

SITE MANUAL RESEARCH STATION DANEBOG 2014



**Arctic Research Center
Department of Bioscience
Aarhus University**

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Introduction

This manual will provide information about conducting fieldwork in the Young Sound area with the Daneborg station as your base. The Daneborg field station is located at 74°18N, 20°13W and is a part of the Zackenberg station, 25 km further into the Young Sound fjord system. The Daneborg field station is located just next to the Danish Military Station Daneborg, where the Sirius Patrol also has their headquarters. This makes conducting fieldwork much easier at the Daneborg field station in comparison with the Zackenberg Station. The ship will anchor in Daneborg where we can buy electricity and drinking water (in the summer). We also have access to their landing strip, and subsequently have good neighbors from the Sirius Patrol Staff.

The Zackenberg website www.zackenberg.dk provides a lot of information. This manual will not repeat the information but just link to the information when relevant.

Access to Daneborg

To access Daneborg you require permission from the Greenlandic authorities. The administration of this goes through the Zackenberg secretariat where you can access the application and forward it to the secretary. See www.zackenberg.dk.

In January-February 2014 Egon will make an application for each leg in 2014 and send it to the participants to fill out some personal and insurance data, before it is forwarded to the Zackenberg secretariat. There will be one application for each leg. Deadline for applying for the 2014 season is February 22nd.

We will follow the plan below, which means that we also need to have the names for each leg at this time:

Leg	Start date on leg	Deadline for filling out application	Deadline for application to Zackenberg Secretariat
1 - DNB	April, 30 th	January 24 th	February 14 th
2 - DNB	May, 21 st	January 24 th	February 14 th
3 - DNB	June, 11 th	January 24 th	February 14 th
4 - DNB	July, 9 th	January 31 st	February 14 th
5 - DNB	July, 23 rd	January 31 st	February 14 th
6 - DNB	September, 3 rd	January 31 st	February 14 th
7 - DNB	September, 24 th	January 31 st	February 14 th
8 - ZAC	April, 30 th	February 7 th	February 14 th
9 - ZAC	July, 9 th	February 7 th	February 14 th
10 - ZAC	July, 30 th	February 7 th	February 14 th
11 - ZAC	August, 6 th	February 7 th	February 14 th

Overview of Projects in Daneborg 2014

Leg	Start date on leg	PI	Project
1 - DNB	April, 30 th	David Barber	Sea ice physics
1 - DNB	April, 30 th	Nix Geilfus	Greenhouse gases
1 - DNB	April, 30 th	Tim Papakyriakou	Fluxes (CO2 energy)
1 - DNB	April, 30 th	Igor Dmitrenko	Polynya observations and hydrographic research
1 - DNB	April, 30 th	Ryan Galley	Brine and solute transport in ice
1 - DNB	April, 30 th	Søren Rysgaard	Carbon chemistry, crystals
2 - DNB	May, 21 st	David Barber	Sea ice physics
2 - DNB	May, 21 st	Nix Geilfus	Greenhouse gases
2 - DNB	May, 21 st	Stern/Wang	Contaminants in ice and melt ponds
2 - DNB	May, 21 st	Tim Papakyriakou	Fluxes (CO2 energy)
2 - DNB	May, 21 st	Igor Dmitrenko	Polynya observations and hydrographic research

3 – DNB	June, 11 th	David Barber	Sea ice physics
3 – DNB	June, 11 th	Nix Geilfus	Greenhouse gases
3 – DNB	June, 11 th	Stern/Wang	Contaminants in ice and melt ponds
3 – DNB	June, 11 th	Tim Papakyriakou	Fluxes (CO2 energy)
3 – DNB	June, 11 th	Jody Deming	Bacteria
4 – DNB	July, 8 th	Mikael Sejr	Marin Basis
5 – DNB	July, 22 nd	Ronnie Glud	Benthic carbon cycling
5 – DNB	July, 22 nd	Mikael Sejr	Marin Basis
6 – DNB	September, 2 nd	Mikael Sejr	Marin Basis
7 – DNB	September, 23 th	Mikael Sejr	Marin Basis

Overview of Projects in Zackenberg 2014 (ASP)

Leg	Start date on leg	PI	Project
8 - ZAC	April, 30 th	Stine Højlund Pedersen	Upscaling Snow
9 - ZAC	July, 9 th	Jacob Nabe-Nielsen	Young Sound Gradient
10 - ZAC	July, 30 th	Marit Solveig Seidenkrantz	Use of lake records as indicators for ice fluctuations of the Greenland ice sheet and local glaciers
10 - ZAC	July, 30 th	Erik Jeppesen	Limnic Ecosystem patterns and processes near retreating glaciers
11 - ZAC	August, 6 th	Tenna Riis	DOM

Visa

If you are not Danish, EU, US or Canadian citizen you maybe have to apply for Visa to the Schengen area (Island) and to Greenland. Ask Christina (levisen@biology.au.dk) for more information on the procedure. For Canadian citizens, please contact the CEOS office (Irene.Zhao@ad.umanitoba.ca) for assistance with the timelines or procedures.

Insurance

The Greenlandic government requires that you have SAR (search and rescue) insurance to get a permission to go into the National Park.

If you are currently employed at the Institute of Natural Resources in Nuuk you should have it.

If you are employed at Aarhus University or any other Danish or foreign institution with self-insurance, you will have to fill out appendix D at the Zackenberg homepage: www.zackenberg.dk/news/the-2013-field-season-at-zackenberg-research-station , and include it with your Daneborg application.

