



Foundation for Glacier and Environmental Research

Juneau Icefield Research Program

2024 Gear List

This is the list of required, optional, and prohibited equipment for the JIRP field season. If you are new to hiking, backpacking, skiing, mountaineering, or working in Southeast Alaska, this list may be overwhelming. All this information is meant to guide you, but it can be a lot to digest all at once. Read through it carefully several times. Then, break it into pieces and start by looking around for what you already have. Some items are “winter equipment”; most northern hemisphere retailers will have these on sale in February and March, and they may be out of stock by April. “Summer equipment” will still be in stock March - May in the northern hemisphere. We’ve provided pictures of some speciality items and, in a couple places, detailed descriptions of what *not* to get. As always, please don’t hesitate to reach out with any questions or concerns. It is far easier and cheaper to refine your gear beforehand, at home, than during our relatively short and busy Juneau Week Orientation.

Timing: Start by looking for the winter items, especially skis. Late winter is by far the easiest and cheapest time of year to buy skis and winter equipment. **It may not be possible to find something appropriate in May, so DO NOT PROCRASTINATE ON THIS.** Many ski shops, for example, operate as bike shops in the summer. They put their ski inventory and tools in storage for the spring and summer. Other winter items, like puffy jackets, are also more difficult to find the later you look. We have marked most of these items “**WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE**” below, but use your common sense too.

Sticking to the list: This list is based on many decades of experience with the particular requirements of the Juneau Icefield summer traverse. Please follow it closely. Outdoor equipment shops are a good source for gear and advice but be aware that salespeople unfamiliar with Southeast Alaska often underestimate the weather conditions we encounter. If you already own equipment similar to what is described and you are experienced using it, contact us before buying new equipment.

Cost: These items will be expensive if you purchase them at full retail price; we suggest looking for alternatives. Consider renting or borrowing equipment. If you have the time and access to a sewing machine, consider modifying or making your own gear. Consider whether you will participate in relevant outdoor activities after your summer at JIRP. If you know you will, it may be worth the initial investment to purchase your own gear; if you’re not sure you will pursue ski mountaineering, cheaper workarounds will get you through this summer. We suggest lower cost alternatives where we can.

Specifically to keep costs down, items we accept or recommend seeking out second-hand are marked “**SHA/R**” in the right margin. Items we discourage getting second hand for safety reasons are marked “**SHD**” in the right margin. If an item is unmarked, it’s usually because you are unlikely to find a high quality option second-hand. Feel free to ask JIRP staff if you have specific questions. You can find Items marked **H/GS** at the hardware/grocery store (as opposed to the pricier gear store).

Research: There are many options for almost every item on this list. Do some online research before deciding what’s right for you. There is a tremendous amount of information on everything from how specific clothing items fit to customer service at different companies. Google, google, google! Skiers and climbers share a lot of information on the internet.

Weight: Limit your gear (excluding skis, boots, crampons, and ice axe) to about 50 lbs/25 kg or less. For the most part, you will carry almost all your own gear across the Icefield. A few of your items can be transported between camps via snow machine or helicopter, but this option is reserved for things you don't need for up to a week at a time.

Weather: Dramatic weather changes can require quick changes between a light shirt, rain gear, and your warmest clothing all in one afternoon. Typical temperatures range between 40°F/4°C and 65°F/18°C, with extremes of 20°F/-7°C and 80°F/25°C. The wind is generally light to moderate, although we occasionally see gusts up to 70 mph/110 km/hr (fast enough that it's almost difficult to stand up). Rain and fog are more common than clear weather and can persist for days or weeks. Snow and sleet are possible throughout the summer. **Waterproof gear gets extensive use and is critical to guarding against hypothermia.** Balancing the rain are many beautiful warm and sunny days.

Wear and tear: Everything you bring will accumulate significant wear and tear. Do not bring anything irreplaceable, and make sure you communicate expectations clearly with anyone who lends you gear.

Gear Checks: Except for items marked optional, all equipment listed here is required. Our staff will check every piece of equipment during Orientation week, and you will not be allowed to go into the field without the right gear. Except for generic grocery store items (ex. sunscreen) it is usually difficult and expensive to procure these items quickly in Atlin or Juneau. Do your best to get exactly what this list describes before the program starts.

Miscellaneous:

- Try all your equipment before arriving at the program. Make certain it fits and that used items aren't damaged. If you aren't sure how an item is supposed to fit, contact the JIRP staff. There's no shame in being new to this!
- Mark your last name in large, legible print on everything you bring (including packs, boots, clothing, and skis). We are living in close quarters all summer, many people have the same gear, and unmarked items get confused and misplaced easily. For some items (ie. skis) it may make more sense to write on a piece of tape on the item.
- **Do not bring hard-sided suitcases.** They are too bulky for our storage facility. A soft sided duffel bag or small pack is much better and easier to store. Label all your luggage with your name. **Note: You may bring a ski bag.**
- The last page of this document is a checklist.

REQUIRED EQUIPMENT

PASSPORT (INCLUDING VISA, IF REQUIRED)

Passport: Must expire after December of the year you are attending JIRP.

Visas:

Students: If you are not a US citizen, we will be in touch about acquiring a student visa through CU Boulder.

Staff and Faculty: We will be in touch directly.

LARGE BACKPACK

SHA/R

Internal frame pack with a volume of 3500-5000 cu. in./60-80 liters. Make sure there are attachment points for an ice axe (a loop towards the bottom) and skis (see below). External frame packs, with a visible aluminum frame, are prohibited. The North Face, Lowe, Gregory, Black Diamond, and Osprey are a few well-respected pack brands.

Make sure your backpack harness (the part that sits against your back and the shoulder/hip straps) fits your torso. This is particularly important if you are borrowing a pack; some pack harnesses are adjustable (beyond tightening the shoulder and hip straps) but some are not. REI has an excellent video on fitting a backpack here:

<https://www.youtube.com/watch?v=0SGiGZlppMM>.

Below are pictures of the common method of attaching skis to backpacks; please make sure your pack has appropriate horizontal straps on the sides. We will talk about how to pack a backpack properly during Orientation. It is enough for the trip to Juneau that you just get everything in your pack and/or duffel bag.



