



Zero Impact Adventures - The Stauning Alps

15th March - 25th April 2022

A decade long desire to visit Greenland and the allure of journeying by our own steam into virgin territory to attempt unclimbed peaks. Weeks away from civilisation with nothing but the silence of the mountains for company. This is what inspired us to set our sights on the Stauning Alps in Eastern Greenland; an area of glaciers, icebergs, melt water and towering peaks.

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Introduction:

This report is the official record of our expedition into the Scoresbysund Fjord region of eastern Greenland in the spring of 2022. The primary aim of the expedition was to climb unsummitted peaks and experience the arctic wilderness with negligible impact on the environment. We hope that it serves as both a historical record and a useful source of information for future expeditions looking to visit in the area. For any future expeditions to the region there is an extensive list of hard-won lessons in the appendix, and we would invite should you want any further information to please contact us.

Summary

This 3 person expedition lasted 35 days exploring and climbing unsummitted peaks in the Stauning Alps. Each team member lost 5-7% body weight despite a 4000-5000 cal/day diet and typically skied at least 8 hours per day. The expedition was initially scheduled to begin March 2020, but with Covid-19 forcing Greenland to close their borders to non-nationals we were forced to postpone until March 2022.

Over the duration of the expedition the team experienced broken pulk-bars, a damaged airbed, minus 30°C temperatures, appalling snow conditions, ripped tent straps, frostbite and a badly chipped tooth. Despite these setbacks, they achieved many of their expedition objectives, thanks largely to extensive pre-exped planning and preparation, along with flexibility during the expedition. No plan survives first contact with the arctic. Whilst they navigated sheet ice, wet slush pools, deep snow and at times running melt water there were no sightings of polar bears, despite several footprints during the first half of the trip.

Typical daytime temperatures were -20°C with wind chill temperatures of -25°C and night-time temperatures at -30°C. The weather warmed to -10°C in the final 2 weeks of the expedition with much calmer wind conditions which gave a welcome respite to the intermittent white-out days experienced in the first half.

Updates on the documentary of the expedition can be found at www.thesplitfilm.com

Background:

The expedition was conceived and planned by two friends James van der Hoorn (35) and Tom Reynolds (34). With a third team member, Charlotte Workman (32) joining the pair as a professional photographer and filmmaker to document the trip and capture the beauty of the mountains. A documentary of the expedition is in the making, and updates on that can be found at www.thesplitfilm.com

Since meeting in 2013 we (Tom and James) have always pushed each other with increasingly challenging physical pursuits. Starting with a marathon in Madrid, this quickly escalated into a 300 mile non-stop cycle through Eastern Europe to obtain a Guinness world record. We are both very competitive and driven individuals, who love exploring the natural world and searching for unique adventures.

A large arctic expedition had been on our lifelong 'to do' list for some time, and it was at some point in 2017 when we had the first discussion about doing 'something big', 'somewhere cold', when Greenland was mentioned. This planted the seed which slowly grew over the following years until we were ready for the expedition 3 years later. Unfortunately in 2020 just days before we were due to fly to Iceland on the first leg of our trip, the country locked down with Coronavirus and we were forced to postpone for another 2 years.

We had agreed very early on that we wanted the expedition to have as little environmental impact as possible, with the current climate crisis a major concern for both of us. We resolved that we would offset the CO2 emissions from all our transport by three times the amount, thus making the expedition carbon negative, and also take steps to only use clothing, equipment and food suppliers which had strong environmental initiatives.

Anything less than this seemed careless and nonsensical, given the rate at which the arctic is warming due to climate change. We would implore any others visiting the region to consider doing likewise and we would welcome any questions as to the methods we used. Our environmentalism took a turn away from individual consumer choices and toward campaigning for structural change; this will be covered in the film and there is a note on this in the appendices.

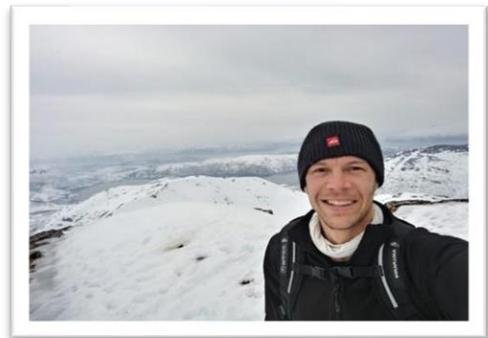
Initially we had planned for our expedition to have a scientific element, given how rare it is for data to be gathered in-situ of where we were. Unfortunately, and partially due to COVID our efforts there stalled, and finally we took the decision to focus on making a quality film that can celebrate this beautiful environment, and encourage others on a journey towards environmentalism.

Team members

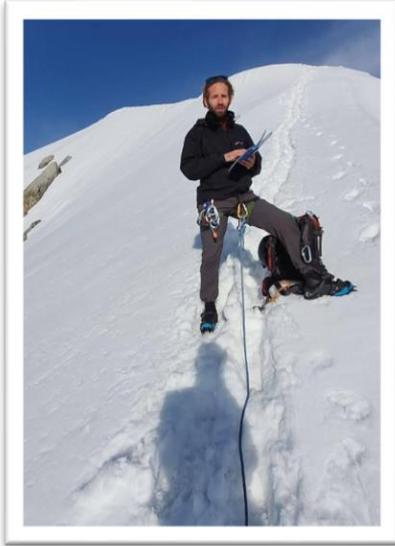
James van der Hoorn - Team medic and logistics expert

James is a passionate rock climber with 15 years of experience attempting walls around the world. He has been skiing for 20 years, with several trips to the alps across all disciplines; downhill, touring and cross country, including week long ski tour expeditions in both South and Northern Norway.

He's broken two world records, cycle toured extensively through Europe and completed several ultra-marathons including the Marathon des Sables. As a volunteer emergency responder for the London Ambulance Service, he was also the team medic.



James sees this trip as an opportunity to demonstrate to others that with the right choices, expeditions such as this can still be done sustainably. And that if we're going to come and appreciate these beautiful but incredibly fragile environments, we need to do everything we can to fight for the climate in our home lives, through both personal and collective action.



Tom Reynolds - Lead navigation and planning

After leaving the RAF and a number of dead end jobs, Tom had a chance reading of Ranulph Fiennes' autobiography which left him convinced there must be more to life and started chasing adventures small and very small wherever they came.

Thanks to the "inspiration" from reading that book Tom has since raised over £20,000 for various charities whilst on expeditions, and has been cold, wet and tired on 5 continents so far – thanks a lot Ranulph. Furthermore, Tom and James work closely together on several large environmental projects and he hopes inspiring people to get outdoors will also encourage people of the need to protect the spaces we all love. He now lives in Spain where he climbs as much as he can, and when not up the wall can be found lost in the woods with his dog Milo.

Charlotte Workman - Filmmaker

Charlotte founded eco-business "The Adventure Photographers" and is committed to the celebration & protection of the natural world through her work. She documented the expedition, as well as contributing as a full team member, to produce our film about exploration, teamwork and positive engagement with the issues of climate change.

She is proud to represent women in outdoor spaces and has numerous first female descents of canyons all over Scotland - many of which have not yet been repeated by others. She has been on splitboard expeditions around the world, including Japan, Patagonia and the Pyrenees - as well as plenty in Scotland. She hopes her continued involvement with expeditions will encourage more women to participate in adventure sports and the outdoors.



Acknowledgements & Sponsors

We sincerely thank all our supporters and sponsors for helping us get to the start line of our expedition. Without the help of these generous and knowledgeable organisations it is unlikely we would have ever been able to make the expedition a success.

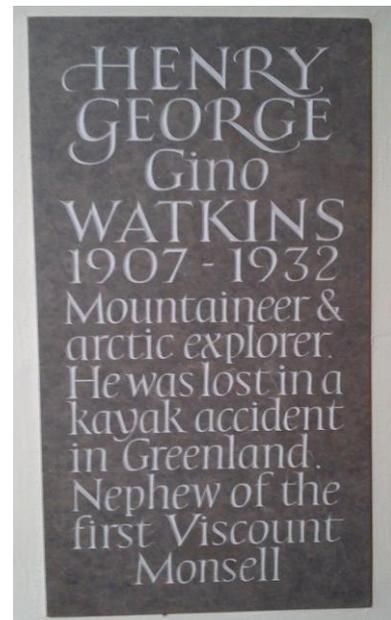
Grant Awards

alpkit



BMC

**The Jeremy Willson
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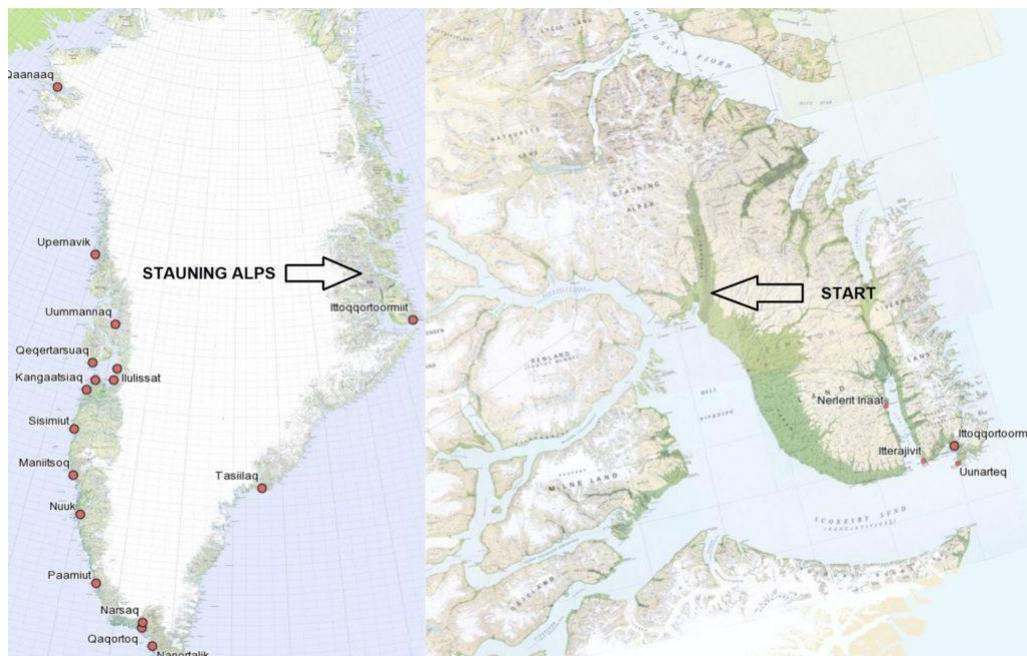
Kit and Equipment Sponsors:



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Planning, Training and Logistics



The Stauning Alps are located on the eastern coast of Greenland at a latitude of around 71° north.

The region is bounded by Scoresbysund fjord to the South and Kong Oscar Fjord to the north. The area is characterised by a mixture of rocky and glaciated summits emerging from the valley glaciers and icefields that cover the area. These glacier systems are independent of the main Greenland Ice Sheet (GIS) and consist of a complex system of valley glaciers with some small ice fields in the upper reaches of the range. The peaks in the Stauning Alps are generally between 1000 and 2500 metres, with the highest summits found in the central areas of the range. Peaks towards the outside of the region rise from a little above sea level, while those in the central parts of the range can be accessed from glaciers and cols at elevations of 1000 – 1500 metres. The region is bounded to the east by Schubert Dal, a wide and relatively flat glacial valley, which provides access to eastern summits within the range. It is via this glacial valley which we accessed the Stauning Alps.

The only paper maps of the region are a bit sparse on detail, but were useful for identifying the rough route we wish to follow before departing the UK. We ordered these online and with a scale of 250,000:1 they were adequate in determining areas of steep terrain which we considered impassable.

We also made use of 'FatMaps' which is an indispensable phone app that helps to determine slope aspect and gradient and thus risk of avalanche. We were able to download maps for the region to use offline and this helped guide our decision-making processes when we arrived and started identifying potential peaks. We cannot recommend this tool enough.

Getting there:

The area we intended to travel to is very remote, with the closest permanent settlement (Ittoqqoormiit – population 450) being nearly 200km to the southeast. Access to the region is either from Constable Point airport, close to Ittoqqoormiit village, or via an airstrip at an old mining settlement at Mestersvig to the north. For our expedition we flew into Constable Point on a scheduled flight from Iceland and then took snowmobiles to the bottom of the Schubert Dal valley.

As the Stauning alps are in a national park the remaining part of any journey to the mountain range must be made by skis. The logistics for our travel were managed by Tangent Expeditions, lead by Paul Walker. For 30+ years he has been the 'go-to-guy' for any kind of expedition taking place on the East coast of Greenland, and during our planning phase he helped us with all sorts of recommendations regarding flights/route/equipment.

Training

Given the lack of experience in living and travelling in polar environments James and Tom undertook an unsupported training expedition for 5 days in Tromso in Northern Norway in 2019. The primary objective of this trip was to gain the skills that would be needed to survive in the polar climate. Whilst there they practised their camping techniques to help them survive in a sub-zero environment, as well as getting used to the specialist cold weather equipment such as arctic stoves and pulk pulling.



Tom and James in Norway in 2019. The pulks were much lighter and the average temperature was around about zero during our trip.

The conditions in Greenland (-30C) were somewhat different.

The team met altogether for the first time in January 2022 to undertake a training trip in Chamonix where they improved crevasse rescue drills and practiced their avalanche rescue techniques. They also performed a mountain ski descent in the dark using head torches which forced them to work together as a team and prepare for a potential worst-case scenario.