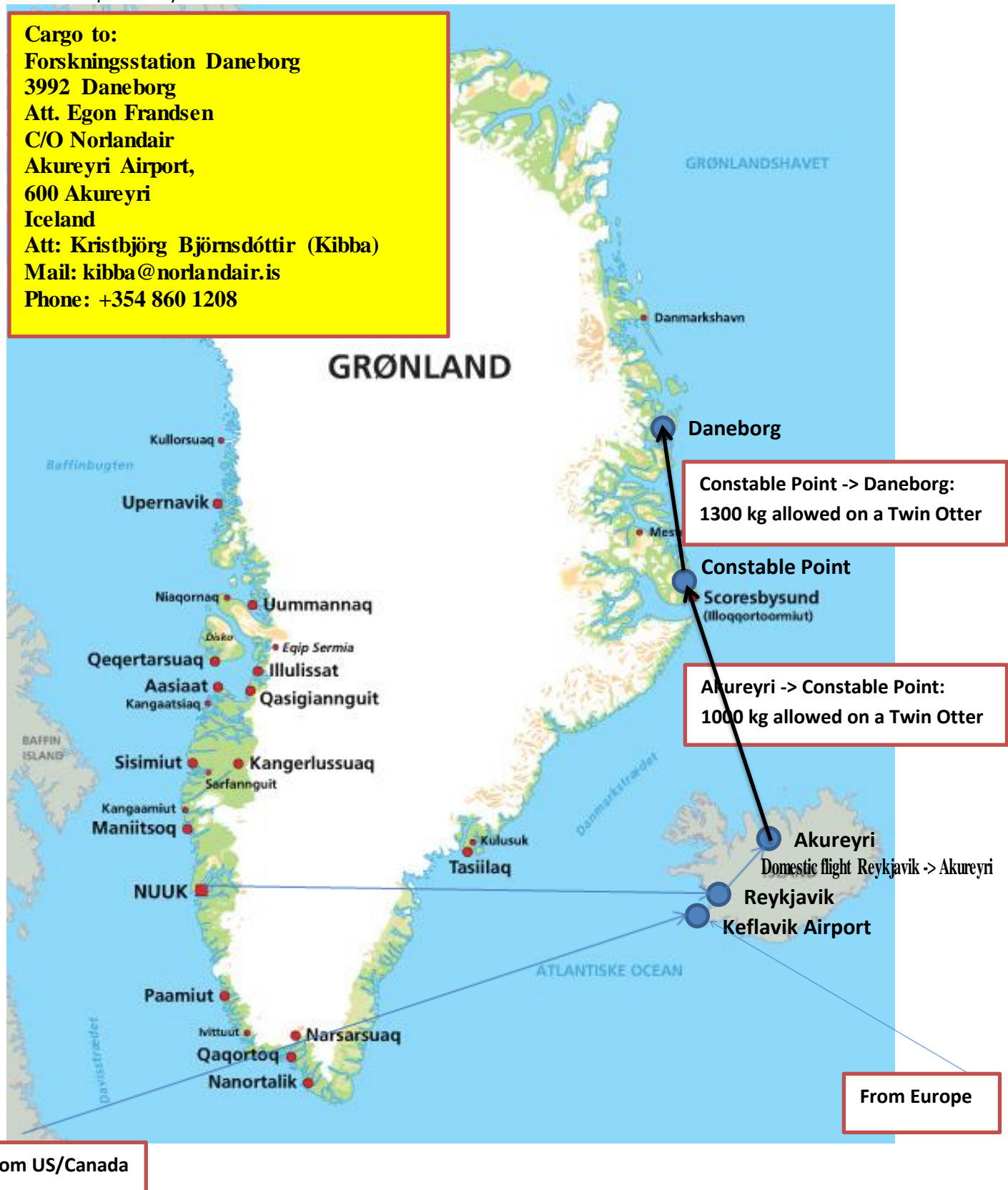
All others need to buy insurance from an insurance company. Request further information on this from Egon.

Travel to Daneborg

There is only one way to access Daneborg. You must go to Iceland and with a connecting flight through Akureyri in northern Iceland; you can fly to Constable Point. From Constable Point, you continue to Daneborg.

Typically, the flights from Akureyri use small Twin Otter planes, however, in the summer, when there are more scientists in East Greenland, the flights to Constable Point will be in a Dash 8 or a Fokker 50. A Twin Otter is always used between Constable Point and Daneborg because it's the only plane which is able to land on the short landing strip in Daneborg.

On the map below you can see the route:



Normally flights to the east coast of Greenland are on Wednesdays (This day of week can be changed from week to week). You have to arrive in Akureyri the day before your flight to Greenland. The flight to

Greenland typically leaves in the morning between 9:00 – 10:00 AM. Please verify the time your flight will leave for Greenland, the day you arrive in Akureyri . Depending on the type of plane, it will take 1-2 hours to get to Constable Point on the east side of Greenland. There will be one stop. If you are on a Fokker or Dash from Akureyri, be prepared for a long delay before you continue on the TwinOtter. After approximately a 2 hour flight in the TwinOtter, you will arrive in Daneborg.

