

**EQUIPMENT LIST
GLACIOLOGICAL AND ARCTIC SCIENCES INSITUTE
AND THE
JUNEAU ICEFIELD RESEARCH PROGRAM**

The items listed below are the tools you will use during the summer to live and learn on the icefield. The list is based on many years 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.**

Outdoor equipment shops are a good source for gear and advice; however, the salesperson has probably not been on the Juneau Icefield. Magazines such as Backpacker and Outside often evaluate equipment and are good sources of addresses for mail order equipment suppliers. Consider renting from a retailer or borrowing an item from a friend. **MARK YOUR NAME CLEARLY ON EVERYTHING YOU BRING, INCLUDING PACKS.** Limit your gear to about 50 pounds or less. You will be carrying your personal gear up to the icefield, so make it bearable.

You will spend two and a half weeks at Camp 17 on the icefield during the summer. Rapid weather changes may require a change from a light shirt to rain gear to your warmest clothing all in one afternoon. Temperatures range from the mid 30's to the low 60's, with extremes of 20 and 70 degrees F possible. Winds are generally light to moderate, although occasionally gusting to 90 mph! The Juneau side of the icefield (where Camp 17 is) may receive periods of frustratingly prolonged rains and white-outs, with occasional wet snow. Waterproof gear gets extensive use as we must guard carefully against hypothermia. Balancing this are some beautiful warm and sunny days.

Most individuals prefer to have a fresh set of clothing for the trip home. These clothes should be packed separately as they can be left in Juneau while you're on the ice.

Everything else you bring, you will carry on to 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 or works. Break in your boots and carry your pack with some weight in it if you are out of shape. Preplanning will save both you and the expedition unnecessary problems and delays.

REQUIRED TRAVEL EQUIPMENT

LARGE PACK

Must be of sufficient volume to carry all your gear. Attachment points should be available to strap on crampons and ice axe. Internal frame pack (North Face, Lowe, Dana Designs, Jansport, Mountain Smith, Gregory, or Osprey to name a few) is advisable. Do **NOT** buy a cheap frame pack.

MOUNTAIN BOOTS

Travel conditions will vary from snow to ice to sharp frost shattered rocks. Boots must be above the ankle medium-heavy with Vibram lug soles. If necessary have your old boots resoled and stitched. Make sure new boots are broken in and are large enough for two pairs of socks (wool socks and liner). (You may wish to use insoles). Asolo, Merrell, and Scarpa are some notable brands. "Work type" boots **ARE NOT RECOMMENDED**, because they do not provide adequate traction on rock.

BOOT GREASE/WATERPROOFING

Use Aqua Seal, Biwell, or Snowseal to make sure boots remain as waterproof as possible. Grease/waterproof boots well before leaving home. You may want to bring waterproofing for re-application while in the field

LIGHTWEIGHT SNEAKERS

For in camp use - make sure your soles have deep lugs for good traction! You'll want something dry for evenings in camp.

ADJUSTABLE TREKKING POLES

CRAMPONS WITH STRAPS OR MICROspikes (tm)

Crampons, either purchased, rented, or borrowed. Alternatively, Kahtoola's MICRspikes (tm) are a much more economical solution, and are perfectly adequate.

ICE AXE

One of the most important tools for safety and travel. For icefield use, it is essential that the axe fully reach from your palm to the ground. Absolutely NO SHORT AXES! Put your name on the shaft in large letters. An ice axe leash must be attached to the axe.

PRUSSIK LOOPS

25 ft. of 5-6 mm diameter perlon cord.

WEBBING.

11 ft. of 1 inch tubular webbing.

CLIMBING HARNESS

Black Diamond, Wild Country, REI, ArcTyrrx or an equivalent sit harness that is comfortable when hanging from a rope, walking, and skiing. 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.

CARABINERS

One locking; two standard. Recommend a pear shaped locking carabiner. A good way to mark your carabiners is to use various combinations of colored tape on the opposite side of the gate.

SLEEPING BAG

Temperatures at night can drop to 20 degrees F. or below with wind chill effect. Insulation may be of down or fiberfill synthetic; Mummy shape preferable. If you bring a down bag, you will have to be extra careful in keeping it dry.

PLASTIC BAGS

Cheap and effective insurance against wet gear. At least four large 30-33 gallon size garbage bags to put inside your pack; six smaller ones (Ziplock; old bread bags) to protect individual items from moisture; one large heavy duty plastic bag in which to store clean travel clothes. At times it will be wet in Alaska!

METAL CUP & SPOON/SPORK

Your cup is for trail and camp use. Metal preferred. In an emergency you can use it to heat water. Light metal or Lexan are options in the material for the spoon, do not bring a knife and fork.

POLY BOTTLE

To carry water on the trail. One or two quart/liter bottles will do. Some people find the large 1½ liter bottles are a perfect size. Large mouth bottles are easier to fill.

COMPASS

Get a good one, absolutely essential when traveling. The declination is about 23 degrees E. The Silva type compass is nice because the declination can be set, and it has a mirror. Geologists may want to have a Brunton for scientific as well as trail use. If you have to purchase a compass please buy one that can have the declination set.

HEADLAMP

Some traveling is done at night. You will also need a headlamp in camp. Bring one set of extra batteries and a spare bulb. Do not bring a hand held flashlight.

CANDLE & MATCHES

Wrapped to be waterproof and saved for emergencies. Candle can be short plumber size. One candle is sufficient.