Fig 1. Side view of skis strapped to backpack. Note backpack side straps for skis. This is not the correct model of backpack or skis, it is meant only to illustrate side straps.



Fig 2. Rear view of skis strapped to backpack (secured with a rubberised ski strap at the top)

SKIS

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Medium-duty, full metal edge, waxless/pattern-base backcountry touring skis. For a full explanation, including pictures, please see the **Gear List Supplement**. Please look yourself, especially locally, and then contact us if you can't find anything.

SKI BOOTS

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Medium-duty (three buckle) telemark boots. We strongly recommend hard plastic boots over leather or soft synthetic materials because they keep your feet drier. For a full explanation, including pictures, please see the Gear List Supplement.

SKI BINDINGS

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Three-pin telemark bindings (recommended), A/T tech, or Silvretta bindings. **These must match your ski boots.** For a full explanation, including pictures, please see the Gear List Supplement.

IF YOU ARRIVE AT JIRP 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, AT YOUR OWN (PROBABLY) CONSIDERABLE EXPENSE.

SKI LEASHES

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

These attach your skis to your boots so you can take your boots out of your skis without losing the skis. If you have them, bring them. Otherwise we'll make homemade options in Juneau at no expense to you.

SKI STRAPS

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Two rubberized ski straps. These serve many purposes on the Icefield, especially when carrying your skis. Please do not bring the wider velcro-style kind. Example to the right:



SPARE BINDING PARTS

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Spare cable (or two) for your bindings if you're bringing your own telemark bindings and they have heel cables.

SKI POLES

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Adjustable length (preferred), aluminum or carbon fiber (not fiberglass) ski poles for hiking and skiing. External flip locks hold up better than internal screw locks. If you have fixed length ski poles, they cannot be longer than the distance between the ground and your armpit. Bring one extra set of baskets. **Do not bring poles with self-arrest grips.**

CLIMBING SKINS

SHA/R

Students: Required Staff: Required

Faculty: Required for only (a) the Camp 17-10 Traverse and (b) for people who do *not* have pattern-based skis.

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

These allow you to ski steep uphill terrain. If you bring your own, fit them to your skis before leaving home.

ICE AXE

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Mountaineering style preferred. If you already own a technical ice tool that has an adze and a bent shaft (ie *Petzl Quark*), you may bring it. Lengths range from 45-65 cm, sized by height. Must have a "B" or "T" rating. JIRP discourages leash use, so don't go out of your way to get a leash. **Technical ice climbing tools designed with aggressive ergonomic grips (ie *Petzl Nomic*) and hybrid ski pole/ice axes ("whippets") are prohibited.**



Example #1: Petzl Summit 2



Example #2: Black Diamond Raven

CRAMPONS

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Mountaineering-style crampons, 10- or 12-point, steel only (no aluminum).

MICROSPIKES

SHA/R

Students: Required Staff: Required

Faculty: Required for only Block 4

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Small steel spikes on a rubber harness to fit over your hiking boots. These provide moderate traction on ice and are far more comfortable than crampons for 8-12 hour days. *Hillsound Trail Crampons* and *Kahtoola Microspikes* are good options.

YakTrak, Stabblers, or similar are not sufficient. Similarly, Black Diamond and Amazon brand options have failed too often and are prohibited.

MOUNTAIN BOOTS

SHA/R

Above-the-ankle, light-duty mountaineering or heavy-duty hiking/backpacking boot with a lug sole. We will be hiking, for 8-12 hrs at a time, on snow, ice, sharp frost-shattered rocks, mud, loose and unconsolidated rocks and gravel, and across several streams. The difference between light-duty mountaineering boots and heavy-duty hiking/backpacking boots is the stiffness of the sole. Mountaineering boots have a layer in the sole called the “shank” that adds stiffness; heavy-duty hiking boots achieve a somewhat similar effect with different materials, but are ultimately more flexible. If you go towards mountaineering boots, uninsulated/summer options are the most appropriate.

We strongly recommend leather or synthetic hiking/backpacking boots or light-duty mountaineering boots instead of hard plastic mountaineering boots because semi-flexible boots provide better range of motion and traction on rock. Asolo, Lowa, La Sportiva, Merrell, Scarpa, and Vasque are some well-known and reputable brands, but there are many others. Some boots have built-in Gore-Tex liners – opinions vary on whether these are best to cope with wet conditions; some people swear by them, some feel boots will inevitably get wet anyway and the Gore-Tex slows drying. Boots have a long lifespan - used options are acceptable here but check to see if they need to be resoled or restitched and that they fit *your* feet well.

Note that all boots are compatible with strap-on crampons, and all JIRP rental crampons are strap-on style. You do not need a boot that specifies “crampon-compatible”.



Ex. 1: Scarpa Charmoz (light-duty mountaineering)



Ex. 2: Asolo TPS 520 GV (hiking/backpacking)



Prohibited Boots:

We will be kicking steps in steep snow, wearing crampons, and traveling over uneven terrain wearing full packs. Light-duty high top trail running shoes and light-duty hiking boots are not sufficient. If you can easily bend the sole (picture left), it is not stiff enough. Examples of prohibited boots include *Salomon X Ultra 4 Mid*, *Hoka Kaha*, and *Altra Lone Peak*. If in doubt, please contact the Program Manager. If you bring boots that are too light, you will have to purchase new boots in Whitehorse or Juneau.

CLIMBING HARNESS

SHD

A technical climbing harness that has a belay loop, adjustable leg loops, and gear loops.

If you are buying a harness specifically for JIRP, we highly recommend a ski mountaineering-style harness (ie Petzl Tour, Petzl Altitude, or Black Diamond Couloir). The lack of padding in these harnesses helps them fit better under a backpack, which is how we will primarily use them at JIRP. Fully detachable leg loops are a nice feature to have because they make the harness easier to put on over boots. These harnesses are also usually more affordable than the padded option below.

If you already own a climbing harness, or plan on using your harness for rock/ice climbing after JIRP, you should consider a traditional padded harness (ie Petzl Corax). Waist belt and leg loop padding make the harness significantly more comfortable for vertical climbing (we do not commonly encounter vertical terrain at JIRP).