Travel plan for each leg

Leg	Latest arrival in Akureyri	Flying Akureyri – Daneborg/Zackenberg	Field periode	Flying Daneborg/Zackenberg – Akureyri/Reykjavik	Earliest out of Iceland
1 - DNB	April, 28 th	April, 29 th	3 weeks	May, 22 nd	May, 23 rd
2 - DNB	May, 21 st	May, 22 nd	3 weeks	June, 12 th	June, 13 th
3 – DNB	June, 11 th	June, 12 th	3 weeks	July, 2 nd	July, 3 rd
4 – DNB	July, 8 th	July, 9 th	2 weeks	July, 23 rd	July, 24 th
5 – DNB	July, 22 nd	July, 23 rd	1-3 weeks	August, 13 th	August, 14 th
6 – DNB	September, 2 nd	September, 3 rd	2-3 weeks	September, 24 th	September, 25 th
7 - DNB	September, 23 th	September, 24 th	2 weeks	October, 8 th	October, 9 th
8 - ZAC	April, 29 th	April, 30 th	2 weeks	May, 14 th	May, 15 th
9 - ZAC	July, 8 th	July, 9 th	4 weeks	August, 6 th	August, 7 th
10 - ZAC	July, 29 th	July, 30 th	2 weeks	August, 13 th	August, 14 th
11 - ZAC	August, 5 th	August, 6 th	3 weeks	August, 27 th	August, 28 th

If the Zackenberg logistics order all the flights for you, all this will be done automatically, and Kibba can rebook you flight out of Iceland if some delays happen from Greenland. Booking through Zackenberg logistics also include hotel in Akureyri the night before leaving to Greenland and the night before leaving Iceland on the way back.

In Daneborg you will have to walk approximately 500m to access the field Station.

Luggage and cargo bringing with you on the travel

Since the TwinOtter planes have limitation on the capacity you are only allowed to bring 20 kg as personal luggage. Every kg above this limit will be charged as cargo.

But still since the TwinOtter planes have limitation on the capacity you cannot bring any cargo with you on the plane without agreement from Egon. If you have cargo in Akureyri without agreement from Egon it will be left behind in Akureyri due to the space on the plane.

No cargo to Daneborg brining on the plane by yourself or as cargo ahead without agreement and label from Egon – see the procedure **Equipment send to Daneborg by air** on page 10

Staying in Daneborg

Once in Daneborg, there will be a mandatory introduction to the station. After the introduction, you will be able to start unpacking your personal effects and research equipment.

During your stay in Daneborg, there will be a scientific leader to coordinate the different projects to enable everyone to carry out their projects.

Leg	Start date on leg	Scientific leader	Logistic leader
1 - DNB	April, 30 th	Søren Rysgaard	Kunuk Lennert
2 - DNB	May, 21 st		Egon Frandsen
3 – DNB	June, 11 th		Ivali Lennert

4 – DNB	July, 8th	Thomas Juul-Pedersen	Kunuk Lennert
5 – DNB	July, 22nd	Thomas Juul-Pedersen /Mikael Sejr	Egon Frandsen
6 – DNB	September, 2nd	Thomas Juul-Pedersen	Ivali Lennert
7 - DNB	September, 23th	Mikael Sejr	Egon Frandsen

In the case there is bad weather, the scientific leader makes the decision if it is safe to work on the ice or from the boat.

Prior to the end of your stay in Daneborg, you will have to finish your project two days prior to leaving for home. The last day is for packing and labeling your equipment for return. See the section for sending cargo back to DK/Nuuk/Canada.

On the day you are leaving Daneborg, you cannot plan to do anything else other than attend to your personal luggage. It's not possible to tell you what time of the day you have to be ready for pick up at Daneborg, but if the plane overnights in Daneborg, you will leave in the morning, otherwise it can be any time of day, normally not later than 3 pm. From Daneborg you fly to Constable Point, either with the Fokker or Dash to Akureyri, or occasionally directly to Reykjavik.

Station fee

While you are in Daneborg your project has to pay a station fee for staying at the station – in 2013 this fee is 750 DKK/person/day. This station fee cover

- Living in the house
- Safety equipment on the station (Signal pistol, Riffle, fire alarm and so on..)
- Heating of the house and lab.
- Use of electric power and water
- Use of lab in the house and boathouse
- Food – but you have to be willing to take turns preparing the food
- Sheets, bedding and towels for 10 persons
- Kitchen devices and all kind of equipment needed for cooking

Personal packing list

You need to bring the following personal belongings to Daneborg (and maybe a little more... - but max 20 kg in total):

Clothes

- Clothes that are versatile, durable and comfortable
- Warm jacket – Canadien Goose or alike
- Warm pants
- Warm sweater or fleece (windblock)
- Gloves, hats, balaclavas and neck warmer
- Warm socks
- Sunglasses
- Boots – warm
- Rubber boots
- Normal clothes and underwear
- Indoor footwear to use inside the residential house (boots not allowed)

Tickets, papers and good to have

- Tickets to Iceland – domestic in Iceland and to Greenland is non tickets flights – You are just registered in the computer, so you just have to present passport
- Passport
- Insurance-card (SAR insurance will be given in Akureyri)
- Creditcard – for use in Iceland – Can't use it in N.E. Greenland
- Mobile Phone – for use in Iceland and Constable Point (It's expensive) – Can't be used in Daneborg
- Papers for your project.
- Personal computer – Don't bring it from the cold into the warm and turn it on. It will die because of the condensation of moisture on the boards. Wait 20 minutes before turning on.
- Necessary personal toiletries
- Ski goggles
- Multitool (Victorinox or Leatherman) – good to have but not a must – remember not to bring it in the hand luggage on the flight.

Security clothing

See the section "Safety on the Daneborg field station" below

Things you don't need to bring

- Sleeping bag
- Sheets, bedding
- Towels

Equipment to Daneborg

There are two ways to send cargo to Daneborg – By ship and by air.

