

A person is standing on a large, flat, grey rock ledge that juts out over a deep valley. Below the ledge, a blue lake is visible, surrounded by dark, forested mountains. The sky is bright blue with scattered white clouds. A single bird is seen flying in the upper left portion of the sky. The overall scene is a dramatic, high-altitude landscape.

**NORWAY  
SOLO  
TREKKING  
EXPEDITION  
2025**

**SPONSORED BY IMPERIAL COLLEGE EXPLORATION BOARD, LORD MAYOR'S TRUST  
AND ROYAL COLLEGE OF SCIENCE ASSOCIATION**

# Table of Contents

<b>Table of Contents</b> .....	<b>2</b>
<b>Abstract</b> .....	<b>4</b>
<b>Introduction to Expedition Objectives</b> .....	<b>5</b>
General Objectives.....	5
<b>Overview of Location Map</b> .....	<b>5</b>
<b>Expedition Members</b> .....	<b>7</b>
<b>Daily Journal</b> .....	<b>8</b>
Overview .....	8
Preparation.....	10
1 <sup>st</sup> of July.....	10
2 <sup>nd</sup> of July .....	11
3 <sup>rd</sup> of July.....	12
4 <sup>th</sup> of July.....	13
5 <sup>th</sup> of July.....	15
6 <sup>th</sup> of July.....	17
7 <sup>th</sup> July .....	17
8 <sup>th</sup> July .....	19
.....	20
9 <sup>th</sup> of July.....	20
10 <sup>th</sup> of July.....	21
11 <sup>th</sup> of July .....	22
12 <sup>th</sup> of July .....	23
13 <sup>th</sup> of July .....	25
14 <sup>th</sup> of July.....	26
15 <sup>th</sup> of July.....	28
16 <sup>th</sup> of July .....	30
17 <sup>th</sup> of July .....	31
18 <sup>th</sup> of July.....	32
.....	33
19 <sup>th</sup> of July .....	34
20 <sup>th</sup> of July .....	34
21 <sup>st</sup> to 24 <sup>th</sup> of July .....	35
<b>Logistics</b> .....	<b>36</b>
Training.....	36

<b>Travel Arrangements .....</b>	<b>36</b>
<b>Accommodation .....</b>	<b>36</b>
<b>Food .....</b>	<b>36</b>
<b>Communication .....</b>	<b>36</b>
Funding .....	36
<b>Equipment (total weight averaged 20kg, including food and water) .....</b>	<b>37</b>
Camping .....	37
Toiletries.....	37
Clothes .....	37
First Aid Kit .....	37
Electronics .....	37
Miscellaneous .....	37
<b><i>Conclusions (recommendations for future expeditions).....</i></b>	<b>38</b>
<b>Transportation .....</b>	<b>38</b>
<b>Water Filtration .....</b>	<b>38</b>
<b>Camping and Cabins .....</b>	<b>38</b>
<b>Wildlife.....</b>	<b>38</b>
<b>Food .....</b>	<b>38</b>
<b>Acknowledgements .....</b>	<b>38</b>
<b><i>Risk assessment .....</i></b>	<b>39</b>
<b><i>Emergency incident plan .....</i></b>	<b>41</b>
<b><i>Budget.....</i></b>	<b>42</b>

## Abstract

In July 2025, I undertook a three-week solo trekking expedition across Vestland, Norway, focusing on the fjord regions of Nærøyfjorden, Aurlandsfjorden, and Hardangerfjorden, culminating at Trolltunga. The journey combined wild camping (9 nights), campsites (5 nights), and self-service cabins (3 nights), with daily hikes averaging 10–20 km carrying a 20 kg pack. In total, I covered 184 km with over 11,000 m of ascent and descent. The expedition aimed to explore Norway's natural landscapes in a budget-friendly, self-supported way while developing outdoor survival skills, resilience, and independence. Challenges included poor trail conditions, heavy rain, insects, and physical fatigue, while highlights were the isolation of the fjords, encounters with fellow hikers, and extended periods of immersion in remote mountain terrain. The experience demonstrated the viability of long-distance solo trekking in Norway and provided insights into preparation, logistics, and risk management for future expeditions.

## Introduction to Expedition Objectives

In July 2025, this solo trekking expedition took place in Vestland, Norway, covering the regions around Nærøyfjorden, Aurlandsfjorden, and Hardangerfjorden. This region is full of mountains and fjords - long, narrow, and deep inlets of the sea with steep sides, typically formed by glacial erosion. The expedition lasted approximately 18 days and consisted of a combination of various trails found on the AllTrails app. Most of the camping was in the wild (9 nights) with 5 nights at campsites and 3 nights at a self-service cabin.

The focus was on budget-friendly, nature-immersive exploration, with wild camping, long-distance hiking (10-20 km per day), and occasional stays in basic cabins and campsites to shower and charge devices.

## General Objectives

- To explore Norway's fjords and mountains through self-supported trekking.
- To practice wilderness camping and outdoor survival skills.
- To document the experience through sketches and photography.
- To undertake a physically and mentally challenging solo expedition over roughly three weeks.

## Overview of Location Map

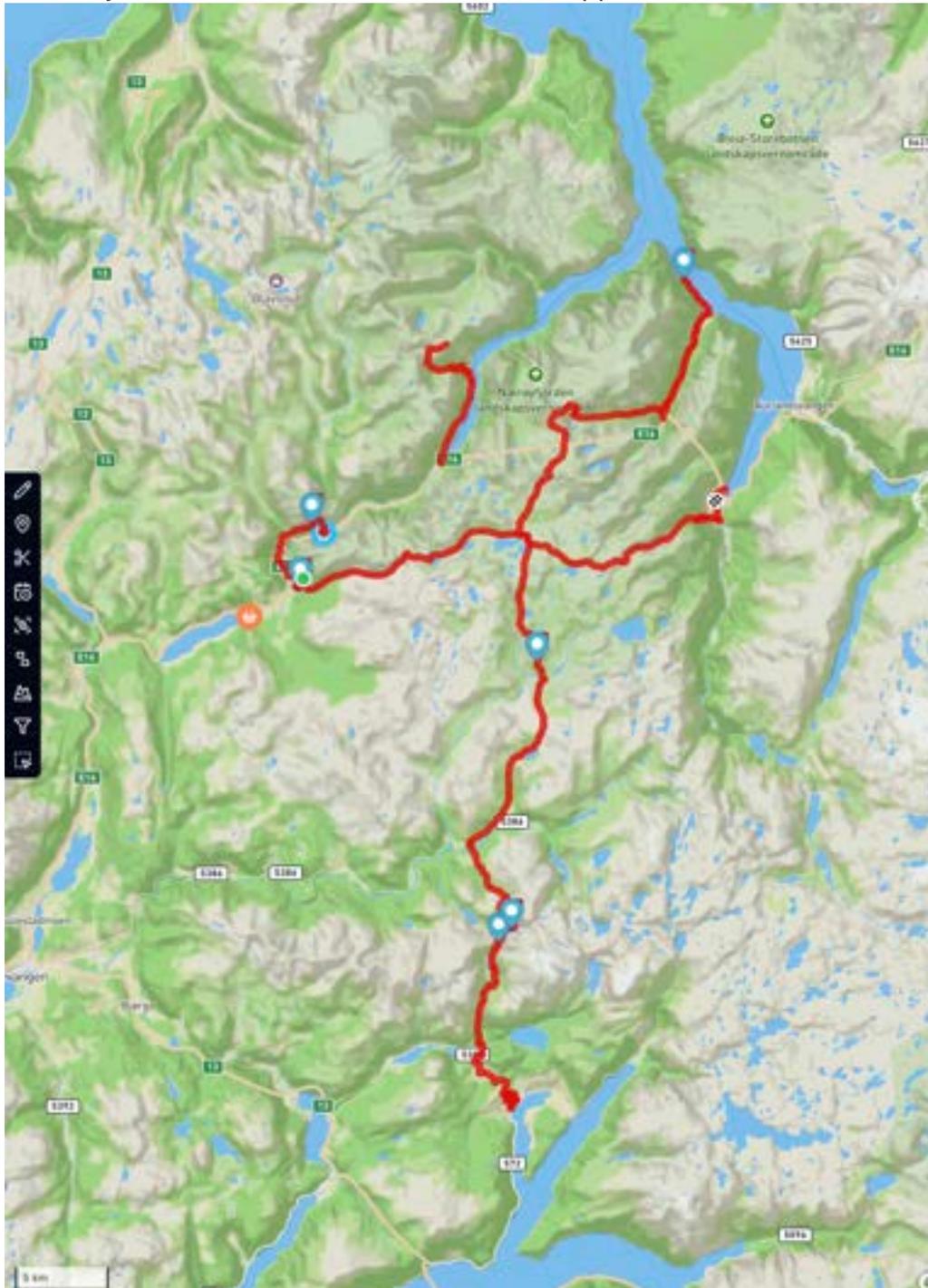
To reach the location of the trails was reached after a 2-hour bus drive from Bergen, the second largest city in Norway.



