



## Foundation for Glacier and Environmental Research Juneau Icefield Research Program

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### EQUIPMENT LIST

The items listed below are the tools you will use during the summer to live and learn on the icefield. This list is based on many decades of experience and ideas given by numerous people. PLEASE FOLLOW IT CLOSELY. Shop around and research carefully before buying. IN EQUIPMENT, QUALITY OF CONSTRUCTION IS VITAL.

The items on this list can be very expensive if purchased at full retail price, therefore it may be advantageous to investigate other alternatives. Outdoor equipment shops are a good source for gear and advice; however, the salesperson has most likely not been on the Juneau Icefield, so use caution when considering a salesperson's recommendations. Magazines such as Backpacker and Outside often evaluate equipment and are good sources of reliable information. Consider renting or borrowing equipment. If you have the time and access to a sewing machine, consider modifying or making gear. Stuff sacks are easy to make with nylon from a fabric store. Also, consider whether you will participate in outdoor activities after your summer on the Juneau Icefield – if you will, it may be worth the initial investment to purchase your own gear.

Limit your gear (excluding skis, boots, and ice axe) to about 50 pounds or less. Typically, you will carry all your gear across the icefield, however there may be times when a few of your items can be transported from camp-to-camp via snowmobile or helicopter.

You will spend several days or weeks at different camps on the icefield during the summer. Travel between camps takes one or two days and involves skiing while carrying a full backpack. Fast weather changes can require a change from a light shirt or rain gear to your warmest clothing all in one afternoon. Temperatures range between the 40's and low 60's, with extremes of 20 and 70 degrees F. The wind is generally light to moderate, although occasionally gusting to 90 mph! The Juneau side of the icefield may receive periods of frustratingly prolonged rain and fog, with occasional wet snow at high camps. Waterproof gear gets extensive use as we must guard carefully against hypothermia. Balancing this are some beautiful, warm, and sunny days. Further inland to the north, the Atlin side of the icefield is sunnier and drier.

If you travel to Juneau in your field clothes, remember they become torn and soiled after a full field season. Most individuals prefer to have a fresh set of clothing for the trip home. These clothes should be packed in a heavy-duty waterproof plastic bag, clearly marked with your name using a permanent marker. Your set of clean clothes will be waiting for you in Atlin when you get off the icefield.

Please note that except for items marked optional, all equipment listed here is REQUIRED. There will be an equipment check before you go onto the icefield and you must have the proper equipment. It is difficult and expensive to procure additional items in Juneau.

**IMPORTANT:** Try all your equipment before arriving in Juneau. Make certain it fits and works. Break in your boots and carry your pack with some weight in it if you are out of shape. Pre-planning will save both you and the expedition unnecessary problems and delays.

**BEFORE LEAVING HOME, BE SURE TO MARK YOUR LAST NAME, IN LARGE, LEGIBLE PRINT, ON EVERYTHING YOU BRING, INCLUDING PACKS, BOOTS, CLOTHING, AND SKIS.**

**PLEASE DO NOT BRING SUITCASES. THERE IS NO PLACE TO STORE THEM AND THEY CANNOT BE TAKEN INTO THE FIELD.**

**BE SURE YOUR BOOTS ARE WELL BROKEN-IN BEFORE LEAVING HOME, AS THIS WILL GREATLY REDUCE THE LIKELIHOOD OF GETTING DEBILITATING BLISTERS.**

Questions regarding items on this list should be directed to the JIRP e-mail address at [fger.jirp@gmail.com](mailto:fger.jirp@gmail.com) or call 907-500-8913.

## **REQUIRED EQUIPMENT**

### **PASSPORT**

You will ski across the Juneau Icefield into Canada and will re-enter the United States for your flight home from Juneau. Therefore, **you must have a valid passport** with an expiration date no earlier than December 31 of the year you will be on the icefield. If you do not yet have a passport, or if your current passport expires before December 31 of the year you will be on the icefield, you must get a new passport or renew your current passport. For U.S. citizens, this can be done at any U.S. Post Office. **You must have your valid passport with you upon arrival in Juneau at the start of the program and you must have it with you on the icefield.**

### **LARGE BACKPACK**

Your backpack must be of sufficient volume to carry all your gear. Make sure there are attachment points to strap on crampons, ice axe, and especially your skis. An internal frame pack (North Face, Lowe, Gregory, Mountain Smith, or Osprey, to name a few) is required. Ensure that your backpack is suitable for your body size, particularly if you are borrowing a pack from someone else, as some packs are adjustable and some are not. Purchase two extra lash straps. These are necessary for strapping extra items on your pack. A rain cover for your pack can help to keep things dry. **Do not buy an external frame pack.**

