

SITE MANUAL

**Villum Research Station
Station Nord
Greenland**



Photo: Stephan Bernberg, Aarhus University

*Morten Rasch
Egon Randa Frandsen
Henrik Skov
John Lau Hansen*

**Department of Environmental Science
Aarhus University
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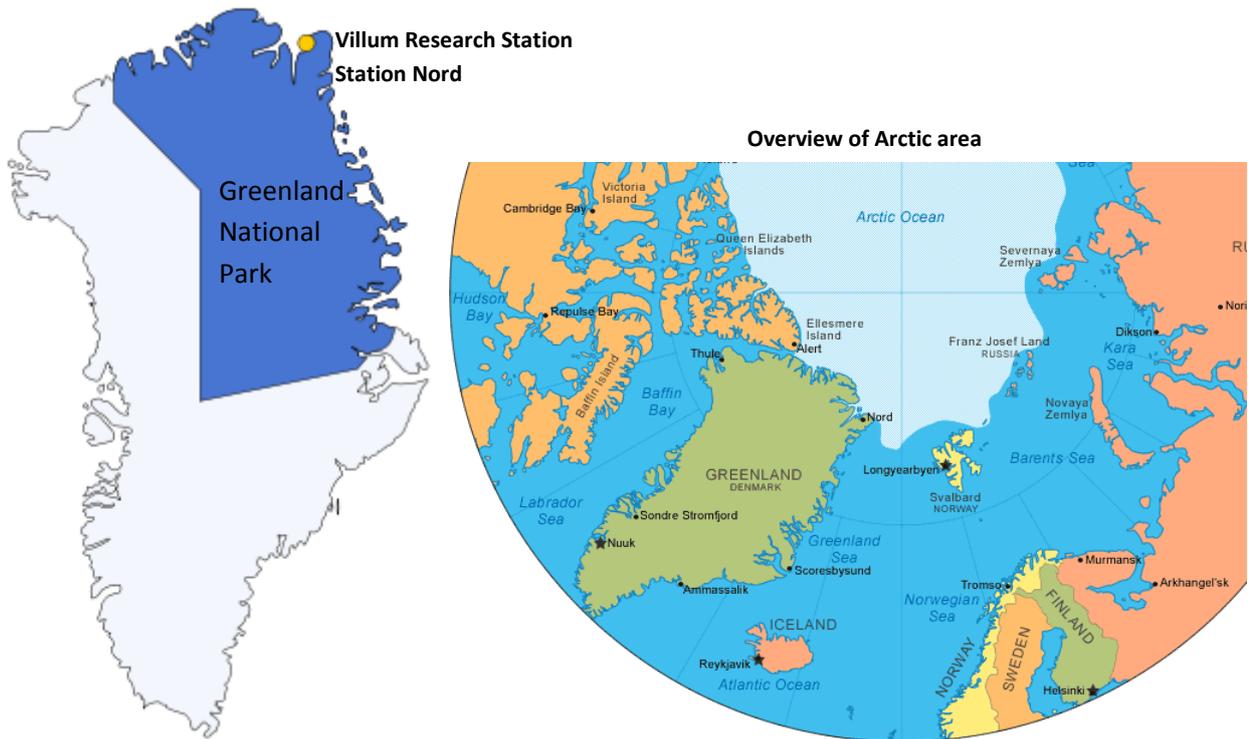
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Introduction

The Department of Environmental Science, Aarhus University, appreciates that you have decided to allocate your high arctic field research to the facilities at Villum Research Station at Station Nord (81°36 N; 16°40 W) in North Greenland. The study area of Villum Research Station includes the Prinsesse Ingeborg Halvø (Princess Ingeborg Peninsula) in the National Park of North and Northeast Greenland. The research station also provides logistics field work support to research projects of any kind to be accomplished anywhere in North Greenland and the northern part of Northeast Greenland.

Location and ownership

Villum Research Station is located at the military outpost Station Nord (81°36 N, 16°40W) on Prinsesse Ingeborg Halvø (Princess Ingeborg Peninsula) at the very northeastern corner of Greenland. The station is situated in the National Park of North and Northeast Greenland, the largest national park in the World. The nearest town in Greenland is Ittoqortoormiit (Scoresbysund), 1,250 km to the South, while the nearest town outside Greenland is Longyearbyen on Svalbard (Norway), 720 km to the East. Villum Research Station is owned by the Greenland Government and is being run and maintained by Department of Environmental Science, Aarhus University. The station is situated at Station Nord and part of the logistics (e.g. power and water supply, handling of garbage, supply of provision) relating to the run of the station is being taken care of in cooperation with the Danish Defense – Arctic Command. Villum Research Station has different staff, including a scientific director, a station manager and different logistics/technical coordinators and assistants. The station is open and manned throughout the year, and it can accommodate 14 scientists at any time. Access to Villum Research Station is only allowed after previous agreement and generally only for scientists.



Villum Research Station is situated in the National Park of North and Northeast Greenland.

Setting

Station Nord is located in the farthest northeastern corner of Greenland, on the north–south oriented peninsula Prinsesse Ingeborg Halvø, on a 20 km² lowland plain. The lowland plain borders Wandel Sea to the North, and a local ice cap, Flade Isblink, to the South and East. The plain consists of Quaternary raised marine silt, beach shingle and glacial deposits being underlain by Permian rocks. There is continuous permafrost in the area, and the maximum summer depth of the active layer does not exceed 20 cm. The area is classified as Arctic Polar Desert.

The climate around Station Nord is dry and cold with a mean annual temperature of -21 °C and a mean annual precipitation of 188 mm. The average wind speed is 4 m/s, with winds mainly from SSW. Calm weather with wind speeds below 1.5 m/s occur about 30 % of the time, but storms with wind speeds at 20–30 m/s occur frequently. The mean monthly temperature is below 0 °C for nine months of the year (September – May), and the minimum temperature ever recorded at Station Nord is -51 °C. The sun stays permanently

above the horizon for 146 days per year, while it is permanently below the horizon for 131 days per year.



Station Nord. The Villum Research Station main building and garage are the two blue buildings in the right side of the picture (Photo: Morten Rasch, Aarhus University).

Going there

The only way to access Station Nord is by air. The Villum Research Station Secretariat can arrange your transport to/from the station of project participants, their personal luggage and any type of cargo. Generally, the travel for passengers is arranged with commercial flights between Oslo (Norway) and Longyearbyen (Svalbard, Norway) and with charter flights between Longyearbyen and Station Nord. Occasionally, the Villum Research Station Secretariat might however arrange your travel to and/or from Station Nord by military aircrafts between Aalborg (Denmark) and Station Nord. The Villum Research Station can provide package solutions for travels to/from Station Nord either out of Copenhagen (incl. relevant accommodation in Longyearbyen), or out of any European airport being serviced by Scandinavian Airline System (incl. relevant accommodation), or out of Longyearbyen. Current prices for transport to/from Station Nord are given in the current price list (see www.villumresearchstation.dk).



Transport of passengers and cargo to Station Nord is always by air. Dornier 228 aircraft ready to take off in Longyearbyen, Svalbard (Photo: Morten Rasch, Aarhus University).

The Villum Research Station can also arrange your transport of cargo to/from Station Nord, either out of Denmark or out of Longyearbyen. Therefore, if you have any cargo to/from Station Nord, you should inform the Villum Research Station Secretariat about this in your access application form. The secretariat will then help you to find the most appropriate way of transporting the cargo into Station Nord, given the amount and character of the cargo and the time constraints relating to the transport.

Be aware that excess cargo most probably will not be allowed on board the aircraft taking you from Longyearbyen to Station Nord. Therefore, arrange your cargo transport well in advance of your own departure.

Buildings

Villum Research Station consists of three buildings:

- A 380 m² main building with accommodation facilities, living and dining rooms, toilets, storages and laboratories.
- A 110 m² garage with workshop and storage facilities.
- A 110 m² atmospheric observatory, being situated two kilometers outside Station Nord and containing laboratories for atmospheric physics and chemistry and storage facilities.

The station is situated inside the military station, Station Nord, which has a permanent staff of six soldiers. The military premises consist of a number of buildings of which some can be used by visitors at Villum Research Station.



The Villum Research Station main building and garage (Photo: Stephan Bernberg, Aarhus University).