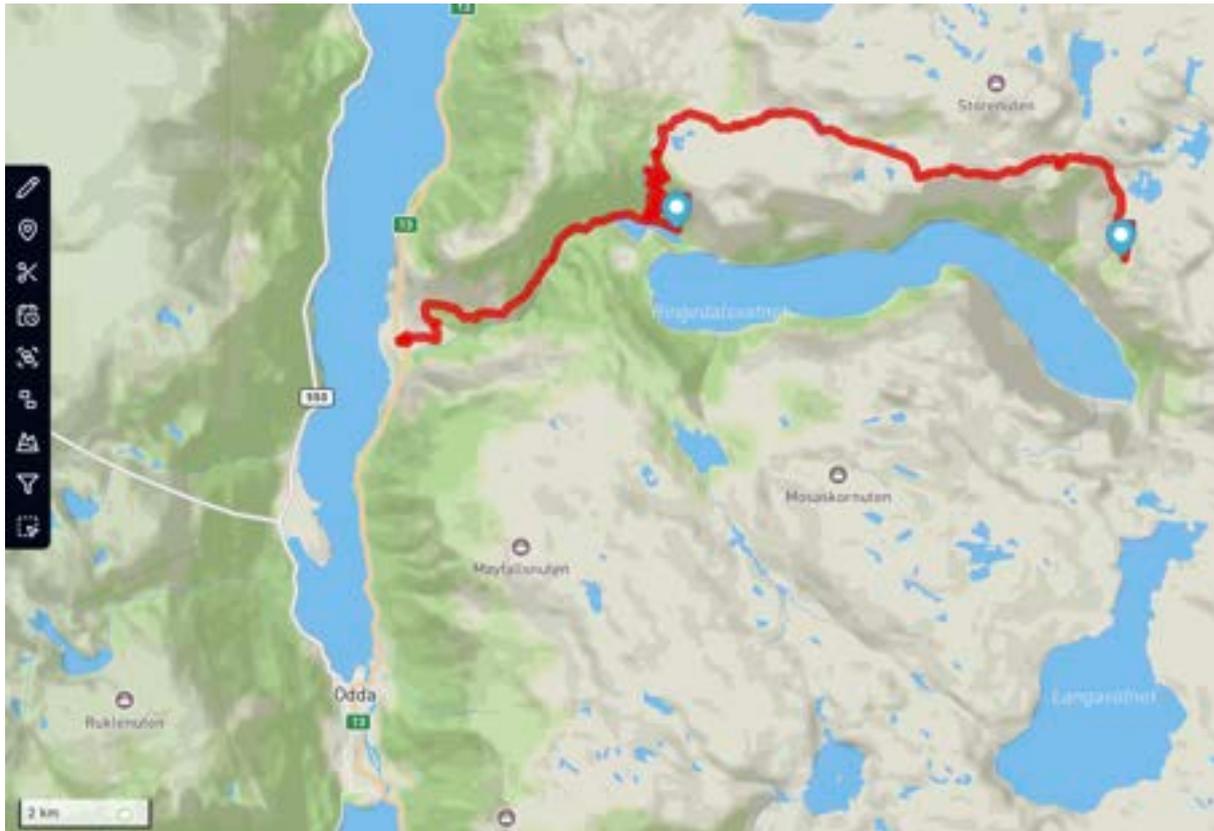
*Map of the whole of the expedition in relation to the nearest large city, Bergen. The red trails indicate where I walked, and the blue way points indicate where I wild camped.*

The first two weeks of the trail, as shown in the map below, were largely focused on the Nærøyfjord area, which includes Nærøyfjorden, Aurlandsfjorden, and the surrounding mountainous landscape. Nærøyfjord was Norway's joint first area to be added to UNESCO's World Heritage List based on its natural heritage in 1946. I finished this cluster of trails southwards of the Nærøyfjord area in Ulvik.

The aim of the last four days of the expedition was to reach the famous cliff edge called Trolltunga, which translates to "troll's tongue". This section was far busier and more touristy, with easier terrain too. After the first two weeks of the expedition, my body was relatively burnt out, so the easier terrain was appreciated.



Map of the first two weeks of the expedition in the Nærøyfjord area. The red trails indicate where I walked, and the blue way points indicate where I wild camped.



Map of the last 4 days of the expedition near Trolltunga. The red trails indicate where I walked, and the blue way points indicate where I wild camped.

## Expedition Members



**YAAR SAFRA – 23 Years Old**

Email – [yaarsafra@gmail.com](mailto:yaarsafra@gmail.com)

## Academic Background

2021 - 2025 MSci Physics, Department of Physics, Imperial College London

## Experience

Dec 2024 3-day solo trek through the Eastern end of the North Downs Way.

March 2023 10-day solo trek through the South Downs Way.

June 2022 3 days of camping and hiking in White Mountains National Forest in New Hampshire, USA, with my younger brother.

2018 Silver Duke of Edinburgh Award

2017 Bronze Duke of Edinburgh Award

## Daily Journal

### Overview

Date	Map Number	Details	Walking Distance (km)	Ascent (m)	Descent (m)
1st July		Landed in Bergen at 23:55, arrived at City Hostel Bergen.	N/a	N/a	N/a
2nd July		Bought and packed food for the next 4 days. Bought gas cannisters and other miscellaneous things. Walked around Bergen once the errands were finished.	N/a	N/a	N/a
3rd July		Took a 2.5-hour bus from Bergen to Stalheim and began the trail towards Jordalen. This trail was well kept up to the abandoned cotters' farm, Nåli, but beyond it, the trail slowly worsened until it completely disappeared. This was easily the most dangerous part of the whole expo, as it was going along the side of a steep mountain range. I turned around and camped overnight at Nåli.	6	435	250
4th July		Walked back towards Stalheim and took a bus along the E16 motorway to the road that headed towards Jordalen. One part of the road continued to Jordalen through a tunnel (meant only for vehicles), and the second was an older road, which I later found was completely overgrown and blocked. Thus, I gave up on reaching Jordalen and took a bus to Gudvangen and hiked to the	12	350	200

		campsite at Bakka to stay there two nights, right on Nærøyfjorden..			
5th July		I left most of my things at the campsite and hiked up to Rimstigfjellet. This day had the worst weather in the expo, with constant rain and fog, unfortunately blocking any view.	13	1630	1630
6th July		I walked back to Gudvancen and got a ride along the way. Restocked on food and then took a bus back to Stalheim. I walked slightly westwards near the start of the trail towards the self-service cabin (Grindaflethytta) and found a place to camp in the forest.	5	120	200
7th July		Walked the trail towards Grindaflethytta. Arrived at 22:30.	15.4	1140	500
8th July		Decided to stay another day at the cabin (which I had to myself) to rest, and wash and dry my clothes.	0	0	0
9th July		I decided to alter my original plan and join Levin (someone who camped overnight near the cabins), towards Flåm (original plan was to head to Undredal). I camped overnight at Flåm Campsite.	15.2	681	1,754
10th July		Restocked on food, and took the bus from Flåm to Langhuso kryss, the stop along E16 which leads to Undredal. I then hiked to Undredal and camped at Stokko for two nights, right on Aurlandsfjorden.	9.8	330	600
11th July		Rested for a day.	0	0	0
12th July		Walked back through Undredal and back to Langhuso kryss (got a ride along the way), where a trail that also leads to Grindaflethytta begins. I ended up reaching Grindaflethytta at 00:30. This was easily the hardest day.	21.6	1,900	900
13th July		Woke up late, washed and dried clothes and left southwards at 18:0 and found a place to camp along the way at 22:30. Initially took the wrong trail, so I had to backtrack towards the cabin.	10.8	560	590
14th July		Continued south past Ljosanbotn and camped along the way.	21.3	1260	1475
15th July		Continued South to eventually reach Ulvik, where I camped at Ulvik camping, right by Ulvikafjorden, a subbranch of the larger Hardangerfjord.	15.6	650	1470

16th July		Restocked on food, rested and planned what to do for the remainder of the days. Slept at the same campsite.	1.5	0	0
17th July		Took a bus to Tyssedal and walked up to Skjeggedal and found a place to camp beyond the car park (P2) near Trolltunga.	7.2	620	250
18th July		Walked up to Trolltunga and camped a little past it, where the incredible view was still visible.	14.2	1190	400
19th July		Headed back to the same camping spot in Skjeggedal.	14.2	400	1190
20th July		On the way to Tyssedal, I got a ride to Odda. I got some more food and then took a few buses to Oslo. Stayed at a hostel called K7 Hotel Oslo for 4 nights.	1.2	0	0
21st to 23rd July		Enjoyed Oslo.	N/a	N/a	N/a
24 <sup>th</sup> July		Took a flight back to London in the morning.	N/a	N/a	N/a
		TOTALS	184	11,266	11,409
		DAILY AVERAGE (during expo, including rest days)	10.8	663	671

## Preparation

I prepared 6 oat breakfasts made from oats, milk powder, cinnamon and in some almond butter in a separate bag. I also brought many nut and oat bars with me to save money.