General fitness

The expedition was initially intended to take place in 2020, but with the Covid epidemic restricting travel we were forced to delay our departure for 2 years. This was a blessing in disguise as it gave us greater time to prepare physically and mentally for the expedition as well as get to know our third team member and photographer, Charlotte, who we had not met prior to January 2022. Our general level of fitness was maintained through a variety of different methods during lockdown, including long

distance running, cycling and the occasional gym session. When travel restrictions eased, we were able to visit the French Alps for ski touring and in the preceding 6 months we all undertook specific training by hauling tyres around with a climbing harness, and keeping up our endurance through any appropriate long distance exercise (running, cycling, hiking)



Entering the Stauning Alps

Food, Equipment and Medical Supplies

For an expedition of this length and to an area so remote a huge amount of planning went into the selection of food and equipment. As mentioned previously, we also wanted our choices to be as environmentally low-impact as possible. When choosing technical equipment there is always a compromise to be had between cost, weight and practicality. We needed our gear to be reliable in the cold temperatures, but also light and relatively affordable.



Weighing out the chocolate

As we would be carrying 42 days worth of food with us, a principal consideration was the calorie density. As fat holds approximately twice as many calories per gram compared to carbs we elected to have a relatively high fat diet to reduce total weight. This consisted of items such as macadamia nuts, seeds and nut bars.

All our hot dinners were derived from instant food, this meant we only needed to add boiling water to a packet and they didn't require simmering or boiling in a pan. When choosing our meals we looked

for sustainability as a top priority and elected to use Firepot Foods as our primary supplier. They had a large range of vegetarian options and their packaging is all completely biodegradable. Unfortunately we were very disappointed with most of their breakfast offerings and so decided to take 'expedition foods' high calorie range for our breakfasts. These consisted mostly of porridge and granola, with the occasional scrambled eggs. As these meal pouches had a thin film of metal in them we ensured that all the 'Exped Food' pouches were carried out with us instead of being burnt during the expedition. For lunches we elected to each take a daily snack bag with a selection of high calorie rations we could eat throughout the day. This simplified our calorie intake as we could take a pre-prepared bag from our pulks each day which contained all the food we needed for that day.

All 3 team members are self proclaimed caffeine addicts and so sufficient quantities of instant coffee was brought with us, as well as flavoured energy drink powder which we added to our water each morning for variety and extra calories. In hindsight, additional herbs and spices would have been a nice addition to liven up some of the blander meals.

The average calorific intake of our expedition was calculated to be approximately 4500kcal/day, which we found sufficient. We shipped out enough food to cover 43 days in Greenland. We started our expedition with 38 days worth of food and ended 35 days later with 3 days of spare meals remaining. No meals or packaging was dumped on the expedition, with the exception of some nuts and seeds which had gone off whilst left in storage. (All food was shipped to Greenland in January 2020 prior to Covid-19 causing our 2 year delay).



Communications



Garmin Inreach Explorer+

For communicating during the expedition we took with us a Garmin inreach Explorer+ as well as an Iridium 95 satellite phone. The satellite phone had 70 pre-paid minutes included as part of the package. We elected to reserve 10 minutes for emergency communications and split the remaining 60 minutes between the 3 team members, so we each had 20 minutes to use as we wished to contact our loved ones over the 6 weeks.

The Inreach explorer+ allowed us to send SMS messages back to the UK and provide location updates to our friends and family (and expedition followers!) The device was also able to receive replies once we had initiated the first communication, this was invaluable for the team as it allowed Charlotte's partner, Steve, to provide regular weather forecasts of our exact position. Three foldable solar panels were used to recharge the batteries of the various electronic devices and battery packs and at no point did we find we were low on charge.

Weather

The Garmin had a weather report, but Steve also sent us a more detailed weather report from www.yr.no Wind data from www.windy.com also proved very accurate and highly useful.

Personal locator beacon

A PLB was taken for more serious emergencies, in which an international distress signal could be set off. Like the other communication devices, the handheld PLB unit brought with us was provided by 'Greenland Expeditions' and included a GPS receiver with a 406 MHz transmitter and 121.5 MHz homing signal.

Safety and risks

An expedition of this nature in a remote and harsh environment is inherently dangerous and it would be impossible to mitigate all the dangers entirely. A full risk assessment was conducted, which can be found in the appendix. This included all the likely scenarios we thought could potentially go wrong and how we would try and reduce the severity.



Medical

Whilst all expedition members had basic first aid knowledge and skills from their day jobs, James was the nominated expedition medic in case of more serious incidents. His previous experience working on the front line for the London Ambulance Service for 5 years meant he has seen several serious bone breakages, burns, concussions and medical incidents. A comprehensive first aid kit containing antibiotics, creams, dressings, instruments, medicines, painkillers and blister plasters was carried and made easily available to the team. Should a serious incident necessitate an evacuation we had our satellite phone and PLB to initiate an action plan, this would have resulted in a helicopter being scrambled from the nearest airport and weather permitting would be under 2 hours to arrive on scene.

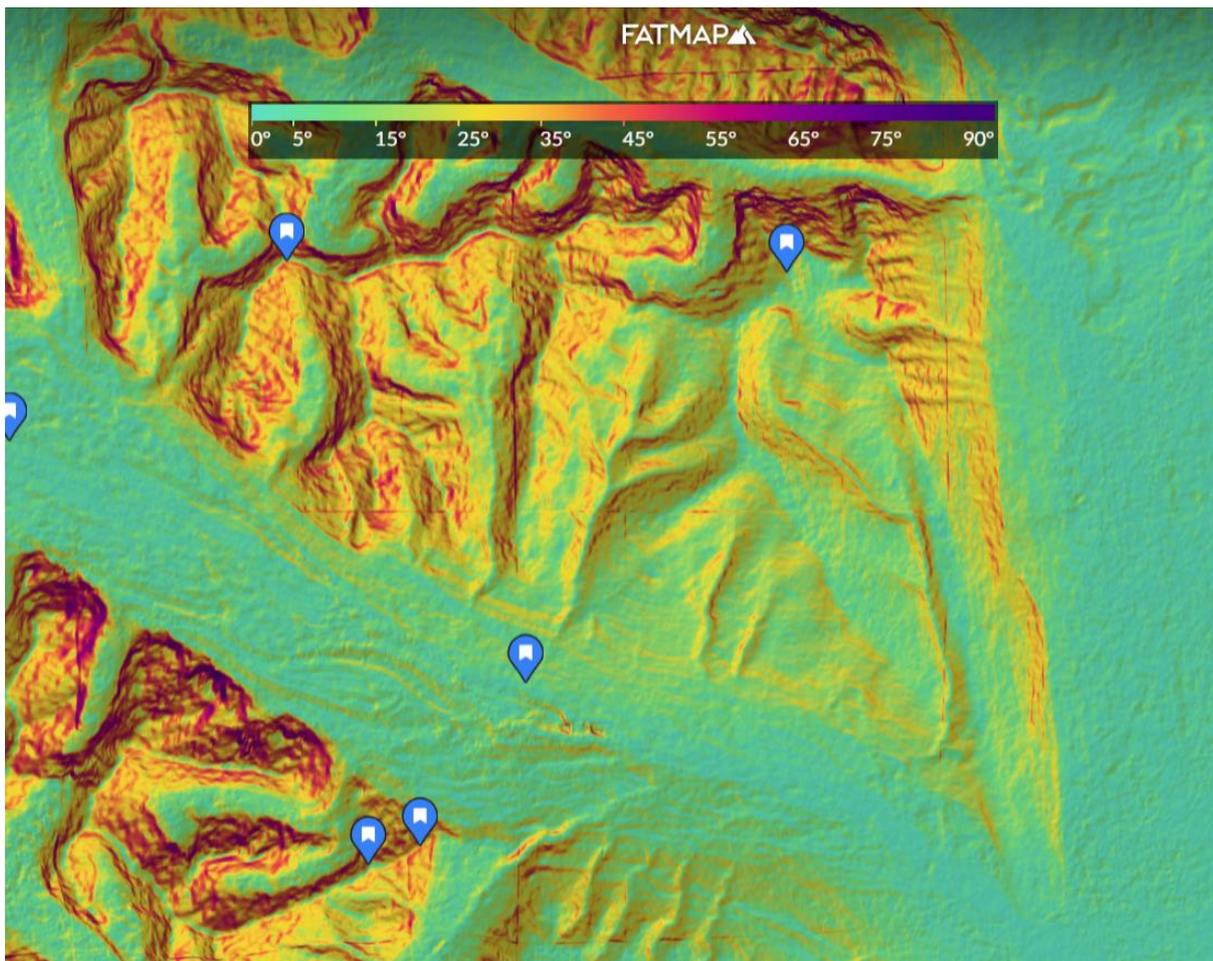
Although no serious illnesses occurred, Charlotte did get quite bad frostbite during the first week of the expedition in her big and first toe. This was whilst out during filming - it was tough to balance personal comfort and safety, against the need to get some good shots and unfortunately in this instance Charlotte found herself in a lot of pain. We tended to the frostbite and managed it over the following weeks. It caused significant discomfort as well as surface discolouration and lack of sensation. The toes recovered somewhat over the next 5 weeks and since returning to the UK sensation has mostly all recovered.

Our main first aid kit which weighed about 5 kilos, came back virtually the same as it went out minus some blister plasters, antiseptic wipes and Imodium.

Navigation

We used the Garmin Inreach as our primary means of navigating, which used GPS to give our location on a basic inbuilt map. These maps also provided us with contours to aid in macro route selection, and we then used paper maps for fine tuning our direction and to gross error check the Garmin.

For the mountaineering phase we used Fatmaps, an invaluable tool. With the premium version you can download entire areas for offline use, the file size is large, but works well on a phone or a tablet. It would be my suggestion for future expeditions that any route involving anything other than flat sea-ice to use FatMaps on a smartphone as the primary tool, with the others serving as backups.



Fatmap screenshot showing the gradient tool - invaluable for staying out of avalanche terrain if the conditions aren't favourable. (The middle marker is our basecamp, with summit attempts to the South and North).

Spares and repairs

Rather than bringing multiple spares we elected to bring an extensive spares and repair kit. We had two spare ski poles and had redundancy in our cooking equipment by bringing 2 arctic stoves. Our repair kit included super glue, repair patches, sewing kit, cable ties, paracord, leatherman and wire. In hindsight, a spare airbed would have been a game changer (see next section!).

Sleeping



We all slept on Exped Synmat 9 UL airbeds, which we inflated each night with a snozzle bag. Under each airbed we had a cheap foam roll mat which provided further insulation and under these we had an insulated 'tent floor mat' which was a large foam sheet which covered the entire tent interior. This setup helped to minimise heat loss through the thin tent floor, the drawback being the bulky nature of a large floor mat to roll and pack as well as the inconvenience of multiple pieces of foam.

A few days into the expedition one of the airbeds developed a slow leak which initially was manageable. However over the next couple of days we realised it was not usable as the sleeper would wake every 2 hours to find themselves lying on an icy cold floor. We tried many, many times over the following 5 weeks to repair this slow leak but to avail. No matter what we did it continued to deflate to an unusable state after a couple of hours.

The best solution we could come up with was using the remaining two airbeds in a horizontal orientation in the tent, with the 3 of us resting our shoulders and hips on the two inflated beds, and with our legs on the deflated bed. In theory this worked fine, however we noticed two drawbacks. Firstly, whenever any of us moved or rolled over at night the other two would bounce up and down and feel the movement. The second was the dreaded 'bed gap' which formed

between the two airbeds as they slowly slipped apart. This was particularly noticeable on colder nights as it allowed icy cold air to come up in the gap between the beds and into our torsos. Even when in a toasty warm sleeping bag this cold 'bed gap' was a constant annoyance throughout the entire expedition!

Tents

We took two tents with us on the expedition, a larger 4-man tent and a smaller 2-man tent. With the intention of having the spare tent as somewhere to have some alone time if we wanted a bit of extra space. It was also for absolute emergencies if our primary tent caught fire, blew away or was irreparably damaged. However, with the airbed deflating issue occurring shortly after leaving, this forced us to remain in the same tent for the duration of the expedition with the backup tent only being used for the first 2 nights after arriving in Greenland.

Our primary tent also suffered from a torn pole eyelet after 4 weeks which meant we had to push one of the poles deep into the snow/ice to prevent it pinging upwards. Thankfully the wind at night during the latter half of the expedition was relatively calm and so this didn't cause any major issues.



Cooking

Two expedition MSR stoves were taken with their appropriate arctic pumps. This enabled us to melt snow continually with two stoves running and thus significantly speed up the cooking process. The stoves worked well even in the coldest temperatures, although we had a few blockages which prevented the bottles from pressurising. This was very

annoying as it required regular cleaning with specific (very fiddly) tools from our MSR cleaning kit. That was until halfway through the expedition when we realised that we had packed a small fuel filter in our cooking bag! From then on we refilled the bottles with the filter and the blockages reduced.

We started the expedition with 30litres of fuel and used approximately 24 litres over 35 days. For melting snow we used two 1.5 litre aluminium pans with lids provided to us by Tangent. We also each had a lightweight collapsible silicon bowl with lid which we used to rehydrate our meals and eat from. This allowed us to keep the two pans clean and they could continuously be melting snow while we were eating. Our bowls also rehydrated the meals quicker than eating directly from the meal pouches as they retained the heat for longer and the sealable lids prevented any messy food spillages. For water we each carried a 1 litre water bottle for the day and we made sure we all left camp hydrated each morning. In addition, we shared a 1 litre thermos of coffee throughout the day, to which we added further insulation before leaving the UK, in the form of extra foam and packing tape.

Environmental Impact

As alluded to in our introduction, one of key priorities for the team was to minimise our impact on the environment as much as possible. The expedition permit from the Danish Polar Centre has various conditions regarding leaving behind waste and we adhered to these throughout our trip. We also followed the guidelines from the BMC which states that where possible all combustible waste should be collected and burnt in a designated fire pit at the end of the expedition. Any food packaging which had small amounts of metal we separated out and disposed of in bins at the airport back at Constable Point. When in the national park and away from the sea ice, we dug a single deep hole at the centre of the valley and deposited any human waste in this communal toilet, with the rationale that this would be the first to flow into the sea during the summer melt. These procedures helped to minimise any potential visual, chemical or physical impact on the environment. No equipment or non-food items were left behind, and equally during our time away from civilisation, we saw zero evidence of litter or other human presence for the duration.

