kompagni Nanok is a private, non-profit organisation founded in 1992 upon the former *Østgrønlandsk Fangstkompagni Nanok A/S*, founded in 1929.

The aim of Nanok is a.o. *to contribute to disseminate knowledge of North-East Greenland and its cultural history and to contribute to preserving the cultural monuments and buildings in the area*.

Nanok consists of a private band of six persons, the Board. These are Peter Schmidt Mikkelsen (managing director), Tommy Pedersen, Palle V. Norit, Søren Rysgaard, Fritz Ploug Nielsen and Jesper Mølbæk Stentoft (treasurer). Nanok's accountant is Aka Lynge. Torben E. Jeppesen assists with purchase of assets and equipment. In addition to the above-mentioned, a number of private individuals actively participate in Nanok's work. All work in Nanok is voluntary and unpaid.

Each summer Nanok dispatches a field team of typically 6-10 participants divided into 2-3 teams who work in North-East Greenland for 3-5 weeks. The results of this work are documented and published in a field report. The expedition participants are chosen by the Board. In the years 1991-2022, a total of 208 Nanok'ers – or more than 75 private individuals – have been dispatched to North-East Greenland.

To perform its tasks Nanok controls a considerable amount of expedition assets. However, Nanok possesses no property in Greenland.

Nanok's work is financed by the Aage V. Jensens Fonde.

Among Nanok's many good collaboration partners and supporters are: Norlandair, Arctic Research Centre, Arctic Science Partnership, Greenland Self Government, The Greenland National Museum & Archive, Greenland Institute of Natural Resources, Arctic Command, the Sirius Sledge Patrol, Defence Guard Mestersvig, Station and Patrol Service Greenland, Royal Arctic Line, and TELE Greenland.

Since 1991, Nanok has restored and maintained more than 60 culture historical buildings. For this work Nanok has gained considerable recognition and support from the Greenland Self Government, a.o. Since 2010 Nanok has had a formal cooperative agreement with The Greenland National Museum & Archive in Nuuk.

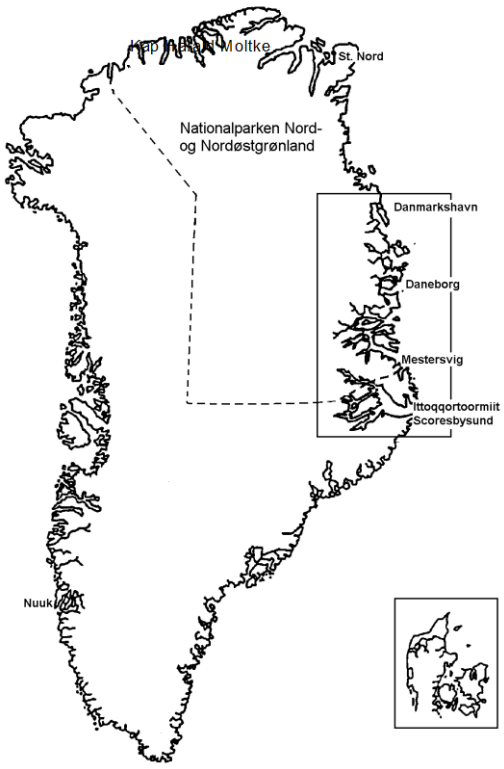
In the years 2003-2007, encouraged by the Greenland Self Government of the time, Nanok carried out a new, unique structural survey of all culture historical huts and stations in North-East Greenland. Extensive data from these surveys, incl. photos and GPS positions, is published in *"North-East Greenland 1908-60. The Trapper Era – and its traces today"* (Mikkelsen 2019)

