

Juneau Icefield 2016 Expedition Report



April 2016

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Acknowledgments

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MOUNT EVEREST FOUNDATION

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Abstract

This report outlines a trip in April 2016 to the Juneau Icefield, south west Alaska. The team comprised of six members, four from the UK and two living in Canada. Unfortunately due to adverse weather conditions very little was climbed, a few small peaks were skied and a north to south traverse of the icefield was undertaken. The team were dropped off via helicopter from Atlin, on the north eastern side of the range and were picked up near Juneau at the southern end of the range after 12 days.

Expedition members



The team (L-R Tom, Rach, Mandy, Jake, Carl and Anita)

Tom Bide (British)

Tom is a proficient alpinist, and has over 10 years of experience. He has been a member of several MEF funded expeditions to Bolivia, Peru and Kyrgyzstan (MEF7/20, MEF 5/20 and MEF09/08) as well as more recently being involved in an exploratory expedition rock climbing in Ethiopia and a trip to the Denali area, Alaska. Tom has rock climbed up to E3, F7a and winter climbed up to V, 6. He has climbed in the Alps and greater ranges up to TD.

Jake Phillips (British)

Jake is a successful outdoor professional holding a MIC and running an independent instruction, guiding and coaching company in the UK (Summit Ascent). Jake is a proficient alpinist with over 10 years of experience. He has been on successful trips to Alaska, Ethiopia and China, both rock and alpine climbing. Jake has also spent several winters in the Alps

actively ski-mountaineering and climbing. He has climbed up to E5 & F7b+ in summer and VI 7 in winter as well as up to TD in the Alps.

Carl Reilly (British)

Carl has organised successful MEF and Alpine Club funded trips to Bolivia, Peru and Kyrgyzstan, as well as playing an instrumental role in trips to Ethiopia and Alaska with other members of the team. Carl is a highly proficient alpinist and has completed successful ascents of the Cassin ridge on Denali as well as the North Face of the Petit Dru in the Alps. More recently from his base in Vancouver, Canada, he has been ice climbing, and ski mountaineering, XC mountain bike racing and cross country skiing.

Mandy Tee (British)

Mandy is an experienced outdoor professional in the UK. She has spent several winter seasons in the Alps and has been active rock climbing, mountaineering and skiing for over 10 years. Mandy is a qualified MIA and as well as having alpine skiing and climbing experience and has been on expeditions to China and Ethiopia. On the latter trip she collated all of the previous rock climbing trip reports to Ethiopia, as well as incorporating her own, into a free rock climbing guidebook to Ethiopia (www.facebook.com/ethiopiarock2014). She has climbed up to E2 in summer and V in winter as well as TD in the Alps.

Anita Holtham (Canadian)

Anita is a physician who is passionate about outdoor adventure. She grew up as a cross country ski racer who spent most winter weekends snow holing on Vancouver Island. She now spends her free time skiing and mountain biking. She has worked in the Canadian Arctic, on remote uninhabited islands on the British Columbia coast, and in rural Laos. She and Carl recently completed a ski traverse around the Fitz Roy Massif on the Southern Patagonian Ice Cap.

Rachel Bell (British)

Rachel is the least experienced member of the team but is a proficient skier with over five years of Scottish and alpine experience, as well as summer alpine climbing up to PD in the Ecrin. Rachel has been ticking off classic Scottish winter mountaineering routes, completing the Aonach Egach Ridge, Glencoe in full winter conditions the first time she ever wore crampons. Rachel has also competed in many triathlon events in the UK.

Introduction

Following a successful trip in 2015 to the Denali National Park by three of the expedition members, (Tom, Carl and Jake), and a subsequent traverse of the Patagonian icecap by Carl and Anita, an idea was formed to combine some mountaineering objectives with an A-B or circular ski-touring route over a period of a few weeks. Greenland was initially discussed but later abandoned due to the complicated logistics for those wanting to try more remote objectives in this area that do not have the resources to pay for long distance helicopter flights. Alaska was chosen as a plan B due to the ease of access and its large choice of remote mountain ranges. Eventually the team settled upon the Juneau Icefield, due to the winning combination of technical mountaineering peaks and the potential for ease of access on skis between different areas, this area being the largest icecap outside the polar regions.

