

Ice Cores and Ice Ages: Greenlandic Climate Change Case Study



GREENLAND

Long Study Tour
DIS Copenhagen | Spring 2019



Name: _____

Study Tour Objectives

- Hands-on experiences with the Ice Sheet and sampling ice for climate data
- Discussing climate change where it happens, seeing magnificent wildlife, enjoying incredibly starry winter nights and aurora borealis
- Insight into important issues of present-day Greenland
- Appreciating the social context of a modern Arctic society and the challenges in the Arctic

Tour Leaders	<p>Trevor Popp <i>DIS Faculty</i> Tel. +45 3010 9264</p> <p>Adrianne Sullivan <i>Director of Student Life</i> Tel. +45 3067 1002</p>
DIS Office	<p>+45 3311 0144 (8.30-16.30)</p> <p>+45 3067 1000 (24hrs, emergency only)</p> <p>Local Emergency #: 112</p>
	<p>WOGAC – World of Greenland Arctic Circle Polar Lodge & Old Camp Mitaarfiit Aqq – P.O. Box 1009 DK-3910 Kangerlussuaq</p> <p>Phone +299 841 648</p> <p>Coordinates: 67°00'40"N / 50°44'00"W</p>
	<ul style="list-style-type: none"> • REMEMBER YOUR PASSPORT & STUDENT ID • <i>Prices for use of DK or US cell phones in Greenland are high. Use the less-expensive SMS option.</i> • <i>There is no internet access while in Greenland.</i>

DAY 1

MONDAY, MARCH 4

IMPORTANT INFORMATION FOR DEPARTURE DAY:

- Allow extra time for your travel to the airport this morning.
- There is only **ONE DAILY FLIGHT** to Greenland, so don't be late!
- Be *absolutely* sure to have your phone switched on and with max volume so your tour leaders can get in touch with you.

6:45
SHARP
(DK time)



Meet at Copenhagen Airport, *inside* Terminal 2 – next to the counter for Air Greenland check-in.

We will check in as a group. Please have your passport ready.

You will get your personal KAT.

PNR: Q I X H S Q

9:15
(DK time)



Departure for Kangerlussuaq, Greenland

Air Greenland flight 779 (GL779) – emitting 1765 kg of CO₂ en route.

We will be served a meal on board.

The airline has been informed of dietary restrictions and allergies (that DIS knows about) and will accommodate wherever possible.

9:55
(GL time)



Arrive in Kangerlussuaq, Greenland

Kangerlussuaq time is 4 hours behind Copenhagen time. Please adjust your clocks accordingly.



We will be greeted by **WOGAC – World of Greenland - Arctic Circle** and transferred to our lodging.



Arrival and check-in:

Old Camp

Aqisseq 266
Søndre Stømfjord
+299 84 16 48

We get our rooms and have a chance to unpack, get dressed properly and explore the immediate surroundings.







12:00


















Lunch in Old Camp







Sandwiches.

Those reserved for dietary restrictions are marked accordingly.








13:00		Introduction, practicalities and program for the week.
13:00 – 15:30	 	Sightseeing by foot and vehicle in the local area to get a general feeling of the layout of the town, its facilities as well as a general introduction to flora, fauna and geology.
18:00		Dinner <i>We will be bussed to our dining facility: “The Rowing Club”</i>
Approx. 19:30		Enlightening info sessions <ul style="list-style-type: none"> • <i>Light and Aurora</i> • <i>Flora and Fauna...</i> • <i>Surprises...</i>
Approx. 21:00		Outdoors Live: Aurora Borealis show (<i>space weather and local cloud cover permitting</i>) <i>Kangerlussuaq is one of the best places in the world to see the Aurora Borealis. However, there is no guarantee for AB this evening; – it all depends on solar activity 2-4 days in advance and also on local clouds obscuring our sky view.</i> <i>If the AB is active and visible, we will all get excited and do quantum leaps – just like the electrons up there !</i>
		<i>Please note: There is no guarantee for Aurora Borealis this evening; – it all depends on solar activity 2-4 days in advance and also on local clouds obscuring our sky view.</i>