## 1<sup>st</sup> of July

Shortly before landing in Bergen Airport, Flesland at 23:55, I got a quick glimpse of the dramatic landscape of Vestland, Norway. Steep and jagged hills cut through the shoreline, covered in spruce and Scottish pine. This landscape strongly reminded me of Maine, USA, near the coast, where I used to sail with my Grandfather when I was younger. After collecting my backpack, I took a bus to City Hostel Bergen, arriving at approximately 01:00.

## 2<sup>nd</sup> of July

I woke up and looked out of the window of the shared bedroom and was taken aback by the steep hills surrounding the city, something that felt very alien to me growing up mostly in southern England, and in Tel Aviv prior. I also felt very fortunate to for sunny and dry weather in the rainiest city in Europe.



I needed to buy and sort dinners, lunches for 3 to 4 days (as I already brought and packaged breakfasts and snacks). I decided on couscous mixed with dehydrated flavour packets (such as Thai curry and Mexican chilli) with salami slices, dried edamame, tomato purée, and some dehydrated vegetable packets I brought with me. This meal only required soaking in hot water, which was ideal for saving gas. For lunch, I bought some hard, seeded crackers, called knekkebrød, which I later discovered was a very Norwegian food that was found in every grocery store. Breakfast was  $\approx 800$  kcal, Lunch was  $\approx 1000$  kcal and dinner was  $\approx 1200$  kcal. I also bought some gas cannisters and other miscellaneous items.



With the time I had left, I explored the centre and the harbour of Bergen.

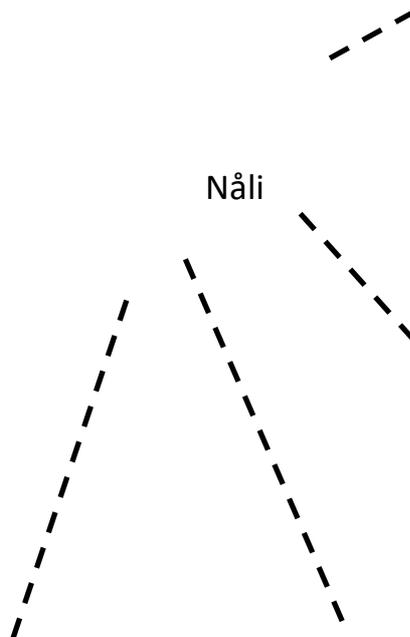


## 3<sup>rd</sup> of July

In the morning, I took a 2.5-hour bus from Bergen to Stalheim and began the trail towards Jordalen. The landscape quickly became more extreme as we left the city with snowy mountains and fjords.

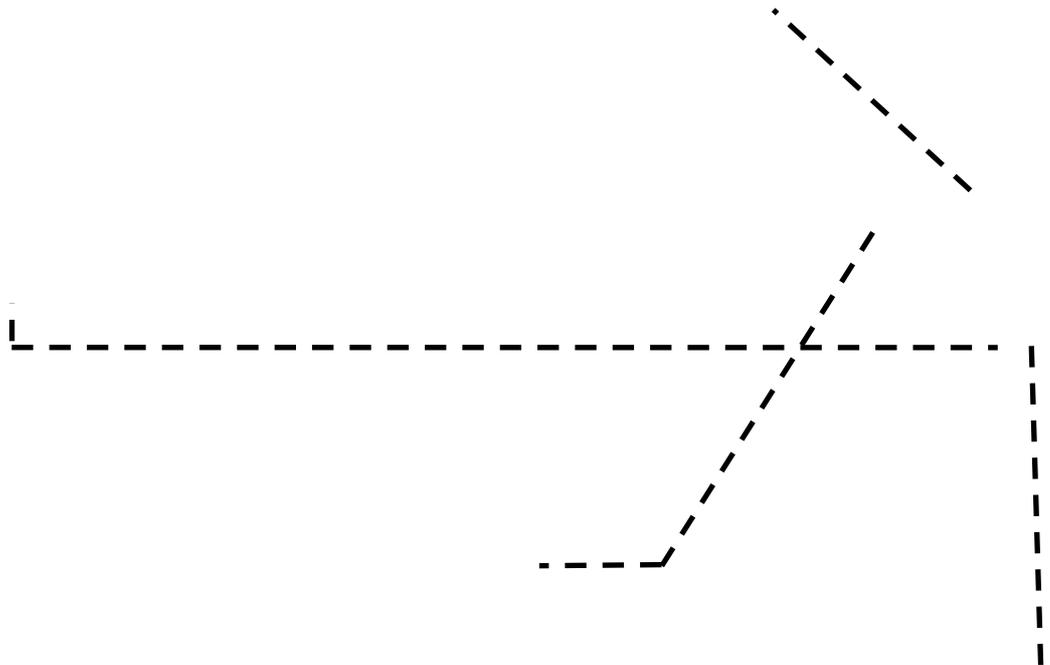
The image on the right shows the bus stop along the E16 motorway. The trail began past the hotel marked on the sign

This trail was well kept up to the abandoned cotters' farm, Nåli, but beyond it, the trail slowly worsened until it completely disappeared. Multiple times, I lost the trail and had to use my phone to find it again by going up or down the steep hill. This was easily the most dangerous part of the whole expo, as it was going along the side of a steep mountain range. Frustrated, I eventually turned around and camped overnight at Nåli. From this, I learned that I should only follow trails that are recorded on apps like AllTrails, as an unkept path can be dangerous and time-consuming. Confusingly, this unkept trail was marked on most maps as a dashed line but was not shown on AllTrails.

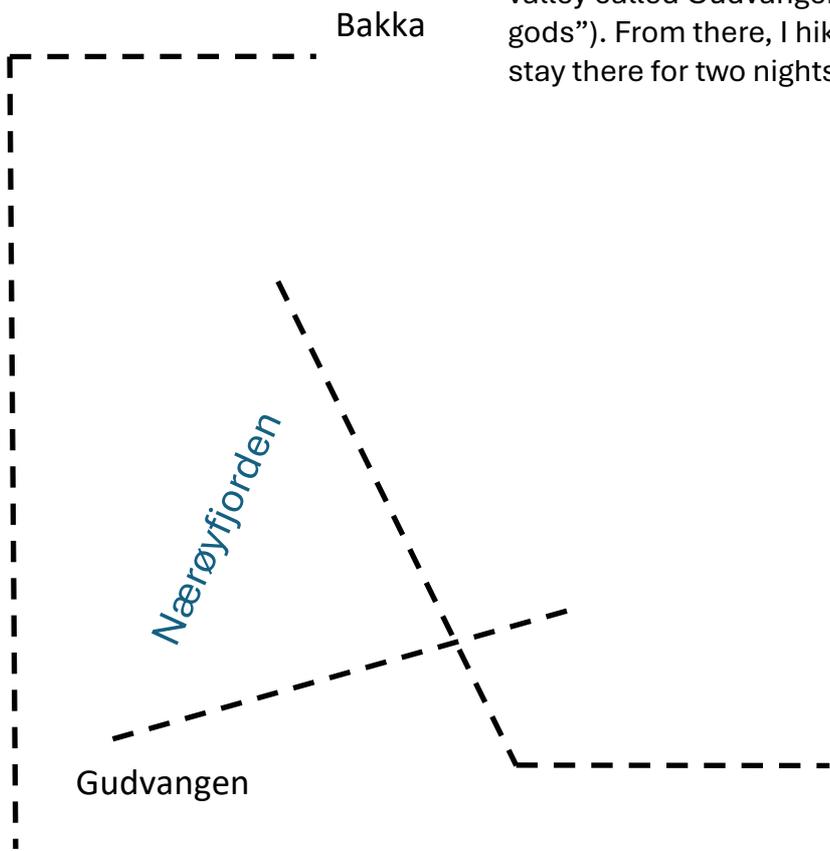


## 4<sup>th</sup> of July

On this day, I decided to stick to the original plan of reaching Jordalen, but this time along one of the roads leading up to it. I walked back to Stalheim and then took a bus along the E16 motorway to the road that headed towards Jordalen. One part of the roads continued to Jordalen through a tunnel (meant only for vehicles), and the second was an older road, which I later found was completely overgrown and blocked. As shown in the image below to the right. The image below on the left shows the impressive Jordalsnuten.