An excellent overview of the Juneau icefield ski traverse, which we largely followed, except in taking detours to our climbing, objectives can be found here:

http://www.yukonhiking.ca/atlin_juneau.html

Research

Research was principally from internet searches, which is greatly enabled by digital access to the American Alpine Journal catalogue. This was searched for historical reports of climbing activity for this area and was combined with good reports from several more recent trips and a blow-by-blow account of the ski traverse route across the icecap.

Maps

Maps for this area are freely available to view online from the United States Geological Survey (USGS) and Natural Resources Canada (NRCAN). For the USA, several other providers show more user-friendly portals for viewing the maps but for those with a working knowledge of geographical information software (GIS) the data for individual map tiles can be downloaded and merged to make a customised map of the area. A lat-long grid was added to these maps and the final map was printed at 1:100000 scale and laminated (four sides of A3). This was very useful to the expedition due to the large area covered and often very poor visibility encountered during the trip.

The USGS maps are at 1:63000 scale (1 to 1 inch) and were last updated in the 1950s. The accuracy is variable, on the icecap itself where little has changed geographically they remain accurate. However, towards the edges of the icefield and on the glaciers running down to the coast the edge of the glaciers had moved by several kilometres in the last 60 years and bore no resemblance to our maps. Fortunately we didn't stray near the edges of the icefield or these glaciers as they were generally exceedingly crevassed.

Google Earth and Google Maps proved to be an excellent resource for scoping out remote areas, however satellite data in this area ranges from very good, with individual avalanche crown walls being visible, to very poor, where peaks are represented by a few pixels. Generally the better data tended to be around the Canadian border.

Guide books

There are no guide books for climbing available for this area some exist for back country skiing around Juneau.

Permission and permits

No permits or permissions outside the usual USA/Canadian visa waiver requirements were required for this area. We were required to inform US Customs upon our return to Juneau after the icefield crossing due to crossing the Canadian border, this was arranged by our flight provider.

Finances

Fund raising

The expedition was granted MEF funding for which we were most grateful; more information is available from their respective websites. More grants (dependent upon the expedition's aims and objectives) are also available; the Royal Geographical Society's website is probably the best reference for these.

Costs

Flights from the UK	£3400
Flights from Canada	£300
Excess baggage	£250
Accommodation	£700
Internal transport	£1000
Internal flights	£2500
Food	£1800
Insurance	£1000
Satellite phone	£100
Total:	£11050
MEF funding:	£1000
Personal contributions:	£10050

Insurance

The four British residents of the team used BMC alpine insurance. The team checked with the BMC whether this area required alpine or expedition but after some extra paperwork the former was agreed upon. Fortunately there was no need for any claims.

Accommodation

The team only planned to stay in Juneau for three nights, however due to bad weather limiting options to access the mountains, both on our outward and inwards journeys, a total of seven nights were spent here plus one night in Atlin. Most of this was spent at the salubrious Juneau airport Holiday Inn, which made up for lack of space with all you can eat breakfasts, free transfers to downtown Juneau and supermarkets. Plus it was the cheapest price we could find. We also stayed in the adjacent Travel Lodge for both a night of luxury and because the Holiday Inn had no spaces. An honourable mention must also be made for the seemingly legendary Juneau resident Pat Coyle, who we found through the local equivalent of Airbnb (www.vrbo.com) after some frantic googling when one more night was required after we failed to fly out due to weather yet again. Pat provided us with his truck and a fantastic coastal property complete with kayaks and a speedboat.