Regardless of the style, make certain your harness is the correct size: small enough to be snug over just a t-shirt/thin pants and large enough to fit over several layers of warm clothing. If you can pull your harness down over your hips when the waist belt is fully tightened it is too big. More info on choosing an appropriate model and size here (the ski mountaineering option is best for JIRP, although any harness will work): <https://www.youtube.com/watch?v=MHV-mr2VD-0>. **Harnesses have a lifespan of about three - five years and knowing the history of the harness (how many falls it's had on it, how it's been stored, etc.) is critically important. Avoid hand-me-down harnesses.**



Ex. 1: Petzl Tour harness (not padded)



Ex. 2: Petzl Corax harness (padded)

CLIMBING HELMET

SHD

Foam core/hard shell climbing or dual-rated climbing/skiing helmet. These helmets come in a range of weights, with the heavier options generally being the most durable. We highly recommend the options with a hard shell over a larger portion of the foam (ie Black Diamond Vision, Mammut Wall Rider). Lighter weight options (ie Petzl Sirocco, Grivel Duetto) are often damaged at JIRP due to careless storage and transportation. Wherever possible, choose "summer" options (liners, etc.). You can always add warm layers with your helmet, but skiing in an insulated helmet when it's 80° F/25° C and sunny is unpleasant. **Helmets not rated for climbing (single-purpose ski helmets, bike helmets, etc.) are not acceptable. Pack your**

helmet in your carry-on. Rough handling of luggage has cracked helmets.



Ex. 1: Black Diamond Vision, a foam core(gray)/hard shell (red) climbing helmet.



Ex. 2: Salomon Mtn Lab, a foam core/hard shell dual-rated climbing and skiing helmet.

At some camps there are optional recreational downhill ski opportunities (conditions permitting). The climbing helmets pictured here for mountaineering are not certified to protect you in a downhill skiing accident. If you want to engage in optional downhill skiing, we strongly recommend you purchase [a helmet that is certified for both mountaineering and skiing](#). Some popular options are the *CAMP Voyager*, the *Salomon Mtn Lab Helmet*, the *Scott Couloir*, and the *Kong Kosmos*. If you choose to engage in recreational downhill skiing without an appropriate helmet, you do so at your own risk. At no point will JIRP activities require you to ski downhill fast enough to need a downhill ski helmet.

CARABINERS

SHD

Four locking and five non-locking carabiners. Climbing carabiners come in two general types: locking and non-locking. The lock is a cylindrical jacket that twists up over the gate of the carabiner to stop it from opening accidentally. For locking carabiners, we recommend options that are the same size/shape as your non-locking carabiners, although any combination of sizes/shapes is acceptable. A good way to personalize your carabiners is to use colored duct tape or electrical tape on the side opposite the gate. **Carabiners must be designed and approved for climbing use.**

Locking carabiner:
(the bright blue piece is the lock)



Two types of non-locking carabiners,
both are acceptable:



CORDELETTE / PERLON CORD

SHD

50 ft./15m of 6 mm diameter perlon cordelette. Larger or smaller diameters are not acceptable. *This cord is used for mountaineering, you must buy it at a store that sells climbing equipment.* **This item has a lifespan of about five years; second hand options are not recommended.**

DYNEEMA SLING

SHD

One 120 cm long, 8-11mm wide dyneema sling. 'Dyneema' is a proprietary synthetic fiber with exceptional tensile strength, widely used in products sold by most climbing companies. *This sling is used for mountaineering, you should buy it at a store that sells climbing equipment.* **This item has a lifespan of about five years, second hand options are not recommended.**

SLEEPING BAG

SHA/R

A sleeping bag rated down to at least +15° F to +20° F (-9° C to -6° C). Cold sleepers may prefer a bag rated to 0°F/-18°C. Insulation may be down or synthetic. Please get a mummy shape because it optimizes efficiency, weight, and volume. If you bring a down bag, you will have to be careful to keep it dry (consider bringing the optional bivy bag). We also require a compression stuff sack for your sleeping bag. It's important you are warm enough to sleep well - choose your sleeping bag conservatively. Down bags have a long (10+ yr) lifespan, synthetic bags lose much of their insulative powers after 5-10 years.

SLEEPING PAD

SHA/R

Students: Required **Staff: Required**
Faculty: Required only for Blocks 2, 3, and 4

A closed-cell foam or inflatable sleeping pad. Either full-length or ¾-length. Thermarest, Ridgerest, and REI all make good quality pads, Big Agnes models seem to puncture often. If your pad is inflatable, bring a small patch kit to repair punctures.

TARP / GROUND SHEET

H/GS

A large 8 ft. x 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. These can be found at the hardware store. Tent "footprints" are lighter, may be purchased cheaply, and work well. **The metallic "space blanket" emergency type tarps are not durable enough.**

UTILITY CORD/PARACHUTE CORD (P-CORD)

H/GS

35 ft./10m of parachute cord ("p-cord") or utility cord for miscellaneous, *non-mountaineering* use. This cord should not be more than 4mm in diameter. You can get this at the hardware store. It does not need to be one continuous piece.

LARGE, HEAVY DUTY DRY BAG OR STUFF SACK

Students: Required **Staff: Required**

Faculty: Required only for Blocks 2 and 3. Not required for Blocks 1 and 4 as all gear must be carried in/out of the field by faculty in those blocks.

About 10" x 30" (approx. 1,800 in³ or 30 liters). This is to transport personal items between camps by snow machine or helicopter. A heavy duty marine/boating-type dry bag is strongly recommended as this bag will be outside in wet weather for several days at a time. Ex: *SeaToSummit Big River Dry Bag*, or *Sealine Baja Bag*. **Do not bring backpacking/lightweight dry sack for this, it will not be durable enough.** Jargon note: Dry bags are usually heavyweight. Dry sacks are lightweight.

4-6 SMALL- TO MEDIUM-SIZED STUFF SACKS

Four-six smaller (~3-10 L) stuff sacks to organize gear, both in camp and on the trail. For organization in camp, non-waterproof nylon stuff sacks are good. For use on the trail, many people use backpacking-weight “dry sacks” (lighter weight than marine/boating “dry bags”). Ex: *SeaToSummit Lightweight DrySack*, *Sealine Block DrySack*, or *REI Ditty Sacks*. **Do not bring marine/boating type dry bags for these items, they are too bulky to carry in your backpack.**

PLASTIC BAGS

H/GS

Five large trash bags and four-six ziploc bags. Large trash compactor bags are ideal, but 30-33 gal. standard garbage bags are acceptable. If the airline puts your backpack in a free heavy-duty plastic bag, bring it too! Additionally, bring four to six smaller (qt or gallon) ziploc bags to protect individual items from moisture.