DAY 2		TUESDAY, MARCH 5
7:30 - 9:00		Breakfast in Old Camp
9:00 – 12:00		Dog Sledding <i>Today is your chance to go dog sledding! However, sitting on a dog sled in an icy breeze for some time can be really cold, so you need to dress warmly. Extra clothing will be provided to those who need.</i>
12:00		Lunch in Old Camp
13:30-17:30	 	Excursion to Russell Glacier <i>Wrap up warm once again, as it might still be windy and cold where we are going.</i> <i>We will go in a 4x4 bus on a gravel ‘road’ through the landscape, along frozen rivers, through old glacier valleys and eventually reach Russell Glacier with its impressive and vertical glacier front. En route we will make several photo stops to watch wildlife and stunning views and to explore topics that need a closer look.</i>
18:00		Dinner <i>We will be bussed to our dining facility: “The Rowing Club”</i>
20:00		Info sessions at Ulu <ul style="list-style-type: none"> • Greenland Ice Sheet • Ice Re-Cap (... things to remember and prepare for) • Surprises
Approx. 22:00		Outdoors live Aurora Borealis show <i>(space weather and local cloud cover permitting)</i>

DAY 3	WEDNESDAY, MARCH 6	Sunrise 07:18 Moonrise 08:02 Sunset 17:59 Moonset 17:40 0.15% Illumination
7:30 – 9:00	 <p>Breakfast in Old Camp</p>	
10:00 – Approx. 17:00	  <p>Another unique excursion to the Greenland Ice Sheet Wrap up warm and bring what you will need for the day.</p> <p><i>We will go in a 4x4 bus on a gravel ‘road’ through the landscape, along frozen rivers, through old glacier valleys and over small mountains along the edge of the ice sheet and eventually reach “Point 660” where we can walk onto the ice sheet itself and get a feet-on / hands-on experience and sample ice cores.</i></p> <p><i>The round-trip is 70km and will be bumpy and slow. En route we will make several photo stops to watch wildlife and stunning views and to explore topics that need a closer look.</i></p>	
	 <p>Lunch packs and hot cocoa en route at a beautiful place</p>	
Approx. 17:00	 <p>Back in Kangerlussuaq</p>	
18:00	 <p>Brace yourself for a treat! Greenlandic buffet with an impressive diversity of specialties. The Arctic cuisine at its best! <i>Once again, hosted at “The Rowing Club”</i></p>	
19:30	 <p>More information from the cozy confines of Ulu</p> <ul style="list-style-type: none"> • <i>Expeditions and explorations</i> • <i>Surprises...</i> 	

DAY 4	THURSDAY, MARCH 7	Sunrise 07:14 Moonrise 08:07 Sunset 18:02 Moonset 19:02 1.1% Illumination
7:30 – 8:30	 Breakfast in Old Camp	
09:00-12:00	  Tundra Safari Tour with time to hike to the Salt Lakes <i>One of the best places in the world to see wild muskoxen is around Kangerlussuaq. Approx. 5.000 muskoxen live in this region. If we are lucky, we may also see caribou, Arctic hares and Arctic foxes. Although the local muskoxen are used to human activity, they are still wild animals and you should not get too close.</i>	
	Wrap up warm, as it might be windy and cold where we are going.	
15:00 – 17:00	  Kangerlussuaq Museum / Kaffemik with local family <i>We will enjoy cake and coffee in the home of a local family during which we can discuss and experience daily life for those living in Greenland and social issues facing the Greenlandic communities. At the museum we will see a lot of exhibits about the role of Kangerlussuaq in world affairs during the long cold war, and its role as a hub of international travel, tourism, and science activity.</i>	
	Trevor will be at the museum and at the kaffemik to guide you.	
18:00	 Dinner at Roklubben	