We opted to stay near the airport rather than down-town (about a 20 minute drive) as, although the fleshpots of Juneau were harder to access, we were a lot closer to our flight provider (whose offices we spent quite some time in waiting for weather windows). These also seemed to be some of the cheaper options in the area. All the local shops/attractions were easy to access via free hotel transfer or local taxis for a small fee.

Food & Cooking



As we would be carrying all our supplies over large distances we opted for the lightest and most calorific possible option of pre-packed freeze dried meals for the majority of our food intake. This was supplemented by packs of oatmeal, noodles, pasta and dehydrated potato for meals and dried fruit and nuts along with industrial quantities of cliff bars and shot blocks (a bit like solid energy gels) for on the move.

The freeze dried meals were purchased in Vancouver by Carl and Anita as we had difficulty getting the quantity required in Juneau. Also, due to the price of the Canadian \$, they were considerably cheaper. These were transported to Juneau via excess luggage. A total of 19 days food was budgeted for as this was the maximum duration we would spend on the icefield. Food allowances were as follows:

- 1.5 freeze dried meal per day
- 0.5 freeze dried dessert per day
- 0.5 freeze dried breakfast per day
- 3 cliff bars per day
- 0.5 shot blocks per day
- 0.5 portions of oatmeal per day
- 0.5 pasta/noodle/potato meals per day
- 6kg dried fruit and nuts
- 500g each of personal treats

These rations were considered adequate for calorific intake for 19 days of hard physical activity. In the end we only spent 12 days on the glacier so some pasta and noodles were abandoned in Atlin to save weight and a not inconsiderable quantity of cliff bars and freeze-dried meals were transported out at the end of the trip. This also allowed for a generous portion of dried banana chips for the flight back to the UK.

If a full 19 days were spent on the glacier the planned rations would have been perfect. As it was, we ended up somewhat over catering. However, this was better than either having to leave early due to lack of food, or going hungry towards the end of the trip due to being unable to get off the glacier as a result of the weather.



Packing food in Juneau

Fuel

The team took Coleman white gas for use in the two MSR liquid fuel stoves. No gas was taken as we took no gas stoves to save weight. Coleman fuel was very easy to buy in Juneau and a range of different outdoor retailers stocked it. The team originally purchased three gallons of fuel and cut this down to 2.5 gallons after being delayed for five days at the start of the trip. The calculations for fuel consumption were based on what was used during some of the team member's trip to Denali National Park the previous year. However this didn't factor in two crucial points. Firstly, one stove was faulty, leading to loss of fuel due to leakage. Secondly, when making the calculations the team forgot that 2015 in Alaska was unseasonably hot, leading to an abundance of melt water, meaning very little snow needed to be melted. This resulted in fuel management from day three of the icefield traverse, when we realised we had under calculated our fuel requirements leading to a demoralising hot drink rationing and banning hot water bottles. This was rectified by collecting rainwater in our sledges during days six to seven and stopping using the faulty stove. Overall the budgeted fuel quantity was just enough if some hadn't been lost to the faulty stove. A more generous allowance however would have been more prudent and would have made life slightly easier.

Water

All water was melted from snow (of which there was an abundance) or collected in our sledges when not moving, either from rainwater or from melting snow, during the high temperatures the team encountered at the end of their trip.

Communications

The team used a satellite phone loaned by a friend. This worked very well and was invaluable in receiving weather forecasts (which we had pre-arranged to be sent) and also for contacting the ski-plane for pick up at the end. Without some form of satellite communication device the traverse would have felt very remote indeed and the chances of

being picked up slim. Juneau had good mobile phone coverage which extended someway into the nearby mountains.



Sat phone use calling for pick up on the Taku Glacier

Language

English being the official language of the USA this was not a consideration. Despite this many Alaskans struggled sometimes with British accents, fortunately we had a Canadian on hand to act as a go-between. As Churchill once declared, “two countries separated by a common language”.

Vaccinations

Not required for this area.

Acclimatisation

The highest peak on Juneau icefield is 2616 metres above sea level so no acclimatisation was required.