Polar Bears

The arctic's top predator was regularly on our mind during the expedition and we had frequent evidence of their presence. However, for better or worse we never actually spotted a bear first hand. During our first week on the frozen sea ice we saw a trail of bear prints which appeared like it had been following our tracks from the previous day. We noticed it had walked around in a few circles, perhaps smelling our tracks before lying down on the fresh snow, most probably where it spent the night. We were on guard for the next few days, ensuring the person at the rear did regular 180 degree checks, but we never saw any.

We saw further bear tracks in the final weeks as we headed down the Ping Dal to our pick up point, but like before, they went off into the distance and we were unable to see anything bearlike.



The Polar Bear Fence – (string attached to poles, connected to an alarm, to act as a trip wire)



Firing some practice shots with the rifle at the end of the expedition

Other wildlife

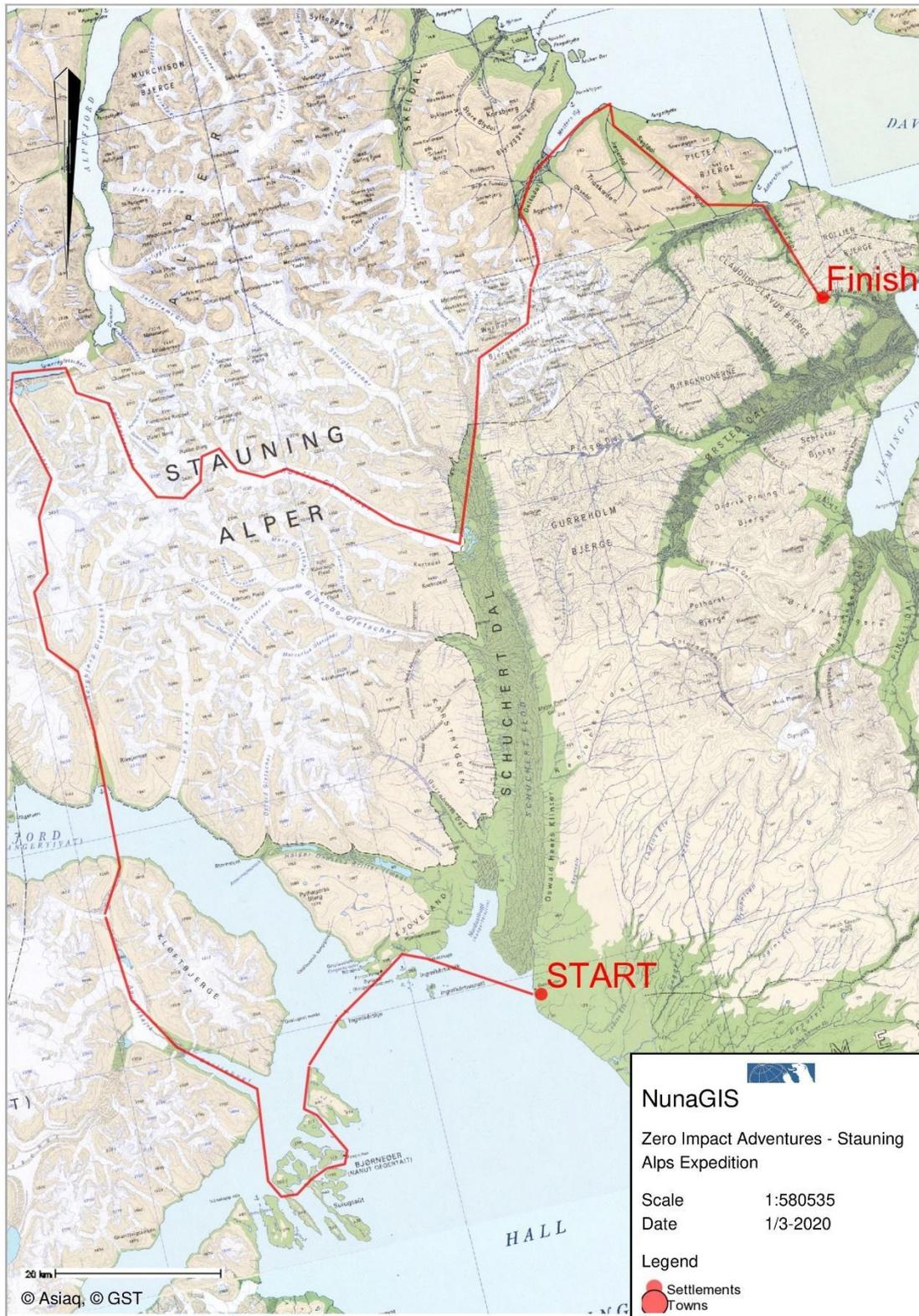
Though we saw regular signs of polar bears (many footprints in the snow) we saw very little wildlife except musk ox. We spotted a white bird fly past in the afternoon on day 7 and on day 21 two of us spotted a lemming in the distance.

The Expedition

The plan

The initial route was discussed in mid-2018 then ambitiously drawn up in January 2019 and included a very intense pulk hauling portion over the first three weeks covering approximately 350km before entering the Stauning Alps and finally heading East another 150km to our pickup point. Our logistics expert Paul Walker, at Greenland Logistics (formally Tangent Expeditions) had sense-checked our plans and deemed it challenging but achievable. However, after the first few days of the expedition the biggest thing that became apparent was the amount of snow which had fallen in the previous month. Over the first two days we found that the recent dry, light powder snow had made pulk pulling up any sort of incline almost impossible. We quickly realised that we would need to adjust our route and adapt to worse snow conditions than expected. The next page shows our intended plan right up to the day we arrived in the region.

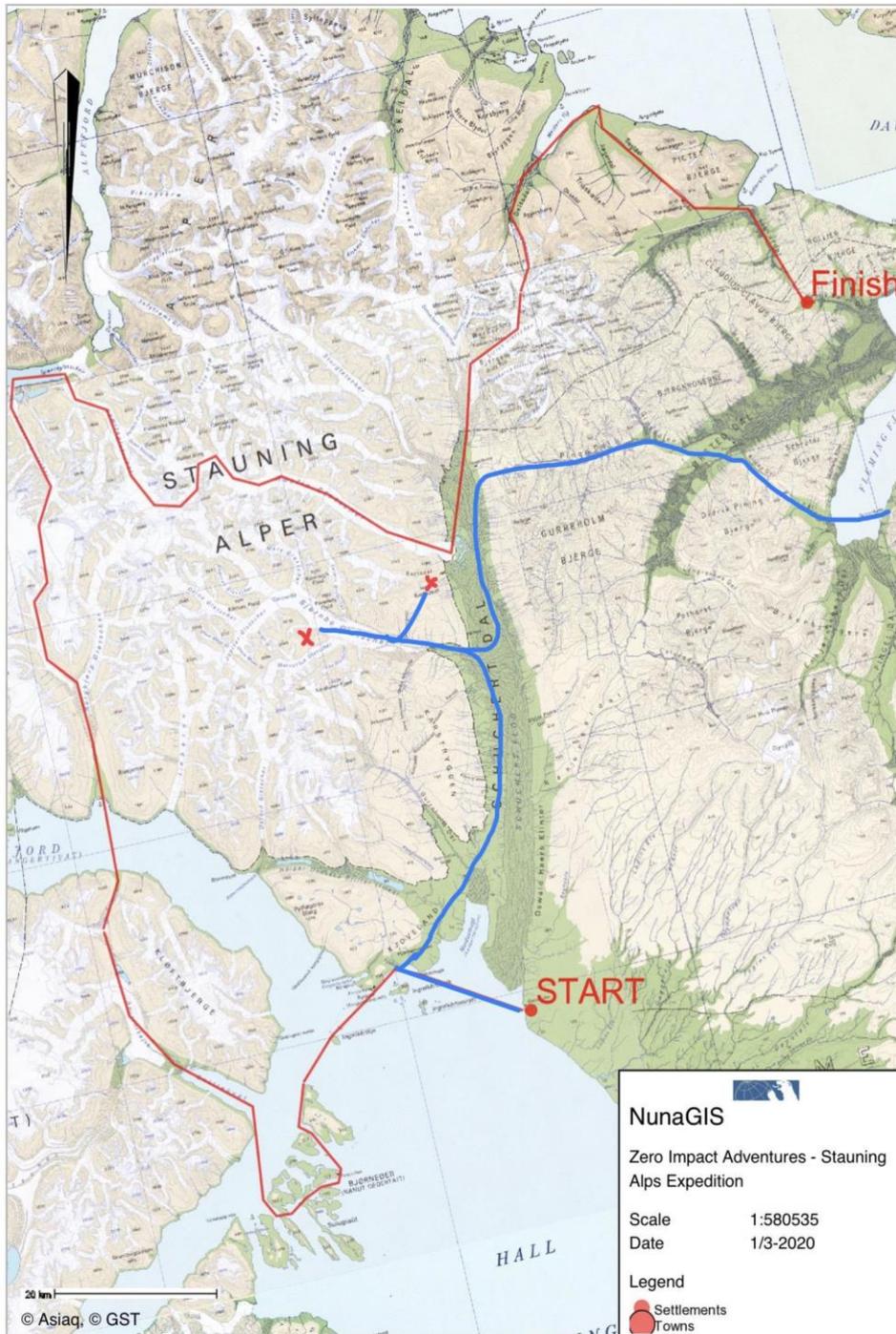




The Original Plan

In order to still have the opportunity to attempt a summit in the Stauning Alps we decided to shorten our overall distance and head directly to the Bjornbo glacier up the Schubert Dal. We would then use the Ping Dal to exit the region to the East before crossing the frozen sea ice to our pick up point on the Eastern coast of the Fleming Fjord.

Here is the revised, and completed, route of the expedition. (blue line)



The Revised Plan

Itinerary

March 15th - James and Tom fly from London to Keflavik, Iceland

March 15th - Charlotte flies from Edinburgh to Keflavik, Iceland

March 15th - Drive from Keflavik to Akureyri, Iceland

March 16th – Fly from Akureyri to Constable Point, Greenland

March 19th – Snowmobile to Gurreholm Hut

March 20th – Pulk from Gurreholm hut to Sydkap hut

March 22nd to 25th March – rest in Sydkap and decide to change the route and head straight up to Stauning Alps

March 25th to 31st March - Pulk to Bjornbo Glacier and cache food at the entrance to the valley

31st March to 7th April – Mountaineering phase in Stauning Alps

8th April – Leave the valley and recover our food cache

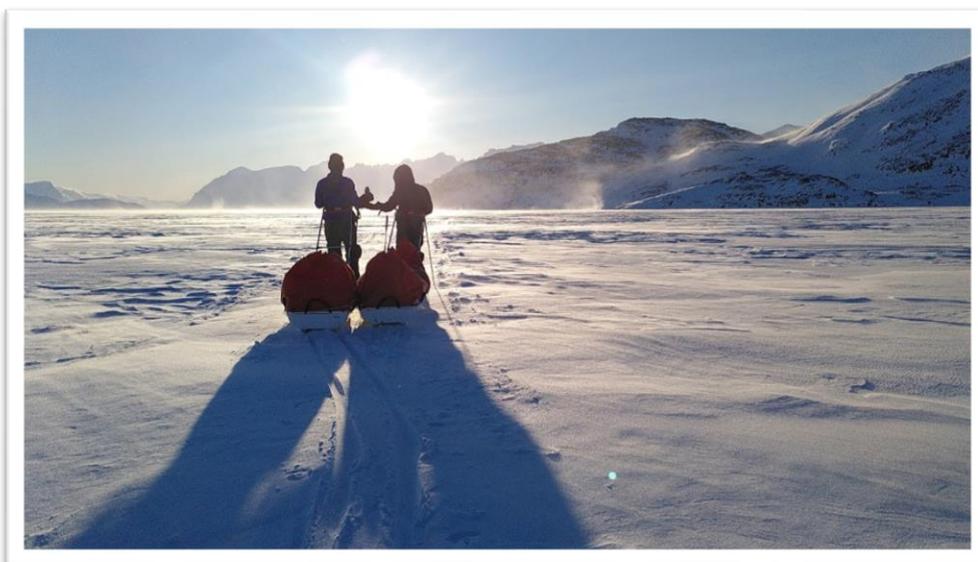
10th April to 17th April - Pulk North up the Schubert Dal then East on the Ping Dal to our pick up point on the East of the Fleming Fjord.

17th April to 24rd April – Contingency days waiting for pickup and ski touring the surrounding area.

Expedition phase

During the pulking phase of the expedition we lived by a routine. Waking without an alarm around 6-7am each morning and taking it in turns to be on cooking duty for the day. We would then aim to depart camp 2 hours later and pulk for roughly 2 hours before stopping for a short break. We also had regular but short 'foot admin' stops during the first couple of weeks, whilst our bodies were getting used to pulling heavy pulks and to prevent hotspots turning into blisters.

We kept an eye on the distance covered each day, aiming for 10-20km depending on the weather conditions. We tended to only stop and make camp in the evening after we had completed a pre-agreed distance for that day.



We were fortunate with the weather conditions for the majority of the expedition; though they were consistently tough, there were only a handful of days where we felt tent-bound. Overnight temperatures dropped to -30°C for the first week, which really tested the endurance of the team; this also during the time in which our pulks were heaviest, the snow was at its most deep, and Charlotte's toes were open and peeling due to frostbite. Once we arrived at Sydkap hut (the last place where we could leave any unwanted supplies) on day 3 we decided to revise our initial route so as not to jeopardise our climbing goals and shorten the overall distance.

We first sighted the mountains of the Stauning Alps on day 9 of the expedition, along with a herd of musk ox and some melt water.

The mountaineering phase: Entering the Stauning Alps

On 31st March we decided to cache the majority of our food and fuel at the foot of the Bjornbo Glacier and take 11 days worth with us into the valley. This made our pulks significantly lighter for the gradual incline, which also turned out to be predominantly in waist deep powder snow.