The Villum Research Station atmospheric observatory is situated two kilometers outside Station Nord (Photo: Morten Rasch, Aarhus University).

Contact

The station has a secretariat at Department of Environmental Science, Aarhus University, with the following contact details:

The Villum Research Station Secretariat
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Denmark
E-mail: secretariat@villumresearchstation.au.dk
Phone: +45 23227110

The permanent staff of the station is:

Head of Station
Professor Henrik Skov
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Direct phone: +45 87158524
Cell phone: +45 30783170
E-mail: hsk@envs.au.dk

Station Manager
Dr. Niels Bohse Hendriksen
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Phone: +4587158473
E-Mail nbh@envs.au.dk

Logistics Coordinator
Jørgen Skaftø
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Phone: +45 23227110
E-mail: jaska@bios.au.dk

Technical Coordinator
Mr. Bjarne Jensen
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Cell phone: +45 30183117
E-mail: BJ@envs.au.dk

A - Z Information

About the Site Manual

This manual will provides information about conducting fieldwork in the Station Nord area with the Villum Research Station as your base.

The manual consists of a number of keywords with explanation given. The keywords are given in alphabetic order.

Access to Villum Research Station

To facilitate the planning and the coordination of the research at Villum Research Station, all research projects must submit to the Villum Research Station Secretariat (secretariat@villumresearchstation.au.dk) a request for access permit no later than 16 February in the year of the planned summer field season. If you plan to do research from Villum Research during the winter, you have to apply at least six months in advance. Due to environmental concerns, all applications will be evaluated by the Villum Research Station Secretariat and the Villum Research Station Scientific Advisory Board, which also maintains any correspondence with the Government of Greenland concerning the overall access to the National Park of North and Northeast Greenland. The application form (and the relevant appendices) for access to Villum Research Station are available on the Villum Research Station website (www.villumresearchstation.dk).

For the sake of good order, we kindly inform you that application forms not being appropriately filled in will be refused by the Villum Research Station Secretariat before being processed by the Villum Research Station Advisory Board. We therefore kindly advice you to be careful in the first attempt with the work related to filling in the application form.

Below is a list of the different more administrative issues related to your stay at Villum Research Station.

Before you apply for money for your project:

1. Read the Villum Research Station Site Manual – i.e. this document.

2. Check the Villum Research Station price list for current prices on services provided by the station.
3. Contact the scientific director in case you have any questions relating to the science part of your planned project.
4. Contact the station manager in case you have any questions relating to the logistical part of your planned project.

When you have received funding for your project:

5. Contact the station manager in case you have any questions relating to the logistical part of your planned project.
6. Contact the scientific director in case you have any questions relating to the science part of your planned project.
7. Fill in the Villum Research Station Access Application Form, print it out, sign it, scan the signed version and send it to the Villum Research Station Secretariat together with a Word version of the same document and all relevant appendices.
8. Check if you need any exemption from the National Park of North and Northeast Greenland rules to carry out your project, and if you do, apply the Greenland Government with a copy of your letter to the Villum Research Station Secretariat.

After you have sent your access application form:

9. You will receive a permit to go to Villum Research Station at least two months before your departure.
10. You will receive your prepayment invoice and tickets, incl. a travel plan at least three weeks before your departure. Please pay your prepayment invoice before leaving for Station Nord.
11. Contact the station manager in case you have any questions related to your travel.

After you return from Villum Research Station:

12. You will receive the invoice relating to your stay at Villum Research Station before 1 December.
13. Contact the station manager in case you have any questions related to your invoice.

14. You are obliged to send a small report (< 1 page) to the Villum Research Station Secretariat about your research at the station before 15 February in the year after your stay at Villum Research Station.

15. Remember to keep the Villum Research Station Secretariat informed about any publications resulting from your research at Villum Research Station.

16. Also remember to acknowledge Villum Research Station in the publications coming out of your research at Villum Research Station – see the section ‘Acknowledgement’.

Accommodation

Villum Research Station can accommodate a maximum of 14 scientists. Scientists are accommodated in the main building of the station or in other buildings at Station Nord. Accommodation is provided in double rooms with central heating, beds and essential furniture. Toilets, showers, laundry facilities and living room are located in the same building. Dining is in a separate building c. 200 meter away from the main building.

Acknowledgement

It is mandatory for any research project being accomplished at Villum Research Station to acknowledge the station in any publications resulting from the work at Villum Research Station with the following sentence: ‘*The Department of Environmental Science, Aarhus University is acknowledged for providing logistics at Villum Research Station in North Greenland*’. If data provided by Villum Research Station are included in any publication, it is further encouraged to include the person being responsible for the data collection as co-author or as a minimum to acknowledge this in the publication acknowledgement. Please contact the Villum Research Station Secretariat for further information.

Airstrip at Station Nord

Station Nord has a 1,800 m gravel runway which is being maintained by the Danish military. Any visitor to Villum Research Station will make use of this airstrip on arrival and departure. Station Nord and Villum Research Station are only accessible by air. Please notice that the airstrip at Station Nord is classified as an inadequate aerodrome. Department of Environmental Science, Aarhus University, bears no liability (whether in

contract, tort or otherwise) for any loss, damage or injury of any nature on the base that an inadequate aerodrome is used as a landing field for visitors to Villum Research Station.

Alcohol Policy

Villum Research Station is situated in a remote and potentially dangerous environment. Safety is therefore highly prioritized. Responsible use of alcohol is accepted as long as it is being done with due consideration to your own safety, to the safety of others and to your own ability to behave decent in a group of people and not offend others. In case you do not apply with these rules, the station staff will take action which might involve that you will be expelled from Villum Research Station at your own expense.

Annual Report for Villum Research Station

Following each calendar year, an annual report for Villum Research Station is published in English by Department of Environmental Science, Aarhus University, covering all activities, events and accomplishments of the past year. All principal investigators working from Villum Research Station are required to provide an abstract of c. 2,000 words (including relevant figures) to this report following specifications provided by the editor (see www.villumresearchstation.dk).

All-Terrain-Vehicles (ATV)

Villum Research Station has three All-Terrain-Vehicles (ATV) that all can be rented by visitors at the station after prior arrangement with the Villum Research Station Secretariat. Current prices for rental of ATV's are given in the price list for Villum Research Station (www.villumresearchstation.dk). Villum Research Station also has a few trailers that can be used for transportation of equipment after the ATV's. Villum Research Station takes no responsibility for your safety during use of ATV's. Please make sure prior to your stay at Villum Research Station that you are properly insured in relation to use of ATV's.

Atmospheric observatory

The Villum Research Station Atmospheric Observatory is situated approximately two kilometers outside Station Nord – to secure least possible contamination of air by the activities at Station Nord. The observatory is a 110 m² building consisting of three rooms, a

monitoring laboratory, a research laboratory and a storage room. The observatory has relevant air intakes to be used for taking air into the laboratories for analyses of particles and gasses. You are only allowed to access the atmospheric observatory by foot or bicycle. In case you need to have heavy equipment transported to the observatory, please contact the station staff, and they will help you. For further information about the atmospheric observatory, please contact the Villum Research Station Secretariat. You

Bar

The military personal runs a bar at Station Nord (in the military building no. 35). In the bar there is an opportunity to relax, watch a movie, play pool, cards, dart, use the small library, etc. The bar is open at all times and operated on a self-service basis. Beer, wine, sparkling water and licuour are for sale, while coffee and tea is for free. Please record your expenses in the bar notebook, and you will be billed by the end of your stay. See also section on 'Alcohol Policy'.

Camping

Camping and tent based equipment storage at a research site at or close to Villum Research Station must be specifically approved by the Villum Research Station scientific director or station manager.

Cargo

It is essential for optimal planning and utilization of the charter flights to and from Station Nord that the amounts and types of cargo are known to the Villum Research Station Secretariat. You are therefore requested to inform, in your application form, the exact weight and dimensions of all the cargo you and your project colleagues want to have transported to and from Station Nord. Any changes in cargo amounts and types must be reported immediately to the secretariat. Onboard the aircraft between Longyearbyen (Svalbard) and Station Nord the luggage weight limit is 20 kg per passenger for checked in luggage plus an 8 kg hand luggage. Any luggage in excess of this is treated as cargo and is given lower priority than scheduled visitors and staff. Any excess luggage and cargo is charged to the pertinent person or project at the current rate (see the price list on www.villumresearchstation.dk). This charge applies both for the westbound cargo or

excess luggage transported by aircraft from Longyearbyen (Norway) to Station Nord and to the eastbound cargo or excess luggage transported by aircraft from Station Nord to Longyearbyen (Norway). Please notice that you further might be charged for any excess luggage on the commercial flight between Longyearbyen (Svalbard) and the airport from where you start and end your journey to/from Station Nord.