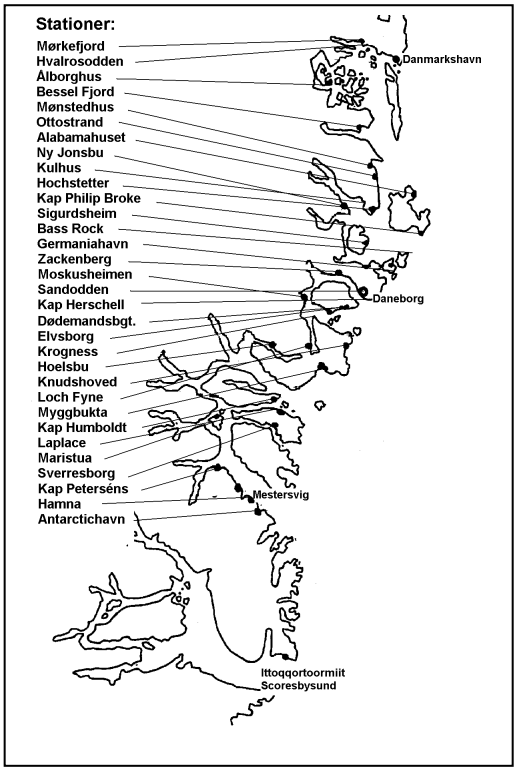
You can experience a range of the old North-East Greenlandic huts in Google Street View via a link from http://www.xsirius.dk.

List of North-East Greenlandic stations and huts restored by Nanok 1991 – 2022:

No.	Name	Restoration year	No.	Name	Restoration year
201	Antarctichavn	2001 (crushed 2002)	358-2	Nordfjordhuset	2019
208-2	Hamna	2020	358-3	Strindberghuset	2013
209-2	Nyhavn	2007	367-2	Mellemhuset	2010
218	Kap Peterséns	1998	403	Krogness	2010
224-2	Kongeborgen	2001	405	Eskimonæs	1998
222	Holm Bugt hytten	2001	407	Elvsborg	2007-2008
232	Sverresborg	2014	408	Dødemandsbugten	2013-2014
235	Ørnereden, Ella Ø	2015-2019	411-2	Norma hytta	2010
235	Tolvmandsbarakken	2015-2019	412	Dahl Skær hytten	2010
235	Fjøset	2022	417	Kap Herschell	2002
236	Maristua	2008	425	Sandodden/Karina	1994, 2007, 2009, 2020
238	Mineralbukta	2010	429	Moskusheimen	1994
241	Svedenborg	2011	434	Leirvågen	2008
301	Laplace	2009	438-2	Zackenberg	1991-1992
304	Arentz hytten	2008	438-4	Fiskerhytten	2008
305	Namdalshytten	2010	437	Bjørnnesstua	2008
308	Kap Humboldt	1997	443	Blæsenborghytten	2017
309	Rendalshytten	2010	444	Antonsens hytte	2017
310	Bjørnheimen	2008	447	Germaniahavn	1999
317	Brøggers hytte	2012	454	Fjordbotten	2013
320	Smedal	2012	461	Bass Rock	2019
322	Noa Sø hytten	2008	470	Kap Philip Broke	2022
324	Varghytten	2002, 2007	510	Hochstetter	1996, 1998
325	Renbugthytten	2010	511	Kulhus	2022
335	Myggbukta	1999, 2002, 2011	514	Ny Jonsbu	1995
337	Ragnhilds-hytten	2008	518	Alabamahuset	2016
340	Kap Ovibos hytten	2000, 2007, 2012	531	Ottostrand	2009
341	Halle	2011	628-1	Villaen, Danmarkshavn	2017
345	Bråstad	2011	639-1	Hvalrosodden	2019
347	Petrahytten	2011	639-2	Alwin Pedersens hus	2019
350	Loch Fyne	1993, 2007	---	Kap Moltke /Brønlundhus	2001
356	Hoelsbu	1999, 2000, 2007, 2021			

Source of hut numbers and names: Peter Schmidt Mikkelsen: *North-East Greenland 1908-60. The Trapper Era – and its traces today,* Xsirius Books 2019.





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