Avalanche conditions

Upon reaching the Stauning Alps we discovered exceptionally treacherous conditions for mountaineering and skiing. Avalanches had slid on every aspect and at every altitude. Any that had not yet slid appeared loaded and potentially deadly.



South West Facing massive slide. The depth of the break was over two metres.



We dug several snow pits and they confirmed our worst fears; the snowpack was consistently unstable through all layers, with a particularly concerning layer of depth hoar between the ground and the snow.

Though accurate snowfall recording and weather data for the mountains can be hard to come by, we found out that prior to our arrival the winter season had been plagued with significant temperature changes. We saw this effect now in the quality (or lack thereof) of the snowpack.

Having identified and planned several first ascents and now realising that they were up deadly couloirs; we needed to replan, again.



Spontaneous slides on North facing slope of only about thirty degrees.



The view of our first summit attempt from the tent.

We chose to climb a smaller mountain in sight of our basecamp that offered an exposed rocky ridgeline from about 400m up to the summit at 1000m. We had not planned to do any technical mountaineering due to the remoteness of the Stauning Alps. Looking at what we had available in the vicinity, we hoped the ridge might provide something not too difficult. Furthermore, the mix of snow and rock provided us a route that, except for a brief initial boot pack, kept us out of avalanche conditions.

After a first attempt up the initial snow buttress Charlotte felt uncomfortable - it was the only section of the route exposed to potential avalanche, and the conditions were quite poor. We descended as a trio, with James and Tom planning a second attempt the following day.

James and Tom set off, with Charlotte opting to remain at basecamp due to the tricky climbing conditions. The mixed snow and rock was very uncertain on the way up, particularly as they had to pick the line that best kept us out of avalanche terrain, but fortunately there was never anything too technical. The rock was chossy and uncertain, and the snow varied from sun affected, to ice pack, to Canadian style dry powder - climbing in Greenland is never easy, and each step had to be taken in isolation.



The snowy ridge at the start of the first climb. This section was the only bit exposed to potential avalanche and time here was minimised.

In order to minimise time on the mountain we opted to climb free of each other, with no rope, and with 1 ice axe, 1 ski pole and crampons. If at any point the route appeared impossible to reverse or got too technical we would descend, and then consider trying again with ropes and the weight of additional gear another day.

The climbing stayed below the difficulty of AD but did include some seriously exposed sections!



After seven hours of ascent we made it to the top (photo below) and began a technically more difficult descent, due to some downclimbing and unfavourably deep snow.





Peak 1

Name of mountain: Margarita Mountweazel

Altitude: 1,063m

Estimated route length: 500m of climbing from the plateau after leaving your skis

Date: 5th April 2022

Route name: La Ruta Floral

Grade: AD

Style: Alpine, free solo

First ascent: Yes

Successful or not: Successful

High point reached: The summit

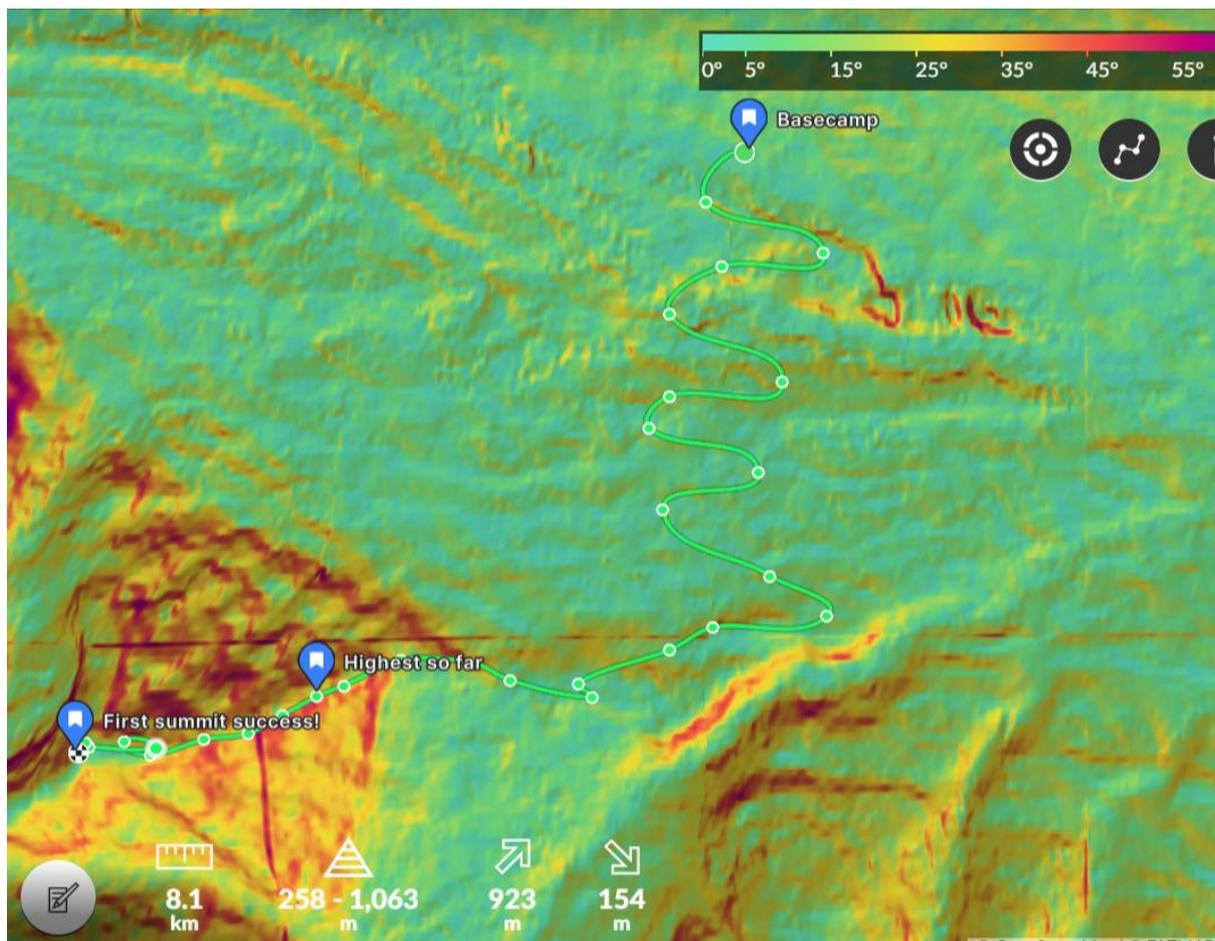
Reason for retreat (if applicable): More exposed than expected climbing conditions (on first attempt)

Weather conditions: Sunny, clear sky, -18 o C to -13 o C, light wind, breezier on top

Names of climbers: Tom Reynolds, James van der Hoorn

The route is described as follows:

1. Start by ski touring up to the obvious plateau at the foot of the east ridge.
2. If conditions permit a boot pack up one of the couloirs to the top would be a better option.
3. Our route followed the East Ridge, and route selection depended on the conditions we found - options exist to either go left into the sun warped snow, or right into the steeper, but sun protected North face. Occasionally rock sections can be scrambled.
4. After climbing a final rock buttress (watch out for large holds breaking off in one's hand) there's still a 75m ascent of a snow plateau to the summit, watch the edge to the North for wind lips as you approach the summit.
5. Descent: Reverse the route. Plentiful skiing options on both faces up to about 50 degrees steepness if the conditions allow.



Peak 2

Although the first summit was only six hundred metres it proved to be a very challenging climb. And still the avalanche conditions loomed over us. What's more we wanted to find one summit that all three of us could complete, and that we could safely ski and snowboard down—that having been an important aim from the start.

We used the gradient tool of Fatmaps to find a route to a summit that would keep us out of avalanche terrain, the rule being that any slope below about 30 degrees cannot slide. We found another potential first summit that had a shallow route up its West Face, with the gradient never sloping above about 27 degrees. Though it wasn't marked on any of our research as having been climbed we wondered if, due to the non-technical requirements of climbing it, it had possibly been climbed before. Finally it was agreed that this didn't really matter; our other more ambitious objectives were off, and this particular peak at the very least provided a good opportunity to ski and snowboard off the top.

Two days after the first summit we got our skins back on and made the second new attempt. The ski touring was mostly favourable. However, on the way up and on a slope of about 20 degrees we set off the largest whumpf any of us have ever heard... It felt as if the entire mountain tried to shift the entirety of the snow, 2m deep, down to the valley. We were safe on shallow terrain, but this confirmed that we had made the right decisions previously to cancel our other summit attempts. Hearing and feeling the power of the mountain we continued carefully to the top.

After 16km of ski touring and 1500m of ascent we reached the top of our second summit - this time as a whole team. As a professional camera woman Charlotte had brought both her filmmaking

equipment and drone to capture this ascent and this may be the first time drone footage was taken of a winter ascent in Greenland.





Peak 2

Name of mountain: Cairn Mor Uisge

Altitude: 1470m

Estimated route length: 13km & 1523m to the summit, 26km roundtrip

Dates: 6th April 2017

Grade: N/A

Style: Ski Tour

First ascent: Yes

Successful or not: Successful

High point reached: The summit

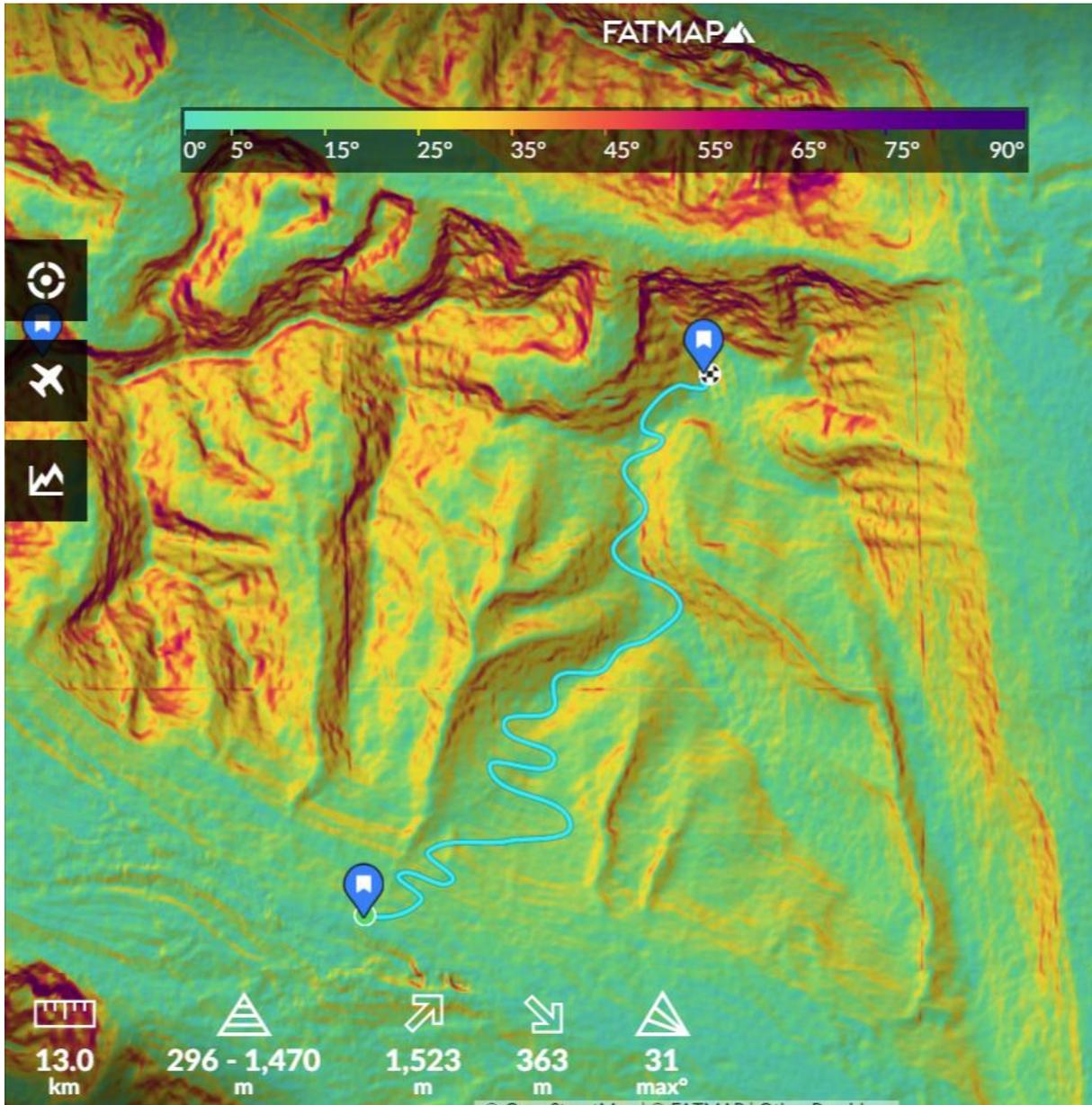
Reason for retreat (if applicable): n/a

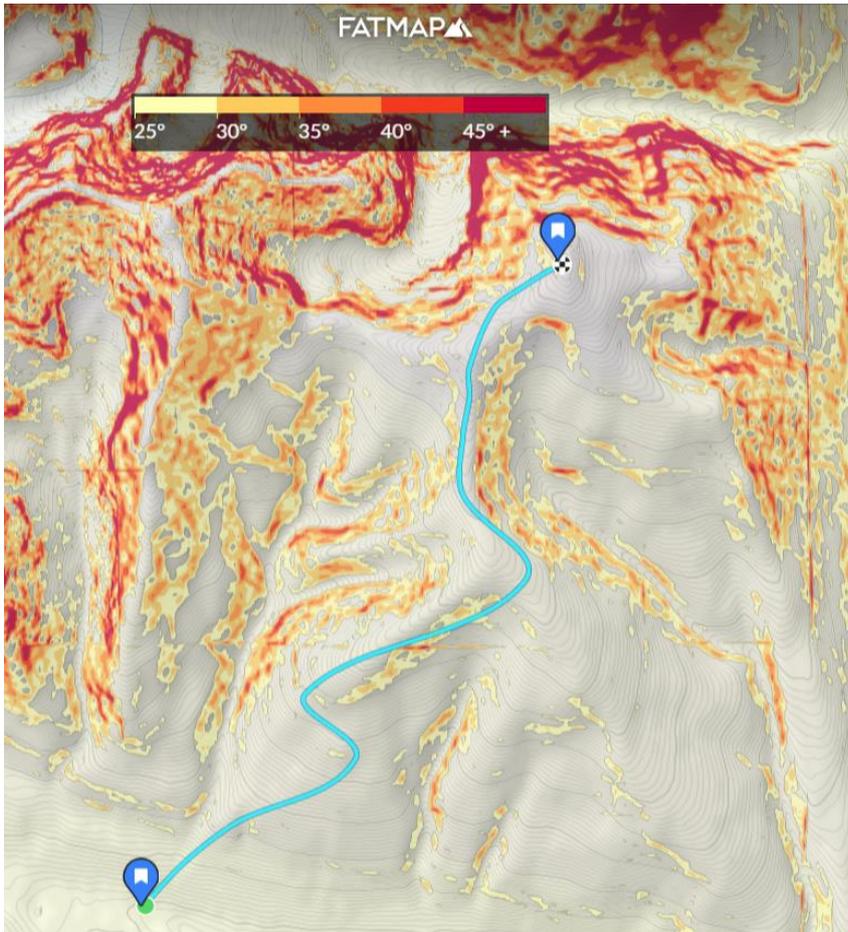
Weather conditions: Sunny, clear sky, -20 o C to -14 o C