### **ICE AXE**

This is one of the most important tools for safety and travel. **For icefield use it is essential that, when you are standing, the axe must fully reach from your palm to the ground.** Typical lengths range from 60 cm to 90 cm, depending on your height. We require ice axes designed for general-purpose mountaineering use (see examples below). **An ice axe leash must be attached to the axe.** Your ice axe should have a “B” or “T” rating and have a steel, Chromoly, or aluminum alloy shaft. Be sure to get a medium-weight or heavy-weight ice axe, as these are stronger and more durable than the super-lightweight ice axes that are on the market. Such lightweight ice axes sacrifice strength and safety for light weight, and are not strong enough to use as an anchor in crevasse rescue situations. Put your name on the shaft in large letters.

**Ice axes that are too short for your height, ice axes designed for technical ice climbing, or hybrid ski pole/ice axes will not be allowed.**



*Example #1: Grivel G1+*



*Example #2: Black Diamond Raven*

### CRAMPONS WITH STRAPS

We require hinged (flexible) crampons made from Chromoly steel or stainless steel, with either 10-points or 12-points, and with straps that fit your boots tightly (see examples below). Make sure your crampons and crampon bindings are compatible with your boots and make sure your crampons are properly adjusted to the size of your boots. **Do not bring rigid crampons**, as they are designed for technical ice climbing, which we do not encounter. **Do not bring crampons made from aluminum or aluminum alloy; these will not be allowed – ABSOLUTELY NO EXCEPTIONS!**



*Example #1: Grivel G-10*



*Example #2: Black Diamond Sabretooth Pro*

### CLIMBING HARNESS

Get a harness that is padded, has a belay loop and gear loops, and is easy to put on and take off over your boots. Detachable leg loops are a nice feature to have. The Black Diamond Alpine Bod harness or a similar harness is ideal. Petzl, Wild Country, and REI are other recommended brands. Your harness should have fairly wide webbing and a waist band that cinches above your hip bones. Make certain it is your size and will fit over several layers of clothing.

### CLIMBING HELMET

If you already have a lightweight climbing helmet (bike, ski, or snowboard helmets are not suitable substitutes), you should bring it with you to Juneau. JIRP has a number of Petzl Ecrin Roc (see photo) helmets available for rental for the season. Rental cost is \$30 (cash or check only; payable in Juneau). Students who wish to keep their rental helmet at the end of the season can choose to purchase the helmet for an additional \$20 (cash or check; payable in Juneau).



*Example of helmet provided by JIRP*

### CARABINERS

Bring three locking and two standard carabiners. A pear-shaped locking carabiner is recommended. A good way to personalize your carabiners is to use various combinations of colored tape on the side opposite of the gate, or use some other method to mark your name on your carabiners. **Carabiners must be designed and approved for climbing use.** Do not bring pickets, flukes, ice screws, pitons, climbing ropes, as these items will be provided by the program.

### **SLEEPING BAG**

Bring a sleeping bag rated to +15° F to +20° F (-9° C to -6° C). Insulation may be down or synthetic. Mummy shape is preferable as it optimizes insulative efficiency, weight, and compacted volume. If you bring a down bag, you will have to be extra careful to keep it dry. A compression stuff sack is highly recommended, as it greatly reduces the packed volume of your sleeping bag, making it easier to get all your other gear in your backpack.

### **FOAM PAD**

Bring a closed-cell foam or inflatable sleeping pad. It can be either full-length or ¾-length. Ridgerest and Thermarest are typical examples. REI and Big Agnes also make good pads.

### **TARP / GROUND SHEET**

A large 8 ft. by 10 ft. (2.5m x 3m) blue poly or coated nylon tarp is required for constructing bivouac shelters or covering packs outside the tent at trail camps. Some people find that surplus tent footprint tarps may be purchased cheaply and work well. **The metallized “space blanket” emergency type tarps are not allowed.**

### **LARGE STUFF SACK**

You will use this to put items in that may be transported from camp-to-camp by vehicle. Stuff sack size should be around 8" x 16" (approx. 800 in<sup>3</sup>, or approx. 13 liters). A waterproof dry bag is very useful, as your gear may be exposed to wet conditions during transport. Compression stuff-sacks are very handy for reducing volume, which makes it easier to get everything in your backpack.