In case you have any cargo to be transported to/from Station Nord, please contact the Villum Research Station Secretariat for specific agreements concerning, packaging, labeling, place to deliver the cargo etc.

We kindly inform you that it is your own responsibility to have all relevant documents to follow your cargo, like e.g. customs papers, pro-forma invoice, dangerous goods papers etc. in order. In case you do not have experience in filling in such papers, The Villum Research Station Secretariat recommends that you contact a commercial shipping company to help you with the paper work.

Climate

Station Nord features a very cold polar tundra climate with average temperatures just a few degrees above the freezing point in the midst of the short summer (June, July, August).

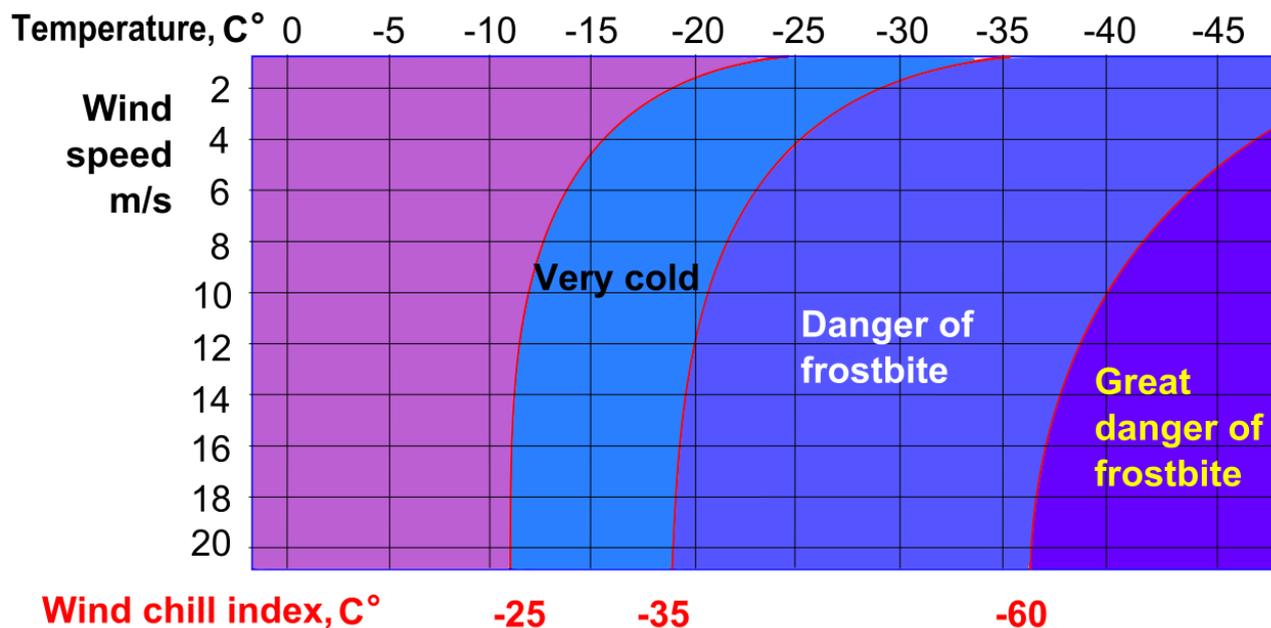
Climate data for Nord													
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Record high °C (°F)	-5 (23)	-5 (23)	-2 (28)	2 (36)	6 (43)	10 (50)	14 (57)	13 (55)	5 (41)	1 (34)	1 (34)	2 (36)	14 (57)
Average high °C (°F)	-27 (-17)	-26 (-15)	-27 (-17)	-18 (0)	-6 (21)	2 (36)	6 (43)	4 (39)	-6 (21)	-18 (0)	-22 (-8)	-24 (-11)	-13.5 (7.7)
Average low °C (°F)	-32 (-26)	-32 (-26)	-33 (-27)	-23 (-9)	-12 (10)	-1 (30)	1 (34)	1 (34)	-10 (14)	-21 (-6)	-27 (-17)	-29 (-20)	-18.2 (-0.7)
Record low °C (°F)	-51 (-60)	-47 (-53)	-46 (-51)	-37 (-35)	-24 (-11)	-10 (14)	-2 (28)	-13 (9)	-30 (-22)	-32 (-26)	-45 (-49)	-42 (-44)	-51 (-60)

Source: Weatherbase ^[2]

The mean annual air temperature at Station Nord is -21 °C, and the mean annual precipitation is 188 mm.

The combination of very low temperatures and wind can be very dangerous, and the wind chill factor must therefore at any time be taken in account to avoid frostbite.

WIND CHILL



Wind Chill factor illustration from Wikipedia

Climate Station

Villum Research Station runs a climate station at Station Nord. The climate station is situated close to the atmospheric observatory, two kilometers outside Station Nord. The climate station has sensors for air temperature, air pressure, air humidity, wind velocity and direction, short wave incoming and outgoing radiation, net radiation and UVB-radiation. Data from the climate station are provided free-of-charge to scientists working at Villum Research Station. For further information please contact the Villum Research Station Secretariat.

Computer hardware - software

You must bring your own portable hardware/laptop and relevant software to meet your computer needs in the field and in the laboratory. Please notice that the dry and cold conditions in North Greenland might challenge your computer. It is therefore recommended to bring a spare computer per project, to be prepared for a break down.

Courses and training you might need to have

The Villum Research Station Secretariat strongly recommends that you participate in the following types of courses before you leave for Station Nord:

- Valid first aid course – preferably a course focusing on the Arctic.
- Shooting course, incl. proper handling of hand weapons.
- Training on how to work and survive in cold conditions, incl. field safety.
- Snow mobile course, for people intending to use snow mobiles.
- Rubber boat course, for people intending to use rubber boats.

If you are planning to use zodiacs, snow mobiles and/or ATV's during your stay at Villum Research Station, we further recommend that you attend a course in the use of relevant types of vehicles before leaving for North Greenland.

Villum Research Station strongly recommends the courses being provided by the University Centre in Svalbard. Further information on www.unis.no.

Daily fee

The fee for using Villum Research Station is found in the Villum Research Station Price List (www.villumresearchstation.dk). The fee includes food, accommodation and free use of all facilities except e-mail and satellite phone calls. Snow mobiles, bicycles, vehicles, rifles, signal pistols, VHF-radios, portable Iridium telephones and personal locator beacons (PLB) can be borrowed or rented at the station (for current rates for rent of Iridium phone and PLB, check the price list on www.villumresearchstation.dk). In case you have special logistic needs, you will be charged for the extra service. Please contact the Villum Research Station Secretariat (secretariat@villumresearchstation.au.dk) for advice concerning extra services.

Before the field season, the Villum Research Station Secretariat will mail you a pre-payment invoice concerning the expected station fee and transportation costs relating to your stay at Villum Research Station, in anticipation of reimbursement at a suitable time before your departure to North Greenland. Please notice that the final invoice, in which

your pre-payment is regulated, cannot be expected before late November or early December.

Dangerous goods

If any of the cargo to Station Nord is classified as dangerous goods, you have to fill out dangerous goods shipping papers and pack according to the IATA 56th edition (2015) guidelines for the dangerous goods you have. This must be done by someone with the authority to do so. Please contact the Villum Research Station Secretariat for more information (secretariat@villumresearchstation.au.dk). Please notice specifically that lithium batteries are considered dangerous goods. Further be aware that lithium batteries marked with CAO (Cargo Airplane Only) cannot be transported to Station Nord because there are no flights with cargo only.

Disclaimer of Liability

We kindly inform you that staying at Villum Research Station is at your own risk. Aarhus University takes no responsibility for the safety of guests to Villum Research Station, neither during their travel to the station, nor during the stay at the station or during potential field trips out of the station. All project participants visiting Villum Research Station (including yourself) are therefore required to be properly insured during their stay at Villum Research (i.e. having relevant Search and Rescue Insurance (SAR), company injury insurance, medical insurance and other relevant insurances) either issued by a commercial insurance company or by self-insurance by their institution.