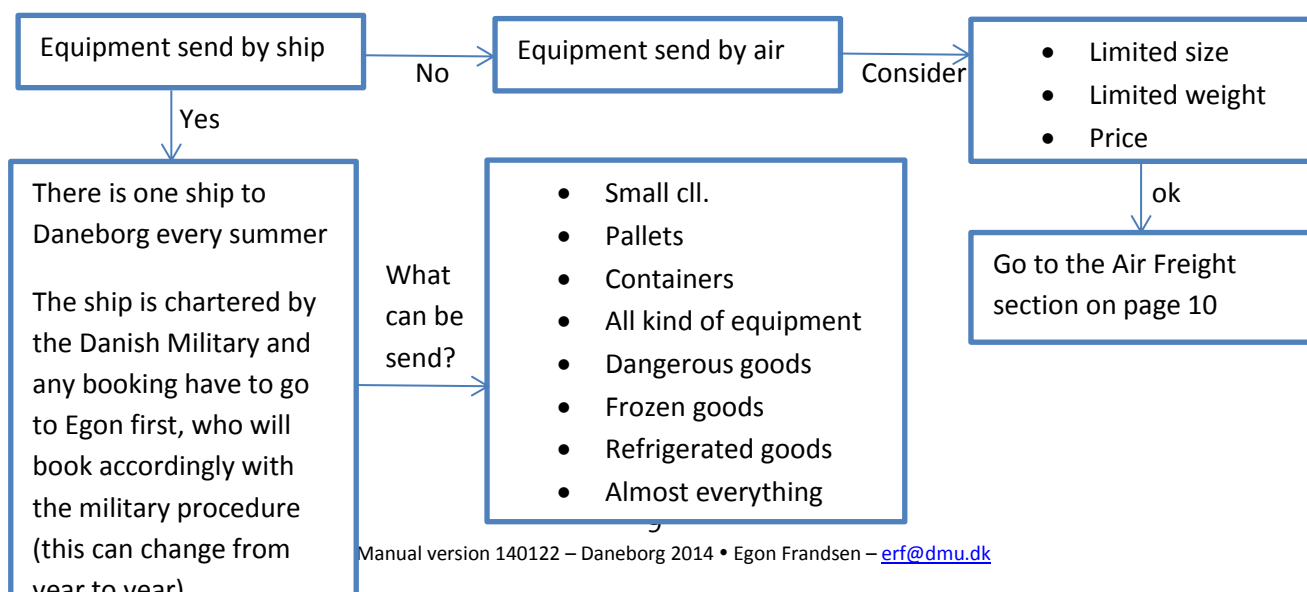
Equipment send to Daneborg by ship (Only possible for projects starting after August 1st).

Once a year, there is a container ship going to Daneborg where there's an opportunity to send all kind of cargo.

The ship will leave Aalborg, Denmark in the middle of July and will arrive in Daneborg the first half of August. The schedule may vary slightly from year to year.

Procedure:

Contact Egon Frandsen on email erf@dmu.dk and provide a list what kind of cargo you have using the "List of cargo for Daneborg" in Appendix 1 :



Deadline →

Deadline for sending goods by ship

June 1st: Deadline for booking goods for the ship on erf@dmu.dk

June 15th: Deadline for delivery of goods to Egon Frandsen:

Arctic Research Center

Aarhus University

Vejlsøvej 25

DK8600 Silkeborg

July 1st: Deadline for delivery of large cargo directly to the ship in Aalborg – only after booking on erf@dmu.dk before June 1st.

Egon will provide you with delivery address.

↓
Information to provide

The mail to Egon on erf@dmu.dk must be attached with the file: “List of cargo for Daneborg” in appendix 1

We will not be able to book without the information

Packing and labeling

You must:

- Pack your equipment in boxes.
- Page 1 in Appendix 1 must be filled out prior to sending cargo by ship. Save Appendix 1 on your computer and send the list to erf@dmu.dk. It is very important that the weight and volume is correct.
- Then you will receive labels to your boxes listed in Appendix 1, with a unique number so we are able to track every single box to Daneborg.
- Attach the labels to each box, and fix them to the pallets
- Attach Appendix page 1 outside the packing film on the pallet.
- Finish the pro forma invoice on your cargo in Appendix 1, and send it to the shipping company and to Egon
- Return any transport document for the transportation to Egon erf@dmu.dk with booking number or tracking number from the shipping company
- Page 2 in Appendix 1 is the Pro forma invoice for your cargo – will fill out almost automatically when you fill in page 1 in the appendix 1.



Cargo packed before sending to Daneborg by ship

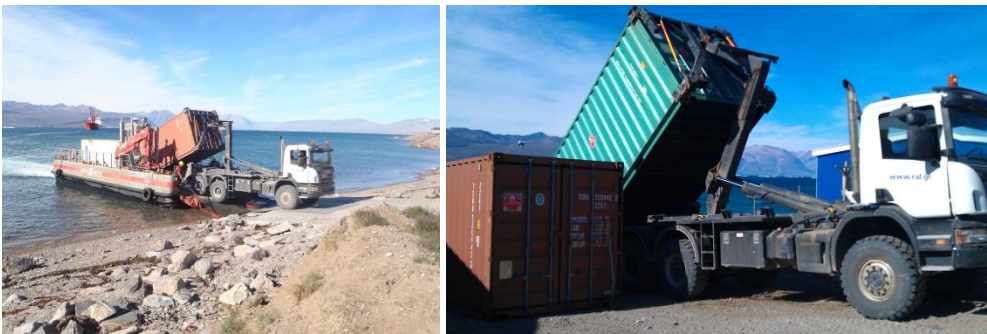


Photo: Henrik Spanggaard Munch

Cargo arriving in Daneborg

Equipment send to Daneborg by air

There is no fixed deadline on sending cargo by air to Daneborg. However, due to inflexibility of cargo on the planes from Akureyri to Daneborg, your cargo must be in Akureyri no later than 1 month before you arrive yourself.