### **SMALLER STUFF SACKS**

Most people find a need for four to six assorted sizes as this helps keep your gear organized. People have found that lightweight dry bags work very well. Sea-to-Summit and Granite Gear make a great range of backpacking-weight dry bags. A compression sack for your sleeping bag is recommended. **Do not bring marine/boating type dry bags as they are far too bulky.**

### **NYLON CORD**

Bring 50' (15m) of parachute cord or equivalent for tying tarps, fashioning climbing aids for skis, as well as for many other uses. **This cord is not for climbing or crevasse rescue purposes** – for that, see CORDELETTE below.

### **CORDELETTE / PERLON CORD**

Bring 50 ft. (15m) of 6-7 mm diameter perlon cord. This is available at any shop that sells climbing gear. This cord is used for making prussik loops, constructing snow and belay anchors, and many other uses.

### **PLASTIC BAGS**

This is cheap and effective insurance against wet gear. Large trash compactor bags are ideal for lining the inside of your backpack. Also, the free, heavy-duty plastic bags that airlines put your backpack in are great for lining the inside of your pack. Alternatively, two or three 30-33 gallon standard garbage bags will work. Bring about four to six smaller plastic bags, such as quart/gallon size Ziploc bags to protect individual items from moisture. Also bring one large heavy duty plastic bag in which to store your clean travel clothes.

### **BOOT WATERPROOFING**

If you use leather hiking boots and/or leather ski boots, purchase one can/tube of Aqua Seal, Biwell, Nikwax, Snowseal, or an equivalent type of boot waterproofing to make sure your boots remain as dry as possible. Waterproof your boots well before leaving home and bring at least one tube or small can with you to treat boots while on the icefield.

### **CUP & SPOON**

Your cup and spoon are for trail and camp use. A metal cup is preferred, as in an emergency you can use it to heat water. 12-16 oz. is a good size for the cup. Metal or Lexan are options for the spoon. You don't need to bring a fork or dinner knife, as we have these at the camps. Do bring a pocket knife or equivalent (see KNIFE below).

### **POCKET KNIFE / LEATHERMAN-TYPE MULTI-TOOL**

Swiss Army or Leatherman type with scissors is preferred. The large blade should be at least 2" long. Miniature Swiss Army knives are not allowed. Leatherman-type multi-tool knives are also very useful and come in handy for many things.

### **HEADLAMP**

Some traveling may be done at night. You will also need a headlamp in camp. An LED headlamp is recommended, as these are small and lightweight, but yet still provide enough light. Bring one set of extra batteries. If your headlamp uses bulbs, bring a spare bulb. Do not bring a hand-held flashlight.

### **WATER BOTTLE / BLADDER**

These are for carrying water while on the trail. Bring two one-quart/liter bottles. Some people find that one of the large 1½ quart/liter bottles is sufficient. Get wide-mouth bottles, as these are easier to fill with snow and water when on the trail than are the small-mouth bottles. Recently, water bladders (e.g. Camelbak, Dromedary) have become popular and work well. Once again, wide mouth is preferable. A water bladder can be substituted for one, **but not both**, water bottles.

### **COMPASS**

Get one that allows you to set the magnetic declination. The Silva Ranger type compass is nice because the declination can be set and it has a mirror. The current magnetic declination for the Juneau Icefield is 20° East. Geologists may want to have a Brunton for scientific as well as trail use.

### **MIRROR**

Small, non-breakable. Some compasses have mirrors.

### **CANDLE & MATCHES / LIGHTER**

Bring matches and/or a lighter, wrapped to be waterproof. These are useful for emergencies. The candle can be the short plumber type. One candle is sufficient.

### **SMALL REPAIR KIT**

Thread, needles, tape, wire, small vice grips and/or pliers (a Leatherman-type multi-tool will have pliers), replacement parts for your ski bindings, etc. Leatherman-type multi tools are very useful.

### **WRIST WATCH**

**Required for everyone.** It is an essential item for keeping you on schedule with daily activities. Bring a good one that is rugged, waterproof, and has an alarm. Bring extra batteries if needed. Make certain you know how to set and change the time and alarm.

### **MOUNTAINEERING SUNGLASSES**

You must wear sunglasses while out on the glaciers to prevent the effects of snow blindness. **We recommend sunglasses designed for mountaineering use** which filter out 95% of UVA and UVB rays, however wrap-around fishing glasses or dark safety glasses that provide 95+% UVA and UVB protection can also be used. We recommend bringing an extra pair, including prescription glasses if you need them, as a backup in case your primary pair breaks. Be sure your sunglasses wrap-around the side or have some type of side shield. You will wear your sunglasses 80%-

90% of the time, even in bad weather. If you wear goggles over glasses bring an anti-fogging agent. Goggles must have dark lenses. **Cheap sunglasses purchased at a department store or drug store are not sufficient and will not be allowed.**

### **EXTRA PAIR OF PRESCRIPTION GLASSES / CONTACT LENSES**

If you wear prescription glasses, be sure to bring an extra pair of prescription glasses or contact lenses. If you wear disposable contacts, bring enough for the 8-week program.