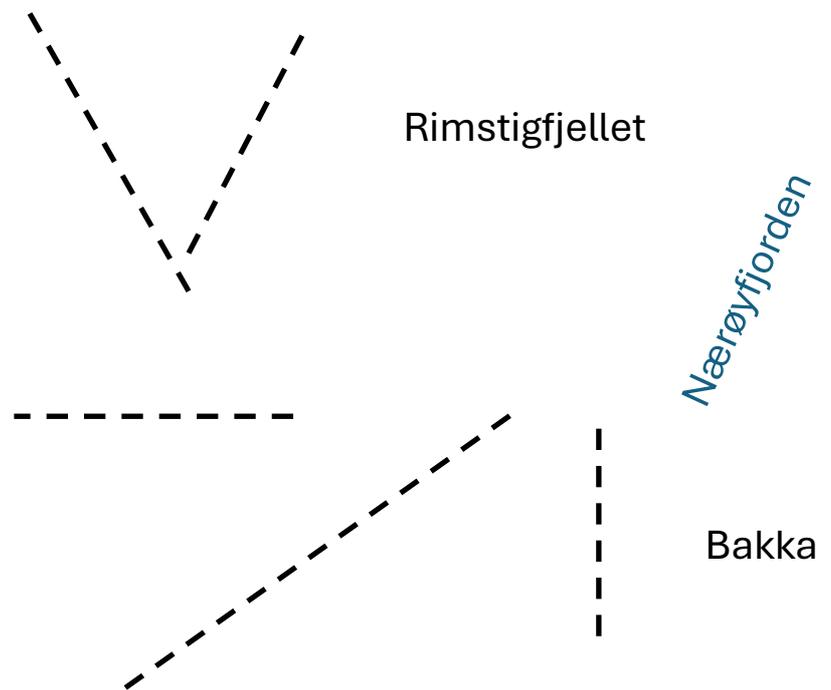
Thus, I gave up on reaching Jordalen and took a bus to a valley called Gudvangen (translated as “valley of the gods”). From there, I hiked to the campsite at Bakka to stay there for two nights, right by Nærøyfjorden.



## 5<sup>th</sup> of July

This was the first and rainiest day I experienced in the expo, with low clouds visible along the mountains.

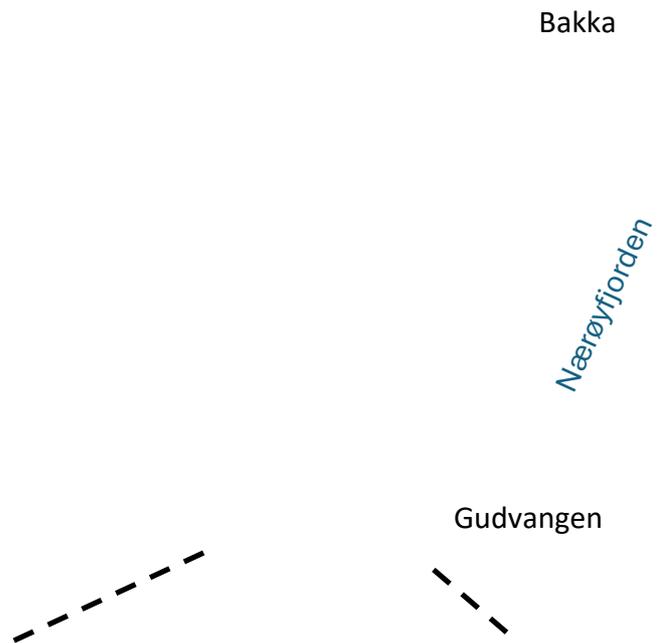




I left most of my things in my tent and hiked up a steep trail to Rimstigfjellet. The trail initially started with a dense forest, which eventually opened up to a colder and muddy tundra with birch trees near the large river flowing by. Above 1000m altitude the tundra was more sparse and rocky, with only shrubs and smaller plants, and moss covering the land. The dense clouds blocked any hope I had of a view at the summit so I quickly returned once I reached Rimstigfjellet. Nonetheless this hike was a good warmup for rest of the expo. Then I washed my clothes and left them to dry overnight.

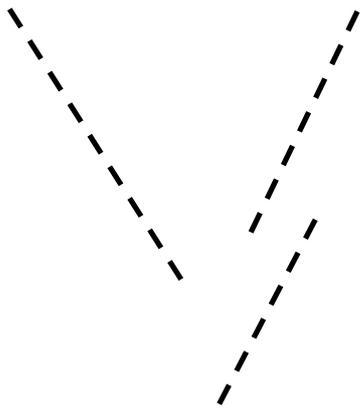
## 6<sup>th</sup> of July

I walked back to Gudvangen and got a ride along the way. Restocked on food and then took a bus back to Stalheim. I walked slightly westwards near the start of the trail towards the self-service cabin (Grindaflethytta) and found a place to camp in the forest, shown in the image below.



## 7<sup>th</sup> July

Walked the trail towards Grindaflethytta, which was marked with red "T"s on rocks. I slept quite poorly, which slowed me down greatly. Eventually, when I arrived at the two self-service cabins at 10:30, I entered the larger one (8 beds), where some people were getting ready for bed. I decided to sleep at the other cabin (6 beds) as it was empty. Here, I could chop wood to warm up the cabin with a furnace. It felt like my own holiday home, surrounded by snowy mountains and a large reservoir. After heating the cabin, eating some food from the pantry and setting up my bed, I fell asleep around 01:00.



Grindaflethyttu

8<sup>th</sup> July

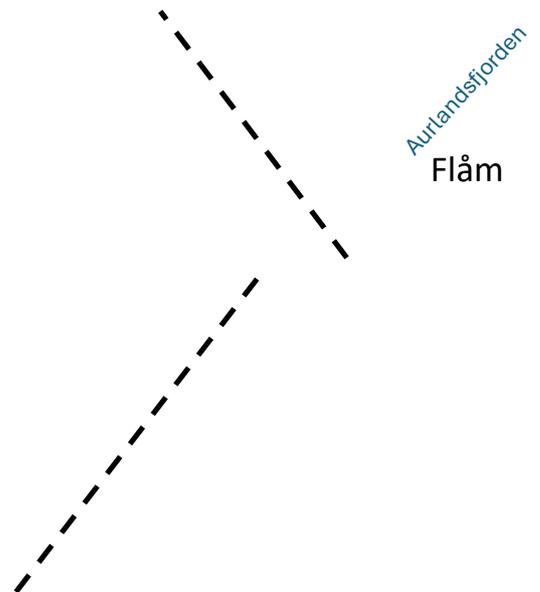
Decided to stay another day at the cabin to rest and wash and dry my clothes. The image below is the view from the nearest peak north of the cabins, and the one below that is the cabin I slept at.



## 9<sup>th</sup> of July

I was convinced by Levin, a 22-year-old Norwegian who camped overnight near the cabins, to join him on the hike to Flåm to finish his three-day hike. To start this trail, you had to cross a river where a small bridge had collapsed; fortunately, this was the toughest obstacle of the hike.

Grindaflethytta



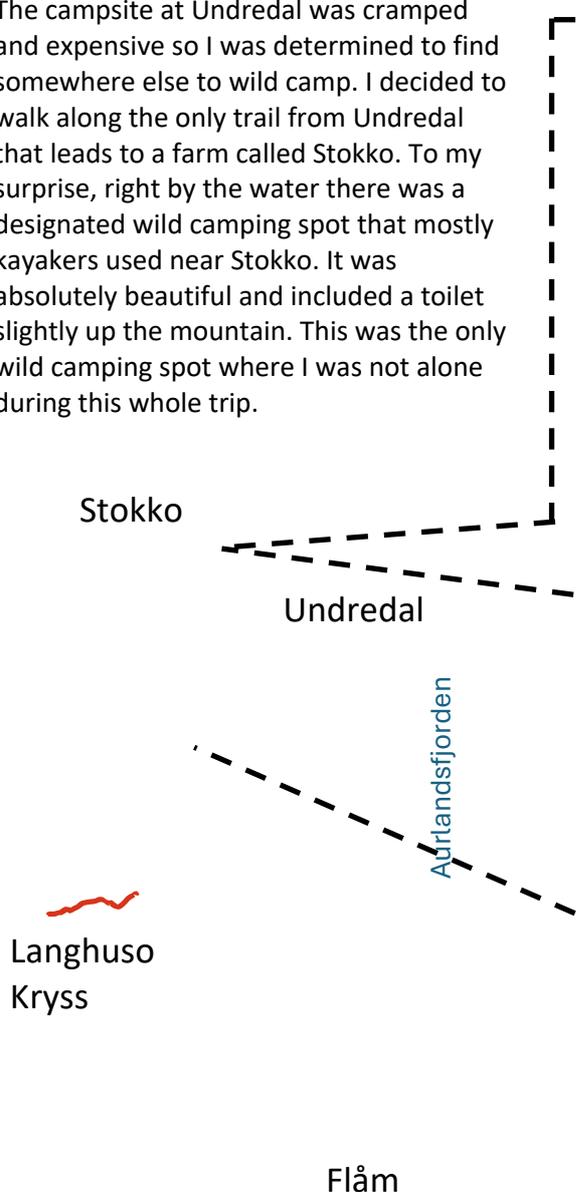
It was refreshing to have company and converse with someone during a hike for a change. When we reached Flåm, I found a campsite (as there was no campable land that was not private property there) and parted from Levin. He headed back to Bergen and generously left me with two dehydrated meals he hadn't used, thanks, Levin!

## 10<sup>th</sup> of July

Left that campsite in the morning and relaxed by Aurlandsfjorden with a German called Lukas who I met at the campsite. He just finished an 8-day hike in Jotunheim, a region in Norway with the highest mountains in Scandinavia. We relaxed by the Aurlandsfjorden as we both had plenty of time to kill. I restocked on food and the said goodbye to Lukas, who also gifted me two dehydrate dinners. Thank you, Lukas!