Procedure

Contact Egon Frandsen on email erf@dmu.dk and provide a list what kind of cargo you have using the “List of cargo for Daneborg” in Appendix 1.

Appendix 1 must be send by mail to Egon erf@dmu.dk prior to sending cargo to Akureyri/Daneborg:

- Page 1-2 in Appendix 1 must be filled out prior to sending cargo to Akureyri.
 - No boxes must exceed 50 kg each – due to handling by hand along the east coast of Greenland
 - Don't pack any boxes in Fiberboard, they won't stand the handling to Greenland
 - Dangerous goods are often packed in fiberboard boxes. They are UN-boxes and able to withstand rain for several hours. But it would still be a good idea to have plastic/wood/metal boxes outside and then labeled with “Overpack” according to the IATA rules

Save Appendix 1 on your computer and send the list to erf@dmu.dk. It is very important that the weight and volume is correct, because these values are used for loading the plane with the possible weight with respect to the space.

- Then you will receive labels to your boxes listed in Appendix 1, with a unique number so we are able to track every single box to Daneborg.
- Attach the labels to each boxes

- Return any transport document for the transportation to Egon erf@dmu.dk with AWB number or tracking number from the shipping company
- Page 3 in Appendix 1 is the Pro forma invoice for your cargo – will fill out almost automatically when you fill in page 1-2 in the appendix 1.

Deadlines on cargo by air to Daneborg in 2014 in the table below

Leg	Start date on leg	Deadline sending - Expected	Deadline arrival in Akureyri
1 - DNB	April, 30th	February, 28th	March, 30th
2 - DNB	May, 21st	February, 28th	March, 30th
3 - DNB	June, 11th	February, 28th	March, 30th
4 - DNB	July, 8th	May, 1st	June, 9th
5 - DNB	July, 22nd	May, 1st	June, 9th
6 - DNB	September, 2nd	May, 1st	June, 9th
7 - DNB	September, 23th	May, 1st	June, 9th
8 - ZAC	April, 30th	February, 28th	March, 30th
9 - ZAC	July, 8th	May, 1st	June, 9th
10 - ZAC	July, 29th	May, 1st	June, 30th
11 - ZAC	August, 5th	May, 1st	June, 30th

Remember it is quite expensive to send your equipment by air (Akureyri – Daneborg is 100 DKK/kg)

Dangerous goods

If any of the cargo to Daneborg is classified as dangerous goods, you have to fill out dangerous goods shipping paperwork and pack according to the IATA 55th edition (2014) guidelines for the dangerous goods you have. This must be done by someone with the authority to do so. Please see Egon for more information (DK) or Emmelia Wiley (CA).

Lithium Batteries

Lithium batteries are dangerous goods. Please contact Egon or Emmelia. Be aware that lithium batteries marked with CAO (Cargo airplane only) cannot be transported to Daneborg, because there are no flights with cargo only. Very often your lithium batteries can be packed different so they are allowed on passenger flights.

Biological resources

You are not allowed to transport any rocks, water, ice or biological samples out of Greenland without permission. Fortunately, it is easy to get the permission. You need to fill out the application in appendix 3A (Example in Appendix 3B and licence in Appendix 3C) and send it to Camilla Bruun Djarnis cabd@nanoq.gl by the Greenlandic authorities with cc to erf@dmu.dk. You must include this permission when transporting your samples. Otherwise, you run the risk that your samples will be confiscated when you leave Greenland and you will be fined. Consult Egon if more information is needed.

Packing and labeling

You must:

- Pack your equipment in boxes (not Fibreboard boxes) with a single box weight below 50 kg
- Dangerous goods must be packed according to the IATA rules. No boxes must carry the CAO label (Cargo Aircraft Only), because there are no Cargo only flights to Daneborg.
- Attach the label you got from Egon
- Finish the pro forma invoice in Appendix 1, and handle it to the shipping company



**You cannot
send cargo
with this
label to
Daneborg**

and to Egon

Safety on the Daneborg field Station

There is some safety equipment in Daneborg, and some you have to bring by yourself. The list below shows what to bring and what's already there.

You need to bring

- Survival suit, if you are going to work on the ice outside the Daneborg station
- Survival suit or floating suit, if you are going to work from a boat on Young Sound
- Warm clothing or weather appropriate clothing, depending on the time of year
- Portable GPS

We already have on the station

- Signal pistols (3 project + 3 in-house)
- Rifles (3 project + 3 in-house)
- VHF radio (5)
- Iridium phones – portable (2)

Furthermore in the boat Aage V. Jensen

- VHF (1)
- Beacon (1)
- GPS with map (1)
- Lifesaving raft for 6 persons
- Life jackets for 5 persons
- emergency flares

Shortly after arrival, everyone must practice shoot with the signal pistols and rifles to familiarize themselves with the weapons.

Firefighting

In the residential house there are

- Fire alarms in all rooms
- Firefighting stations (water)
- Fire blanket in the kitchen

In the boat house there are

- Firefighting stations (powder extinguisher)

In the airboat (big one)

- Powder extinguisher

In the Aage V. Jensen boat there are

- Powder extinguisher

First aid and medical assistance

Every person arriving in Daneborg must have attended a First Aid course. First aid kits are available and further medical assistance is provided by the Sirius patrol. To obtain SAR insurance, you must sign (confirm) that you are in good health. You are allowed the use of personal prescribed medication, which you must bring yourself, and still access the station. You will have to fill out Appendix A on:

www.zackenberg.dk/news/the-2013-field-season-at-zackenberg-research-station

Wildlife at Daneborg

At the Daneborg station, and in the Young Sound/Tyrolerfjord area, you may encounter wildlife. Typically, it is only polar bears and musk ox you need to be cautious of. In the summer, you also need to be aware of walrus. According to national park rules, you must keep a distance of 500 meters from walrus. In addition, you are not allowed access to Sand Island in the summer when walrus are lying on the beach.