Aarhus University hereby inform you that staying in North Greenland and at Station Nord might include a higher risk than what is normal at a university or research institution being situated in a less remote and more densely populated area. Aarhus University also informs you that travelling to/from Station Nord will include air transport to/from an airstrip being classified as an inadequate aerodrome.

It is mandatory for all visitors to Station Nord to deliver a Disclaimer of Liability (Appendix E to the Villum Research Station Application Form) to the Villum Research Station Secretariat prior to their travel to Station Nord.'

Drugs Policy

Use of drugs and cannabis of any kind is strictly forbidden at Villum Research Station and Station Nord. In case you are caught in holding or using drugs or cannabis, the station staff will report you to the police, and you will be expelled from Villum Research Station at your own expense.

In case you are using medicine similar to drugs but being prescribed by an authorized medical doctor, we kindly ask you to inform the Villum Research Station Secretariat prior to you travel to Station Nord.

Electricity

The station supplies 230 V, 50 Hz AC power. Electricity outlets are of DIN standard. The plugs are made after Danish Standard. Villum Research Station has a number of different plug converters that can be borrowed while at the station, but we highly recommend that you bring your own plugs or plug converters.



Plugs being in use at Station Nord (Photos: Egon Frandsen, Aarhus University).

Emergency Camp Boxes

Villum Research Station has a number of emergency camp boxes that can be used by projects leaving the Station Nord station area for shorter or longer trips. The emergency camp boxes holds what is needed to survive for a few days in the field in case of troubles and while waiting for evacuation. For further information please contact the Villum Research Station Secretariat.

Expeditions

The Villum Research Station can help you with logistics support if you are planning a research expedition to any field site in North Greenland or the northern part of Northeast Greenland. The station has a mobile camp to accommodate ten scientists for rent, and the station secretariat has expertise on expedition planning, incl. charter of relevant aircrafts. The Villum Research Station staff will further be able to help you with getting cargo to and from North and Northeast Greenland, radio communication while you are in the field, support at Station Nord on your way to/from your field site, consultancy in relation to relevant paper work etc. For further information, please contact the Villum Research Station Secretariat.

Field equipment

Villum Research Station has different basic field equipment for terrestrial and marine research. Villum Research Station also has different camping equipment. For further information, please contact the Villum Research Station Secretariat.

Field provision

Villum Research Station has a small amount of field provision on store. If you need field provision for a short stay in the field, please ask the station staff, and they will help you. Use of field provision is included in your station fee. In case you need field provision for longer stays in the field or for expeditions out of Station Nord, the Villum Research Station Secretariat can also help you with this after agreement well in advance of your travel to North Greenland.

First aid and medicine

A well-equipped first aid kit is available at the station. Any personal medication must be brought in by yourself. Villum Research Station recommends, for your own safety, that you report any disease that might affect your ability to stay and work in the field on the Villum Research Station access application form (this is not mandatory). However, please notice that the Department of Environmental Science, Aarhus University, will take no responsibility for any problems relating to the health information reported.

The staff at Villum Research Station and the military personnel at Station Nord are experienced in handling situations requiring evacuation out of Station Nord. However, please notice that evacuations are carried out at your own expense. Therefore, make sure that you are properly insured or self-insured before you start your journey to Station Nord. You will not be allowed into the National Park of North and Northeast Greenland, unless you have a proper insurance/self-insurance being approved by the Greenland Government. Please also take due consideration to the fact that Station Nord is located far away from any hospitals and that an evacuation might take several hours or even days. Villum Research Station therefore strongly recommends that you visit a doctor before your departure to Station Nord to make sure that you are in proper condition to travel on an expedition basis to wilderness.

Flygers Hut

The original atmospheric observatory at Station Nord was placed in an old hut called Flygers Hut, two kilometers outside Station Nord. Today this hut is still in use mainly for atmospheric monitoring. The hut can also be used for work with stable and radioactive isotopes, but only if this has specifically been approved by the leadership of the station - see the section on 'Isotopes'.

Force majeure

Please notice that flights to/from Station Nord may be changed with short notice due to weather conditions. Furthermore, flights to/from Station Nord may be rescheduled if the Villum Research Station staff, the airline company, the captain of the aircraft or the military personnel at Station Nord considers it necessary for safety reasons. Therefore, please be aware, and plan accordingly, that you might have a delayed arrival at Station Nord and that you might also be delayed on your way back from Station Nord. Department of Environmental Science, Aarhus University, takes no responsibility for any costs relating to delays on travels to and from Station Nord.

Garage

The garage at Villum Research Station is approximately 110 m² and contains storage shelves and a workshop for general use. Always bring back the tools you borrow and keep

the place clean and in order. There will be a list where you can notice by your name, if you have borrowed some equipment, tools etc.

The garage is also used for winter storage of equipment belonging to the station, ATV's, snow mobiles etc. There is a small storage room for frost free storage of any type of equipment, and in case you need to leave equipment at Villum Research Station for future use, the equipment will be stored in a container only with equipment belonging to your project. Storage of equipment at Villum Research Station is only permitted after prior agreement with the station staff, and there might be a fee for it dependent on quantity and duration.



The garage as it looks from the outside (Photo: Egon Frandsen, Aarhus University).



Inside the garage (Photo: Egon Frandsen, Aarhus University).



The workshop inside the garage (Photo: Egon Frandsen, Aarhus University).

Garbage

All garbage must be divided into metal, glass, non-burnable and burnable garbage. When the garbage bins inside the houses are full, you must empty them into the ones outside the houses. The station staff will then take care of the handling from there. During the introduction to the station at your arrival, you will be informed more specifically about handling of different types of garbage.

Gift shop

The military personnel have different Station Nord merchandise for sale in the Station Nord gift shop. If you wish to purchase Station Nord merchandise from the gift shop, please contact one from the military station staff.

GPS

It is recommended that you bring your own GPS as personal equipment with you to Station Nord, mainly for safety purposes, but also for registering your potential research plots. Once you arrive at Villum Research Station, you should add the position of relevant buildings as way points. Please be aware that you have a fully charged battery on your GPS every time you walk out in the field, and please notice that the duration of fully loaded batteries decrease significantly when temperature drops below freezing point. It is therefore a good idea to wear your GPS inside your clothing and close to the body. Most current maps of the Station Nord surroundings use WGS84 as datum. Make sure that your GPS does the same.

Indoor footwear

It is recommended to bring footwear dedicated to personal indoor use. Outdoor footwear is not allowed in any of the buildings except the garage. Furthermore, a pair of clogs is handy for use between buildings.

Insurance and liability

We kindly inform you that staying at Villum Research Station is at your own risk. All project participants (including yourself) should therefore be properly insured during their stay at Villum Research Station (i.e. having relevant Search and Rescue Insurance (SAR), company injury insurance, medical insurance and other relevant insurances) either by an insurance issued by a commercial insurance company or by self-insurance by their own public institution. Department of Environmental Science, Aarhus University, takes no responsibility for the safety of users of Villum Research Station.

The Government of Greenland requires a Search and Rescue (SAR) insurance for each project travelling to remote parts of Greenland. The SAR insurance must cover the amount of 1,000,000 DKK for Search and Rescue with the Danish State as the sole beneficiary.

Any project required to have SAR insurance must also for each participant obtain an additional evacuation (ambulance) insurance covering the amount of 280,000 DKK also with the Danish State as the sole beneficiary.

A research project carried out under the auspices of a public research institution (e.g. a university) normally does not need to obtain a Search and Rescue and evacuation insurance as the project members will be covered by the institution through its self-insurance.

As part of the application for use of Villum Research Station, the project leader (PI) must therefore forward to the Villum Research Station Secretariat an official statement with enclosed documentation from the involved institution(s) clarifying that the SAR and evacuation insurance conditions are valid for all participants in the project. Standard forms, being accepted by the Greenland Government, for this documentation, are given in Appendices C and D of the application form (www.villumresearchstation.dk).