Mountain Rescue

There is a local mountain rescue service operating out of Juneau which can be contacted via the Alaska State Troopers (911). Our first contact for emergencies however was our ski-plane operator who we were in contact with via sat phone. Due to the tourism and heli-skiing industry in the area, there was an abundance of aircraft ready for mountain flight. However with the weather windows being short, flying time for rescues would have been limited.

Medication

The team were fortunate enough to have a practicing GP with them who dealt with all medical requirements.

A standard medical kit for remote mountain areas was taken including, Codeine, Aspirin, Paracetamol, Ibuprofen, broad spectrum antibiotics, Imodium, sun cream and a range of bandages and dressings. Fortunately none of it was required. The only medical incidents were due to sun burn, blisters and a cold sore.

Equipment

Standard equipment for alpine climbing and ski-touring was used. This consisted of lightweight to standard touring boots; all but two members took these as they could also be used for climbing. Two members also took B3 boots. The team took a set of touring skis per person, a wide range of bindings were used from modern lightweight Dynafit to Silvretta bindings depending on personal preference. Each team member was also equipped with standard avalanche rescue gear. With regard to climbing equipment, between the six team members one full rack and one half rack were taken, along with 20 ice screws, two 60m 8.9mm ropes, one 60m 9mm rope and one 8.5mm 40m rope (for glacier travel). This was planned to allow one team to ski, one team to attempt a harder route and one team to attempt an easier route at the same time. In the end, none of it was used so no comment can be given as to whether this was the right amount.

For camping the team had three two-man mountain tents and one two-pole single skin shelter for use as a basecamp tent, which worked very well due to the low winds encountered. Each team member had a four season down sleeping bag, along with a light synthetic bag to go over the top to prevent the down getting wet, along with a closed cell foam mat and an inflatable mat to sleep on. This was very comfortable but not necessarily needed on this trip due to the warm temperatures encountered, however the temperatures could very easily have been 10 degrees lower (which was expected) for that time of year.

For cooking the team had two liquid fuel stoves, one MSR XKG and one MSR whisperlight. We did not take gas stoves to save weight. This worked fine, for most of the trip, as we only used the XKG as the seals on the whisperlight had perished (top tip – check your stove before getting dropped off on a remote glacier).

For communications, the team had one satellite phone with two sets of spare batteries, which worked very well. One team member also had a personal locator beacon in case of emergencies.

A wide range of clothing systems were used by different team members, depending on personal preference, especially due to the conditions ranging from Cairngorm-like blizzards to summer alpine blistering heat. Due to the high amount of precipitation (both rain and snow) much time was spent trying to dry out down jackets. Brynja style underwear was used by most team members which excelled in these sorts of conditions.



A range of equipment and clothing on display in a rare spell of good weather

Weather

Despite arguments to the contrary by the Juneau tourist board (apparently it rains as much in Miami as it does in Juneau) the weather here is terrible. It rains here 260 days of the year and the team went for a 10 day period without seeing the sun once. The combination of coastal weather and high mountains results in high cloud cover and seemingly constant rain or drizzle. The weather improves dramatically on the eastern side of the range (from where the team eventually gained access).



Heavy snow during the first few days



White out during day two

Temperatures for late April were similar to what would be experienced in the UK-highs of around 12 and lows of 5 around the coast. In the mountains the team experienced a variety of weather, much of it in some way wet, from blizzards to heavy rain. Fortunately, in general winds remained light. Temperatures varied dramatically from lows around -5 to highs of around 15. This was considered very warm for the time of year. Good forecasts can be had from the NOAA website.



Typical weather

Risks and hazards

This area did not provide any extra risks than normally associated with glaciated



mountainous regions. Objective dangers such as rockfall, avalanches etc. were all apparent in the areas we visited. These risks were managed by minimising our exposure time coupled with careful route selection.

The majority of the glaciers we travelled across were largely crevasse free and as such allowed us to move un-roped. However, we did cross crevasse zones and the usual precautions when moving in such terrain were followed. Towards the edges of the icecap the glaciers were heavily crevassed.