You are forbidden to shoot any wildlife in N.E. Greenland with the exception of self-defense. Please refer to the Zackenberg Site manual for more specific guidelines on animals and their behavior, especially the polar bear and musk ox. See www.zackenberg.dk

Sirius Daneborg – Military area

When you arrive in Daneborg you are entering a military zone and there are rules you need to follow. The Sirius Patrol is the local authority.



Local guidelines for stays at Sirius Daneborg

- All activities conducted on the station premises must comply with the rules and regulations set by the Sirius leader (LD SIR)

- Activities outside the station premises require permission from the Department of Infrastructure and Environment and GEM
- When driving on the station premises, vigilance must be exerted at all times toward people and animals. The speed limit is 30 km/h
- Entry to buildings marked "Forsvaret" (Defense) is prohibited
- Littering is prohibited
- The use of tents throughout the station premises must comply with the rules and regulations set by the LD SIR
- Urinating and defecation are restricted to the toilet facilities in SIRIHUS
- Walking/driving on or across the runway is prohibited
- Walking/driving on the apron is only allowed when loading/offloading planes
- Smoking is prohibited on the apron, as well as near fuel depots and filling stations
- Smoking indoors is prohibited
- Cigarette butts etc. must be placed in the bins
- The Defense personnel at Daneborg have police authority throughout the premises and can thus order inappropriate conduct or activities to cease immediately
- At any time, the LD SIR maintains the right to impose additional restrictions on visitors' stay at Daneborg

Technical information

The power supply at the station is 230V, 50Hz AC power. We have 3 converters from 230V to 110V. The plugs are Danish standard plugs

Communication

VHF

Local communication is by VHF radio on channel 16 as a call up channel. Once into the conversation, it is a good idea to switch to another channel for personal communication, then return to channel 16 when your conversation ends.

It's possible to use VHF at the station to communicate with people working in Young Sound. Outside Sandøen and inside Zackenberg, it's not possible to reach people on VHF from the station. Communication to the Zackenberg station and to the Sirius Patrol is possible on VHF. From the Zackenberg station it's possible to reach people working a little further into the fjord system, up to Lerbugten.



Iridium

For communication outside of the station area, we have an iridium system. For safety reasons, we always bring portable iridium in the field which can reach all over the Fjord system.

The Daneborg station

The Daneborg station has essentially two buildings – the boat house and the residential house. Beside these, there are a few old buildings from earlier times when it was weather station, including some containers where we may store equipment.