Names of climbers: Tom Reynolds, James van der Hoorn, Charlotte Workman

The route is described as follows:

1. Starting in the valley floor begin a ski tour up the obvious snowfield headed North
2. Route finding up will depend on snow conditions, but overall trend Westwards, aiming for the top ridge
3. The first summit of Snekupell is a false peak, ski down the other side, watching out for windblown areas on the ridgeline
4. A final ski tour up to the summit plateau follows, with views all the way out East to the sea
5. Ski/Snowboard the same route down





Roughly our same route showing the avalanche zones tool on FatMaps. Staying out of avalanche terrain saved us when the 'whumpf' went off.



Getting down the second summit was much more fun than the first...

Journey to the end

After the Stauning Alps phase we still had nearly 100kms and several sizeable ascents to get to our planned pickup point and just over two weeks to go. Exhaustion got worse by the day, and in spite of generally warming conditions, we experienced several cold spells of below -20C.

As we neared the final hut our weather man back in the UK (Steve, Charlotte's partner) told us of an impending storm that would last upwards of five days, include heavy snow, and winds up to 50mph.

It would arrive in three days' time and we had planned to be at the final hut in six days time. With one final push (upwards of 14 hour day with incredibly brisk drills during the day and little rest). Though these numbers may not sound impressive we made it to the hut just as the storm was setting in. Though we had no idea what to expect and had been planning on the hut being either unusable or really poorly appointed, we found a newly built Danish observation station with two beds and enough room for a third on the floor.

Completely elated we dug it out, made ourselves comfortable and waited out the storm for our skidoo team to pick us up. This left us with three days of good weather at the end to film some more footage for the documentary; and do what all snowboarders do: build a jump.



Tom leaving the Stauning Alps



Dropping off the edge, before snowboarding down to the sea ice



Getting some drone footage

Other achievements and our film

Although we didn't achieve everything we had set out to do, we would like to include a few honourable mentions here. To our knowledge this was the first-time winter ascents have been captured using drone footage, a remarkable achievement on Charlotte's part as getting it to work in arctic conditions is no small job (see "Filming" in the appendices.)

Throughout the expedition she captured some incredible footage that we are in the process of turning into a film. It covers both our expedition and our journey during the planning phase from relative ignorance to proud and active environmentalists.

To check updates about the film visit www.thesplitfilm.com



Furthermore this is the first time that splitboards (a snowboard that comes apart to form ski touring skis) have been used as a means of travel in and around the Stauning Alps. Although not as good as skis, their use by Tom and Charlotte allowed them several first snowboard descents during the trip, and as lifelong passionate snowboarders they're proud to have added their own small footnote to the sport they love.





Conclusion

Overall the expedition was an extremely challenging but rewarding experience for the whole team. The most important factor being that we all returned without significant injury, with just some short-lived numbness in our toes. We left Greenland on the 25th April with beaming smiles having achieved everything we set out to achieve and after giving a fond farewell to the arctic coastline we landed back in the UK 43 days after leaving.

We hope that this report gives an insight into the preparation and execution of such a significant expedition and we would welcome any future teams to contact us if they're considering similar trips to the region. James, Tom and Charlotte are all immensely grateful to everyone who helped us to make our dream expedition a reality. It was a long journey from inception to completion but for us it was without question worth the wait.

Thoughts on climate change and it's future effect on winter expeditions to the region

Rule one in the Arctic is that everything is more pronounced. Living feels more alive, tough conditions verge on the extreme. What would represent less significant summit climbs or ski routes in the Alps are bigger, harder and more dangerous.

The rule of the arctic also extends to the effect climate change is having. Planning an expedition and setting objectives requires very specific conditions. Ice climbers need ice, skiers need stable snow, and people travelling long journeys on skis with pulks struggle to do so if there is deep and powdery snow.

The conditions in the arctic are less predictable than ever. If you set one goal and measure your success by whether or not you achieve it you are likely to fail. We found waist deep powder snow for journeying and due to an unprecedented warm period prior to our arrival a hugely unstable snowpack. Our expedition took almost five years to plan, yet like all expeditions to the arctic we could only work with the conditions we found when we arrived.

This unpredictability is only set to increase in the coming years. Expeditions must prepare a plan A, B and C through somewhere nearing Z. Perhaps most important of all, we would advise future expedition planners to think about what it is you want to achieve by spending time in this beautiful and unpredictable place. More than ever nothing is guaranteed in arctic exploration.

We had an incredible time there and have found the support since returning from fellow lovers of the arctic to be hugely helpful. We leave you with a quote directly from Lorraine Craig, an Arctic explorer herself and overseer of the Gino Watkins memorial fund.

She sent this to Tom a week after he arrived home, and found himself struggling to process the experience. Thank you Lorraine – and everybody who helped us – for your support:

“You know, it doesn't matter if you didn't tick any firsts, the key thing about travelling in the Arctic is that you made it there, you did an amazing expedition and you made it back safely. It's a harsh environment and we all treat it with a lot of respect. As for re-integrating. Let's just say it is tough, really tough. You live in a world where day to day tasks are all consuming, there is a real peace and calm about it all. You adjust to a different way of life where every decision you make matters, but yet it doesn't seem like that at the time. Then suddenly you are back to the internet, mobile phones etc. The one thing that was wonderful though was the sense of calm, and thinking 'does this really matter'?”

Just don't have a massive clear out or decluttering. You may have managed with a tent and a sledge for weeks, but we need to live in the world too."

"In every journey we take, we all have a responsibility to minimise our footprint. Through engagement, awareness and education we can even have a positive influence, because—like climbing mountains—the greatest challenges are only ever achieved in joining together. Through harbouring our adventurous spirit and love for the outdoors we can be part of big social change." – Zero Impact Adventures



Appendices

A. Finances

NB: The additional £20,000 for two years of COVID delays was really tough for us, and totally unforeseen. This has been covered through personal loans that are still being paid off.

Financial Plan

The overall budget of the Expedition

TOTAL COSTS: £45,000

Travel and Greenland logistics - £21,000

Including: Flights from Iceland to Greenland

Snowmobile logistics to the Stauning Alps

Cargo shipping costs

Camping stove fuel

+ Cost of delayed expedition due COVID (reissue of permits and licences)

£10,000 per year of delay

(£20,000 total)

Food and Stores - £3,500

Park Fees and Equipment Hire - £1,000

Insurance - £6,345

Specialist safety gear, contingency and other - £3,155

TOTAL INCOME: £20,950

Personal Contributions - £12,000

Jeremy Willson Charitable Trust - £500

Alpkit Foundation - £400

MEF - £1000

Gino Watkins Memorial Fund - £4,000

BMC - £350

Julie Tullis Award - £250

Other sources – £2,500

Safety plan

Note to those reading this:

It is crucial before any expedition, but particularly in remote and hostile environments to compile your safety plan beforehand, what we would like to add is the importance of really considering every outcome as a team in as much detail as possible beforehand; what could happen? How would you respond? What would you do next? How can these things be avoided?

The below is a raw list of the things we considered beforehand, but hidden within each bullet point is a lot of active thought, discussion and practice as a team.

For our particular expedition we found avalanche risk in the mountains and exposure risk from the extreme temperatures to be by far the two most threatening factors to our safety and the successful outcome of the expedition. Each expedition will be different - so consider the likely threats carefully!

Though we didn't have any problems it's easy to see how quickly a fire from the stove could destroy critical equipment (especially the tent) and end the expedition, so always take great care when preparing food or melting snow - sometimes easier said than done with big mitts on.

NB. Interestingly, our below table doesn't include the risk posed by avalanche danger. I'm not sure why we didn't include it in the plan - both Tom and Charlotte are trained in avalanche safety and awareness, and prior to the expedition carried out refresher training in the Alps. I would imagine that given our extensive experience in the mountains vs this being our first long arctic expedition we focused on all the elements of which we were unfamiliar and this is why it was missed.

Avalanche threat turned out to be the defining factor of much of our expedition. Were we to have added it below it would have read something like this:

Hazard and risk: One or more of the team being buried in an avalanche

Consequences: Injury or death

Control the risk: Know how to read the snow condition, appropriate route selection. Avoid any terrain likely to slide, including hazards that may come from above or below.

Further action: All the team to practise avalanche rescue drills, in case of a slide.

Hazard and Risk	What are the consequences of the hazard occurring?	How is the risk controlled?	Further action required to control the risk
GENERAL			
Disorientation and loss of direction	<ul style="list-style-type: none"> • Longer travel times • Pressure on food and fuel supplies 	<ul style="list-style-type: none"> • Frequent reference to compass and GPS units 	<ul style="list-style-type: none"> • Ensure navigation is shared amongst group. • Ensure that group stays together
Exhaustion, fatigue, dizziness	<ul style="list-style-type: none"> • Lowered core body temperature • Irritable and irrational behaviour 	<ul style="list-style-type: none"> • Frequent and adequate rests • Party moves at the slowest persons pace 	<ul style="list-style-type: none"> • Agree flexible schedule • Over-compensate on food and fuel supplies

	<ul style="list-style-type: none"> Possible stumbling or falling 		
Dehydration	<ul style="list-style-type: none"> Headaches, dizziness and stumbling 	<ul style="list-style-type: none"> Regularly and frequently take in liquid 	<ul style="list-style-type: none"> Fill thermos every morning
Sun/snow/wind burn and blindness	<ul style="list-style-type: none"> Sores, scars, blisters, open wounds and blindness 	<ul style="list-style-type: none"> Always wear sun cream, sun bloc, lip salve, sunglasses, sunhat and keep limbs covered 	<ul style="list-style-type: none"> Even in cloudy conditions, precautions must be taken
Polar bear / Musk ox attack	<ul style="list-style-type: none"> Potential mauling causing severe injury or death 	<ul style="list-style-type: none"> Travel always close together, with rifle carried by rear pulk member Do not approach or alarm animals 	<ul style="list-style-type: none"> Flares carried to ward away animals Polar bear trip fence with alarm setup each night at camp Rifle and marksman training if they show signs of wanting to charge
Tent loss / breakage	<ul style="list-style-type: none"> Repair Loss of tent (all persons in one shelter) 	<ul style="list-style-type: none"> All persons to assist with tents in bad weather Appropriate spare and repair kits to be carried 	<ul style="list-style-type: none"> Take emergency shelter in case of total tent loss
Tent fire	<ul style="list-style-type: none"> Loss of tent (all persons in one shelter) Potential burns to persons 	<ul style="list-style-type: none"> Never cook inside tent Refill fuel bottles well away from the tents and other equipment 	<ul style="list-style-type: none"> Keep emergency shelter away from main tent
Hypothermia and exposure	<ul style="list-style-type: none"> Erratic and irrational behaviour, uncontrollable shivering, pale and blue extremities, lowered core body temperature, possible death 	<ul style="list-style-type: none"> Wear sufficient warm and waterproof clothing. Always carry spare clothing. Change out of wet clothes. Get out of wind. Insulate affected person 	<ul style="list-style-type: none"> Carry a group set of spare clothes Ensure that shelters and clothes are split between pulks
Fuel loss / leakage	<ul style="list-style-type: none"> Inadequate fuel supply Potential fire / explosion (serious injury to persons) 	<ul style="list-style-type: none"> Visual and frequent checks Use several fuel containers 	<ul style="list-style-type: none"> Careful use of a funnel to fill stove fuel bottles
Bad Weather	<ul style="list-style-type: none"> Difficult navigation Become tent - bound 	<ul style="list-style-type: none"> Frequent reference to compass and GPS units Plan for contingency days 	<ul style="list-style-type: none"> Share navigation between group Protect the GPS charger Carry emergency communication equipment