DAY 5	FRIDAY, MARCH 8	Sunrise 07:11 Moonrise 08:11 4% Illumination
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7:30 - 9:00		Breakfast at Old Camp <i>Check-out from lodging and leave keys</i>
9:05		Transfer to Kangerlussuaq Airport
9:15		Arrive at Kangerlussuaq Airport. Check-in. PNR: Q I X H S Q
10:40		Last chance to check out souvenirs, talk with locals, explore the post office and/or the supermarket.
10:40		Security check and boarding
11:40		Departure for Copenhagen Air Greenland flight 780 (GL780) <i>Lunch will be served on board.</i> <i>The airline has been informed of dietary restrictions and allergies (that DIS knows about) and will accommodate wherever possible</i>
20:00 (DK time)		Arrival into Copenhagen Airport <i>You must hand in your KAT to Trevor while we wait for our luggage in CPH airport</i>

END OF STUDY TOUR

Ice Cores and Ice Ages: Greenlandic Climate Change Case Study

24-03-2019 - 29-03-2019

Total on tour: 22

Total students: 20

Total other: 2



Sullivan, Adrienne R.



Popp, Trevor James



Althouse, Raven Celeste
USA
Furman University



Brown, Laura Macalister
USA
Georgetown University



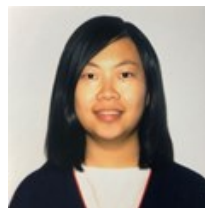
Clemens, Sonia Christine
DE
Furman University



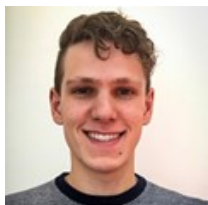
Dritz, Sabine Jordan
USA
University of Michigan - LSA/CGIS



Farthing, Daniel Luke
USA
Cornell University



Gong, Yutao
CN
Duke University



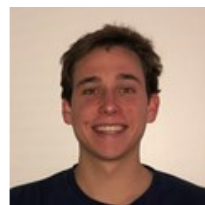
Henson, Henry Churchill
USA
Saint Olaf College



Kotin, Sarah G
USA
Middlebury College



Madsen, Andrew Christian
USA
Wheaton College - Illinois



Manley III, Duncan Young
USA
Washington and Lee University



McDaniel, Abbey
USA
Saint Lawrence University



McFadden, Bri Rose
USA
Brown University



Mintz, Zoe Pearl
USA
Indiana University



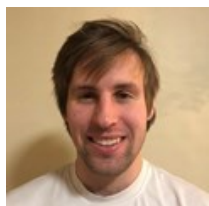
Nguyen, Adam
USA
University of Colorado Boulder



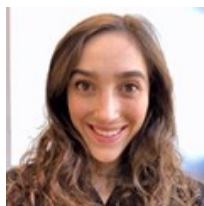
Ogata, Noah Esa
DK
Vanderbilt University



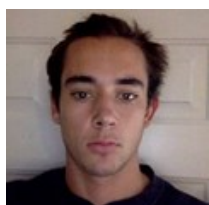
Pagliaro, Zoe Elizabeth
USA
Skidmore College



Schmidt, Zander Colberg
USA
Bates College



Seminer, Allie Maxine
USA
Hobart and William Smith Colleges



Wigglesworth, Nick Devereux
USA
Hobart and William Smith Colleges



Zhou, Angela
USA
Duke University

INSURANCE MATTERS WHILE TRAVELLING ON DIS STUDY TOURS

Students enrolled at DIS have comprehensive health -, accident -, property - and personal liability insurance coverage through a combination of the **Danish national health system** and **Europæiske ERV**, which is valid throughout the world.

For further information and details, including forms and information on how to file insurance claims, please refer to the insurance conditions at www.disabroad.org/insurance.

You can also email insurance@dis.dk to have any questions answered.

THEFT

Keep your personal belongings in a safe place and **never leave them unattended or in unlocked premises**. ALWAYS keep a copy of your passport, Danish residence permit and CPR card in a location separate from your originals (e.g. in the bottom of your suitcase).

Should you have your personal belongings stolen during your study tour, please make sure to follow the guidelines below:

1. **ALWAYS** file a police report with the local police, and consult with your tour leader. Without a police report, the insurance company will reject your claim.
 - a. *"However, if, for an exceptional reason, the police cannot be notified at the location of the theft or robbery, e.g. on account of immediately imminent departure, the notification must be made as soon as possible following the Insured's return home, and the original receipt for the notification must be sent to Europæiske ERV."*
2. If your wallet (incl. transportation pass, purchase card, credit card, phone) is stolen, cancel them as soon as possible (you can reference the DISAbroad website for further advice).
3. If your passport is stolen, you will need to go to the closest embassy or consulate with the copy of your passport to have an emergency passport issued.