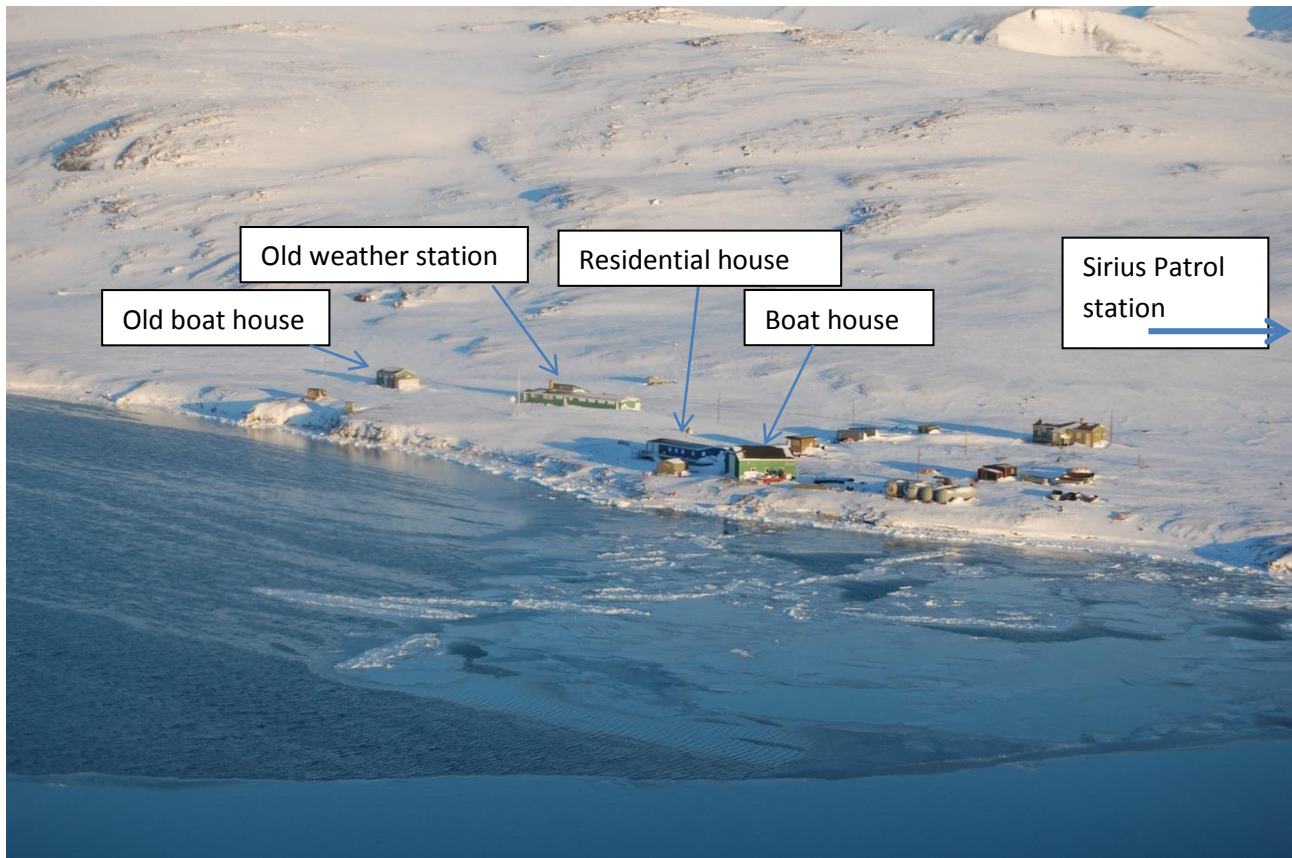


Photo: Leif Riemenschneider

Boat House

The boat house is approximately 150 square meters and contains a dry laboratory, about 40 square meters. A boat house occupies the remaining area where there is some storage and space for 3 boats.

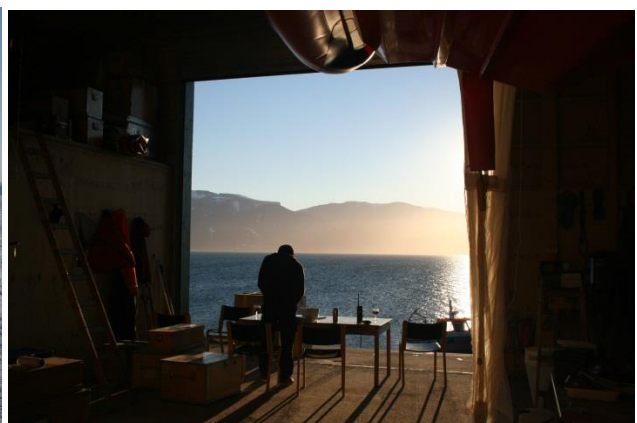


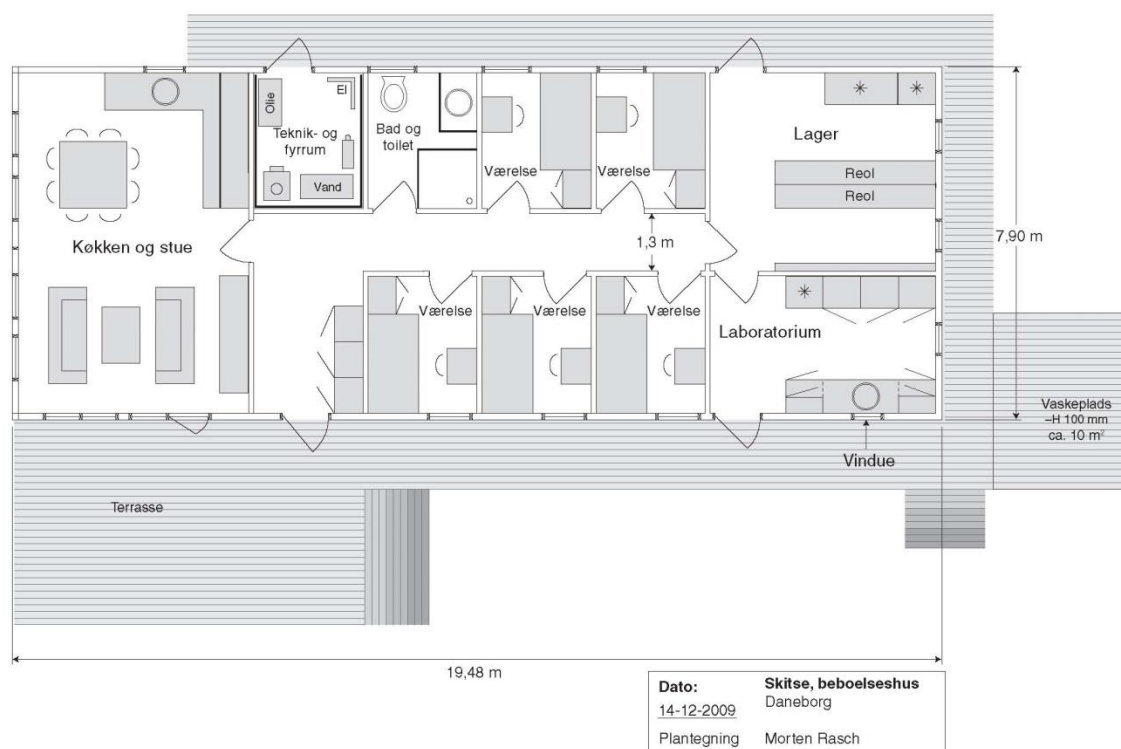


Photo: Søren Rysgaard

Residential house

In the residence, there is a small wet laboratory, a store room for food and household items, 5 rooms with double occupancy each, a bathroom, a toilet, and combined living room and kitchen.

Beside of this there is a technical room. Se the drawing below – sorry the labels are in Danish!



Living room and kitchen

Living room and sight to Young Sound

Toilet and bath



Sleeping room



Laboratory



Laboratory

While staying at the Daneborg station, you are expected to take turns cooking, cleaning, and general maintenance.

Communication

It's not possible to use your normal mobile phone in Daneborg. But it's possible to reach out to the world by iridium systems. We have 2 portable iridium phones to carry in the field for security reasons and an Open Port iridium system where it's possible to send and receive emails. You are not able to check your normal email home at the office, but the email address arc1@skyfile.com is the one to use in Daneborg. Since it's expensive to send and receive on the iridium there is a limit on the mail size on 1MB. Mails above this size will be rejected.