Due to heavy snowfall and rapidly changing temperatures during our visit, avalanches were one of the biggest risks the team encountered, which resulted in either very careful choice of terrain or being confined to the glacier.

Inherent risks whilst climbing in this environment such as falls, hypothermia and exhaustion were minimised through our previous experiences, training, knowledge of our limitations and careful planning.

The area around Juneau has a high population of grizzly bears, this was not an issue for us as we were too high to come into contact with them, but for those walking in/out bear precautions would need to be followed.

Environmental impact assessment

Our goal was to have as little environmental impact as possible on the area we visited (discounting the large amount of air travel involved). All rubbish was flown out and disposed of in Juneau. One advantage of using pre-packed freeze dried meals is little volume of waste is generated. For sewage, deep holes were dug at each camp and used. Unlike some National parks in Alaska there are no facilities for transporting and disposing of large amounts of sewage in this area (also, unless forced to by local regulations, pilots aren't very keen on transporting large amounts of sewage on board their planes).

Travel, transport and freighting

Flights

The four UK-based team members flew to Juneau International Airport via Birmingham, Frankfurt and Seattle, taking approximately 23 hours. The journey was a little less painful from the Canadian contingent flying from Vancouver to Juneau via Seattle.

Several bags of excess baggage were required but at £60 per bag prices were not extortionate.

Internal travel



Flying in to our first camp

The plan had initially been very simple, to fly directly to the northern icefield from Juneau. This became a little more complicated when we were informed the flight operator could only fly us to the Canadian border as they had a gentleman's agreement with their Canadian counterparts and wouldn't take their business or commit what they termed 'Canatage'. However things became very complicated when after five days of sitting in low cloud in Juneau we began to realise we may not be able to fly anywhere at all. This resulted in a flurry of organisation to travel by sea and land to the Canadian side of the range and fly in from there. This required a ferry journey from Juneau to Skagway (one sailing every other day) a bus transfer from Skagway to Atlin in Canada operated by a very helpful Skagway resident, 'Dyea Dave', who seemed to have helped out pretty much every skiing, hiking and climbing trip who had visited the area (www.dyeadavetours.com). Finally we flew into the Canadian side of the icefield via helicopter operated by the very accommodating Norm at Discovery Helicopters. At the end of the trip we were picked up back on the southern, US, side of the icefield by Ward Air who took us back to Juneau. As we had crossed the border we were required to have our passports checked upon arrival back in Juneau. Ward Air facilitated this for us by contacting US border control. This resulted in several trip members, desperate to get to the hotel upon landing, being threatened with extradition when they absconded from the airport before the official had arrived. Don't mess with US Customs and Immigration!



Poor flying weather on the Taku Glacier

Expedition log

9th April

UK contingent left the UK and landed in Alaska feeling a bit frazzled.

10th April

Canadian contingent landed in the morning. The rest of the day was spent shopping for food, sorting kit and making contact with our pilot at the airport.

11th April

The initial planned date of departure to the icecap. The team decamped to the airport but due to low cloud and rain were informed that there would be no flying today. The rest of the day was spent re-arranging hotels and seeing the sites in Juneau (this doesn't take very long).

12th April

The weather remained terrible. The day was spent hassling Ward Air and trying to find exciting things to do in Juneau.

13th April

Very much like the 12th but with more despair. Excitement was provided by having to move from our hotel to a private house rental due to no last minute bookings being available.

14th April

Despair levels remained high, unlike the cloud, although apparently not being able to fly in your private charter plane to go climbing because of the weather is something of a first world problem, or so I have been told. After looking at the long-term forecast we decided enough was enough and we should try to get in from the Canadian side of the range. The afternoon was spent frantically ringing round ferry operators, transfer companies and Canadian air services.