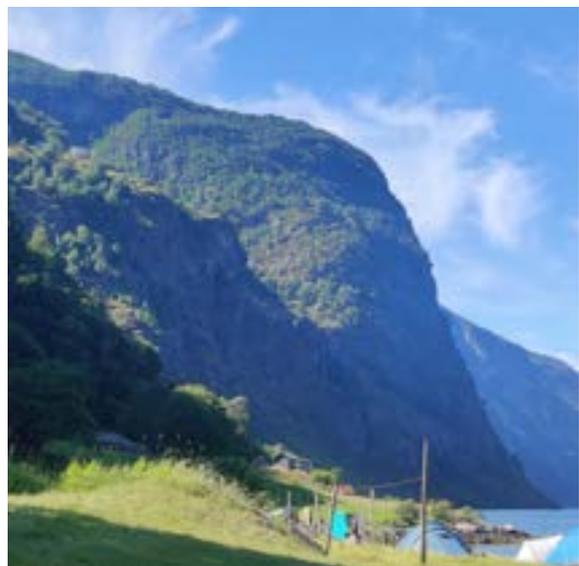
Then after some delay I took the bus from Flåm to Langhuso kryss, the stop along E16 which leads northwards to Undredal.

The campsite at Undredal was cramped and expensive so I was determined to find somewhere else to wild camp. I decided to walk along the only trail from Undredal that leads to a farm called Stokko. To my surprise, right by the water there was a designated wild camping spot that mostly kayakers used near Stokko. It was absolutely beautiful and included a toilet slightly up the mountain. This was the only wild camping spot where I was not alone during this whole trip.



## 11<sup>th</sup> of July

I decided to rest this day and enjoy the 30° heatwave by the water, as the days to come would be the most intense thus far. I also spent time drawing the landscape and people around me.

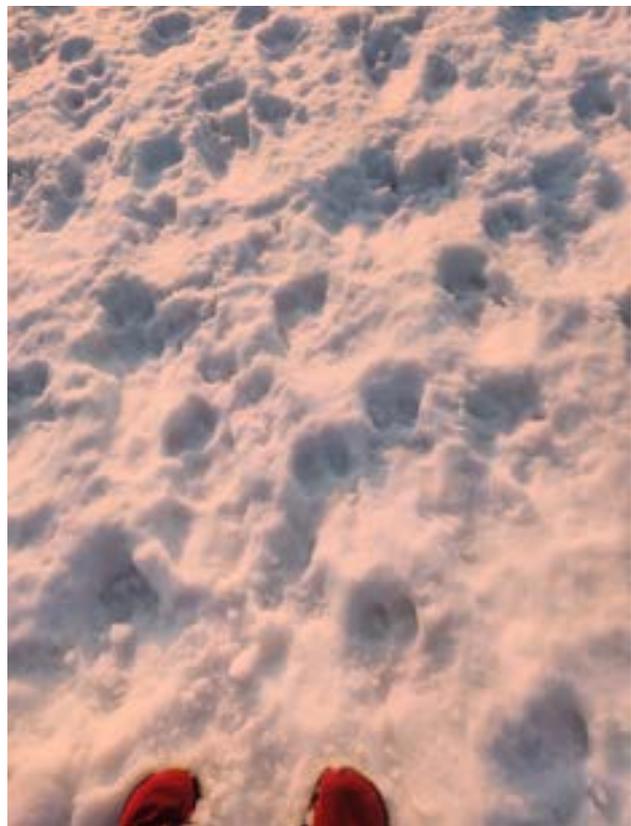


## 12<sup>th</sup> of July

The quality of sleep from the past two nights wasn't great, as people were loud till late, and the early morning Sun would quickly heat the tent, waking me up. Nonetheless, I woke up early and left around 08:30 back towards Undredal and then to Langhuso kryss, where a trail that also leads to Grindaflethytta begins. I was given a short ride for part of the way to Langhuso kryss and then began ascending the mountainside. The heat was unbearable, and my lack of sleep was starting to set in. Furthermore, any moment I stopped moving, there were countless horse flies, mosquitoes and regular flies that appeared. At one point, I stopped and frantically applied insect repellent and rested in some partial shade. Eventually, I reached a more open terrain with a slight breeze, which I learned kept away insects. There, I took another nap in the shade for an hour.

It was 17:00, I was still 12.5 km away, and I still had plenty of uphill to go. Once I hiked out of the valley, it was much cooler, and I was able to maintain a good speed. Still, the trail went through areas of steep snow near the highest point, which required caution. At 20:30, still 8 km away from the cabin, I realised that I had left my earbuds 2.5 km behind me and on the other side of the peak, which I had just descended. After deliberation, I decided it would be more important to reach the cabin by that day. So I composed myself (it seems silly now, but forgetting those earbuds felt very demoralising at the time), and eventually reached the cabins by 00:30, just as things were getting dark and insects were more prominent. I was happy to find that one of the rooms in the larger cabin was empty, so I quietly ate and went to sleep at around 01:30.

On a side note, I noticed many reindeer footprints on the snow throughout these mountain trails. An example is shown in the image to the right.

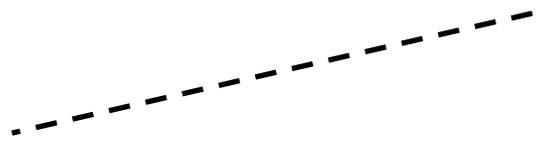


Nærøyfjorden

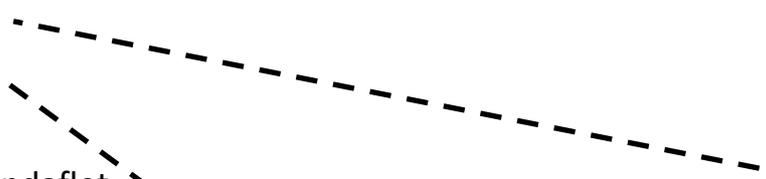
Stokko

Aurlandsfjorden

Undredal

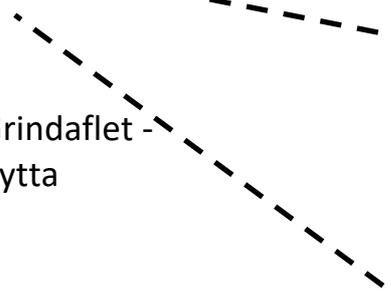


Languso  
Kryss



Grindaflet -  
hytta

Flåm



13<sup>th</sup> of July

Woke up late, collected the food that I left behind from my previous stay, and stocked up on anything else I needed. I washed my clothes and waited for my clothes to dry before leaving at 18:30. This southwards trail also started by crossing the same river with no bridge. On top of the late start, I ended up walking 1.5 km along the wrong trail. After backtracking, I continued and decided to find a camping spot at around 22:30.

Grindaflet -  
hytta

(the image to  
the left was  
taken the  
next day)

## 14<sup>th</sup> of July

At this point, I started cutting down my initial morning start from 3 hours to 2 and was ready to leave at 10:00 to continue southwards. I eventually reached Ljosanbotn, a small valley with many holiday cabin homes and a train stop. From the previous mountains, I walked down along the river and cut straight through it. I took a small break there and then continued southwards. My aim that day was to walk over 20 km so that I could reach Ulvik (further south) the next day.

Beyond Ljosanbotn, just north of where I ended up camping, was probably the most breathtaking collection of views in the whole trip. The collection of images on the following page is from this location, marked with a star on the map below. There were several large reservoirs, all at different levels, surrounded by snowy majestic mountains, all connected by the powerful downward flow of water. It started to rain quite heavily there. I quickly realised that my jacket had completely lost its waterproofness and got completely soaked through. There was a steep descent, which led to a river crossing that was easily the worst one I had to cross. The safest crossing resulted in walking in strong and ice-cold currents that were halfway up to my knees. I wasn't afraid that I would get swept away, just that if I fell, everything in my bag would be soaked. Nonetheless, I crossed the river and continued another kilometre to a spot that seemed relatively flat on the map. In the rain, I set up my tent, inside and carefully dried myself and the inside of the tent with a towel before putting on my thermals and warmer layers and setting up my bed. After making myself a warm dinner, I enjoyed listening to the chaos outside in the comfort of my tent, with a sense of accomplishment.