If you need to be evacuated out of Station Nord, the logistics staff at Villum Research Station and the military personnel at Station Nord will based on extensive experience and training help you in any possible way with all the practical issues. However, any expenses relating to the evacuation will be the responsibility of you, your institution or your insurance company.

If you are operating outside Station Nord with logistics support from Villum Research Station it still remains your own responsibility that you possess a valid insurance covering all expenses deferred from any case of problems, incl. illness, injury etc., requiring a non-scheduled transportation out of North or Northeast Greenland.

Please contact an insurance provider (e.g. Europæiske, International Health Insurance or IF) or the HR department of your institution for more details

Invoice

Before your departure to Station Nord you will receive a pre-payment invoice from Aarhus University based on the information given in your application form. The Villum Research Station Secretariat kindly asks you to make sure that this invoice is paid before you leave for North Greenland. During your stay at Villum Research Station, the staff there will carefully register your use of the different services provided, they will weigh your incoming and outgoing cargo, and they will register the exact amount of bed nights your project has spent at the station. Based on this information the secretariat will calculate the actual costs of your project and they will send you either an invoice or a credit invoice to balance your account. Please notice that you cannot expect to have the final invoice relating to your stay at Villum Research Station earlier than three months after you have left the station.

Introduction at arrival

Once you arrive at Station Nord, the station staff will take care of transporting your luggage to Villum Research Station, and they will show you the room in which you will be accommodated. At your arrival you should notice that all your luggage and cargo will be weighed by the station staff, before it will be delivered to you. This is to make sure that your invoice will be based on actual data.

During the first day of your stay at Villum Research Station, the staff will further give you a short introduction to the station and show you where things are, both at Villum Research Station and on Station Nord. This introduction will also include practicalities like meal times, how to inform station staff about your field activities, how to inform staff if you want to make use of station bicycles, ATV's, snow mobiles and other equipment, how to use laundry machines, toilets, kitchen and laboratories, what to do in case you experience illness, what to do in case of an emergency and how to behave properly on respectively the Villum Research Station and the military premises etc.

Further, the introduction will also include a short safety course and an introduction to the use of weapons (rifles and signal pistols), VHF radios, Personal Locator Beacons and other safety equipment, if relevant.

Iridium telephone – portable

When you are going in the field outside a radius of 15 km from Station Nord, you need to bring a portable iridium telephone. If you are within a radius of 15 km from Station Nord, VHF radios are appropriate for communication back to the station. We recommend that you bring your own portable iridium telephone, but you might also rent one from the station after prior agreement. The station staff will then show you how to use the telephone during the introduction to the station.

Isotopes

In case you are planning to use either stable or radioactive isotopes in your research at Station Nord, please contact the Villum Research Station Secretariat for permission. Work with stable isotopes is as a general rule not allowed at the station. However, after special agreement, the station leadership might approve use of isotopes in agreed areas and under agreed conditions. Indoor work with isotopes will, if approved, only be allowed in the small hut, Flyers Hut, which is being situated c. 2 kilometers outside Station Nord.

Laboratories

Villum Research Station has laboratory facilities in the main building, in the atmospheric observatory and in Flyers Hut. The laboratories in the atmospheric laboratory and in Flyers Hut are described under the themes 'Atmospheric Laboratory' and 'Flyers Hut'.

There are four laboratories in the main building – a "Dirty" lab, a chemistry lab, a biology lab and a clean lab.

"Dirty" lab

In the "dirty" lab you can work with samples such as seal, fish and other larger biological specimens, soil, sediment and rock samples. The room is equipped with a heating oven for drying samples and a freezer (-20°C) for storing samples under dark and temperature controlled conditions. The laboratory has a large sink with tap water and access to ion exchanged water. Entrance to the laboratory is through a large door to the outside, which permits samples to be carried directly into the laboratory. For further information about the equipment in the chemistry lab, please contact the Villum Research Station Secretariat.



The "Dirty" lab (Photos: Egon Randa Frandsen, Aarhus University).

Chemistry lab

The second laboratory is a chemistry lab where e.g. samples can be extracted and equipment prepared for use. The laboratory is equipped with different balances (e.g. 220 g, 4 digits and 4,200 g, 2 digits), milli-Q water, a fume hood, different glassware, a UV absorption photometer and instruments for basic chemical analyses. For further information about the equipment in the chemistry lab, please contact the Villum Research Station Secretariat.



The chemistry lab (Photos: Egon Randa Frandsen, Aarhus University).

Biology lab

The biology lab is dedicated to biological work on material being sensitive to contamination. The laboratory contains an ultra-sonic bath, a sterilizer, a LAF-bench and a refrigerator, and it is well-equipped with normal laboratory equipment. For further information about the equipment in the biology lab, please contact the Villum Research Station Secretariat.



The biology lab (Photos: Egon Randa Frandsen, Aarhus University).

Clean lab:

There is only limited access to the clean lab. The entrance is through an air lock. This laboratory is dedicated to “clean” biological and microbiological experimental work. It contains a fume hood and a LAF bench. For further information about the equipment in the clean lab, please contact the Villum Research Station Secretariat.



The clean lab (Photos: Egon Randa Frandsen, Aarhus University).

Laundry - washing machine and tumble drier

In the bath room of the Villum Research Station main building there is a washing machine and a tumble drier. You are free to use it, but please be aware of the use of power and water.

When you leave the station you must remove the linens from your bed and leave it in front of the washing machine. Then the station staff will wash it.

Local transportation

Anyone visiting Villum Research Station must bear in mind that minimizing human impact on the pristine ecosystem has high priority. Local transportation must therefore take place with due consideration to landscape, flora and fauna.

The Villum Research Station staff will give you an introduction to traffic regulations at Station Nord and in its surroundings immediately after your arrival at the station

Please stay at least 20 meters away from study sites, experimental plots, scientific equipment etc. unless you have agreed otherwise with the station staff.

Mail

It is only possible to send and/or receive mail when there are flights to/from Station Nord, and there might be weeks between flights. Therefore, do as a general rule not expect to be able to send or receive mail. The postal connection between Villum Research Station and the rest of the World goes through Longyearbyen on Svalbard, Norway. Therefore, Norwegian stamps are needed on outgoing mail. The station office at Villum Research Station will have envelopes, stationary and stamps available for purchase. In case you need special envelopes (e.g. for samples), you must bring them yourself. Postage ready envelopes must be delivered to the station staff. To receive mail at Villum Research Station, the following mailing address applies:

'Person's name'

Villum Research Station, Station Nord

c/o Lufttransport

Postboks 535

Svalbard Airport

9170 Longyearbyen

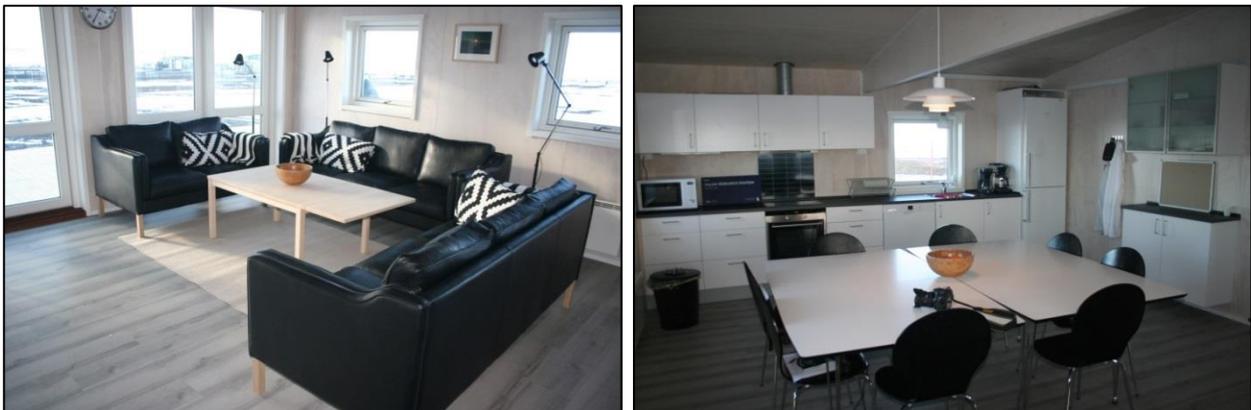
Norway

Main building

In the main building, there are four laboratories, a storage room for household items, seven double bedrooms, bathrooms, toilets and a combined living room and kitchen. Besides that there is a small apartment for the logistic personnel, a station office and different technical rooms, only to be entered by station staff.