15th April

Despair levels peak when reaching the ferry terminal. After being told the previous day we did not have to book, it transpired that this was the day of the annual regional school

softball tournament and the ferry was fully booked with hundreds of screaming kids. After a mini-breakdown by Tom they relented and let us on as standby passengers. After a six hour ferry journey surrounded by hyperactive 10 year olds the team were driven to Atlin over the Canadian border, here the weather was lovely.

16th April

The team fly out! After spending the last few days in ski boots, after leaving much of our non-mountain clothes in Juneau, this is a relief. The team is ferried out over Atlin Lake to the base of the Atlin Nunatak in two loads. By evening we have tested out our sledge pulling technique and set up basecamp. The weather is still good but a large bank of ominous cloud lurks over the Canada/US border.

17th April

The weather turns and the day is spent pulling sleds in full white out conditions. The team remain roped together due to the visibility and risk of unseen crevasses. Due to not quite having the navigation set up and slow moving with six on a rope a depressing 8km is travelled. Moral is boosted by a hilarious incident one team member has with a shewee, a misaligned tube causing all her sleeping equipment to become sodden.

18th April

More white out, heavy snow all day filling sleds and bags made a mockery out of the days spent cutting labels out of clothes and tiny weight saving measures taken before the trip. Navigation and movement gets more efficient and a, still not very impressive, 12km is travelled.

19th April

After heavy snow all night the team is greeted by a beautiful day. Without the need to rope up a much greater distance is travelled, over the Canadian/US border down the Demorest glacier, our objective, the Devils Paw looms in the distance.



Good weather neat the Atlin Nunatak



Moving in poor weather



Better weather on the Demorest Glacier

20th April

Another sunny day, the team finally reach the Hades Highway Glacier under the Devil's Paw. Basecamp is made and an evening ski tour is enjoyed up a small nearby peak. The forecast for the next five days is good.

21st April

The team explored the area, skiing east under St Michaels Sword, Couloir Peak and the Devil's Paw to look for climbing potential. The team attempt to ski tour to the summit of a small peak, over the Canadian border to the East of the Devil's Paw, but are turned back by poor snow conditions near the summit. A sudden rise in temperature turns the glacier into a swimming pool making the return journey difficult. It also starts to rain.



Approaching an unnamed peak E of the Devils Paw

22nd April

A rest day is declared. It remains hot at basecamp with rain on and off. The team watch the change in weather cause avalanches and rockfall on surrounding peaks and our hard-dug snow shelter melts away.

23rd April

It rains heavily in the night and continues to do so throughout the day, the forecast changes to snow, rain and warm temperatures. Not much gets done.

24th April

The team decided to move as the current conditions mean climbing is out of the question and our pick up point is still two days ski away. Camp is moved south to under the Organ Pipes, apparently this is a very impressive rock feature. I wouldn't know we never saw it due to constant low cloud.



Navigating with GPS with poor visibility

25th April

The team explore the area for ski-mountaineering potential. Carl, Mandy and Jake climb a peak on the Ivy ridge, Tom gets halfway before realising that he doesn't have the skiing ability to get back down safely and spends two hours in a hole contemplating why he didn't go DWS in Thailand instead. Low cloud and snow showers typify the day with a few bursts of sunshine.

26th April

The weather forecast for the next few days suggests conditions will be deteriorating rapidly with a storm pushing through. With this in mind, and the thought of having to walk out for several days through dense bush with nearly a foot of fresh snow and bears, results in calling for a pickup, weather permitting. This is arranged for the 27th. The team ski to the head of the Taku glacier, the easiest point in the range for a pick up. The team also attempt a ski tour of Vantage peak but are turned back by high temperatures causing too great an avalanche risk on all aspects, evidence of recent avalanches are everywhere. The day again was typified by high temperatures, low clouds and snow/rain showers.