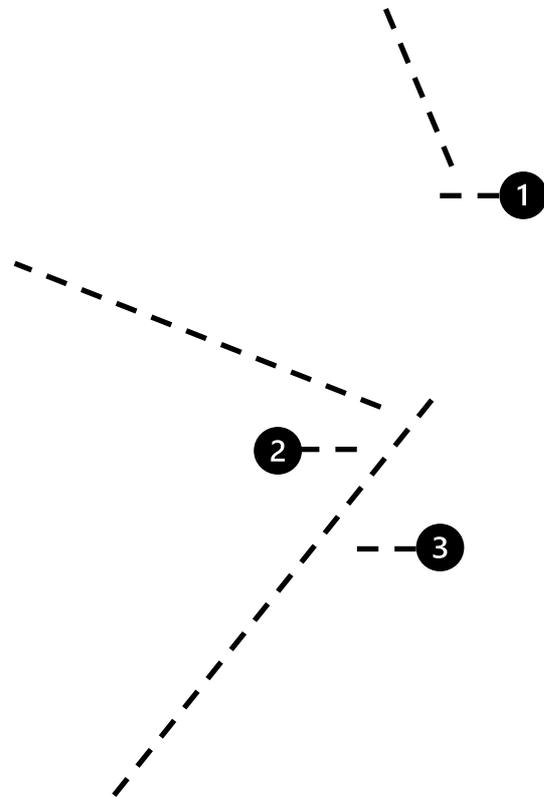
Ljosanbotn





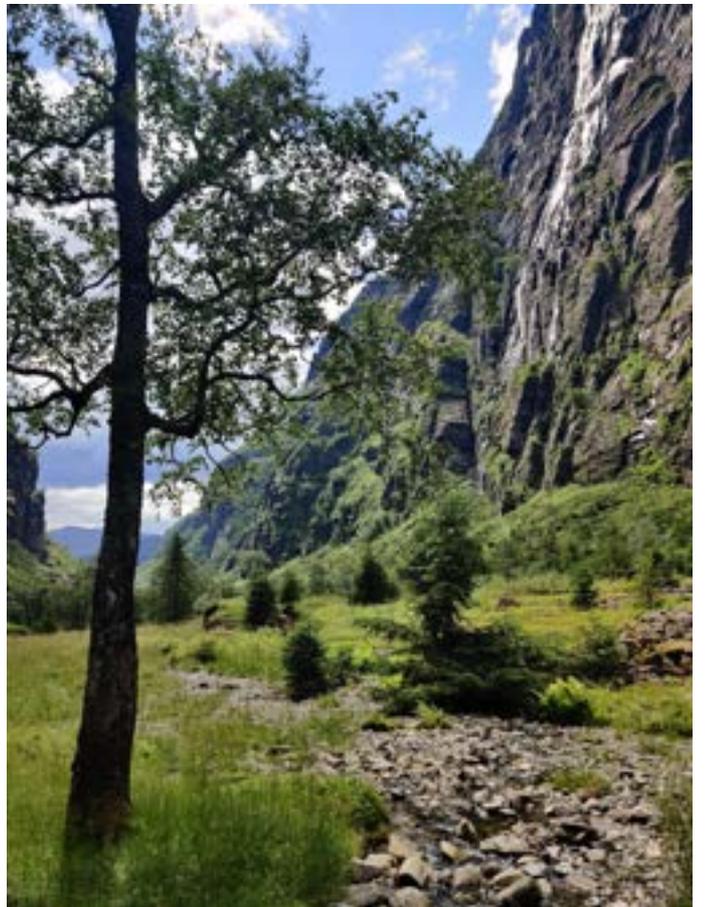
## 15<sup>th</sup> of July

Fortunately, in the morning, the sky was clear. So, after sun drying most of my things, I set off southwards along the river I had to cross the previous night. This section was also stunning, with streams flowing down the mountains either side of the river. I would have happily stayed there for another day. Eventually, exhausted, I reached Ulvik campsite at 18:30.



Ulvik

Ulvikafjorden



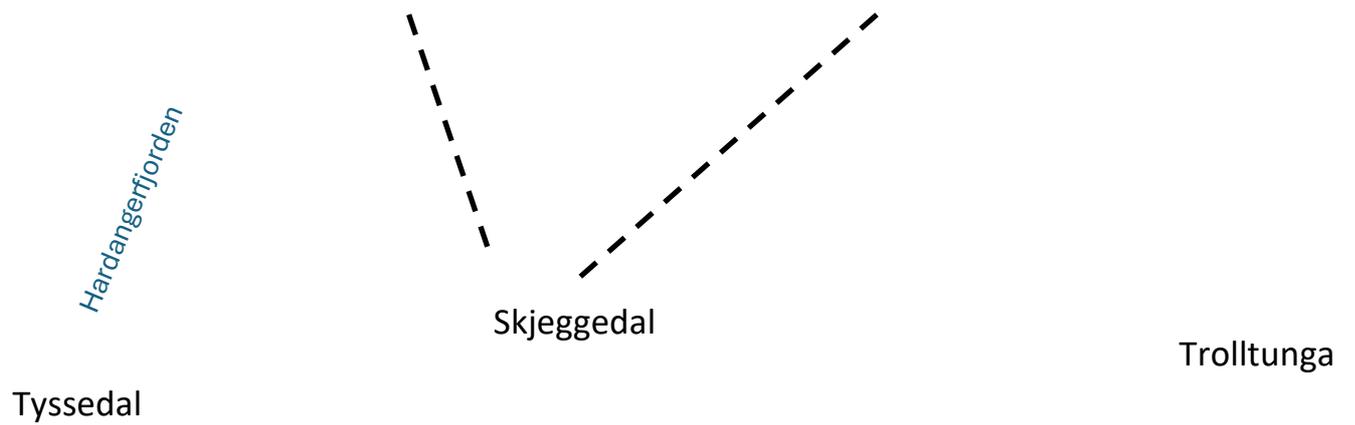
## 16<sup>th</sup> of July

Rest day, restocked on food and planned what to do next. Decided I would go straight to Trolltunga trail and do it more slowly, as the shuttle buses were expensive and my feet and ankles were feeling sore from the rough terrain. The heatwave continued, so I made use of the cool Ulvikafjorden, a subbranch of the larger Hardangerfjord, which was right on the campsite.



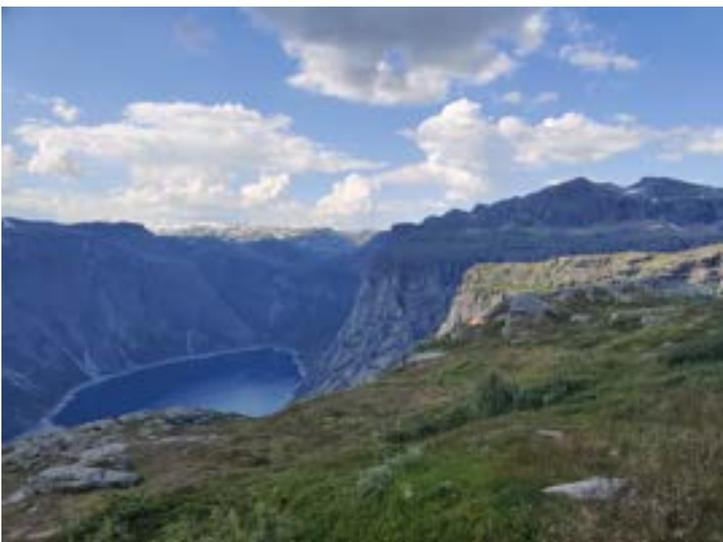
## 17<sup>th</sup> of July

Took a bus Southwards to Tyssedal and walked up to Skjeggedal and found a place to camp beyond the carpark (P2) near Trolltunga.



## 18<sup>th</sup> of July

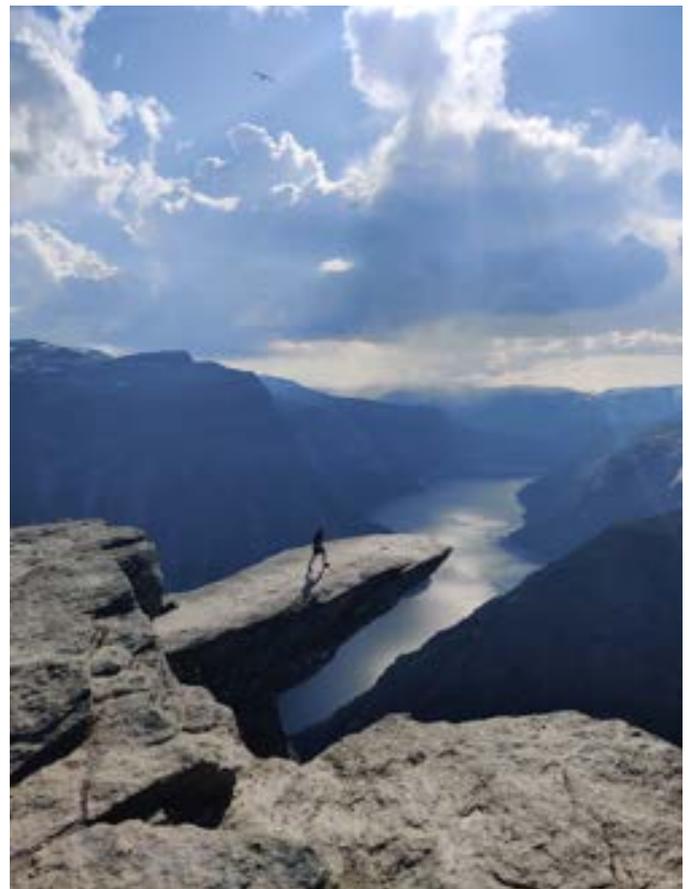
Walked up to Trolltunga and camped a little past it, where the incredible view was still visible. This was a fairly boring trail, which was also very touristy and to walk onto Trolltunga, there is a 20 metre queue for the majority of the day. That's why I decided to



camp there, so that I could enjoy the view in the evening whilst most had either completed the trip or were heading back. After setting up my tent I drew the view and then as I cooked my dinner a large thunderstorm began in the distance, echoing all around. I enjoyed the show before the rain reached me, and then went to bed.