		<ul style="list-style-type: none"> Use weather forecast at home 	
Unable to sustain the anticipated pace	<ul style="list-style-type: none"> Stress on food and fuel supplies 	<ul style="list-style-type: none"> Train fully prior to expedition Over-compensate on food and fuel supplies 	<ul style="list-style-type: none"> Preparedness to ration if necessary
Slipping / falling on ice (falling into open slush and water pools) Tripping over guy lines and/or equipment	<ul style="list-style-type: none"> Small graze or ice cut Sprained, twisted, fractured or broken ankle or knee Inability to walk or ski effectively 	<ul style="list-style-type: none"> Always wear gloves Wear good waterproof boots. Use crampons. Use make-shift supports (e.g. ski sticks) Be observant! 	<ul style="list-style-type: none"> Only wear long sleeved tops Never cross/venture out anywhere alone
Severe Frost bite	<ul style="list-style-type: none"> Pale, blue, purple or black and swollen extremities. Potential loss of affected extremity 	<ul style="list-style-type: none"> Wear sufficient warm and waterproof clothing on extremities. 	<ul style="list-style-type: none"> Change out of wet clothes. Get out of wind. Maintain blood supply to extremities. Don't leave it until too late
Pulk loss / breakage	<ul style="list-style-type: none"> Unable to carry all the supplies Shortage of food / loss of clothes and equipment 	<ul style="list-style-type: none"> Careful route choice across and around crevasse fields Take materials to mend / repair minor damage and strengthen weaknesses Split food, equipment and clothes between pulks & carry spares 	<ul style="list-style-type: none"> Split load between undamaged pulks Know how to retrieve pulks from crevasses
Glacier travel: Falling in a crevasse	<ul style="list-style-type: none"> Becoming cold, hyperthermia, shock, cuts & grazes, fractures, unconsciousness, death Inability to rescue oneself 	<ul style="list-style-type: none"> Careful route choice across and around crevasse fields Rope up where the terrain dictates 	<ul style="list-style-type: none"> Everyone to be competent in crevasse rescue techniques Maintain separation if uncertain
Ice dam breach, heavy rain, severe ice melt	<ul style="list-style-type: none"> Flooding 	<ul style="list-style-type: none"> Camp on the highest ground where possible 	<ul style="list-style-type: none"> Frequently check water levels during periods of rain and / or snow melt
Stove breakage	<ul style="list-style-type: none"> Inability to cook / melt water 	<ul style="list-style-type: none"> Take maintenance and repair kit for stove, including spare parts 	<ul style="list-style-type: none"> Take a two identical stoves, so should one fail, there is still one operational within the group

Injury sustained by lifting heavy packs or other muscle injury	<ul style="list-style-type: none"> • Strain and or muscular damage • Inability to complete daily tasks 	<ul style="list-style-type: none"> • Distribute load between group 	<ul style="list-style-type: none"> • Be prepared to porter equipment
FIRST AID CONSIDERATIONS			
Small accidents or incidents involving cuts, sprains, etc.	<ul style="list-style-type: none"> • Inability to use affected part of body 	<ul style="list-style-type: none"> • Extra caution given to every operation • Familiarity with equipment • First aid techniques 	<ul style="list-style-type: none"> • Person relieved of their pulk weight and or daily duties reallocated
Large injuries or incidents, including severe bleeding, fractures etc.	<ul style="list-style-type: none"> • Inability to complete expedition • Possible serious and permanent injury if not attended 	<ul style="list-style-type: none"> • Caution drawn to every operation • Never working alone • Familiarity with equipment • Thorough emergency drills 	<ul style="list-style-type: none"> • Emergency call made via satellite telephone immediately • SURVIVAL plan activated

Equipment List

This is a modified version of the equipment list given by our logistics team Tangent Expeditions, and served us well for an expedition that shared both long journey and basic mountaineer elements. Good care should be given when packing to what you think you will need specifically for your trip.

	Provided by ZIA	Provided by Tangent	Personal gear
Individual Clothing			
ski socks x2			X
liner socks/spare x1			X
ski mountaineering trousers x1			X
insulated trousers x1			X
long johns x1			X
underwear x2			X
base layer top x2			X
mid layer x2			X
shell jacket x1			X
down jacket x1			X
Mitts x1			X
Gloves x1			X
Down boots / socks x1			X
Balaclava x1			X
Neoprene face mask x1			X
Hat x1			X
Buff x1			X
Camping			
Tent 1 (3-4 man)	X		
Tent 2 (cook tent)	X		
Snow saw x1 ???	X		
Snow pegs	X		
Sleeping bag			X
Sleeping bag liner			X
Inflatable sleeping mat	X		
Foam roll mat - 10MM thick min	X		
Pillow (If you prefer)			X
Biodegradable toilet roll	X		
Pee bottles	X		
Pepper spray		X	
Rifle & 20 rounds ammunition		X	
Bear fence		X	
Flare gun		X	

Hand flares		X	
Personal pocketknife (optional)			X
Cooking Equipment			
Stove 1 + windshield		X	
Stove 2 + windshield		X	
Matches & lighting stick etc.		X	
Stove boards x2		X	
Pans & lids x2		X	
Knife x 2		X	
Sporks		X	
Mugs		X	
Bowls		X	
Fuel Bottle		X	
Funnel (fuel)		X	
Group Thermos	X		
Pan scrubber		X	
Water Bottles			X
Climbing & Skiing Equipment			
Rigid covered pulks x5		X	
Ropes x3 (X3 different lengths)	X		
Dead man	X		
Lead rack	X		
Ab tat (20m 5mm cord)	X		
Touring skis & bindings			X
Skins			X
Ski crampons			X
Ski boots			X
Neoprene ski boot protectors			X
Climbing Harness			X
Belay Device & screw gate			X
Pulley/revolvers			X
Screw gates x2-3			X
Prussiks x2-3			X
sling & snap gate 1 each			X
avalanche Shovel			X
avalanche transceiver			X
avalanche probe			X

Helmet			X
Goggles			X
Sunglasses			X
Poles pairs			X
Axes (+leashes)			x
Crampons			x
rucksack (50ish ltr)			X
Electrical Equipment			
60W Solar Panel	X		
GPS (x2)	X		
Rechargeable battery	X		
Charlotte Camera gear			X
Additional Gopros	X		
Spare batteries	X		
Personal Locator Beacon		X	
VHF air band radio		X	
VHF marine band radio		X	
Satellite phone		X	
Miscellaneous			
Large dry bags	X		
sun cream (SPF 50)	X		
lip salve 1 each	X		
Moisturiser (500ml)	X		
Toothpaste 1 each	X		
Plastic Boxes x3	X		
Pegs x10	X		
Hold Bags x6			X
Toothbrush			X
Head torch			X
Spares and repairs Kit			
Spares and Repair kit bag	X		
Needle & Thread	X		
Seam Grip	X		
Spinnaker Tape	X		
Tent Pole sections x3	X		
Pole sleeve x3	X		
Duct tape	X		

Leatherman	X		
Pipe clamps (various sizes)	X		
Therm-a-rest patch repair kit	X		
Omni-fuel repair kit	X		
Pipe cleaner	X		
Cable ties	X		
Spare middle bar (crampon)	X		
Skin Glue	X		
Ant-balling spray	X		
Scraper	X		
Glop stopper wax	X		
Lighter	X		
Screwdriver & bits	X		
Screws (range of)	X		
Wire wool	X		
Epoxy	X		
Allen Keys	X		
Spare skin and skin trimmer	X		
Parcel tape (packaging return freight)	X		
Medical:			
Base Camp Medical Kit			
Anusol cream (1 tube)	X		
Burn gel/aloe vera (1 tube)	X		
Adhesive plasters (Assorted)	X		
Antibacterial Wash - Hibiscrub (1 bottle)	X		
Antiseptic wipes (10)	X		
Blister plasters (2 boxes assorted)	X		
Crepe bandages 10cm (2)	X		
Crepe bandages 7.5cm (1)	X		
Dressing large (1)	X		
Dressing medium (2)	X		
Elastic Adhesive Bandage- Coflex (1 roll)	X		
Eye Dressing (1)	X		
Finger Dressing (1)	X		

Gauze swabs 5 x 5cm.sq (2 packets)	X		
Adhesive dressing 10 cm. sq. (3)	X		
Micropore tape 2.5cms (1 roll)	X		
Safety pins (10)	X		
Saline capsules (3)	X		
Steri strips (3 pack) (1)	X		
Triangular bandages (1)	X		
Vaseline gauze burn dressing 10cm.sq (2)	X		
Zinc oxide roll plaster 2.5cms (1)	X		
Plastic gloves (non sterile) (5 pairs)	X		
Cling Film (1)	X		
Cotton buds (10)	X		
Dental first Aid Kit (1)	X		
Duct Tape (1 roll)	X		
Sam splint (1)	X		
Sharpie (1)	X		
Thermometer (1)	X		
Scissors (1)	X		
Chlorphenamine 4mg (Piriton) (40 tablets)	X		
Clotrimatazole (Canesten) (2 tubes)	X		
Dioralyte sachets (10)	X		
Ibuprofen (32 tablets)	X		
Loperamide (Imodium, Arret) (18 capsules)	X		
Rennie (40 tablets)	X		
Senna tabs (20 tablets)	X		
Steri strips (1)	X		
Aspirin 300mg (16 tablets)	X		
Paracetamol 500mg (20 tablets)	X		
Cicerone First Aid and Wilderness Medicine (1)	X		
Prescription Medication	X		
Analgesics:	X		
Co-codamol 30/500mg tabs 30's	X		
Naproxen 500mg tabs 28's	X		
Tramadol 50mg Capsules 10's (CD)	X		

Antibiotics:	X		
Co-amoxiclav 375mg tabs 21's	X		
General Medical Items:	X		
Prednisolone 5mg Tabs 28's	X		
Salbutamol 100mcg inhaler	X		
Eye, Ear and Nose:	X		
Chloramphenicol 1% Eye Ointment 4g	X		
Tetracaine Minim 1% singles	X		
Powders & Creams for the skin:	X		
Bactroban Cream/Ointment 15g	X		
Mountain First Aid Kits	X		
Adhesive plasters (1 box assorted)	X		
Antiseptic wipes (5)	X		
Aspirin 300mg (16)	X		
Blister Plasters (1 pack)	X		
Blizzard Bag/Survival Bag (1)	X		
Crepe bandages 10cm (1)	X		
Dressing large (1)	X		
Dressing medium (1)	X		
Duct Tape (1 roll)	X		
Gauze swabs 5 x 5cm.sq (1 pack)	X		
Gloves (2)	X		
Guidance Sheet (1)	X		
Ibuprofen (16)	X		
Melolin adhesive dressing 10 cm. sq. (1)	X		
Micropore tape 2.5cms (1)	X		
Paper (1)	X		
Resusciate (mouth-to-mouth barrier) (1)	X		
Safety pins (10)	X		
Sam Splint (1)	X		
Scissors (1)	X		
Sharpie (1)	X		
Stretch bandage (1)	X		
Steri Strip (5)	X		

Thermometer (1)	X		
Triangular bandages (1)	X		
Tweezers (1)	X		
Zinc oxide roll plaster 2.5cms (1)	X		

Filming in Greenland

Equipment used: - (By Charlotte Workman)

Canon 5D IV with 5 Canon batteries

Canon 17-40mm f/4

Canon 70-200mm f/2.8

Canon 50mm f/1.8

DJI Mavic Zoom 2 drone with polariser and 3 DJI batteries

GoPro Hero 7 with 3 GoPro batteries (plus 2x GoPro Hero 6 from Tom and James)

Instamic Pro waterproof mics X3

One tripod - which froze and broke the first week

I chose to take my DSLR over my Canon R6 mirrorless due to battery power needs and hardiness in the extreme conditions.

At -26°C the screen malfunctioned showing only a very dim display and the buttons would not work properly on the DSLR.

To fly the drone it took a lot of warming up of all its components including the RC (remote control) and the display (a smartphone), the drone battery itself, the focus motor and gimbal which are both in the drone body. Flight time was significantly reduced which added more pressure to capture the shots - it was vital to plan before flight.

To charge my electronics I took a Goal Zero 200x lithium power bank which was heavy and also difficult to charge in cold conditions. I wrapped my insulated jacket around the battery with hot water bottles whilst it was plugged into a Big Blue 36w solar panel for it to take charge. I had to take such a large capacity battery for the drone batteries and RC. I could charge the DSLR, GoPro's and microphones using smaller power banks which were easier to keep warm.

The panel worked well and I made sure to always be charging something with it when possible.

To get high quality, cinematic shots it takes time even in temperate climates, in the arctic it takes much, much longer due to the temperature. To ensure a film-maker can capture the real time action of the expedition at any point, it's effective to have a warm GoPro and spare batteries always in an inside pocket for quick deployment.

It was tough to back up footage as often as I had hoped as this took quite a bit of time and a toll on the power supply. As we were a small team and duties were equally shared there was little time to do the backups. But when I did, I used a WD My Passport SSD 1TB. I came away from Greenland with 1TB of data - 30 hours of footage and 30 hours of mic audio.



Always ready with the camera!

Our environmental work and responsibility as arctic explorers

We firmly believe that it is every explorer's responsibility to minimise their impact on the places we love and journey through. Furthermore, throughout this five year journey of planning and execution James and Tom have become passionate environmentalists and both devote some of their spare time volunteering to protect the environment.

We are increasingly concerned that the outdoor community is focusing too much on consumer choice as a means of fighting climate change when all the experts seem to agree that this is at best a distraction and at worse slowing down the rate of meaningful change we need to stave off the worst effects of climate change.

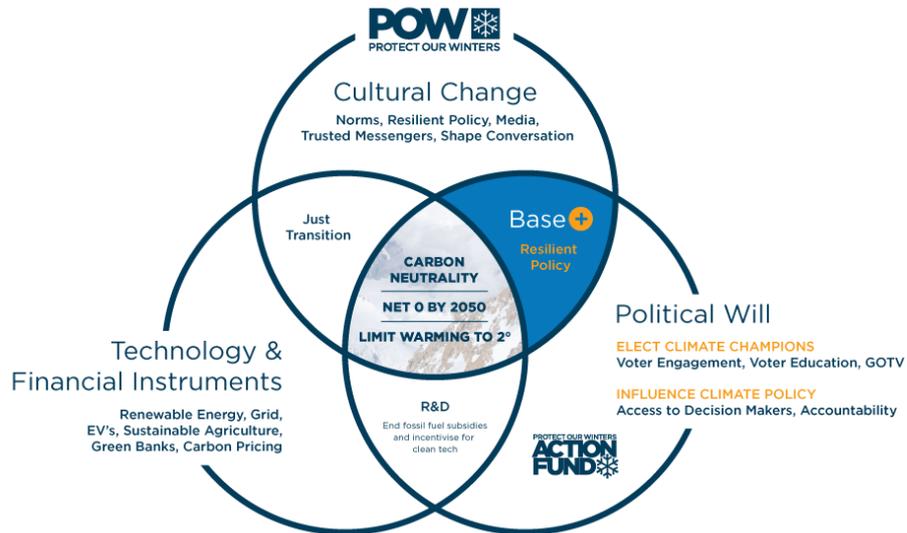
"The belief that this enormous, existential problem could have been fixed if all of us had just tweaked our consumptive habits is not only preposterous; it's dangerous."