Accommodation at Villum Research Station are in double rooms. The toilet facilities include different bathroom, toilets, washing machines etc. (Photos: Egon Frandsen, Aarhus University).



The living room in the Villum Research Station main building (Photos: Egon Frandsen, Aarhus University).

Meals

All meals are served in the Danish Defense Canteen at Station Nord.

Weekdays	Weekdays	Saturday	Sunday
Breakfast	8:00	9:00	Self-service
Lunch	13:00	13:30	Self-service
Dinner	18:30	19:00	18:00

Sunday breakfast and lunch are on self-service basis.

Everyone must show up in time for the meals – if you are unable to be at a meal in due time, you must inform the cook well in advance (at least 24 hours in advance). Servings can then be saved for you.

In case you are on a special diet for health reasons or have other special diets (e.g. vegetarian), please inform the Villum Research Station Secretariat before the field season.

Please notice that wearing a tie is mandatory for the Saturday dinner at Station Nord (old military tradition – taken serious).

If you need freeze-dried food for consumption in the field, please contact the Villum Research Station Secretariat prior to the field season.

Military facilities

Station Nord is a military facility, and Villum Research Station is situated within the premises of the station. The personnel at Villum Research Station are employed to be at your service. The military personnel are as a general rule not. Therefore, if you need any assistance from the military personnel please contact the Villum Research Station staff for advice before you ask the military personnel.

The military personnel are the local police authority and any rules set by the military should be followed strictly. You might otherwise be asked to leave Station Nord on your own expense and receive a fine after your stay. The military has set the following rules for Station Nord:

- *The Station Leader at Station Nord (military) is the highest authority at the station.*
- *All activities conducted on the station premises must comply with the rules and regulations set by the Station Leader.*
- *Activities outside the station premises require permission from the Station Nord personal.*
- *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 green and white buildings is prohibited, except for buildings 8 (kitchen and canteen) and 35 (bar).*
- *Littering is prohibited.*
- *The use of tents throughout the station premises must comply with the rules and regulations set by the Station Leader.*
- *Urinating and defecation are restricted to the toilet facilities.*
- *Walking/driving on or across the runway is prohibited.*
- *Walking/driving on the apron is only allowed when loading/offloading aircrafts.*
- *All other traffic on the apron and flight area must be approved by the Station Leader*
- *Smoking is prohibited on the apron, as well as near fuel depots*
- *Smoking indoor is prohibited*
- *Cigarette butts shall be disposed in garbage bins*
- *The Danish defense personnel at Station Nord have police authority throughout the premises and can thus order inappropriate conduct or activities to cease immediately*
- *At any time, the Station Leader maintains the right to impose additional restrictions on visitors' stay at Station Nord*

It is allowed to move around the station area at any time, but respect that the green and white buildings do not belong to Villum Research Station. As a general ask before you enter! Buildings marked with "Authorized personnel only" are restricted area and can only be entered in the company of the Station Nord military personnel. 'Building no. 3' is the home of the station personnel – please respect their privacy! If you wish to move outside the perimeter of Station Nord, please contact the base Station Leader for permission.

While working at Station Nord please use common sense. Nearest hospital is far away and safety is always first priority. In case you need pharmaceuticals or other medical assistance, contact the military station personnel or the personnel at Villum Research Station.

Mobile Research Station

Besides the main facilities at Station Nord, Villum Research Station also includes a mobile research station for use at different field sites on a campaign basis in North and Northeast Greenland. It is the plan that the mobile research station shall be moved around and act as research station on remote field locations, one year at each location. The station can be moved around either by snow mobile or by aircraft. It includes accommodation facilities for ten people, a combined living and dining room, different laboratory facilities, toilets etc. It has a generator to produce 220 V AC 50 Hz electrical power. For further information about the mobile research station, please contact the Villum Research Station Secretariat.

National Park regulations

Villum Research Station and its study area are located within the National Park of North and Northeast Greenland under the jurisdiction of the Greenland Government. Please consult <http://naalakkersuisut.gl/en/About-government-of-greenland/Travel-activities-in-remote-parts-of-Greenland> and www.villumresearchstation.dk for current rules and regulations to be observed while you are in North or Northeast Greenland.

Please notice that you are only allowed to take home any objects and samples by special permission from the Greenland Government.

If your research includes activities not complying with the National Park regulations, you are required to apply the Greenland Government for additional permit(s) or dispensation(s) well in advance. If there is a need for additional permit(s) or dispensation(s) from the National Park Executive Order, you will be informed by the Villum Research Station Secretariat based on the information given in your application form, but it will be your own responsibility to apply the Greenland Government for the additional permit(s) or

dispensation(s).

Permits

In case you are planning to (i) leave equipment in the field, (ii) do research on biological resources or bring biological material out of Greenland, (iii) do research on minerals or bring mineral or rock samples out of Greenland, (iv) do research on mammals, birds or fish, (v) do archaeological research or research on meteorites or fossils, you might need additional permits for your field work from the Greenland Government. The Villum Research Station Secretariat can, based on the description of your project given in your application for access to Villum Research Station, help you with specific information about what extra permits you need, but you have to apply the Greenland Government for the potential extra permits yourself. You can find more information about the need for permits to do different kinds of research by following the link:

<http://naalakkersuisut.gl/en/About-government-of-greenland/Travel-activities-in-remote-parts-of-Greenland/Procedure-and-forms>

Personal equipment

Summer (June-August)

The high arctic summer season has a climate comparable to a southern Scandinavian autumn/early winter. There is a risk of frost and snow throughout the summer. Be prepared for windy conditions and occasionally rain.

You should bring clothes that are versatile, durable and comfortable. One general rule should be obeyed: Keep dry from sweat and water. This can be accomplished by frequently adjusting the amount and combination of clothes to the weather at any given time. For an optimal adjustment, it is advisable to dress in many thin layers, not one big bulky sweater. Be sure to bring some wind- and waterproof garment and make sure that your footwear is comfortable, durable and waterproof. Do not forget gloves and hats – even during summer. A pair of sunglasses is essential for most seasons. The air is dry and different hand and face lotions to prevent your hands from cracking are advisable.

During the snowmelt period in June –August, rubber boots as well as snowshoes and skis are recommended.

Detergent for washing clothes is available at the station.

Remember, the nearest shop is approximately 700 km away!

Packing list, summer (June – August)

Plan with three main layers from inside and out:

1. A breathing and insulating layer,
2. A windproof layer
3. A waterproof layer.

Breathing and insulating layer

1. Thermal underwear (synthetic or woolen underwear to be worn directly on the skin)
2. Normal underwear both long and short
3. T-shirts
4. Cotton or woolen shirts
5. Light weight fleece shirts and long-johns (e.g. Polartec 100)
6. Heavy duty woolen or fleece sweater (e.g. Polartec 200 - 300), e.g. with wind stopper.
7. Socks of wool (high insulating capacity even when wet)
8. Hats, balaclava, gloves and mittens

Windproof layer

1. Jacket (Gore-Tex or equivalent fabric; light and versatile, hood optional)
2. Trousers (heavy duty but light weight)
3. Sweater or fleece with a wind stopper
4. Hats, mittens, gloves

Waterproof layer

1. Jacket with hood (Gore-Tex or equivalent fabric)
2. Trousers (Gore-Tex or equivalent fabric)
3. Hats and gloves / mittens (Gore-Tex or equivalent fabric is highly recommendable)
4. Wellingtons with long legs with insulation or extra insoles

Footwear

1. Hiking boots (be sure these are good, broken in and able to withstand both moisture/water and cold)
2. Light-weight shoes, running shoes or clogs (for use at the station)
3. Waterproofing for boots if necessary

Other items

4. Casual city clothes (for your travel to/from the station)
5. Sunscreen or hat with brim
6. Two pairs of sunglasses (there is a lot of light up there!!)
7. Extra glasses - if you wear glasses
8. Backpack for day hikes
9. Personal toiletries
10. Different hand and face lotions

Luggage

Pack your things in either portable boxes or bags. Rather two small items than one big heavy and bulky item. Your luggage must be able to withstand some rough handling.