CUP & SPOON

12-16 oz. cup and metal or lexan spoon or spork for trail and camp use. A metal cup is preferred; in an emergency you can use it to melt snow for water on the camp stove. You do not need a fork or a dinner knife.

TUPPERWARE CONTAINER WITH LID

H/GS

Large enough for a sandwich, helpful for keeping your sandwich from getting squished on the trail. Also used for eating meals in camp. This will get a lot of wear and tear, so try to find something heavy duty.

POCKET KNIFE / LEATHERMAN-TYPE MULTI-TOOL

Swiss Army, Leatherman or similar with scissors are recommended. The large blade should be at least 2" long. Miniature multi-tools are not sufficient. Leatherman-style in particular are useful because they have pliers.

HEADLAMP

LED headlamp, not a flashlight. Locking feature is useful. Must be able to take disposable batteries, charging options are limited and only available in the evening (when you use your headlamp). **Bring an extra set of batteries.**

WATER BOTTLE / BLADDER

Two 1-1.5 qt/L water bottles. We recommend wide-mouth bottles, they are easier to fill than small-mouth bottles. Bladders (e.g. *Camelbak*) or insulated water bottles (e.g. *Hydroflask*) are popular and can be substituted for one bottle each.

LIGHTERS

H/GS

Two lighters. These are not allowed in your checked luggage and can be bought in Juneau.

WATCH

H/GS

Waterproof and with an alarm. **Required for keeping you on schedule with daily activities.**

SMALL REPAIR KIT

H/GS

Ski binding screws (if you're bringing your own skis), thread, needles, crazy glue, adhesive patch material (e.g. Tenacious Tape), etc. A large sewing needle and unwaxed dental floss are great for repairing burlier items like backpacks. Extra tip or tail clips if you're bringing your own skins.

MOUNTAINEERING SUNGLASSES - “GLACIER GLASSES”

One pair of specialized wrap-around sunglasses. Sunglasses are critical protection against snow blindness, which is a painful, debilitating, and dangerous sunburn on your cornea. You will wear your glacier glasses all day, every day. **We recommend sunglasses designed for mountaineering**, which are designed to be worn while exercising and fog up less than other models. Appropriate lenses will be labeled “Category 4” or “Cat 4”, which means they offer the highest level of light blocking. If your budget allows, photochromic lenses change their light-blocking properties depending on how sunny it is and will be the most comfortable on cloudy days (look for Cat 2-4 lenses). Wrap-around fishing glasses or dark safety glasses that provide 100% UV protection and block >90% visible light are also acceptable, although they often fog up. Regardless of their recommended use, your sunglasses must be wrap-around or have some sort of side shield and sit flush to your face to protect from light reflected up off the snow. Polarization is totally optional; many mountaineers prefer non-polarized glasses because visible glare helps differentiate between snow conditions. Bring a hard case to protect them.

We will provide tinted hardware store safety glasses for back-ups, you need not bring a second pair if you do not wear prescription sunglasses.



Good examples of glacier glasses.

If you use Rx vision correction: There are three routes to take with eyewear. There is no single right answer, this boils down to the strength and complexity of your prescription, personal preference, and experience. **You know your eyes best.** If your vision is bad enough that you would be uncomfortable navigating uneven footing without your glasses, bring two backups.

1. [Contacts and non-prescription sunglasses:](#) Bring contacts for three months, 1 or 2 prs of back-up glasses, and non-Rx sunglasses. There are sufficient hand washing options to safely use contacts in the field. Advantage: Off-the-shelf sunglasses. Disadvantages: You have to be very careful with your contacts. If you know you’re not good at taking them out at night, washing your hands, etc., *do not go this route.*
2. [Prescription sunglasses and glasses:](#) Bring at least two pairs of Rx sunglasses and at least two pairs of clear Rx glasses. Replacements will be difficult to get in the field. Advantages: no sticking your fingers in your eyes. Disadvantages: You’re carrying around a lot of expensive glasses, switching between the two can be annoying.
3. [Prescription glasses and ski goggles:](#) 2-3 pairs of clear Rx glasses and dark ski goggles designed to fit over glasses (look for small frame cut-outs over the temples, ‘OTG’). Advantages: If you have a particularly complex prescription, this lets you use your regular glasses all day. Disadvantages: This is the least comfortable option when exercising. In warm weather goggles are hot and fog up. You will have to wear your goggles all day, every day in the field.

LIP BALM

H/GS

3-4 tubes with an SPF of 15 or higher. Sun Bum, Dermatone, and others make SPF 20+ options.

SUNSCREEN

H/GS

One 8-12 oz container. Broad spectrum, SPF 50 (best) or 30 (adequate), sweat resistant/80 min. We will re-fill with grocery store sunscreen from Juneau - if you have strong preferences on the type of sunscreen you use, bring twice as much. **You must use sunscreen.** Zinc oxide or Glacier Cream block out all UV radiation and are great for noses and ears.

DUCT TAPE

H/GS

Required for students and staff, half roll encouraged (not required) for faculty.

One large roll, two inches wide, light-colored. It may sound like a lot, but we use duct tape to package and label large bags all the time and you will go through the whole roll well before the program ends. We write on this with the black permanent markers, so black-colored tape is no good.

PERMANENT MARKER

H/GS

Black, permanent, wide tip. Sharpie "King size" or similar are best.

JOURNAL & WRITING MATERIALS

H/GS

Required for students, encouraged for staff and faculty.

Bring enough stamps, envelopes, paper, pencils, and pens to last the summer. JIRP will supply waterproof field notebooks for field work. *Be conservative in what you bring, paper is heavy.*

USB THUMB DRIVE

H/GS

One 4 GB is sufficient. We use this to store files and move them between shared computers.

FIRST AID KIT

H/GS

You can purchase a pre-assembled kit at an outdoor equipment store but make sure it is designed for backcountry use and includes the required items. Re-package it in a dry sack or in ziploc bags. *Blister care items, consider bringing extra.