### **LIP BALM**

One or two tubes with an SPF of 15 or higher.

### **SUNSCREEN**

One 8 to 12 ounce container of SPF 30 or higher should be sufficient. If you burn easily, bring two bottles. See First Aid List for additional information. **You must use sunscreen.** Zinc oxide or Glacier Cream blocks out all radiation.

### **PERSONAL HYGIENE ITEMS**

Soap, shampoo, small towel, wash cloth, toothbrush, dental floss, toothpaste (enough for two months), nail clippers, and laundry soap (approx. 1-2 cups of powder sealed in a bag). Keep all items to a minimum. The small travel sizes of toothpaste, soap, and shampoo are perfect. You can get these at most department stores and drug stores. Personal hygiene beyond washing hands, face and brushing teeth takes on very little importance once on the icefield.

### **EAR PLUGS**

You will be sleeping in close proximity to many others throughout the eight week program. Many people snore, some quite loudly, making it difficult to get a good night's sleep. Several pairs of compressible foam ear plugs can make all the difference when trying to sleep.

### **DUCT TAPE**

One large roll, two inches wide – this is an essential item!

### **MARKING PEN**

Black, permanent, wide tip. You will need this to mark all of your gear, as well as for other purposes.

### **JOURNAL & WRITING MATERIALS**

Bring enough stamps, envelopes, paper, pencils, and pens to last the summer. The Institute will supply water-proof field notebooks. Be realistic in what you bring, paper is heavy!

### **USB FLASH DRIVE**

While on the icefield, you will compile a project proposal and the preliminary results of your student research project. You will therefore need a USB flash drive to store your files. One or two 4 GB drives is sufficient, or bring a higher capacity drive if you already have one.

### **FIRST AID KIT**

SEE FIRST AID LIST AT END OF EQUIPMENT LIST.

## **CLIMBING SKINS or other CLIMBING AIDS FOR SKIS**

The ski route across the Juneau Icefield includes several steep ascents. It is possible to ascend these sections using waxless, patterned-base skis, but doing so requires more energy and multiple side hill traverses and switchbacks, rather than taking a quicker, more direct, and more energy-efficient route. For this reason, it is necessary to have some sort of climbing aid for your skis. There are three primary types of climbing aids: 1) climbing skins; 2) kick wax; 3) parachute cord. Climbing skins give the most grip, allowing you to ascend in a straight line directly uphill. They are quick and easy to apply to your skis. They are however, the most expensive of the three options. Kick wax is cheap but is effective only on lower-angled slopes. Climbing aids made of parachute cord are very inexpensive and can provide climbing ability approaching that of climbing skins. The drawback to parachute cords is that they can be time-consuming to put on your skis and they tend to require multiple adjustments while on the trail.

The type of climbing aid you bring will depend on your skis, as outlined below:

### **If you have waxless, patterned skis (recommended):**

- You will need either climbing skins **or** parachute cord for making your own climbing aids.

### **If you have waxable, non-patterned skis:**

- You will need one or two cans of **red kick wax**, formulated for old, wet snow conditions.
- Although not essential, a wax cork is a useful item to have.
- You will also need either climbing skins **or** parachute cord for making your own climbing aids.

If you bring climbing skins, be sure to pre-fit them to your skis before leaving home. If you will rely on parachute cord climbing aids, learn how to tie them to your skis and become proficient at it before leaving home. We will also demonstrate at camp how to tie your cords.

## **SKI POLES**

Bring metal ski poles. Fiberglass poles can be used but are not preferred due to the ease with which they can break. Some people find adjustable poles work well. Do not bring poles with self-arrest grips.

## **SKIS, SKI BINDINGS, and SKI BOOTS**

Skiing is the primary means of traveling across the Juneau Icefield. Nearly 99% of the skiing you will do on the icefield is on mostly flat, slightly undulating low-angled slopes ranging from 1° to 5°. There are only two or three steeper hills that you will ski up and down. Additionally, the snow is old, wet, and dense. We do not encounter any extreme slopes or powder snow conditions on the Juneau Icefield during the summer. We therefore **require medium-duty, medium-width, full metal-edged, backcountry/cross-country skis**, with length appropriate for your height and weight, with **medium-duty boots** and **medium-duty bindings**. This is the ideal ski package for the Juneau Icefield.