Mary Annaïse Heglar, Climate essayist

As examples of what getting involved looks like, James is the environment rep for his trade union, working to encourage his industry toward de-carbonisation, Tom volunteers for Money Rebellion, a group dedicated to overhauling the financial system to help invest in a greener future as a web designer and marketing expert and Charlotte runs her own environmentally focused business as a filmmaker. You have your own unique skills and opportunities - there's somewhere they can be put to use!

We'd like to point those reading this in the direction of Protect Our Winters (POW) to learn more. A piece of text from them:

"When it comes to solving climate change, there are thousands of actions we could take to make a difference and we believe that there is no silver bullet solution. Not only do panaceas ignore the complexity and multi-faceted nature of climate change, they actively shut down conversation and intersectional problem-solving. Solving the climate crisis will require many solutions enacted simultaneously. While we support individual actions like diet and travel choices, it's not necessarily what you'll see us talking about. Because we only have so much bandwidth for action and conversation, we've decided to focus our efforts on large collective and political action to enact broad-reaching systemic solutions to climate change. We believe a carbon-neutral economy and clean energy future are achievable if we can change the system through big policy changes."



You have the power to make change, in your personal life and our society.

It can often feel like our individual actions aren't enough but combined together they add to the unified force that influences systemic change. We band together as a passionate, loud community that collectively puts pressure on policymakers to make the most effective changes. Join us, be part of the movement and see the impact that we have together.

You also have the ability to influence: your employer, your MP, your family and friends. Your ability to influence change is much greater than your individual footprint. Take action and join the POW UK community today.

Learn More at:

<https://protectourwinters.uk/take-action-for-individuals>

Daily Summary - (Written by James whilst in Greenland, on a phone with cold fingers!)

Day 1 - Sunday 20th March

We headed off across from the Gurreholm hut, with clear blue skies and good conditions. We quickly realised that reaching Sydkap was unrealistic with the heavy pulks. We had to stop several times in the first few hours to attend to hot-spots on my heels from my ski boots, and I felt like I was holding up the team a bit with the frequent stopping. I added some Compeed and blister tape and thankfully the pain went away.

We only managed about 8km, having started at midday, and it was nice weather to put up the tent. Although temperatures were minus 26°C thankfully there was no wind, so Tom started melting snow while I worked on the tent and Charlotte got some drone footage. Once the tent was up Charlotte realised her tooth had chipped and that a couple of her toes had gone a bit black.

We warmed her feet up with hot water and tried to get some sleep in the freezing temperatures.

Day 2 - Mon 21st March

I woke up in the night with a deflated airbed and so ended up wearing all my clothes to try and stay warm and away from the frozen ground. I actually managed to sleep quite well, but the frozen breath on the sleeping bag meant it was very wet around my face.

Charlottes foot seemed to have improved a bit overnight but she now has a heat blister from holding the hot water bottle on her toes.

After attending to her toes and melting snow we didn't get started until midday, we were determined to reach the SydKap hut before the end of the day as we were promised it had a nice heater which we could use. Some incredible ice bergs all around us as we crossed the frozen sea ice. The snow glistening in the sun was like a rainbow balancing on top of a plain of white diamonds and when the wind picked up later in the afternoon you could actually see the wall of wind as it came towards you from the swirling snow on the surface.

We continued to follow the snowmobile tracks which made pulling pulks a little bit easier but as the snow covered the tracks it became increasingly difficult and by 5pm we were all struggling to break trail and the winds were absolutely brutal. Even tiny things like taking off a jacket or moving the balaclava on my face become a long task with multiple steps.

It's tricky to ensure all the skin on my face remains covered with a balaclava while not making the sunglasses go foggy and instantly freeze up on the inside. So then keeping my nose free to breathe, but not letting it get frozen.

Eventually after a seemingly never ending pull towards the Sydkap hut we manage to get inside and start the fire to warm up and dry some clothes. All feeling pretty broken but so relieved to be out of the cold and warm. My airbed deflates again during the night and I end up on the floor again, and the

following day we spend a long time trying to fix it but can't find the hole anywhere. My lower back is beginning to ache a bit but is manageable.

Day 3 - Tue 22rd March

We sort out all of our food and decide to reduce the total amount to 34 days rather than 38. As we are being picked up in 32 days. So that means our total weight is dropped by a few kg. The stove runs out of fuel in the morning and so the hut starts to get pretty freezing. It's nice to have a day to recover a bit and we decide to adjust our route and to start walking Thursday towards the Stauning alps and try to RV with Paul on the way so I can get a new airbed and Charlotte can be reunited with her sunglasses (which she left on the snowmobile).

Day 4 - Wed 23rd March

Another fairly relaxing day today, we sorted out some more of our stuff and repaired the pulk cross-bar and my gloves. After lunch the sun came out a bit and Charlotte decided it was good enough weather for some drone footage. So we packed up the pulks with some bulky items and pretended to pull heavy pulks on the sea ice for some action photos. We also did a couple of interviews in the hut for the expedition film and looked at the new route plan a little bit more. Charlotte's toes seem to be recovering a bit more now. Unfortunately my airbed is still f**ked. But we're hopefully going to meet with Paul on Saturday morning and he'll give me a spare one.

Another very chilly minus 25°C night tonight, so all clothes in sleeping bag!

Day 6 - Fri 25th March

Very difficult day today, with a long uphill section at the end. We saw loads and loads of polar bear tracks and almost went the wrong way up the valley so had to cut right up a steep incline. Unfortunately no rendez-vous is possible with Paul so we're going to have to make do with what we have.

Day 7 – Sat 26th March

The most difficult day yet, with 4 hours of walking in whiteout conditions and no breaks. The snow started and the wind was brutally strong in our faces. Charlotte struggled to keep up with the pace set by Tom and it got pretty cold while we marched on. We put up the tent in difficult windy conditions but once inside it was a lot warmer. We also saw a bird fly past! In the night a strange distant hum was heard for about 10 seconds, very odd.

Day 8 - Sun 27th March

Today started with bright blue skies and no wind. We woke up about 8am and then left the camp around 1130. Fast start and then a nice steady pace as the head wind picked up a bit. My right foot blister is causing a few problems and hurts more and more. No bear tracks spotted today.

Reached about 10km from Bjornbo glacier and saw a potential first summit. Much colder night than was forecast, feels like minus 25. We also put up the bear fence properly tonight to see if it actually works. First night sleeping in middle of the tent!

Day 9 - Mon 28th March

Triple airbed reinflate night was not cool. A shivering morning and my feet took a long time to warm up once we got started. Eventually left about 1pm and after 4 hrs we reached frozen lake area at foot of Bjornbo glacier. Tom's ski skin got wet and so we set up a camp to let it dry out. Seems a little warmer this evening. Nose is getting sore from constantly dribbling!

The strap on the edge of the tent inner broke off this eve too.

Day 10 - Tues 29th March

A lovely relaxing day without walking today while we all dried things and sorted out our stuff. Charged batteries and did our admin. Cold feet all day which were throbbing when finally warmed up in sleeping bag. I shaved and we had some time to chill in the sun, although it was still about minus 15. Second night of trying the horizontal airbed technique! Worked well last night but quite a few wake ups due air-gap. Definitely better than inflating my own bed all through night though.

We defrosted the face cream and burnt our firepot rubbish. Tomorrow is an early start, about 6.30am and we're going to head to drop off a food cache and then up the Bjornbo.

Day 11 - Wed 30th March

Great progress today, we started early and my feet were unbelievably cold. I thought I may be getting frostbite so I raced off quickly towards the glacier.

We did some drone footage today too and then cached our food, nice to finally drop some weight. Once our pulks are all an even weight distribution we continued up the valley to our camp spot.

Unbelievably deep powder snow where we camped which made it a lot more difficult to set up camp, Charlotte made a cool camp kitchen for dinner too. Plan for tomorrow is a short walking day and then set up a proper base camp!

Day 12 - Thurs 31st March

Late wake up around 10am and a slow start, Charlotte snoring like an absolute monster, we left about 1.30pm and walked until 4.30pm up to the base of the ridge line. Very slow moving due to the deepness and softness of the valley snow. Put up the tent in the same way as before, being careful to make a flat area before pitching tent.

I did the cooking and then bed about 10pm. We initially planned to attempt to climb a mountain tomorrow but that's now changed to Saturday or Sunday due to the dodgy weather and the snow conditions.

Day 13 - Fri 1st April

Today we did a short hike up the mountain to scope potential first summits and to assess snow conditions. We climbed around 1000m and dug a snow pit. The ridge line looks pretty epic and if we managed it then we would get several summits. The ski back down was amazing, the first proper ski descent in Greenland.

Day 14 - Sat 2nd April

We went for a first summit attempt up the other side of the valley today it was a long slog to get there and then a very steep and powdery climb to the ridge line. My feet were absolutely frozen and struggled to keep toes warm.

Charlotte met the limits of her comfort zone and decided she wasn't comfortable continuing along the ridge with the potential avalanche risk. Tom believed that it was safe and it was a semi-awkward conversation on the ridge about turning around 200m from the top. She cried a bit and felt responsible for ruining the attempt chance. We comforted her and all decided to head back down as a team.

I got a lot of snow in my boot and got crazy cold toes so continued back to the camp ahead of the others. Tom had lost the expensive microphone on the walk up and so they spent some time trying to find it but only found the magnetic back part. Annoyingly it's about 3 weeks of audio lost so Charlotte was obviously pretty frustrated but tried to take it in her swing!

I cooked dinner as I got back quickly and tried to warm my feet. Painful throbbing toenails all evening but I guess that's better than being numb. Tomorrow we're going to have a rest day and I'll try and dry my boot liners a bit. The big summit ridge is going to be pretty tricky when we eventually try it!

Day 15 - Sun 3rd April

Me and Tom spent the whole day in the tent recovering our feet and resting and eating lots. Charlotte went off on the trail we made yesterday and searched for the missing microphone for nearly the entire day. We checked in with her on the radio and she seemed fine, and came back to the tent around 6pm but didn't find it. We had another conversation about comfort levels and the risk me and Tom were willing to take to achieve our goals, and Charlotte shared that was worried about the risk of avalanche. Tomorrow is probably going to be a rest again and then Tuesday we will attempt an easier mountain summit to get one in the bag. Toes are still very painful from yesterday but I don't think lasting damage.

Day 16 - Mon 4th April

We had another rest day today and it was very sunny. I think the others were a little annoyed we didn't attempt to go on a ski-tour as it was such good weather. But pushed for the day off to repair our feet a bit more.

Charlotte did some drone filming of the camp and we all dug a snow pit for filming purposes.

I dried out my boot liners and the day went pretty quickly despite not doing anything in particular.

I thought I had repaired the airbed leak but in the evening we found it was still deflating. Very, very frustrating. Will have to try again another time. In the morning we get up at 5am and leave at 7.

Day 17 - Tue (writing on Day 18) 5th April

What an incredible day. We left at 7.10am and got to the saddle of the climb by about 8.40am. (I was desperate for the toilet, so had to find an area on the flat ridgeline before heading up for the climb.) It got increasingly difficult and exposed, with some unbelievably challenging and dangerous parts. Free climbing rock and using the ice axe to traverse icy ridges. We were right on the edge of our comfort zone and it was a massive test for both of us to keep pushing through. I kept falling through the soft snow at times when Tom, being a tiny bit lighter, would be able to just about make it through. There was a constant avalanche risk and at points it was pretty sketchy whether we could or should continue. But eventually... after several hours we managed to reach the summit. Tom got there first and we took a few photos of the flag and each other then began the insane descent. It was just as dangerous going back down and we took it slow and steady. Eventually we got to the bottom which was a HUGE relief. It took just over an hour to get back to camp and we were both exhausted. Charlotte cooked dinner and later I managed to speak to Ileana on the satellite phone which was lovely. We made plans for the next day to attempt another summit due to the nice weather.

Day 18 - Wed 6th April

Today we got up at 7am for a 9am departure. It was a fairly steep hill climb up and a few annoying rocky periods where we had to remove skis.

We summited the second unclimbed peak today at 2.20pm and took a few photos of the top. It was a bit of an anti-climax as it wasn't very peaky but still cool. Charlotte took some great photos and then we took some drone footage. A very fun ski back down, dodging the rocks near the bottom was super fun. I cooked dinner and we agreed to have the next day off as a rest day and then leave the Bjornbo Fri as we are all absolutely knackered,

Day 19 - Thur 7th April

Rest day

Day 20 - Fri 8th April

We left the Bjornbo camp and headed back out to the Schubert dal. Charlotte wanted to climb a little hill on the way out, and so there was a little delay for epic photo purposes.

We found our food in the cache and it was thankfully all fine and then I lead the way back out of the glacier and kept to the left of the slushy melt-water parts and nailed the route. We set up camp back on the flat ground and Charlotte cooked dinner.

Day 21 - Sat 9th April

Only one stove was working and somehow it took hours and hours to melt snow. Tom was wearing the Baffin boots and I felt a bit stuck in the tent getting colder and colder. Eventually we got going and I had very cold feet to start so blasted off quickly. But then got sweaty palms and the gloves were unusably frozen. It was a fairly warm day once the sun made an appearance, but slow going. We put up the tent on a rocky area so couldn't dig down at the ends of the tent for feet or use pegs. I saw a lemming or Arctic mouse in the afternoon which was rather exciting!