- 1 pr. rubber/nitrile gloves
- 5-10 band-aids
- 4 rolls/sheets moleskin*
- 2 rolls cloth athletic tape*
- 3 2x2 gauze pads
- 1 small tube antiseptic ointment
- 1 small bottle acetaminophen
- 1 small bottle ibuprofen
- 1 roll of LeukoTape

LeukoTape: This tape stays on the sweatiest feet for days when applied correctly (seriously). **Warning: this product can cause significant skin injury when removed incorrectly, even from otherwise intact skin. Never apply directly over blisters or damaged skin.** Peel it off **slowly** and parallel to the surface of the skin. Also, avoid applying over body hair. Available on amazon or from medical supply stores.



PERSONAL HYGIENE KIT

H/GS

Personal hygiene beyond washing hands and brushing teeth takes on limited importance in the field. There is one shower at each camp for all 50+ people, most people only shower a few times during the traverse. We will talk during Juneau Orientation about keeping yourself healthy with limited showers opportunities (snow baths are popular).

Students: Bring a two-month supply.

Staff: Bring a two and a half-month supply.

Faculty: Supply sufficient for your time at JIRP, plus a week in case of weather delay.

Required items:

- Toothbrush
- Toothpaste
- Soap: biodegradable, used for both body and laundry (ex. Campsuds, Dr. Bronner's, or similar)
- Non-cotton camp towel (24" x 24" / 60 cm x 60 cm)
- Travel-size hand sanitizer (you can refill in camp)
- Nail clippers
- Any medication you take regularly
- Prescription glasses or contacts (10 weeks), 1-2 back-up pair of glasses, and a copy of your prescription. If you wear contacts and your Rx is moderate - severe, *bring two prs back-up glasses.*
 - Contact solution and case, if applicable
- Menstrual products: Bring enough for your time in

the field, plus extra to accommodate fluctuations in body chemistry. Menstrual cups are popular; we will provide facilities for washing them. Tampon users: consider bringing applicator-less tampons to reduce waste, NatraCare and OB are good brands.

Optional items:

- Shampoo/conditioner/hair product (travel size)
- Lotion (3-6 oz container)
- Dental floss
- Deodorant: some like deodorant in the field, some do not. We trust you to make your own decision.
- Wipes (pH balanced for people with vaginas)
- Travel-size hairbrush for people with long hair

REQUIRED FIELD CLOTHING

General information: There are a dizzying number of different technical materials on the market, boasting a wide range of characteristics both real and potentially aspirational. Most are acceptable and the choice comes down to personal preference. The exceptions to this are cotton and down: Cotton fibers absorb water and lose their insulative properties. Likewise, down collapses when wet, becomes a heavy, soggy mess, and loses all its insulative properties. We often work all day in the rain, so we don't use materials that collapse when wet. Most items on this list are for use in the field; they should be made of synthetic materials or wool. There are a few items marked for "camp use"; these can be cotton or down.

CAMP SHOES

Sneakers, cros, or sports sandals (e.g. tevas or chacos) for wearing around camp. We highly recommend cros because they provide a good compromise of ventilation for healing feet and protection for toes, plus they're lightweight and don't absorb water. Alternatively, sneakers have better traction and are most comfortable when there's snow in camp. Sports sandals

provide good traction and ventilation but leave toes vulnerable to injury on rocks. **Insulated booties are not a replacement for durable camp shoes due to the wet/warm conditions and using camp shoes in the snow/on rocks. Flip flops, slides (ie birkenstocks) are not sufficient.**

MEDIUM-WEIGHT SKI SOCKS

SKI-SPECIFIC SOCKS ARE A WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Three pairs of wool or wool/poly blend. High-top style that hit your leg at the upper calf (above ski boots cuff). It will often be warm during the day and ski boots are thickly insulated, so don't worry about getting ultra-warm socks. Options with some padding on the front of the calf help with shin bruising. **No cotton.**

MEDIUM-WEIGHT BOOT SOCKS

Two pairs of wool or wool/poly blend. Mid-height style that hit your leg at the lower/mid calf (above mountain boot cuff). It will often be warm during the day so don't worry about getting ultra-warm socks. **No cotton.**

"SLEEPING SOCKS"

One pair of warm wool or synthetic socks to sleep in at night. Cold/wet feet all day can cause Immersion Foot, a painful but temporary nerve injury (aka Trench Foot). The best prevention is to sleep in warm, dry socks every night. We will discuss this further during Orientation. They should be wool or poly, but they need not be technical (ie Smartwool). **No cotton.**

UNDERWEAR

5-7 pairs of wool or synthetic are adequate, you will wash them often. Many seasoned JIRPers who wear longer styles prefer boxer briefs instead of boxers to reduce chafing and upper-thigh sunburn when wearing shorts. **No cotton.**

If you are prone to yeast infections: We recommend one or two additional pairs of cotton underwear to wear at night to discourage yeast infections. We will discuss this further during student orientation. Faculty, please reach out with questions.

SPORTS BRAS (if appropriate)

Medium impact. Three are adequate, you will wash them often. Synthetic or wool. **No cotton.**

INSULATION

You will only learn what insulation works best for you through experience. JIRP is designed to be a learning process. What follows is our best advice to set you up for success. There is no consistent way to measure non-down insulative power, so most descriptions are subjective and relative. Many companies use proprietary synthetic materials with different names, which makes this all more confusing. You can make this easier by first reading the description of the Icefield weather at juneauicefield.org/expedition-life. Then reflect on your previous experience in the backcountry or outdoors. If you've ever been cold sitting still at a fall sports game or similar when it's "not that cold out", you know how important a warm jacket is. Lastly, ask us! Come to office hours or shoot Annie an email, we're happy to discuss options.

The most important things to think about are:

- (a) Bring items that can get wet and retain their insulative power (wool, fleece, and synthetics are good, cotton or down are not acceptable, except where noted).
- (b) Make sure everything is sized so you can wear your lightweight, midweight, and heavyweight layers all the same time (and then add your rain shell on top).

LONG UNDERWEAR BOTTOMS

Two pairs of synthetic or wool, slim fitting enough to fit under your fleece/wool pants.