Some people prefer to have separate ski boots and hiking boots, while others prefer to have one pair of boots which do double-duty as both ski boots and hiking boots. Either approach is acceptable for the icefield. Whether you opt for separate ski boots and hiking boots, or use one pair of boots for both skiing and hiking, **you must adhere to our required specifications for your boots.**

If you don't have the required skis, boots, and bindings, you may be able to rent from a local outdoor store in your area. Other options are to check various online sources such as REI. When consulting with companies about your ski gear, be sure to show them this equipment list so that they understand the type of gear that we require.

We realize there are many different ideas on the best ski package. However, we have many decades of hard-earned experience on the Juneau Icefield and know what type of gear is best for the conditions you will experience. Therefore, **you must comply with and bring the required type of skis, boots, and bindings. There will be NO EXCEPTIONS allowed!**

There are countless options for skis, boots, and bindings, and we can't possibly present all the various combinations in this equipment list. Therefore we offer the following recommendations and examples of the type of ski gear that is **REQUIRED** for the type of skiing you will do on the Juneau Icefield.

## REQUIRED SKIS

We require **medium-duty** skis which are designed for **backcountry touring** and they must have **full-length metal edges**. This type of ski is available with two types of bases – waxless, patterned base; or waxable, non-patterned base. Either type of base is acceptable, but a **patterned base is highly preferable**. Which one you choose will depend on your own personal preference. Waxable skis can provide better glide over the flatter sections of the icefield than waxless skis. However, you'll have to apply kick wax to waxable skis in order to get adequate grip for moving forward. Waxless skis don't require the application of kick wax, but they may be slightly slower than waxable skis on the low gradient slopes that make up the majority of the trip across the icefield. We have found that the large majority of staff and students prefer to use waxless, patterned-base skis. Karhu, Madshus, Rossignol, Alpina, and Fischer are several ski brands that have metal edged, waxless, pattern-base medium-duty backcountry touring skis. Below are three examples of the type of skis that are required for the Icefield.



*Typical example of a patterned base. The numerous small ridges that are cut into the base help the ski to grip the snow, allowing you to easily move forward without slipping*



*Example #1: Karhu XCD 70*



*Example #2: Madshus Glittertind MG+*



*Example #3: Rossignol BC 70 Positrack*

### Typical Specifications for Required Medium-duty Skis

- Use:* easy-to-moderate backcountry touring/cross-country skiing
- Width:* 50 mm to 80 mm
- Length:* depends on your height and weight (Google “ski length” for more information)
- Base:* patterned base
- Edges:* full-length metal edges
- Camber:* double is best, but partial or single camber is also acceptable

See more examples of skis required for the Juneau Icefield at <http://www.rei.com/c/metal-edge-touring-skis>.

Most ski manufacturers have a sizing chart on their web site. When sizing skis based on your weight, do not include the weight of your pack, because it often results in a longer, less manageable ski length for your height.



## REQUIRED SKI BINDINGS

We require **medium-duty** standard 75mm three-pin bindings (see Example #1 below) or telemark cable bindings (Example #2). If you choose the one-boot system, medium-duty Silveretta or equivalent (Example #3) bindings work well. Voile, Black Diamond, Silveretta, and Rottfella are a few manufacturers that make reliable bindings of this type. **NNN and SNS style bindings WILL NOT BE ALLOWED as these are more likely to fail on the icefield.**

Below are several examples of the type of bindings that are suitable, and required for use on the icefield.



*Example #1: Rottfella Super Tele*



*Example #2: Voile Switchback X2 Telemark Touring*



*Example #3: Silveretta Touring*

## **REQUIRED SKI BOOTS**

We require **medium-duty** ski boots that are designed to clip into telemark cable bindings or 75mm three-pin bindings via an extension of the sole at the toe of the boot. Such boots are made of either leather or plastic. It is currently somewhat difficult to find medium-duty leather telemark boots in the marketplace\*, as these have been almost entirely replaced by plastic boots. Examples of current leather boots on the market are the Scarpa Wasatch (see Example #1 below), Fisher BCX 675, and Alpina Alaska 75mm. Medium-duty plastic boots (Example #2) have the advantage of being lighter-weight, warmer, and drier on the icefield than are leather ski boots. Thus we recommend that you get plastic ski boots if you don't already have something suitable. Regardless of whether you bring leather or plastic boots, they must be above-the-ankle in height and designed for moderate backcountry or moderate telemark use.