27th April

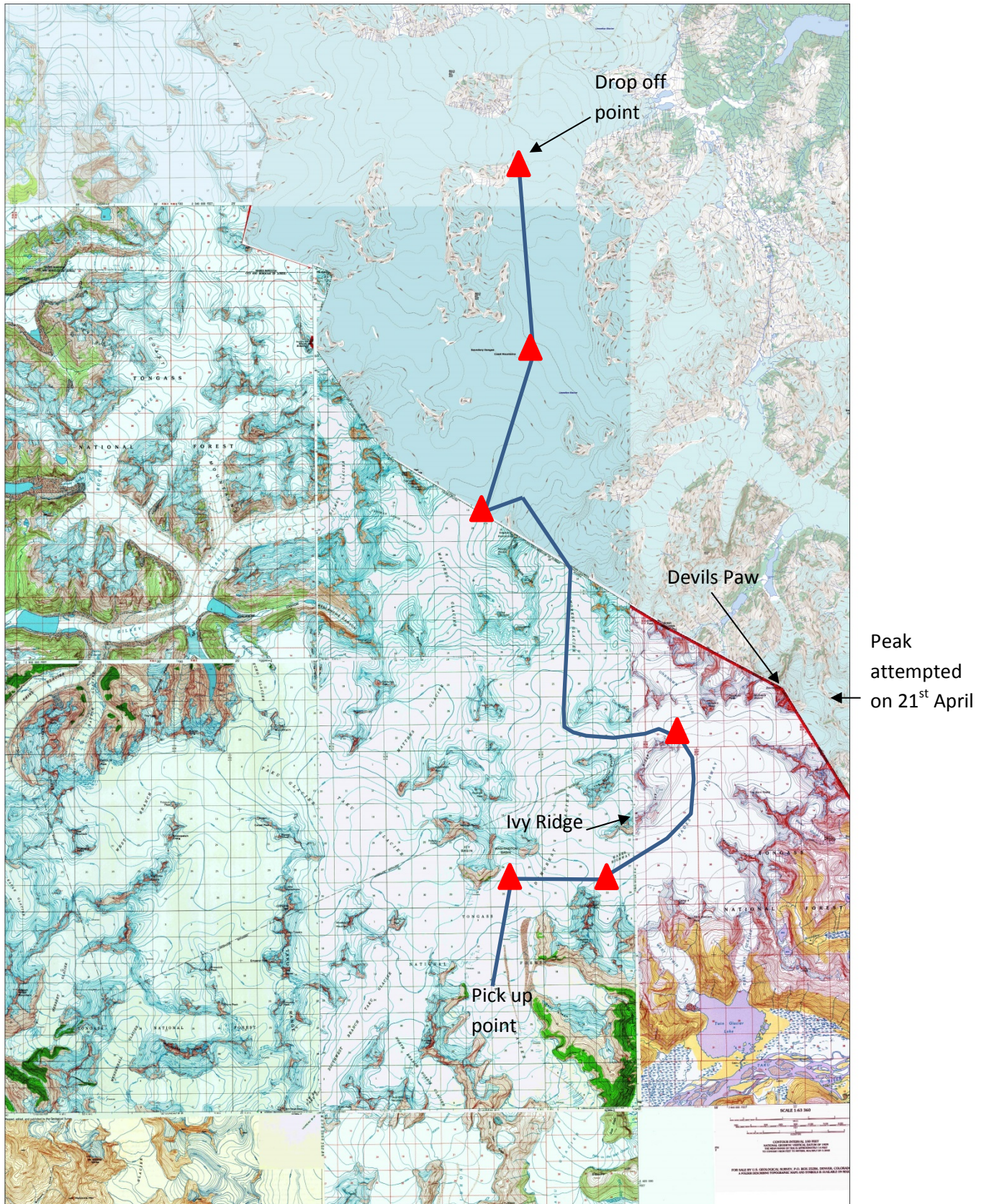
The team pack up for the last time and ski down the Taku glacier. The weather is mixed again and a temporary lifting of the cloud base sees our pick up able to fly in. Half the team are taken and the remaining three have a nervous hour wait in rapidly deteriorating conditions. Finally our pilot, Ed reappears and upon landing declares "it's like flying in milk!". The team are re-united in a typically rainy Juneau.