SHORTS

SHA/R

One pair, made of durable synthetic material. Useful for sunny days in camp and hiking. Styles with inseams over four inches reduce the incidence of upper-thigh sunburn from sun reflected up off the snow. Do not bring blue-jean cutoffs, they take too long to dry and are heavy.

SOFT SHELL OR HIKING PANTS

SHA/R

One pair of synthetic pants for wearing on sunny days on the glacier. We require pants when there is danger of crevasse fall, even though the weather may be very warm. Light colored options are most comfortable on sunny days. There are many options for this item. The priority is that they're comfortable to wear all day. Many people prefer pants *without* the shorts "zip-off" option to reduce chafing from the zipper while skiing. Pants with some stretch are generally more comfortable for skiing. Pants can be either tight or moderately slim fitting; they should not be baggy to reduce tripping hazard while wearing crampons. It's difficult to find cuffs large enough to fit over your ski boots, but this is a good feature. Many people appreciate wind-resistant material; softshell is the best option but is also expensive. Ex: *REI Taareen Pants*, *Columbia Outdoor Elements Stretch Pants*, *REI Activator V2 Soft-Shell Pants*, *Black Diamond Alpine* or *Alpine Light Pants*.

FLEECE OR WOOL PANTS

SHA/R

One pair of insulating fleece or wool pants, heavier than long underwear bottoms. You may find a cheaper army surplus-type wool alternative at a thrift store, look for a midweight pair with a tight weave. The weather is almost always too warm to wear these during the day; most people wear these around camp at night and/or to sleep in (basically as sweatpants), so find a style you feel comfortable hanging out in. Ex: *REI Teton Fleece Pants*.

LIGHT T-SHIRT

SHA/R

Two short-sleeve shirts. Synthetic or wool (**no cotton**). You may replace one short-sleeve with a tank top, but beware chafing pack straps on bare shoulders.

LONG-SLEEVE SUN SHIRT

SHA/R

Student: One required, two suggested

Staff: One required, two suggested

Faculty: One

Synthetic or wool (**no cotton**). A light color is most comfortable. We recommend a UV-protective option with a hood (best) or a collar (good). Ex: *Columbia Tidal Tee Hoodie*, *Black Diamond Alpenglow Hoody*, or any loose synthetic button-up shirt.

LIGHTWEIGHT INSULATION TOP

SHA/R

Two long-underwear-weight, long-sleeve, fleece, wool, or polypro shirts or hoodies. Ex: *Patagonia R1* or *Smartwool 250 Base Layer*. Wool shirt technology has changed in the last two decades to be much softer but not more insulative: “old-school” wool button-up shirts will work well if you can find one.

MIDWEIGHT INSULATION TOP

SHA/R

One or two midweight, long-sleeve, fleece/wool/light-synthetic-puffy pullover, zip-up, or hoody. Ex: *Mountain Hardwear Monkey Woman/Man*, *Patagonia Synchilla* or *NanoAir*, *Black Diamond First Light Hoody*, *L.L. Bean Packaway Primaloft Jacket*. Basic fleece technology hasn’t changed significantly in the last few decades and is exceptionally durable, so older models are great (see [our page on cleaning tips](#) to get rid of any bad smells). Tightly knit, mid- or heavyweight wool sweaters also work well. Both fleece and wool options can often be found at the thrift store. One is required, you might appreciate having two if you’re staying on the Icefield for longer (ie students and staff) or if you tend to “run cold”..

SYNTHETIC PUFFY JACKET

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

Mid or heavy-weight synthetic/wool-fill puffy jacket. **This is for use in the field, so it cannot be down.** A hood is preferred but not required. Do not bring an expedition-weight jacket with a rain shell, as the shell slows drying. If you usually “run warm”, two of the ‘midweight insulation tops’ may suffice; if you “run cold”, this layer should be warmer. You’ll be sitting still on the glacier for several hours at a time for workshops and data collection. Ex. of true heavyweight options: *Patagonia DAS Hoody* or *Black Diamond Stance Belay Parka*, *Columbia Pike Lake Hooded Insulated Jacket*

CAMP PUFFY JACKET

SHA/R

WINTER-SEASON ITEM - START LOOKING AS SOON AS POSSIBLE

For in camp use. If you bring two midweight (not heavyweight) insulation layers for the field, you should also bring a mid- or heavyweight puffy jacket or vest for nights around camp. This can be down or synthetic. Do not bring an expedition-weight jacket with a rain shell; the shell slows drying. Down technology hasn’t changed significantly in the last several decades. A hand-me-down down jacket will work about as well as a several-hundred-dollar option purchased new.

If you bring a true heavyweight synthetic option for the field, it will work for your camp puffy jacket as well (i.e. do not bring two *Patagonia DAS Hoody* or *Black Diamond Stance Belay Parka*-style jackets.

RAINGEAR

The Juneau Icefield is scientifically classified as a “Temperate Rainforest”; weather is persistently cold and wet for days or weeks more often than not. Get the best rain gear you can afford. You will appreciate quality here.

Southeast Alaska gets about approx. 3-4m of precip annually. This is about 3x as much rain/snow every year as Seattle, Boston, or Atlanta. We take precipitation very seriously.

RAIN JACKET

Must have a hood that fits over your helmet and be large enough to fit over all your layers (except camp puffy). Material should be durable, waterproof, and breathable. In our experience, the best rain jackets are made of either Gore-Tex or eVent. The second best options are Dry-Vent, Pertex, or Patagonia H2No. This is your outermost layer of clothing and is critical for protection from rain, cold, and wind. Brands such as Patagonia, The North Face, Arcteryx, Rab, Marmot, Outdoor Research, REI, EMS, and Mountain Hardwear produce reasonable quality rain gear. If your rain gear is old or you are borrowing rain gear, check the seams, [clean it, and refresh the waterproofing with these steps](#). **Ponchos are prohibited.**

RAIN PANTS

Must have ankle cuffs that fit over your ski boots. There are two options here.