MEDICAL EMERGENCIES

ALWAYS keep your Danish National Health Card (the CPR card) on you. If you need to see a doctor or go to the emergency room, consult with your study tour leader who will assist you. In a life-threatening emergency call 112, or the local emergency number, before your study tour leader.

Present the doctor/hospital with your CPR card as your personal ID. In some countries, you might be asked to pay up front, but remember to hold onto all medical receipts, prescriptions and doctor's statements, as this paperwork will be necessary to submit in order to get your expenses covered through the insurance.

DIS CODE OF STUDENT RESPONSIBILITY

Students and tour leaders are expected to uphold and follow the expectations of the DIS Code of Student Responsibility while on study tour. The full Code is available online in the “Student Resources” section for both Copenhagen and Stockholm. Students are reminded of the following Code sections, which are particularly relevant while on study tour:

- Students are expected to contribute to a positive community while on study tour.
- Obstruction of study tour activities *is prohibited*. Students are to comply with directions of DIS officials and partners acting in performance of their duties, including communication of guidelines, directives, timetables and instructions.
- Students are financially responsible for their own actions and any property damage, fines, etc. are the responsibility of the student to rectify.
- Students who choose to consume alcohol do so with the knowledge that they remain responsible for their actions at all times. Being under the influence of alcohol during or between study tour visits *is prohibited*. *Extreme or repeated intoxication at any time is prohibited*.
- Students may not purchase, possess, use, or distribute any drugs considered to be illicit, illegal, or a controlled substance in Denmark, Sweden, and any country they visit while enrolled with DIS (including study tour travel). Students may not use drugs legally prescribed to another person or inappropriately/illegally use otherwise legal drugs. Students are further cautioned that the possession of illegal drugs is often dealt with harshly by local law enforcement

DIS tour leaders are obligated to report any violation of the Code of Student Responsibility including inappropriate behavior or negative participation to both the DIS Study Tours Department as well as the Office of Academic Support.

Inappropriate behavior on any DIS study tour can also result in dismissal from DIS without refund of tuition or study tour costs.

DIS STUDY TOUR EMERGENCY PROCEDURES

First Priority: Protection of Life and Wellbeing

In case of an emergency your first priority is to ensure that you are in or evacuate to a safe area. Follow the directions of local authorities, where present, and note that often the safest decision is to remain where you are.

Second Priority: Call for Assistance

If you, or anyone with you is injured or in direct risk of being injured, call **112** or the local emergency number.

Then, call one of your tour leaders (contact numbers are found on the front page of this booklet).

In the unlikely event that you cannot reach your tour leaders, call the 24/7 DIS Emergency Phone:

Copenhagen: +45 30 67 10 00

Stockholm: +46 72 14 12 862

After reaching safety, calling for assistance, and reaching a DIS staff member, stay off the phone to conserve your battery and so that your line is open if someone needs to reach you.

Third Priority: Assist the injured and/or attempt to eliminate further hazard

If you are able to take steps to eliminate a hazard from spreading or be of aid to injured people **without putting your own safety at risk**, you should do so if it can prevent further injury or loss of life.

Fourth Priority: Inform your family/personal emergency contact

Only after the immediate risk is mitigated, inform your family/emergency contact person of your status and situation.

DIS will assist you in communicating with your home institution, and any other necessary parties.

 to Greenland

Iceland

Flåm
Bergen
Oslo

Stockholm

Isaberg

Copenhagen

Edinburgh
Glasgow

Delphi
Dublin

London
Devon

Hamburg
Berlin
Dresden
Amsterdam

Poznan

Kraków

Brussels
Paris
Reims

Frankfurt
Prague
Vienna

Alpe d'Huez

Milan

Sarajevo

Pristina

Barcelona

Lisbon

Mallorca

Rome

Athens