**Your ski boots should be well broken-in** and should also be large enough for two pairs of socks (thick socks and liner), without being either too loose or too tight. Dry, well-fitting boots will greatly help to prevent the possibility of blisters.

**Medium-duty** Scarpa boots or equivalent work very well and are required for the Icefield.

**Do not bring downhill ski boots, alpine touring (commonly referred to as AT) boots, ski mountaineering boots, or boots that are designed for extreme telemarking**, as these are uncomfortable, heavy and are overkill for the type of skiing we do on the icefield. **These type boots will not be allowed!**



*Example #1: Scarpa Wasatch (leather)*



*Example #2: Scarpa T4 (plastic)*

## **IMPORTANT!**

Be sure to thoroughly examine your skis, ski boots, bindings, and poles for cracks, delamination, loose screws, worn parts, broken laces, and other defects before leaving home. Pay particular attention to your ski bindings, as it can be very difficult or impossible to adequately repair these while on the icefield. If problems are found with any of your gear, get the item(s) repaired in plenty of time before departing for Juneau. Remember to bring a spare cable (or two) and a few extra screws for your ski bindings!

\* An option for purchasing leather boots is through the used marketplace (Play-it-Again Sports, Ebay, Craigslist, etc). If buying used boots, be sure they are in good to excellent condition and that they fit your feet properly while wearing both liner socks and warm socks.

**THE FOLLOWING TYPES OF HEAVY-DUTY SKI GEAR ARE PROHIBITED**

- Downhill skis
- Super-wide alpine touring skis
- Super-wide telemark skis
- Skis that are shorter than recommended for your height and weight
- Ski bindings that include ski brakes

Downhill skis and super-wide alpine touring/telemark skis are too heavy and are overkill for 99% of the skiing you will do. Skis of this type will make you expend more energy, will dramatically increase your chances of developing long-lasting debilitating blisters, and you will travel slower. This will in turn slow down your entire group while on the trail.

**Heavy-duty Skis – NOT ALLOWED**



*Example #1: Black Diamond Drift Telemark/Randonee*



*Example #2: Rossignol Temptation 76*

**Typical Specifications of Skis that are NOT ALLOWED**

- Use:* downhill skiing, advanced alpine touring, advanced telemark skiing, extreme skiing  
*Width:* 90 mm to 140 mm  
*Length:* typically shorter than the recommended length for back-country touring skis  
*Edges:* full-length metal edges  
*Camber:* single  
*Base:* waxable

See more examples of skis which we will not allow on the Juneau Icefield at <http://www.rei.com/c/downhill-skis>

**Heavy-duty Boots – NOT ALLOWED**



*Example: Scarpa Maestrale RS Randonee*

**Heavy-duty Bindings – NOT ALLOWED**



*Example: Marker Duke Randonee*

**THE FOLLOWING TYPES OF LIGHT-WEIGHT SKI GEAR ARE PROHIBITED**

- Skate skis
- Ski bindings and ski boots that utilize the NNN or SNS (or similar) mounting system

**Skate Skis – NOT ALLOWED**



*Example: Fischer Carbonite Skate*

**NNN/SNS Boots – NOT ALLOWED**



*Example: Salomon Escape 7 Pilot CF*

**NNN/SNS Bindings – NOT ALLOWED**



*Example: Rottefella T4 Auto Touring*

Skating skis are too narrow and too fragile for the sun-cupped surface of the Juneau Icefield. Likewise, bindings and boots utilizing the NNN or SNS mounting system are too fragile. Our real-world experience has shown they are prone to breaking under the use to which they will be subjected on the Juneau Icefield.

**IF YOU ARRIVE IN JUNEAU WITH THE TYPE OF SKI GEAR THAT IS PROHIBITED, IT WILL NOT BE ALLOWED ON THE ICEFIELD. YOU WILL BE REQUIRED TO PURCHASE OR OTHERWISE ACQUIRE THE REQUIRED GEAR, POSSIBLY AT YOUR OWN CONSIDERABLE EXPENSE!**

## **REQUIRED FIELD CLOTHING**

### **HIKING BOOTS**

You will be hiking on snow, ice, sharp frost-shattered rocks, mud, and loose, unconsolidated rocks and gravel. There are also several stream crossings to negotiate. You will therefore need sturdy, comfortable hiking boots to wear for the hike from Juneau to the icefield and for the hike out from the icefield to Altin Lake. You will also use these for field trips while on the icefield. Your hiking boots must be above-the-ankle in height, medium-weight, with Vibram-type lug soles and a moderately stiff midsole (see examples below). **We strongly recommend leather hiking boots instead of plastic boots**, as leather boots provide better flexibility and traction on rock. Asolo, La Sportiva, Merrell, Scarpa, and Vasque are some notable brands. Some boots have Gore-Tex liners – these are highly recommended for the wet conditions you will encounter on the Juneau Icefield. We recommend that you purchase custom boot insoles for both your hiking boots and your ski boots. One common brand of custom insoles is Superfeet. These are highly recommended as they provide better support and more comfort than the standard insoles that come with your boots. If necessary, have your old boots resoled and stitched. **Make sure new boots are well broken-in** and are large enough for two pairs of socks (thick socks and liner). **Work-type boots are not allowed**, because they do not provide adequate traction or support on rock.