1

2

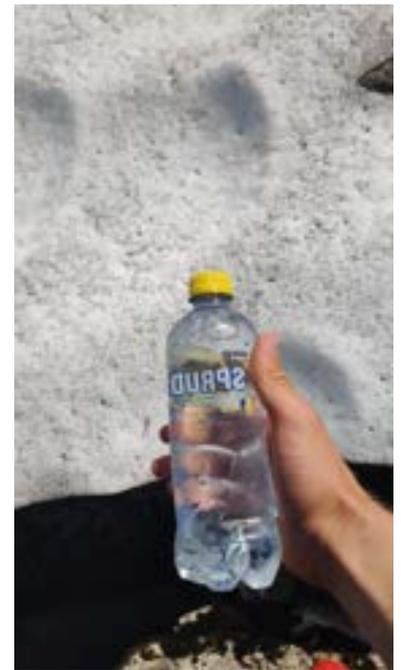




3

## 19<sup>th</sup> of July

Before leaving at 15:00, I hiked up to the top of the mountain to collect some fresh water to bring back for my family. Then, as I headed back to Skjeggedal and walked through the Saturday havoc near Trolltunga. I think at least ten times as many people were camping that night, so I was relieved that I decided to start the trail a day earlier. At Skjeggedal, I camped at the same place.



## 20<sup>th</sup> of July

On the way to Tyssedal, I got a ride to Odda from a Swiss couple. In Odda, I bought some more food and then took a few buses to Oslo. There I stayed at a hostel called K7 Hotel Oslo for 4 nights.

## 21<sup>st</sup> to 24<sup>th</sup> of July

In Oslo, I enjoyed the various museums, with the national museum being my favourite. I also loved the Deichman library, drawn below.



# Logistics

## Training

I did a 5-day hike along the southern part of the Pennine Way in the Peak District, starting at Edale and finishing in Edale. The weather was especially wet with a lot of flooded terrain and almost constant rain. This was the first time I had dealt with putting up and putting away a tent and dealing with soaking conditions. This was great in preparation for Norway, although there was a 2 week 2-week-long gale when I was there. It also made it clear that I needed better camping equipment, such as a sleeping mat.

After this 5-day hike, I did a two-day outdoor first aid training course in Hope Valley, a 10-minute train ride from Edale.

## Travel Arrangements

I flew from Gatwick to Bergen and from Oslo to Stansted. I paid an extra fee to offset my carbon footprint from the flights. Inside Norway, I took trains to and from the two airports and buses when needed.

## Accommodation

In Bergen and Oslo, I stayed in hostels for 6 nights total. During the expedition, I wild camped for 9 nights, camped at campsites for 5 nights and slept at self-service cabins for 3 nights.

## Food

I brought some breakfasts, snacks and 3 dehydrated dinners from England, but the rest was purchased throughout the trip, except for a few dehydrated dinners gifted to me by kind people I met on the way. I hot soaked by breakfasts and dinners using a gas stove. Throughout the expedition, I ate roughly 4-5000 kcal a day, probably due to the backpack weighing 20kg on average.

## Communication

Every evening, I sent my parents my location using a SIM card I bought for my phone and updated them on what I did and what I was planning on doing the next day. However, there were approximately 6 days in the mountains where there was no reception for most or all day. I notified my parents prior when they should expect to hear back from me.

## Funding

I was fortunate enough to receive:

- £400 from the Imperial College London Exploration Board (£100 allocated to first aid course).
- £300 from the Lord Mayor's 800th Anniversary Awards Trust.
- £350 from the Royal College of Science Association.

## Equipment (total weight averaged 20kg, including food and water)

### Camping

- OEX Phoxx 2 Tent
- Rab stratosphere 5.5 Wide
- Berghaus Intrepid 1000 sleeping bag
- 65l backpack
- Trangia 25 set
- Lighter
- 2 250g Gas cannister (only used one in the end)
- Metal spork
- Sponge
- Metal trowel
- Washing up soap
- Water filter (2 litre sack)
- Foldable cup

### Toiletries

- Toothbrush
- Toothpaste
- Foot cream
- Antifungal cream
- Body soap
- Conditioner
- Shampoo
- Urine bottle (1 litre)
- Trowel
- Biodegradable wet wipes
- Toilet paper

### Clothes

- 7 pairs of underwear
- 4 pairs of toe socks
- 1 pair of long thermal socks
- 2 synthetic T-shirts
- 2 synthetic shorts
- Ski thermal top and bottoms
- Synthetic hooded puffer jacket
- Fleece jacket
- Waterproof jacket shell
- Waterproof trousers

- Warm hat
- Baseball cap
- Neck warmer
- Gloves
- Altra trail running shoes
- Slippers (for campsite)

### First Aid Kit

- Bivvy bag
- Israeli bandage
- Plasters
- Antiseptic cream
- Ankle brace
- Knee brace
- Tweezers
- Paracetamol
- Arnica (anti-inflammatory) cream
- Blister plasters
- Asthma medication

### Electronics

- Headtorch
- 3 portable chargers
- phone charger
- Earbuds

### Miscellaneous

- Glasses (with shades attachment)
- Scissors
- Microfibre towel
- Sunscreen
- Insect repellent
- Bin bags (for lining the backpack)
- Many Ziploc bags (small and large)
- Sketchbook and small pencil case
- Small book
- Passport
- Wallet
- 2 0.7 litre plastic bottles

### Navigation

- Compass
- Printed maps

## Conclusions *(recommendations for future expeditions)*

### Transportation

In Norway, the public transportation is slightly convoluted. Each county (Vestland being one of them) has its own app for transportation) In Vestland, it was the app called Skys, which had an app for purchasing a ticket by selecting the two zones you want to travel to and from and another app for checking the bus schedule. For this, you either purchase it on the bus, or right before you board the bus through the app. If you want to travel between counties, you often must buy a ticket prior on through the company that runs the bus, otherwise it might sell out.

I don't think Norwegians are too familiar or keen on hitchhiking; a few times, I just got a thumbs up back in return. The rides I got during the trip were from other travellers visiting Norway.

### Water Filtration

I was told by several experienced Norwegian hikers that in the mountains, if the water is moving (river/ stream) then it is safe to drink, if not then filter or boil. However, if there are sheep around (and there were a often a few that roamed large areas) then you should only drink from the larger rivers and avoid the streams. I stuck to this throughout my trip and had no issues.

### Camping and Cabins

Near the fjords, finding a spot to wildcamp was very difficult. Most of the land was very steep or piled with rocks that have fallen from the mountains, and most of the flat land was private. If you plan on camping in the mountains, I would recommend checking the contour lines on maps and finding flat areas beforehand to get an idea of where to camp. In addition, twice, I

found that it was cheaper to book for a night's stay at a campsite in person rather than online.

The cabins are run by a company called DNT, highly recommend stay at one if you can and consider the yearly membership as it may be economical.

### Wildlife

I would recommend bringing mosquito spray and camping where there is a breeze if it's not too cold to reduce number of insects. If you're running low, save it for when you need a number two. If there are a lot, as you walk, walk fast and swing your arms a bit more and you should be fine. I just wore a tshirt and shorts almost always and wasn't getting bitten much.

There are ticks in Norway but I had no incidents with them even though I only wore shorts and had to walk through high grass at times.

### Food

I really recommend trying knekkebrød (a cracker bread made from seeds and or grains) and putting bacon ost (a mayo-like slightly salty paste high in protein) on top. This was an ideal lunch for backpacking.

### Acknowledgements

A big thanks to the imperial exploration board, RCSA and the lord mayors trust for helping fund this expedition. Thanks to the imperial exploration board for allowing me to borrow some equipment. Thank you to Craig Lorraine and Phillip power for helping with funding applications. Thank you to Tim Bickersteth and Alex Weir for guidance on writing the proposal.