Option One is a pair of backcountry-specific rain pants. Material guidelines are the same as for rain jackets (above): durable, waterproof, and breathable. Gore-Tex/eVent are a lower priority for pants, but still best. We strongly recommend models with either full-length or half-length zippers so you can get them on and off over ski boots. **This option is recommended for most people doing the whole Icefield traverse, unless you have previous experience with fishing bibs (option two).**

Option Two is a pair of lightweight polyethylene/vinyl, PU/vinyl, or PVC commercial fishing-style bibs. If you choose this option, we recommend bringing softshell pants (see “HIKING PANTS” above) for use in light precipitation. **This pairing is especially good for research teams working at a stationary remote tent camp on the glacier for several days in a row.** Ex: *Carhartt Lightweight Waterproof Rainstorm Bibs* or *Grundens Petrus 116 Sport Fishing Bibs*.

BANDANA /NECK GAITER

One or two are sufficient. A neck gaiter is especially useful for sun protection on your neck and over your face.

BRIMMED HAT

For rain and sun protection. An option with just a face brim is sufficient, although wrap-around brims provide more protection. A baseball hat with a metal connector on the very top should not be worn under a climbing helmet; “five panel” style hat, “running hat” or visor will be most useful for sunny days in the field.

WARM HAT

Fleece, polypro, or wool hat that covers your ears.

LIGHTWEIGHT POLYPRO/WOOL LINER GLOVES

Two pairs of lightweight, close-fitting polyester or wool liner gloves. We use these often for sun and abrasion protection, so a light color is often most comfortable on hot days.

MIDWEIGHT WOOL OR FLEECE GLOVES

One pair of midweight fleece or wool gloves.

OVERMITTS/GLOVES

H/GS

One pair of lightly insulated or uninsulated waterproof shell overmitts or gloves. We strongly recommend the Showa Tem-Res 282 blue breathable rubber fishing gloves. These can be difficult to find outside coastal fishing communities, but will be available when you arrive at JIRP for ~\$25. **Insulated ski mitts/gloves are not sufficient, they are difficult to dry.**



Ex 1: Showa Tem-Res 282 blue breathable rubber fishing gloves.



Ex 2: Uninsulated gore-tex mitten shells.

“TOWN BAG”

Students: Required

Staff: Required

Faculty: Appropriate for Block 4

You will leave a small bag in town when we go into the field. We will have up to a week of time in town before and after the traverse. There will be opportunities to swim, shower, and do laundry (COVID-19 permitting, we use public facilities for showering and laundry), and do some short day hikes. We encourage you to pack a small backpack or bag with soap, shampoo/conditioner, laundry detergent for 1-2 loads, 1-2 extra sets of casual street clothes, and a pair of sandals for post-traverse blistered feet. Volume for these bags is very limited. You *absolutely cannot* put food in here, it encourages mice during summer storage. You will have access to a convenience store for small purchases, although JIRP will continue to provide ample food. JIRP also provides money for coin-op laundry and showers.

OPTIONAL ITEMS

These items are useful and may be recommended based on your personal preference, but are not absolutely necessary.

LINER SOCKS

Two or three pairs of thin polypropylene, wool, or silk socks. Wearing liner socks under thicker socks can be a good way to prevent blisters. **No cotton.**

GAITERS

Shin height, XL size to fit over your ski boots (this will be tight, but it more or less works). These go over your ski boots and pants and keep snow from getting in your boots if your pants don't fit over the cuff. **These are also very useful when hiking in crampons: Nearly everyone occasionally kicks their own ankle with their crampons, which rips whatever fabric is there. Replacing ripped gaiters at the end of the season is far cheaper than replacing ripped rain pants or slashed hiking boots.**

DAY PACK

30-35 liters, lightweight, frameless, with ski carry (side straps) and rope carry (top strap or brain strap) options. We don't suggest you buy a new one for JIRP, but you can bring it for smaller day trips if you have one already. It helps if it has ice axe and/or ski attachment points. Is it important that this pack be big enough to carry your required gear if you want to use it for day trips, so **a smaller pack (ie 20L REI Flash Pack) is not sufficient.**

EAR PLUGS

You will be sleeping in crowded bunkrooms throughout the program. Many people snore, some quite loudly. Several pairs of foam ear plugs can make all the difference when trying to sleep.

INSULATED BOOTIES

Down or synthetic insulated booties. These can be nice on cold nights for indoor use, but they are not appropriate for walking around outdoors in camp due to sharp rocks, puddles, mud, slush, etc. even if they have a reinforced outer "sole".

INSOLES

Orthotic insoles (ex: *Superfeet* or *Sole*) are great for making both hiking and ski boots more comfortable. We strongly recommend them for everybody, but especially for students renting ski boots and people with chronically injured/sore ankles, knees, hips, and backs.

BOOT WATERPROOFING

If you use leather hiking boots, waterproof your boots well before leaving home and bring at least one can/tube of Aqua Seal, Biwell, Nikwax, Snowseal, or an equivalent type of boot waterproofing to re-treat boots.

CAMERA

Cameras independent of your cell phone are a good idea so your phone isn't in the rain and getting banged around every

day. It is best if the camera is waterproof/resistant. GoPros are extremely durable and terrific for clipping to your helmet. If you bring your phone as a camera, look into getting a waterproof/drop-proof case for it. If you bring a larger or DSLR-type camera, a wide angle lens is great for capturing the immensity of the icefield and a polarizing filter can be helpful in reducing glare. Mark your chargers with colored tape. **Please don't bring a DSLR camera unless you are very serious about using it and are prepared to carry it on long trips between camps; they are comparatively delicate, heavy, and bulky to carry in your backpack. With increased interest in these cameras recently, we cannot dedicate enough helicopter space to transport them for you.**

HEADBAND / HAIR WRAP

1 or 2. Useful for protecting your ears from sunburn, and for keeping long hair from getting tangled under a helmet. A second neck gaiter works well.

BELT / SUSPENDERS

You will be hiking and skiing for long distances in your rain pants. If your pants do not stay up on their own, make sure that you have a method to keep them up. If you choose a belt, consider how it fits with your pack hip belt and climbing harness.

HAND LENS, ROCK HAMMER, and SAMPLE BAGS

Only if you are highly interested in bedrock geology. The hand lens should be of the fold-up, 10x to 15x type.

WINDBREAKER/ SOFTSHELL JACKET

This is for breezy, clear days. This is optional because a rain jacket also works as a windbreaker, although a jacket designed for this purpose is more breathable and more comfortable to wear while exercising.