Winter (September – May)

The high arctic winter season is extremely cold and dry. Temperatures might be as low as -50 °C, so it might be very dangerous not to wear proper clothing at this time of the year. Be prepared for extremely cold and windy conditions, and be prepared for lots of snow.

You should bring clothes that are warm, versatile, durable and comfortable. Two general rules should be obeyed: 1. Keep warm 2. Keep dry from sweat. This can be accomplished

by frequently adjusting the amount and combination of clothes to the weather at any given time. A pair of extremely warm boots (e.g. Sorel Glacier or similar), a very warm jacket (e.g. Canadian Goose Expedition Parka or similar) and a very warm pair of trousers are mandatory. A pair of sunglasses is essential for most seasons.

Detergent for washing clothes is available at the station.

Remember, the nearest shop is approximately 500 km away!

Packing list, winter (September - May)

Plan with three main layers from inside and out:

1. A breathing layer,
2. An insulating layer
3. A windproof layer

Breathing layer

1. Thermal underwear (synthetic or woolen underwear to be worn directly on the skin)

Insulating layer

1. Normal underwear both long and short
2. T-shirts
3. Cotton or woolen long sleeve T-shirts and long-johns
4. Light weight fleece shirts and long-johns (e.g. Polartec 100)
5. Heavy duty woolen or fleece sweater (e.g. Polartec 200 - 300), e.g. with wind stopper.
6. Down jacket
7. Socks of wool (high insulating capacity even when wet)
8. Hats, balaclava, gloves and mittens

Windproof layer

1. Heavy duty jacket with insulation and hood
2. Normal jacket (Gore-Tex or equivalent fabric, hood optional)

3. Heavy duty trousers with insulation
4. Snow scooter suit
5. Hats, mittens, gloves

Footwear

1. Strongly insulated boots (Sorel Glacier or similar)
2. Light-weight shoes, running shoes or clogs (for use at the station)

Other items

1. Casual city clothes (for your travel to/from the station)
2. Sunscreen (not relevant in December and January)
3. Two pairs of sunglasses (not relevant in December and January)
4. Extra glasses - if you wear glasses
5. Personal toiletries
6. Goggles and a mask are needed when using snow mobiles
7. Different hand and face lotions

Luggage

Pack your things in either portable boxes or bags. Rather two small items than one big heavy and bulky item. Your luggage must be able to withstand some rough handling.

Personal Locator Beacon (PLB)

If you are going into the field outside Station Nord you need to bring a Personal Locator Beacon (PLB). Villum Research Station has a few to be rented out, but we strongly recommend that you bring your own PLB in case you are planning on doing field work outside Station Nord.

A PLB is a device that once activated automatically will tell your exact position to the Search and Rescue authorities. Once you activate a PLB, the Search and Rescue authorities will start searching for you with the purpose of rescuing you. They will presume that you are in some kind of serious troubles, and they will spend a lot of money on trying

to find you and rescue you. Therefore, only use a PLB in case of an emergency. The alarm will go to an international emergency call center and activate a Search and Rescue alarm. Before use, you need to check the PLB for the expiry date of the battery and press the test button to check that it works.

Phone book

Different staff members with different functions are involved in the run of Villum Research Station. Contact information concerning the different permanent staff members are given below.

Head of Station

Professor Henrik Skov
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Direct phone: +45 87158524
Cell phone: +45 30783170
E-mail: hsk@envs.au.dk

Station Manager

Dr. Niels Bohse Hendriksen
Department of Environmental Science
Aarhus University
Frederiksborgvej 399
DK-4000 Roskilde
Phone: +4587158473
E-Mail nbh@envs.au.dk

Logistics Coordinator

Jørgen Skafte

Aarhus University

Frederiksborgvej 399

DK-4000 Roskilde

Phone: +45 23227110

E-mail: jska@bios.au.dk

Secretariat

The Villum Research Station Secretariat

Department of Environmental Science

Aarhus University

Frederiksborgvej 399

DK-4000 Roskilde

Polar bear precautions

Polar bears are generally rare at Station Nord and in its nearest surroundings, and there are only a few encounters each year. However, be prepared to meet a polar bear at any time.

Villum Research Station has contingency plans for situations in which polar bears appear. You will be informed about the contingency plan during the safety briefing at your arrival to Villum Research Station.

Villum Research Station also has rifles and signal pistols for self-protection. These firearms can be borrowed by visiting scientists for self-protection in the field. We strongly recommend that you participate in general courses on handling of firearms before your arrival at Station Nord. During the safety course at Station Nord (soon after your arrival), you will be given a short introduction to the use of the firearms being available at Villum Research Station, and you will learn the basic safety related to handling of firearms.

Please read “Encounters with Wildlife in Greenland” and “The Handbook: Prevention and control of wildlife damage – Polar bears” before your departure to North Greenland. Both can be downloaded from www.villumresearchstation.dk.

Prices

Check the price list (www.villumresearchstation.dk) for information on current prices on all services being relevant in relation to your travel to Station Nord.

Please notice that Villum Research Station will invoice you already before your departure to Station Nord based on the information given in your application form. After your stay at Station Nord, the Villum Research Station will then make a precise calculation of the costs related to your stay at the station and balance the accounts accordingly by sending you either an invoice or a credit invoice.

Registering your research site(s)

Any principal investigator must see to that all research sites are registered with exact geographic coordinates. These data must be delivered to the station staff before, during or after your stay in the field. The station staff can provide a GPS for your registration of research sites, but we recommend that you bring your own GPS.

Safety equipment

In the Arctic you need to take precautions in relation to climate and wildlife. You therefore always need to bring different safety equipment with you in the field. Most safety equipment is worthless without you knowing how to use it. Therefore, train the use of the equipment before bringing it into the field and attend relevant courses before your travel to wilderness. It might be a matter of your own life or the life of others.

Never leave the station area without the following safety equipment in the team:

- Signal pistol
- Rifle
- GPS
- VHF radio

- Handheld Iridium telephone
- PLB (personal locator) beacon
- Emergency Camp Box

The station staff will introduce you to the use of this safety equipment and let you shoot a few shots with a rifle and a signal pistol for learning to know the specific weapon. However, we strongly recommend that you attend a shooting course before your departure to North Greenland.

Be aware that you are only allowed to shoot animals in self-defense. Any shooting at animals shall be reported to the military staff at Station Nord and a lot of paperwork must be done. Only polar bears and muskoxen are dangerous to your safety. However, also avoid encounters with polar foxes since they might be infected with rabies.

Safety instruction

Immediately after your arrival at Villum Research Station, the logistics staff will introduce you to different safety issues, including safety precautions in relation to the local wildlife, use of different weapons, use of VHF-radios and general rules concerning rational behavior in a mountainous area. If you are uncertain about any safety issues, please feel free to contact the station staff at any time during your stay at Villum Research Station and/or the Villum Research Station Secretariat at any time before your travel.

Smoking

Smoking is not allowed inside any building at Station Nord, incl. both Villum Research Station and the military premises. Outdoor, the cigarette butts must be disposed in the barrels marking the roads or in appropriate garbage containers. It is illegal to dispose cigarette butts on the ground. Dogs might eat anything they find on the ground, and they will get very sick by eating cigarette butts. In general, if you find garbage, incl. cigarette butts, on the ground please pick it up and bring it to the appropriate garbage containers.

Snow mobiles

Villum Research Station has five snow mobiles that can be rented by visitors at the station after prior arrangement with the Villum Research Station Secretariat. Current prices for

rental of snow mobiles are given in the price list for Villum Research Station (www.villumresearchstation.dk). Villum Research Station also has a few sledges that can be used for transportation of equipment after the snow mobiles. Villum Research Station takes no responsibility for your safety during use of snow mobiles. Please make sure prior to your stay at Villum Research Station that you are properly insured in relation to use of snow mobiles.



Villum Research Station has a total of five snow mobiles (Photo: Egon Frandsen, Aarhus University).

Station fee

While you are at Station Nord your project has to pay a station fee for staying at the station. The current station fee can be found in the Villum Research Station pricelist (www.villumresearchstation.dk). The station fee covers:

- Living in the accommodation building or in other buildings at Station Nord.
- Use of the laboratories.
- Use of electrical power and water.
- Food – there will be a cook at the military station and you will have to go there for the meals.
- Sheets, bedding and towels.