28-30th April

The team go sightseeing in torrential rain

1st May

The team fly home (in torrential rain)



Map showing the route taken by the expedition and camps made

Routes

The only successful route completed was a ski tour up a subsidiary peak on Ivy ridge, a long ridge feature between the Hades Highway and Demorest Glacier. Easy snow slopes were followed from the junction of the two glaciers to a narrow snow ridge with several short rocky steps (requiring the only deployment of ice axes of the trip) to a summit.



Skiing up Ivy ridge, the Organ Pipes in the background (in cloud)

Future potential

Despite many peaks in this area being climbed in summer by the students at the nearby Juneau Glacier Observatory and many of the plum lines being taken by Becky et al last century this substantial mountain range still has huge potential for rock climbing and ski mountaineering.

The team were hoping for colder conditions and mixed/ice climbing which they did not encounter. Generally ridges were deeply buried in snow and gullies were chocked full of loose snow. The weather and conditions we were looking for never materialised. a good freeze would have made many things climbable but unfortunately this did not coincide with our visit. Timing a freeze between the frequent periods of heavy snow would be difficult or require large amounts of luck.

We did not see any alpine type objectives on our main peak of interest, the Devil's Paw, which inspired the team. If freeze thaw conditions (or even just freeze) had prevailed then a central gully between the large couloirs splitting the main west face looked to be an excellent line, however buried in unstable powder meant it did not appeal. The team also

scoped out the potential of the south-east ridge, an objective mentioned in several reports as a good unclimbed line. Although on satellite imagery and photos from the west this may look like a moderate angled mixed ridge, when standing underneath it and viewed from the east it was more a series of steep rock towers separated by deep clefts, not suited to a lightweight alpine approach, more a rock climb with a snowy top out. The potential for rock climbing in the summer months on the south face however looked amazing.

Good gullies/mixed lines were also spotted on the nearby peaks of St Michaels Sword and Couloir Peak, however these would need cold, stable conditions to be safely climbable.

Satellite imagery of the maps for this area did not do many of the peaks justice and even the smaller summits which had been dismissed as boring lumps from looking at them on maps generally looked like they would provide good objectives.

Overall we skied under a huge amount of virgin steep solid looking granite faces and snowy ridges that looked like they would give great sport either on skis or for rock climbing. The



The SW ridge of the Devil's Paw



Approaching the Devil's Paw (Couloir peak in the foreground)



The Devil's Paw (St Michael's Sword in the foreground)



A gully line on St Michael's Sword



Couloir Peak and the Devil's Paw, good mixed lines looked to exist on the middle of the main buttress on Couloir Peak (see previous photo)



The Horn Peaks and Antler Peaks (note these are much bigger than they look as they are very far away!)



Typical terrain on the Llewellyn Glacier



Typical terrain on the Demorest glacier



Typical terrain on the US Canada border

Conclusion

Carrying 200+ m of climbing rope, crampons, ice axes and two full racks of gear for 90km without any opportunity to use them was frustrating and not what the team had intended. However to see such a large amount of the range, to complete a north to south traverse of the icefield and spend time in such a vast wilderness knowing we were the only people in the entire range was a positive.

I don't think we were unlucky with the weather, but certainly neither were we lucky. During the long ferry journey from Juneau to Skagway a local told us of his traverse of the icecap, several years previous, which he had done in seven days in total whiteout conditions every day. I would however recommend that those wishing to climb in the range stick to the summer months and those wishing to ski stick to the spring. After experiencing the area, I think timing a visit with a period of stable cold weather allowing the kind of fast alpinism we were hoping to do would be extremely lucky.

Contacts

Ward air

http://www.aircharterguide.com/Operator_Info/WARD+AIR%5Bc%5D+INC%5Bdot%5D/1615/JUNEAU/1781

Discovery helicopters <http://www.discoveryheli.ca/>

Dyea Dave transfers <http://www.dyeadavetours.com/>