LEATHER WORK GLOVES

H/GS

For work around camp and some field work. Highly recommended to save some wear on expensive mountaineering gloves. Consider waterproofing wax if they're not suede.

HEADPHONES

A small, earbud style pair (not over the ears) for listening to music in your bunk. We have strict rules against headphone use in common areas and on the glacier for group dynamics and safety concerns, but many people like to listen to their music in their bunks during free time or before bed. Please bring a corded model if possible (without a separate battery), charging opportunities are severely limited.

NEOPRENE BOOTIES

Blisters are a common occurrence when we're skiing all day in wet socks, even for people with well-fitting boots. Blisters can sideline people and have kept them in camp for several days. Everyone has different suggestions for mitigating blisters, from duct tape to liner socks to *HikeGoo* or vaseline lubricant. Do some research and try different options during pre-season training to see what works for you.

Many of our staff/ alumni swear by eZee Hi Ankle Booties. These blister booties go on under socks. They are reusable, easier to use than tape, and stay on wet feet without an issue. **We recommend these highly! They have saved many JIRPers' feet.** Get two pairs so you can wash them often (sweaty neoprene smells horrendous). Available on amazon or ezeefitsports.com.

These are a required item if you are renting ski boots from JIRP. We recommend you purchase your own before arriving at

JIRP, but we will have some available for purchase during orientation for ~\$25/pair.



PORTABLE SPEAKER

Waterproof, battery-operated, **no bigger than a grapefruit/6" sub sandwich**. A few are enough for sharing amongst the group. Charging opportunities are limited and priority goes to academic and research equipment.

ATC/BELAY DEVICE

Optional but recommended. If you already own an ATC, you may bring it. Do not bring other climbing gear that isn't on the list.

HANDHELD GPS

If you already own one, know how to use it, and want to have it, then you may bring it. Do not buy a new one.

BIVY BAG

Waterproof layer that goes outside your sleeping bag. Especially if you have a down sleeping bag, consider bringing a bivouac "bivy" bag. Please do not bring a model with poles.

SLEEPING BAG LINER

Silk, synthetic, wool, or fleece liner that goes inside your sleeping bag. These can add warm (depending on the material) and save wear on your sleeping bag by absorbing a lot of the body oils, etc. that accumulate over eight weeks.

DO NOT BRING

All gear we each bring into the field is ultimately group gear. We share all our resources: helicopter space, snow machine sled space, bunkroom floor space, charging outlets, and even personal backpack space when necessary. Space is severely limited and valuable; protected space for fragile items is even more limited and valuable. Please do not bring extra items.

SOLAR PANELS

These are unnecessary, fragile, and heavy. There are adequate charging opportunities in camp for necessary items.

SATELLITE TEXTING/COMMUNICATION DEVICE

Personal devices such as DeLorme InReachs are not allowed for students on the Icefield without prior permission from the Program Manager. Students will have access to a shared satellite texting device (InReach) and a satellite phone (for emergencies), but there simply aren't enough outlets for everyone to maintain their own. Staff maintain regular communication with the town logistics team. Most personal communication is best accomplished through physical mail.

TEXTBOOKS

You may not bring personal textbooks into the field, we have ones for group use.

LAPTOP

Students and Staff: You may not bring your personal laptop into the field unless you have discussed a specific need for it with our staff.

Faculty: You may bring a laptop for academic purposes. We have group-use laptops, and limited pelican case space for personal faculty laptops. If you don't need speciality software, you can discuss options to leave your computer in Juneau with Ali or Annie.

CHECKLIST

REQUIRED EQUIPMENT

- Passport and Visa
- Large backpack
- Skis
- Ski boots
- Ski bindings
- Ski leashes
- 2x ski strap
- Spare binding parts
- Ski poles
- Climbing skins
- Ice axe
- Crampons
- Microspikes
- Mountain boots
- Climbing harness
- Climbing helmet
- 4x locking carabiners
- 5x non-locking carabiners
- 50'/15m 6mm cordelette
- 120 cm dyneema sling
- Sleeping bag
 - Compression sack
- Sleeping pad
- Tarp
- 35'/10m utility cord/p-cord
- Large dry bag/stuff sack
- 4-6 small-med stuff sacks
- 5x trash bags
- 4-6x qt/gal ziploc bags
- Cup
- Spoon/spork
- Tupperware
- Pocket knife/multi-tool
- Headlamp + extra batteries
- 2x water bottles/bladder
- 2x lighters
- Watch
- Repair kit
- Glacier glasses

- 3-4 tubes SPF lip balm
- Sunscreen
- Duct tape (a whole roll!)
- Permanent marker
- Journal and writing material
- USB thumb drive
- First Aid kit
- Personal hygiene kit
 - Toothbrush
 - Toothpaste
 - Biodegradable soap
 - Small towel
 - Small hand sanitizer
 - Nail clippers
 - Personal medication
 - Contact solution
 - Contacts/glasses
 - Backup glasses
 - Menstrual products

REQUIRED CLOTHING

- Camp shoes
- 3 prs midweight ski socks
- 2 prs midweight boot socks
- "Sleeping socks"
- 5 prs underwear
- 3x sports bras
- 2x long underwear bottoms
- Shorts
- Soft shell or hiking pants
- Fleece/wool pants
- 2x light t-shirts
- 1-2 long-sleeve sunshirt(s)
- 2x lightweight insulation top
- 1-2 Midweight insulation top
- Synthetic puffy jacket
- Camp puffy jacket
- Rain jacket
- Rain pants
- 1-2 Bandana/neck gaiter

- Brimmed hat
- Warm hat
- 2 prs liner gloves
- Midweight gloves
- Overmitts/waterproof gloves

"ATLIN BAG"

- Small bag/daypack
- Shower supplies (soap, etc.)
- Laundry detergent
- 1-2 sets of street clothes
- Sandals (optional)

OPTIONAL ITEMS

- 2-3 pairs of Liner socks
- Gaiters
- Day Pack
- Ear plugs
- Insulated booties
- Insoles
- Boot waterproofing
- Camera
- Headband/hair wrap
- Belt/suspenders
- Hand lens/rock hammer
- Windbreaker jacket
- Work gloves
- Headphones
- Blister barriers
- Small speaker
- ATC
- Handheld GPS
- Bivy bag
- Sleeping bag liner