**If you opt to bring only one pair of boots that will double as both your hiking boots and your ski boots, make certain before leaving home that they are compatible with, and fit properly in both your crampons and ski bindings!**



*Example #1: Danner Mountain Light II GTX*



*Example #2: Asolo TPS 520 GV*

### **LIGHTWEIGHT SNEAKERS**

These are for in-camp use. Make sure the soles provide adequate traction, as there is snow within the perimeter of the camps.

### **RAIN PANTS AND RAIN JACKET**

The Juneau Icefield can be a cold, very wet place for extended periods of time! Try to get the best raingear money can buy. Quality here will be appreciated. Material should be of strong, durable, waterproof, breathable material such as Gore-Tex or EVent. Coated or rubberized nylon works well but must allow ventilation. **Make certain you stress to the salesperson that you are purchasing this for a very wet, sometimes high-wind environment!** Make sure the seams have been factory taped and sealed. If you are borrowing gear check the seams. Remember that this is your outermost layer of clothing that is used for warmth and protection from rain, cold, and wind. Make sure your rain pants have side zippers, as these allow you to put on and take off your rain pants without having to first remove your boots (a very important consideration when you're standing on the glacier in the rain and wind). Make sure your rain jacket has a hood. **Do not bring a rain poncho.**

### **LINER SOCKS**

Two or three pairs of polypropylene, silk, or other non-cotton sock liners.

**HEAVY SOCKS**

Three pairs of wool or wool poly mixture. **Do not bring cotton socks!**

**UNDERWEAR**

Three pairs are adequate. Nylon is the best because it dries quickly.

**LONG UNDERWEAR**

Bring a minimum of one set (top and bottom). Should be polypropylene, wool blend, or synthetic. Optionally, you may want to bring a second set so that you can change into your dry pair when returning to camp after a long, rainy day of working in the field. **No cotton!**

**SHORTS**

Great for sunny days and to wear over your polypro long underwear. Bring something durable as you will find your shorts may get a great deal of use. Do not bring blue-jean cutoffs, as they take too long to dry and are heavy.

**FLEECE OR WOOL PANTS**

One pair of fleece, pile, synchilla, or Polarplus pants. While various manufacturers may use different names to describe the material, they all describe essentially the same thing – a synthetic material characterized by a thick, fuzzy feel that provides insulation, warmth, and dries quickly. If you get wool try to find a medium-weight, tight weave. These can often be found in an Army surplus store and are usually less expensive than the synthetic materials. Fleece and wool stay warm even when wet.

**CAMP PANTS**

Nylon or other lightweight durable pants for in camp and warm weather and for a change when others are wet.

**LIGHT SHIRTS**

Two T-shirts or turtlenecks for layering and warm weather wear. A poly blend is best as it dries quicker (50% poly/50% cotton).

**POLYPRO OR WOOL SHIRT**

Layering is important. One polypro shirt such as expedition weight polypro or quilted polypro. A wool shirt will also take the place of the synthetic material.

**FLEECE, WOOL, OR DOWN JACKET**

Bring one insulating fleece, synchilla, or Polarplus pullover or jacket. A wool pullover sweater will also be sufficient for this layer if you do not have synthetic material. Not all camp buildings are heated and you will want a warm layer for in-camp use. This is also a good piece of clothing to use as a pillow. Do not bring an expedition-weight down jacket with gore-tex outer, as this is overkill for the summer conditions on the icefield.

**BANDANA**

One is sufficient.

**BRIMMED HAT**

This is for rain and sun protection. Baseball caps work well.

**WOOL OR OTHER TYPE OF WARM HAT**

Polypro or fleece is nice, as is a wool hat. The hat should cover your ears.



### **POLYPRO/WOOL LINER GLOVES**

These should be lightweight and are used as liners for your warmer outer mittens. Two pairs are recommended.

### **WOOL OR FLEECE MITTS**

One pair of thick mittens of tightly woven wool or fleece.