The price for sending and receiving mails will be 20 US\$/MB – please limit the use of attached files.

The price for using the iridium to call home will be 2 US\$/minute.

The logistics staff in Daneborg will show you how it works, and there will be a list to note when you have used the iridium system – see appendix 4

The iridium numbers to the station and the contact information to other stations along the east coast of Greenland will also be in appendix 4

Water supply

During the period where there is no running water, the water supply is by melting snow, which is time consuming and limits the amount of available water.



Winter



Summer

In the summer time we have water supply from the Sirius Patrol water pond.

Tide

The tide in Daneborg is between 0.8-1.2 meter depending of the phases of the moon. Normally we have a tide table in the residential house

Laboratory facilities

The dry lab in the heated part off the boat house is very useful for working with instruments, preparing equipment for deployment in the field, processing data, and a variety of other required tasks.

The wet lab in the house is for all kinds of analysis. There will be a special box for extraction of carbon 14 experiments. This lab is also heated.

Equipment in the wet lab:

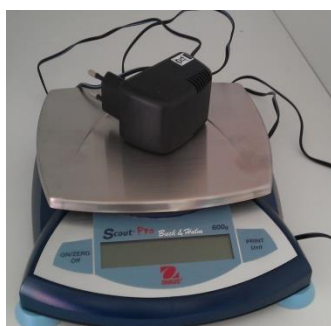
- Drying oven



- Weights



63g, 5 digits



Max 600g, 2 digits



Max 6000g, 1 digit

- Milli-Q water



- Pumps for filtration (2) (one for 14C and one for clean seawater)
-

Equipment in the dry lab:

- Battery charger 230V -> 12V (4 CTEK MXS 7.0) – For batteries on 14-150AH – see technical information on website: <http://www.ctek.com/gb/en/chargers/MXS%207.0>



- Battery charger 230V ->12V (1 CTEK M200) – For batteries on 28-300AH - see technical information on website: <http://www.ctek.com/gb/en/chargers/M%20200>



Equipment in the boat hall:

- Display freezer (1)
- Normal freezer (3)
- -80°C freezer – new, not unpacked yet
- Bandsaw, Stainless Steel (1)

BandSaw	SE 165
Blade	1650 mm
Cutting Capacity	240mmx190mm
HP	1,5
Electrical	400V



Field equipment

There is some standard equipment at the station but, in general, you have to provide your own equipment

Field equipment on the station:

- Romerloth
- Haps
- Kajak sampler
- Niskin water sampler
- Kovac icecore (10 cm)
- Auger (2,5 cm), manual
- Auger (25 cm), engine
- Tripod
- Generator 2000w Honda (2) 12V and 230V output
- Generator 1100w (1) 230V output
- Generator 2300w (1) 230V output
- Generator 6000w (1) 230V and 380V output
- Tent



Local transportation – Boats, Airboats and Skidoos and so on.

Transport at the station



Photo: Thomas Juul-Pedersen

Permission is needed for using the Cramer machine.

Transport into the field – Young Sound

Winter (October-July)

During the ice covered period we use the two Airboats and the two Skidoos we have on the station.

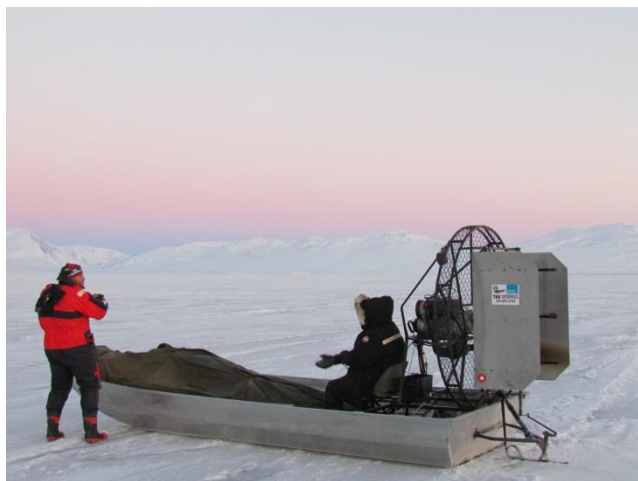


Photo: David Babb



Photo: Igor Dmitrenko

Summer (July-October)

In the summertime, we use 3 boats from the station. There are two big rubber boats and a larger aluminum boat (Aage V. Jensen). For most of the work we use the Aage V. Jensen, because it is equipped with an electrical winch.



Photo: Søren Rysgaard

Photo: Søren Rysgaard

Shipping cargo back to DK/Nuuk/Canada

Please download appendix 2 to your computer before you go to Daneborg – you will not be able to download in at the Daneborg station.

Shipping by air

It must be labeled with the return address and mode of transport in appendix 2 whether it's for shipment by air. You must:

- pack your equipment in boxes with a single box weight below 50 kg
- label with the marks in Appendix 2 whether it's for shipment by air or sea
- label with the label in Appendix 2 where to send the equipment
- finish the pro forma invoice in Appendix 2 on your cargo

When Appendix 2 is filled out you must send it to Egon erf@dmu.dk and cc to Kibba kibba@norlandair.is from the Open Port Iridium on Daneborg.

Shipping by ship

It must be labeled with the return address and mode of transport in appendix 2 whether it's for shipment by ship. You must:

- pack your equipment in boxes and fix it to pallets for shipment
- label with the marks in Appendix 2 whether it's for shipment by air or sea
- label with the label in Appendix 2 where to send the equipment
- finish the pro forma invoice in Appendix 2 on your cargo

When Appendix 2 is filled out please send it to Egon erf@dmu.dk from the Open Port Iridium on Daneborg