Telecommunication

It is not possible to use your normal mobile phone at Station Nord. But, it is possible to reach the World outside by iridium telephone. Villum Research Station have portable iridium telephones to carry in the field for safety and an Open Port Iridium System allowing for voice communication and sending and receiving e-mails.

You are not able to check your normal home e-mail at the station. The e-mail address vrs@onsatmail.com is the only one to use for all communication to/from Villum Research Station. It is very expensive (and slow) to send and receive e-mails on an iridium telephone, and as a result there is a limit on the mail size of 1MB. Mails above that size will be rejected. Please notice that the mailing system can be accessed by all visitors at the station and please take your own personal precautions in relation to content of communication and own personal privacy.

The price for sending and receiving mails are given in the Villum Research Station price list (www.villumresearchstation.dk).

The Villum Research Station staff at the station will show you how the telephone and mailing system works, and there will be a list to note when you have used the iridium system.

The telephone number to Villum Research Station is: +881 621 434 555

Tickets, papers and personal equipment

Please make sure that you have the following papers and personal equipment with you before you leave for Station Nord:

- Airline tickets to/from Svalbard
- Voucher for hotel at Longyearbyen
- Passport
- Insurance card

- Credit card – for use on the way to/from Svalbard – you cannot use credit card at Station Nord
- Mobile phone for your travel – cannot be used at Station Nord
- Relevant papers and documents for your project
- All relevant permits relating to your project
- Personal computer – *do not turn it on immediately after you have returned from the cold into the warm. It will die due to condensation of moisture on the motherboard. Therefore, wait 20 minutes before turning it on*
- Necessary personal toiletries
- Lotion for your face and hands
- Ski goggles
- Sunblock
- Handheld GPS
- Multi-tool (Victorinox or Leatherman) – good to have but not a must – remember not to bring it in the hand luggage on commercial flights.
- A bit of Danish and Norwegian currency.

Toilets, showers and laundry

The station has several toilets. In order to secure a continuous optimal function of the toilets, it is important that all users comply with the instructions that the logisticians may give you regarding use of the toilets. Two showers and washrooms (both with hot and cold water) are located in the accommodation building. Furthermore, two standard household washing machines are available in the same building.

Travel to/from Station Nord

The only way to access Station Nord is by air. The Villum Research Station Secretariat can arrange your transport to/from the station of project participants, their personal luggage and any type of cargo. Generally, the travel for passengers is arranged with commercial flights between Oslo (Norway) and Longyearbyen (Svalbard, Norway) and with charter flights between Longyearbyen and Station Nord. Occasionally, the Villum Research Station Secretariat might however arrange your travel to and/or from Station Nord by military aircrafts between Aalborg (Denmark) and Station Nord.

The Villum Research Station provides package solutions for travels to/from Station Nord either out of Copenhagen (incl. relevant accommodation in Longyearbyen) or out of any European airport being serviced by Scandinavian Airline System (incl. relevant accommodation), or out of Longyearbyen. In case you just buy the transport to/from Station Nord out of Longyearbyen, you are obliged to arrange your accommodation on Svalbard yourself, and you are further obliged to cover any costs relating to delays of the aircrafts to/from Station Nord yourself. Current prices for transport to/from Station Nord are indicated in the current price list (see www.villumresearchstation.dk).

Below is described a standard travel from Copenhagen (Denmark) to Station Nord. In case you are traveling on a military aircraft to Station Nord, you will be advised well in advance of your departure.

Travel from Copenhagen to Station Nord:

If you have purchased from the Villum Research Station Secretariat a package solution travel from either Copenhagen or any other European airport being serviced by Scandinavian Airline System, you will receive all relevant travel documents from the Villum Research Station Secretariat at least three weeks before your departure. The travel documents will contain relevant airline tickets and voucher to relevant hotels.

Check-in all the way from Copenhagen to Longyearbyen at the SAS counter in Copenhagen Airport, Terminal 3. Ask at the counter, whether or not your luggage will go all the way to Longyearbyen. If this is not the case, you will have to pick up the luggage in Oslo, take it through the customs and drop it at the baggage drop off in Oslo.

Most travels to/from Longyearbyen will have a refuel stop in Tromsø (Norway). During the re-fuel stop you will have to leave the aircraft and go through passport control. Please notice that Svalbard is situated outside Schengen and act accordingly in relation to bringing passport and relevant VISA.

Once you arrive in Longyearbyen, you will just have to find your personal luggage and take a Taxi or the local airport bus to the hotel given in your travel documents. You will be

accommodated in a single room incl. breakfast. You will not be charged for your stay by the hotel. The accommodation is included in your package solution ticket to/from Station Nord.

The next morning you should take a Taxi to the airline company Lufttransport in Svalbard Airport:

Lufttransport AS, Svalbard
Postboks 535
Svalbard Lufthavn
9170 Longyearbyen
Norway

The entrance to the company is not at the main entrance to the airport. All taxi drivers on Svalbard will however know – so just ask for Lufttransport. You should be at the Lufttransport office no later than 9:00 (local time).

Lufttransport will then check your luggage in, and will start boarding at c. 9:45 (local time). Departure to Station Nord will, unless you are otherwise informed, be at 10:00 (local time).

Please notice that the flight time to Station Nord is approximately two hours and that there is no restroom onboard the aircraft. Prepare accordingly.

Once you arrive at Station Nord, the Villum Research Station staff will be at the apron and welcome you to Villum Research Station. Before you are being accommodated, we will weigh all your luggage and potential cargo to make sure that we have the correct weights for your invoicing.

In case you experience problems or delays during your travel, please contact Lufttransport (+47 79024770) and the Villum Research Station Secretariat (+45 23227109 (Morten Rasch) or +45 24273334 (John Lau Hansen)) for advice.

Travel from Station Nord to Copenhagen:

At the day of your departure you should have your luggage ready for departure no later than 8:00. The station staff will then weigh your luggage and bring it to the apron. You will be informed an hour in advance about departure time. Do not plan on doing anything else than waiting for your flight on the day of your departure.

Once airborne, the flight time to Longyearbyen is c. two hours. Please notice that there is no restroom onboard the aircraft. Prepare accordingly.

Depending on your flight schedule out of Longyearbyen, you should either check-in immediately after your arrival, or, in case you are not continuing your travel before the next day, take a Taxi to the hotel being indicated on your travel plan.

Once you are leaving Svalbard, check-in in Svalbard Airport at the SAS counter. Your luggage will be checked in to your final destination.

Please notice that Svalbard is situated outside Schengen and act accordingly in relation to bringing passport and relevant VISA.

In case you experience problems or delays during your travel, please contact the Villum Research Station Secretariat (+45 23227109 (Morten Rasch) or +45 24273334 (John Lau Hansen)) for advice.

Delays:

Please notice that Station Nord is situated on the edge of the World. Any travel to/from Station Nord is therefore extremely dependent on good weather conditions for especially the flights between Longyearbyen and Station Nord. You should therefore notice that delays might occur both during your travel to Station Nord and during your homebound travel. PLAN ACCORDINGLY. Villum Research Station takes no responsibility for any costs relating to delays during your travel to/from Station Nord. If you are delayed in Svalbard, you will be charged 1,500 DK per person for any additional nights on Svalbard,

and if you are delayed at Villum Research Station you will be charged the normal station fee for any excess nights at the station.

VHF radios

Local communication at Station Nord is by VHF radio. It is possible to use VHF at the station to communicate with people working in a radius of about 15-20 km from the station. The station staff will show you how to use the radio during the introduction to the station. The station staff at Villum Research Station will always be listening on the VHF-radio, so if you experience something unexpected, do call them for advice.

VISA

If you are not an EU, US or Canadian citizen you may have to apply for VISA to the Schengen area (Denmark and Norway) and to Greenland and Svalbard (both outside Schengen).

Weapons

Before you leave for North or Northeast Greenland it is strongly recommended that you attend a shooting course, also focusing on safety in relation to handling of weapons.

Shortly after your arrival at Station Nord, you will be asked to join a practice with shooting of signal pistols and rifles to familiarize with the weapons.

When not in use, rifles and signal pistol will be kept in a locker by the station staff. When you leave for field work you should therefore ask the station staff for a rifle and a signal pistol, and immediately after your return to the station, you should deliver your rifle and signal pistol back to the station staff.

Never bring a loaded weapon inside a building.