### **OVERMITTS/GLOVES**

One pair of waterproof shell overmittens or waterproof gloves. Mitts that are just shells are becoming harder to find, so an insulated mitt or glove that includes a waterproof shell will be adequate.

### **SNOW GAITERS**

These go over your boots and keep snow from getting in your boots. Shin height is desirable.

### **REQUIRED CONTENTS FOR FIRST AID KIT**

The following list contains material necessary to treat situations likely to be encountered on the Juneau Icefield. It can be very convenient to get a pre-assembled first aid kit, rather than assembling your kit piece-by-piece. These can be purchased at outdoor equipment stores. If buying a pre-assembled kit, make sure it is designed for hiking use and that it has the items listed below. Make sure your kit is kept dry by packaging items in ziplock bags, if necessary.

While the amount of the material in an individual kit is small, when everyone carries the required items, several kits can be combined to provide sufficient supplies for almost all emergency situations. Although each camp has medical supplies, it is essential that you carry your first aid items on the trail. Your first aid kit is one of the “ten trail essentials.”

Rubber Gloves	1 Pair
Band-Aids	5-10
Moleskin (Large Roll or Sheets)*	2
Spenco 111 Second Skin*	1 package
Atheletic Tape/Cloth adhesive tape	1 or 2 rolls
Gauze 2x2 Pads	3
Antiseptic Ointment (Bacitracin, Betadine)	1 sm. tube
Aloe Vera Gel – for sunburn (optional)	1 sm. tube
Tylenol	
Ibuprofen (Motrin, Advil)	
Any prescription medications you may be taking	2 month supply

\* These are essential; our most used items. This combination has saved many feet. Blisters are the most frequent medical problem in the field, and their prevention must be a strong personal commitment.

**You must include in your first aid kit any pertinent medical information.** On a piece of paper, list any allergies to medications, any illnesses that you have, any medications currently being taken while on the icefield etc. If none of these apply, then write the following on a piece of paper and place it in your first aid kit:

**No allergies, no pertinent medical history, no medications**

**You must carry your first aid kit with you whenever you are on the trail, out for the day doing field work, or at any other time when you are away from one of the JIRP camps.**

## **OPTIONAL ITEMS**

These items are useful, but as they are expensive or not absolutely necessary, they are optional.

### **DOWN JACKET / VEST**

A lightweight down jacket or vest that packs down can be nice to have for cold nights. Do not bring an expedition down jacket with gore-tex outer.

### **DAY PACK**

You will go on several field trips while in Juneau, so a day pack (25-35 liter capacity) may come in handy (or you can just use your backpack). A day pack can be used as your Atlin bag, containing your clean “home bound” clothing. A day pack can also be useful on the icefield for those times when we may be able to transport some of your gear from camp to camp via snowmobile.

### **CAMERA**

There will be opportunities (although limited) for recharging batteries. Bring enough memory cards for the entire summer. If using a film camera, bring enough film for the entire summer (only you can decide what is enough). ISO 64 or 100 film works well. A polarizing filter is nice for reducing glare. Wide-angle is nice for capturing the immensity of the icefield.

### **BELT / SUSPENDERS**

You will be hiking and skiing for long distances in your rain pants. If they do not stay up on their own, make sure that you have a method to keep your pants up.

### **SKI STRAPS**

Rubberized skis straps serve many purposes on the Icefield, especially when carrying your skis.

### **BIVY BAG**

Bivy bags can be used to help keep your sleeping bag dry, especially if you bring a down sleeping bag. Do not bring bivy bags that utilize poles, as these are too bulky.

### **TOPOGRAPHIC MAPS OF THE JUNEAU ICEFIELD**

If you are really into maps, you might consider bringing a set of USGS 1:63,360 scale topographic maps that cover the area of the Juneau Icefield. The maps are: Juneau B-1, Juneau B-2, Juneau C-1, Juneau C-2, Juneau D-1, and Juneau D-2. Bring the maps only if you want your own personal set, as we have them at the camps on the icefield.

### **HAND LENS, ROCK HAMMER, and SAMPLE BAGS**

These are useful if you are interested in bedrock geology research. The hand lens is of the fold-up 10x to 15x type.

### **LIGHTWEIGHT WINDBREAKER**

This is for those breezy clear days. This is optional as your rain jacket will also break the wind.

### **BOOT INSOLES**

Superfeet and/or Sole make nice insoles. These insoles cushion and help customize the boot to your foot, making your boots more comfortable.

### **LEATHER WORK GLOVES**

For work around camp and some field work.