## Risk assessment

Risk	Consequences	Preventative Measures	Likelihood	Severity	Risk Factor	Adjusted Risk Factor
<b>Stove breakage</b>	Inability to cook and melt water.	All equipment will be checked to make sure everything is operational and in good working order, prior to expedition.	2	3	6	5
<b>Fuel loss / leakage</b>	Unable to cook. Potential fire or explosion causing serious injury.	Visual and frequent checks of stoves and fuel bottles. Use several fuel containers and fill stove bottles with funnels. Stoves filled with fuel every morning where possible. Only use appropriate fuel containers.	1	3	3	3
<b>Tent fire</b>	Loss of tent, Potential burns.	Never cook inside tent. Make sure the tents are sufficiently separated and away from source of fire.	1	5	5	4
<b>Damage of Hiking Equipment</b>	Unable to use certain gear or gear failure in extreme cases which could cause falls or other injuries.	Ensure gear is checked before trip for any signs of wear/damage and do visual checks before use to ensure potential issues are known about and monitored.	1	3	3	3
<b>Water damage</b>	Unable to use electrical equipment either due to water damage or due to being unfit for use when wet due to frequent rain.	Ensure all equipment is stored inside properly sealed dry bags and check dry bags for tears/leaks. Use dry bags when hiking or walking in adverse weather to protect equipment such as sleeping bags.	2	3	6	4
<b>Slips &amp; Falls on Wet / Uneven Terrain</b>	Sprains, fractures, or head injuries.	Use hiking poles for stability. Wear grippy, waterproof boots. Avoid crossing steep, wet rock surfaces.	2	2	4	2
<b>Strong Winds at High Altitudes</b>	Increased risk of falls, hypothermia, or tent damage.	Avoid exposed ridges in high-wind conditions. Secure tent with extra guy lines and stakes. Use trekking poles for stability in high winds.	1	3	3	2
<b>Encounter with bears or cougars</b>	Loss of food, injury upon attack	Keeping aware of how to deal with these animals. Steer clear, keeping food away from camp and always making noise to alert nearby wildlife. An air horn and bear spray will both be brought, and kept easily accessible, to be used in event of an encounter.	2	4	8	6
<b>Disorientation and loss of direction on the trail.</b>	Possible exposure.	Frequent reference to compass and GPS units. Ensure navigation is shared amongst the group. Navigational skills will be refreshed and improved prior to departure.	3	3	9	6
<b>Fatigue, dizziness</b>	Lowered core body temperature. Irritable and irrational behavior. Possibly stumbling or falling.	Adequate rest, subject to necessity. Agree flexible hiking schedule. Party moves at the slowest person's pace. Over-compensate on food and fuel supplies. Take lightweight and high energy food products to ensure weight is minimized and calorific value is maximized.	2	3	6	4

<b>Risk</b>	<b>Consequences</b>	<b>Preventative Measures</b>	<b>Likelihood</b>	<b>Severity</b>	<b>Risk Factor</b>	<b>Adjusted Risk Factor</b>
<b>Dehydration</b>	Headaches, dizziness, stumbling.	Regularly and frequently take in liquid. Drink at least 3-4 litres of fluid per day.	2	3	6	4
<b>Sunburn</b>	Sores, scars, blisters, open wounds, blindness.	Wear high-factor sun cream or sun block, lip balm, sunglasses, and sunhat.	3	2	6	4
<b>Bad Weather</b>	Difficult navigation. Change route or stay in nearby cabin.	Refer to compass and GPS units frequently. Share navigation between the group and plan for contingency days, ensuring adequate food / fuel is on the mountain. Take plenty of GPS batteries and carry emergency communication equipment.	3	2	6	4
<b>Small accidents (e.g. cuts, sprains)</b>	Inability to use affected part of body.	Always exercise caution, all members will be proficient with the equipment and the techniques used and in first aid techniques.	2	2	4	4
<b>Injury sustained by lifting heavy packs</b>	Strain and or muscular damage. Inability to complete daily tasks and load carrying.	Distribute loads between the group based on abilities of each member, adequate rest breaks and minimal hiking	3	3	9	6
<b>Boots rubbing against feet</b>	Blistering and pain when hiking can make walking very difficult if bad.	Ensure boots are well broken in before expedition, and thick socks are worn to prevent feet slipping around in boots. Blister plasters should be put on before blisters fully form to prevent them becoming too painful.	4	1	4	3
<b>Ticks and mosquitos</b>	Mosquitos are just a nuisance and ticks can carry diseases.	Wear long clothing – tuck trousers into socks, wear long sleeves and use light coloured clothes to spot ticks. Use insect repellent and avoid tall grass and dense undergrowth. Check for ticks daily and remove using fine tweezers with correct technique	6	1	6	2
<b>Sustained period of rain</b>	If I don't stay dry I would potentially get cold. It would be difficult to sustain a dry inner tent, I could potentially get cold. Important contents in backpack could get wet if not sealed properly.	Check weather forecasts and have waterproof gear ready. Keep moving to stay warm and try to maximise breaks at sheltered locations. Use an a waterproof bag cover on the outside of the backpack and use an additional one for all the things inside the backpack. Furthermore, seal all the important electronics in dry bags.	2	2	4	2
<b>Hypothermia</b>	Loss of fine motor control (hard to use map, stove, or set up a tent), increased risk of falling due to muscle stiffness. Decision-making ability becomes impaired, increasing danger	Stay dry, layer up, and avoid sweating. Eat high-energy foods & stay hydrated. Use windproof and waterproof gear.	1	5	5	2
<b>Food poisoning</b>	Depending on severity it could greatly impact the expedition	Make sure not to drink dirty water. If I carry meat and dairy products, make sure to consume within 3 days and check before eating.	2	2	4	3

# Emergency incident plan

The SOS distress signal involves three short blasts, followed by three long blasts and then again three short blasts.

After any accident (big or small):

- Stay calm and assess and attend to affected areas.
  - Continue depending on the following options.
1. If I am conscious but immobile:
    - Use the hjelp 113 app (an app created by the Norwegian Air Ambulance Foundation) for contacting emergency services and assess how to get aid depending on the reason for immobilisation.
    - Contact the family to notify them of the situation.
    - Use a satellite phone if there is no signal.
    - If unable to call for help, use a whistle (SOS distress signal) or reflective object to signal rescuers.
  2. If I am conscious but slightly immobile:
    - Assess the risk of it getting worse and choose one of the following:
      - If I am not low on food and/ or the injury is less severe:
        - Progress slowly or take a rest day to allow recovery.
      - If I am low on food and/ or the injury is more severe:
        - Head towards the nearest town/ village or serviced cabin for shelter, food and rest. This would potentially mean going backwards along my route
    - Once I have assessed a fitting protocol, I notify my emergency family contact of the situation.
    - Once I have reached a location with shelter and food, I assess whether I can continue with the expedition.
  3. If I am unconscious and/ or not mobile:
    - As soon as I regain consciousness, I stay calm and assess and attend to affected areas.
    - Check for dizziness, nausea, or blurred vision (possible concussion).
    - Check if I am in an exposed area (steep slope, avalanche risk, near water); if so, I move to a safer area and use bright clothing to mark my position.
    - Sit up slowly and test my balance. I check the time to assess how long I have been unconscious.
    - If any of the following is true, contact hjelp 113 emergency services.
      - Repeated vomiting or loss of consciousness (sign of serious head injury).
      - Severe dizziness or vision loss.
      - Numbness, tingling, or inability to move a limb.
      - Difficulty breathing, chest pain, or coughing blood.
      - Deep wound with uncontrolled bleeding.
      - Extreme confusion and inability to answer simple questions (possible brain injury).

- Lack of mobility
- Use a satellite phone if there is no signal.
- If unable to call for help, use a whistle (SOS distress signal) or reflective object to signal rescuers.

## Budget

<b>TRAVEL</b>	
Transport to Luton	13.04
Flights (including baggage)	204.6
Buses and trains (inside Norway)	90.53
<b>TOTAL</b>	<b>£308.17</b>
<b>ACCOMMODATION</b>	
Hostels (Bergen and Oslo)	251.44
Campsites	114.81
Self Service Cabin	37
<b>TOTAL</b>	<b>£403.25</b>
<b>NON-PERISHABLE HIKING ITEMS</b>	
Shoes	130
heel insoles	9.38
toe socks	40
sleeping mat	135
sleeping bag liner	22
foldable cup	11
spork	14.5
inflatable pillow	12
microfibre towel	12
2 * anker power banks	30
<b>TOTAL</b>	<b>£415.88</b>
<b>PERISHABLE HIKING ITEMS</b>	
Gas	16
bug spray (smidge)	6.5
wet wipes	2.5
<b>TOTAL</b>	<b>£25</b>
<b>FOOD</b>	
Purchased before:	

• snacks	30
• 3 1000 kcal dehydrated dinners	24.5
<b>Purchased in Norway and consumed on hike</b>	<b>230</b>
<b>Purchased in Oslo</b>	<b>64.2</b>
<b>TOTAL</b>	<b>£348.7</b>
<b>MISC</b>	
Mobile data	25
DNT membership	27
non-sterling transaction fee	21.5
<b>TOTAL</b>	<b>£73.5</b>
<b>FIRST AID KIT</b>	
2 Israeli bandages	8
tick removal card	5
emergency bivvy bag	8.5
<b>TOTAL</b>	<b>£21.5</b>
<b>EXPO SUBTOTAL 1</b> (excluding costs of accommodation and food in Bergen and Oslo)	<b>£1280.5</b>
<b>EXPO SUBTOTAL 2</b> (excluding non-perishable hiking items)	<b>£1180.1</b>
<b>EXPO SUBTOTAL 3</b> (excluding costs of accommodation and food in Bergen and Oslo, AND non-perishable hiking items)	<b>£864.5</b>
<b>FINAL TOTAL</b>	<b>£1596</b>