Day 22 - Sun 10th April

Late start today as it was unbelievably cold morning and so it was difficult to melt the snow with just 1 stove. It warmed up quickly and we left about 1pm. Charlotte wanted to film Tom getting ready and leaving but didn't tell him, so he was going slowly as he thought he was waiting for me to get ready. Ooops. We had a really good pace and did 4km in an hour and 20. A few rocky and icy patches until we reached the PingDal after 10km. Very slowly headed up from about 150m to 280m from the 600m

total. Charlotte was struggling a bit on the slope, perhaps has a heavier pulk? It was much warmer evening than last night and hoping to get to the top of the ping and complete some good distance tomorrow.

Day 23 Mon 11th April

So we left the camp on the hill on the PingDal and headed up the steep slope. Pretty tough going and was incredibly sweaty. Changed base layer when I got to the top, and Tom said he had a bit of foot pain. I took 5kg fuel from Charlotte's pulk to help even up the loads. When we got to the top of the ping we could see the long rolling hills of the PingDal ahead and the snow was super soft.

I broke trail for the whole day and the wind picked up later in the afternoon. We put the tent up down on a river valley out of the wind. Me and Tom both absolutely stacked it into the snow face first as we got to the bottom of the hill! Pretty tricky day with the strong wind and wind chill!

Charlotte cooked dinner and it was a windy but not too cold night. We heard from Steve that it could be snowy on Friday, so the plan is to smash a few extra miles each day. My toes are still numb and a bit of blister on my little toe but not too bad!

Day 24 - Tue 12th April

Went for a walk into the wind first thing in the morning to use the toilet in the protection of the snow underhang, but it was still incredibly windy. We kept a solid pace in the morning, we hit a crazy wet icy patch after a few hours and had to turn around. I didn't have a shell on and walking straight into the wind was SO unbelievably cold, so I blasted off at top speed to save layering up and then off again. We got up onto the edge of the river bank and continued down the Ping. Me and Tom took it in turns to break trail and set a good speed. We finished about 15.9km away from our starting point. A nice flat camp spot on the river bed and my turn to cook.

Day 25 - Wed 13th April

Unfortunately we woke up a bit late and so I tried to do a speedy breakfast for everyone and we left at about 11:15. I accidentally emptied Charlotte's miso soup rather than filling it with water, massive oops!

I broke trail for a lot of the afternoon and we had a calm morning but then a brutal afternoon wind came from nowhere. Insanely strong but thankfully from behind. I was only in base layer so went fast to stay warm and then waited by the rock wall once around the corner of the valley.

A bit further and we reached a very old hut filled with an old newspaper and various other old bits and pieces. The next challenge was getting up and over the shortcut passage, All-day Dal.

I pushed hard and it was some of the softest and most challenging snow conditions going up the hill ever seen. Incredibly soft powder with every step combined with a fairly steep incline made it so hard to break trail. We were absolutely ruined at the top from doing the whole hill, and we pitched the tent around 7pm in the last remaining sun.

Tom did the cooking while I did the airbeds and Charlotte sorted out the inside of the tent. Only 50m more of climb and then downhill all the way to the hut. I called Ileana for 5 mins to wish her luck for her first band 5 shift tomorrow. Feet are aching but generally doing OK! Woo!

Day 26 - Thurs 14th April

Tom was a keen early bird and got up at 7.00am and started cooking, then after eating I went outside to do the rest of the packing up stuff.

We eventually left at 10am and headed up the final 50m climb to the saddle of the shortcut, the views at the top were incredible but the snow was insanely soft and difficult. We headed down the valley and my stomach hurt quite a lot so we had to pause halfway through the day for toilet breaks and felt a bit better.

Once we got to the bottom we all tried to identify the end hut but it was pretty tricky and invisible! The ice crossing took forever as the snow was all super soft, with a great lead from Tom.

Finally arrived about 6pm and we were super excited to see how much food and supplies were inside! Comfortable seats and amazingly.... a small heating stove! We ate a tube of pringles between us and cooked in the hut. Such a great feeling to be inside and totally warm! Feels a bit like the end is finally here now, but still a week to go before pick up day!

Day 27- Fri 15th April

Late wake up in the hut and a really terrible night sleep. Too hot then too cold and then lots of thinking about totally pointless things, like the garden at home and how to build my own hut at the end of the garden for cycle tourers and for airbnb.

We got up about 1030 and had a day of eating leftover food in the hut and not venturing very far. It's been snowing for most of the day and there is terrible visibility.

Day 28 - Sat 16th April

I cooked porridge for breakfast and we had another day in the hut as it's still snowing. We played some card games in the afternoon. And all listened to some audio book and podcasts. We had the stove on for quite a long time and the porch must have got above 0 as it smells a bit of fish and there are now little puddles around.

Day 29 – Sun 17th April

Easter Sunday and we are still stuck in the hut with dodgy weather outside. We discussed what we were going to do for the day and then in the afternoon we went for a ski tour for about 45 minutes to the GPS coordinates which Paul had given us just on the off chance there was another hut that we had missed. It was also an excuse for us to do something with the day and actually go outside.

Unsurprisingly there was no bonus hut, and no polar bears, so we returned to the main hut with a strong headwind making it rather chilly, as I forgot to bring a buff!

We played cards for a bit in the afternoon with some cheese puff crisps and listened to some more audiobook.

We are running a little low on our battery charge with the cloudy weather so need to keep an eye on my electrons!

Weather hopefully improving on Tuesday!

Day 30 - Mon 18th April

Another uneventful day. Cards, eating, music, brief walks outside on a small ski tour. Walked to a nearby iceberg.

Day 31 - Tues 19th April

Later in the day we went down to the sea ice and did a bit of drone filming and put up the tent for some birds eye shots of the camp. We burnt all the Firepot rubbish down on the sea ice but kept all the exped food bags as the metal pouches don't burn.

It was a lovely warm evening outside and I ate dinner outside watching sunset on my pulk. Still no polar bears spotted!

We played shebally card game for hours in the evening. Pretty chilled day!

Day 32 - Wednesday 20th April

Today we went on a short tour up the mountain behind the hut. The snow was quite 'avalanchey' on the way up so we went back on ourselves a few times before we got up to a mini summit. Charlotte had forgotten the blades for the drone so we made do with phone and GoPro filming. It was amazing snow near the top as we 'dropped in' but halfway down I scraped through a rocky section and bruised my left hip as I turned hard through a hidden rocky section. Great view from the top of the ridge over the sea ice.

In the afternoon we had a late lunch, sitting out on the pulks enjoying the view.

Me and Tom relaxed in the hut while Charlotte went off to see the nearby iceberg and do some drone stuff. Then in the evening I had another Firepot meal and we played cards again. Charlotte randomly gave me a small bag of caramel nibs while I was having dinner, jackpot. Tomorrow we're going to do the interviews for the documentary.

Day 33 - Thurs 21st April

Today I had an interview with Charlotte about what happened during the trip so far, it took a couple of hours but was quite fun going over everything. After that I went for a solo tour to the iceberg out in the sea ice. It was huge, incredibly beautiful and so awesome to just walk around it in the silence of the arctic. I have been eating a LOT lately, today I had 3 fire pot meals and a breakfast, and several bars. So much food!

Pretty chilled out day, tomorrow we may go for another tour and Tom needs to finish his interview. Found out that our pick up is now Sunday not Saturday, bit annoying but better to be in hut than in the tent!

Day 34 - Fri 22nd April

I went for a long 3 hr walk by myself while the other two climbed the old route up the hill to where Tom built a small jump. They spent a few hours up there and I saw a lovely miniature iceberg and listened to an audio book.

Then when I got back from walking I sat on the roof and just listened to the sounds of Greenland.

The day passes so quickly here!

In the evening we played more cards and ate another bag of old cheese puffs.

Day 35 - Sat 23rd April

Last day today! Tom cooked breakfast and then we headed off on a ski tour up one of the mountains. Our skins were a little wet and the snow was slushy so the skins would constantly get stuck with snow and make it super hard work to take a step. It felt like carrying a pulk again as we headed up the mountain in a gully.

Took a couple of hours to get to the top and we had a few drone shots and then skid back down.

I fell over while trying to straight line ski back to the hut, just caught an edge of my ski and flew forward! All recorded on GoPro.

Early lunch and then I went to burn a final round of rubbish on the frozen sea ice. Tom interviewed Charlotte and I had another meal for lunch as I was still peckish. We finished the evening with shebally and finished our leftover chocolate rations.

Day 36 – Sun 24th April

The snowmobiles arrived at 8:20am a little earlier than planned. Super exciting to see the 4 of them appear with their lights on. We packed all our stuff onto the backs and got changed into the overalls and helmets and headed on the 5 hour journey back.

The views were absolutely incredible, that first valley was insane.

After an hour we stopped at an old Chinese mining settlement which had been abandoned and had a little explore, very cool to see it had just been left completely untouched.

We carried on a little further and stopped every hour, unfortunately didn't see any polar bears but it was such a good feeling to finally reach the airport.

We had some tea and lots of unhealthy snacks as soon as we arrived. Then packed all our stuff into bags for shipping back to the UK.

We spent the afternoon in the Weatherhaven and had some of Paul's exped foods for dinner as well as whisky and some cheese on toast!

We were very kindly given a shipping container and bunk beds to sleep in so we didn't have to put up the tent. Which meant we could relax a bit in the afternoon and absolutely pig out on the food they had in the containers.

We met Jason, a pro climber who works for Paul and is friends with Alex Honnold and knew Dean Potter and a few other epic climbers. He has done El Cap a few times and in total has spent over 9 months of his life living on the wall! We fly tomorrow about 1pm. Can't wait to get out of Greenland and back to Ileana.

Why am I here?

Well for me I think there are 3 reasons:

The first is to really challenge myself. to push myself right to the edge of my comfort zone in an incredibly harsh environment I'm unfamiliar with.

The second is to be a truly pioneering explorer. Travelling to a remote part of the world and climbing unclimbed mountains, seeing things which haven't been seen in human history.

Finally but equally important, to demonstrate that with the right choices, expeditions such as this can still be done sustainably. And that if we're going to come and appreciate these beautiful but incredibly fragile environments we need to do everything we can to fight for the climate in our home lives. Through both personal choices, but more importantly collective action.

End of Diary

Top tips to future expeditions (*and hard-won lessons in the field*)

Note: This was our first major expedition, and in spite of all the planning, training, preparation, and talking to people who have conducted similar trips before, there were certain things we discovered only by doing (or not doing). Here are our hard won top tips, with a section below dedicated to female travellers:

- **Take 1 extra air mattress.** They don't weigh a lot and spending 34 days sharing 2 between three people was awful!
- **Get heavy duty spare boots,** we had 1 pair between three hoping that snowboard boots would be fine in the evening. They weren't.
- Take the **very best kit you can afford**, ideally wherever possible kit that is rated above the conditions you anticipate. Reach out to anyone you can beg or borrow from too.
- **Food variety is key;** unless specifically sponsored by an expedition food maker, take a good mix, and spend the time when building your day snack packs to include as many different things as you can. Chocolate and nuts for 40 days is not much fun.
- Stomach problems are quite possible, **take extra toilet paper and Imodium.**
- **Minimise stops during the day** and plan those which you do take. Layering up and down during a stop is time consuming and increases exposure to the elements.
- **Contact other expeditions before,** or anyone else you know who has undertaken similar trips. The Arctic Club for example has a wealth of knowledge and people are happy to help. If you email any of the three of us we would be more than happy to help too in any way that we can
- **Beware melt ice** that looks a safe bet for fast and easy travel.
- Try for every layer in your system to choose garments that **zip all the way up** rather than have to be put on overhead (except base layer).
- **Synthetic merino** (a blend of both materials) as base layers and underwear work very well in arctic conditions.
- Be prepared to **change and update your expedition plans every day.** The conditions in the arctic will be the final judge of what you do and how you do it.
- **Nalgene bottles,** with the wide opening are by far the best. They can be used at night as hot water bottles and wee bottles too. Avoid using any thermos or other water containers with narrow openings. (Pouring hot water from a stove with big mitts on is near impossible, and leads to spillage and possible burns.
- **Moisture management** is always a struggle with tents, sleeping bags, clothes etc. Skis/splitboards in the ground with a climbing rope make a pretty good drying line in the sun.

- Get a **sleeping bag** that is a good size larger than your actual body – a lot of stuff will be living in there with you night after night. Synthetic sleeping bags are better at maintaining warmth when wet, but they are heavier. Charlotte and Tom often pulked through the day with their down sleeping bag on top of the pulk in the sun to manage the moisture issues.
- **Music and audio.** Spotify downloads don't work after a couple of days without phone signal as they can't check the rights. Audiobooks on Audible worked for the entirety.



Female specific advice:

- Plait hair into two tight hair braids to keep from getting knotty.
- Tuck any hair around the face away lest it freeze and cause much misery (also applicable to men with long hair)
- Norethisterone delays monthly cycle which is HIGHLY HANDY in the arctic environment
- Eco wet wipes to keep yourself fresh
- Wide mouthed pee bottle (eg nalgene) for tent. Shewee ('extreme' which has an extension) is useful in storms to avoid getting everything out but can still be a faff with layers. Also - practice - you don't want to pee in your thermals
- Always have Chapstick on hand for dry lips

A Final Word.

Finally, we realise the immense emotional toll that these kinds of expeditions take on those who care for us and we cannot thank them enough for their support and patience over the past 4 years. An opportunity to visit such a harsh and remote environment is a true privilege and one which the team hope will inspire future adventurers. Whatever happens, it is a trip we will never forget.

(If you need any support in the planning of your own expedition please contact tomreynolds396@gmail.com and jamesandpie@gmail.com If we don't reply, email again, then again - we will eventually reply... on arctic explorer's honour)