KNIFE/Leatherman multitool

Swiss Army type with scissors is preferred. The large blade should be at least 2" long. NO miniature versions.

WRIST WATCH

REQUIRED FOR EVERYONE. Essential to keep radio schedules and meteorological observations. 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 alarm.

SUNSCREEN and LIP BALM

Bring plenty. Should have at least an SPF of 15. See First Aid List for additional information.

TWO PAIRS DARK GLASSES OR GOGGLES

Again, see the First Aid List for the importance of these glasses. You will wear these 80-90% of the time, even in bad weather. These glasses need to filter out 95% of UV rays. The extra pair is essential. If you wear goggles over glasses bring an anti fogging agent for your goggles and glasses. Goggles must have dark lenses.

EXTRA PAIR OF PRESCRIPTION GLASSES

If you wear prescription glasses be sure to bring an extra pair of prescription dark glasses.

PERSONAL HYGIENE ITEMS

Soap, shampoo 4-6 oz. size, small towel, wash cloth, toothbrush, dental floss, toothpaste (2 travel size), nail clippers, and laundry soap (approx. 1-2 cups of powder sealed in a bag). Keep all items to a minimum. Travel sizes of soap and shampoo are adequate. Personal hygiene beyond washing hands, face and teeth takes on very little importance once on the ice.

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.

STUFF SACKS

Most people find a need for four to six assorted sizes as this helps keep your gear organized.

CALCULATOR

Small, scientific, hand calculator REQUIRED.

WRITING MATERIALS

Bring pencils and pens to last the summer. The Institute will supply water-proof field notebooks.

FIRST AID KIT

SEE ATTACHED SHEET.

FIELD CLOTHING REQUIRED

LIGHT SOCKS

Three pairs polypropylene or other NON cotton sock liners.

HEAVY SOCKS

Three pairs wool or wool poly mixture. NO COTTON!

UNDERWEAR

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

LONG UNDERWEAR

Two pairs (tops and bottoms) of polypropylene, thermax, or capilene. NO COTTON!

SHORTS (or LONG PANTS WITH ZIP-OFF LEGS)

These are 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. Please NO JEAN CUTOFFS, they take too long to dry, and are heavy.

CAMP PANTS

2 pair 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 turtleneck 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.

PILE OR WOOL SWEATER

A pile, synchilla, or polarplus pullover or jacket. A wool pullover sweater will also be sufficient for this layer if you do not have synthetic material.

BANDANA

One or two are sufficient; these are multiuse items.

RAIN PANTS AND PARKA

The best money can buy! Quality here will be appreciated. Material should be of strong, durable, WATERPROOF breathable material. Coated or rubberized nylon works well but must allow ventilation. Gortex usually works well, as does some of the laminated material on the market. 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 sealed. If you are borrowing gear check the seams. Remember this is our outside, top layer of clothing used for warmth, as well as protection from rain, cold, and wind. You will probably want to purchase a pair of rain pants that have side zippers. Side zippers make it much easier to put on over your boots without having to take them off. NO PONCHOS! ALSO PARKA'S MUST HAVE A HOOD!

BRIMMED HAT / BASEBALL CAP

For rain and sun protection.

WARM HAT

Polypro, synchilla is nice as is a wool hat with ear flaps.

POLYPRO GLOVES

Lightweight; offer surprising warmth; good liners for wool mitts. Two pairs are recommended.

WARM MITTS

Thick mittens of tightly woven wool or pile mitts. Do not bring fingered wool gloves.

OVERMITTS

Gortex outermitt or coated nylon overmitt, unless your mittens have a shell.

SNOW GAITERS

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

PLEASE DO NOT BRING SUITCASES. THERE IS NO PLACE TO STORE THEM AND THEY CANNOT BE TAKEN INTO THE FIELD. As we have stressed, this is an expeditionary training and research program. You will handle your own laundry in the field (in wash tubs with water you have obtained either by melting snow over stoves or from melt-water pools). On good days, clothes dry quickly; during storms, clothes can be dried in the camp generator shacks.

REMEMBER: WRITE YOUR LAST NAME ON EVERY ITEM THAT YOU BRING. Please do this before arriving in Juneau.

OPTIONAL ITEMS

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

CAMERA

Bring enough film for the entire summer (4-8 rolls of 36 exposure, depending upon how many sunsets or auroras you can't resist filming). ASA 64 or 100 works well. Some of our long timers include 200 and 400 ASA. A polarizing filter is nice for reducing glare. Wide-angle is nice for capturing the immensity of the icefield.

HAND LENS

Small, inexpensive, fold-up 10x type useful for geology work.

VEST

Down, pile, or fiberfill.

FOAM BOOT INSOLES

Spenco makes a nice liner. These insoles cushion the bottom of your boot making the boot more comfortable.

DAY PACK

You will use your day pack to carry lunch, camera, first aid kit, light parka, etc. on field trips while in Juneau. Remember all of your gear will be carried across the icefield on your back. Keep it light.

LEATHER WORK GLOVES

For work around camp and some field work.

NOTE: YOU MUST USE A SUN-SCREENING AGENT. Zinc oxide or Glacier Cream blocks out all radiation. On the lips a blocking agent is needed such as Zinc oxide or good Lip Balm SPF 21.

YOU MUST ALSO WEAR SUNGLASSES OR GOGGLES. Based on their spectral transmissivity, the following glasses are recommended: Neophan, Double Gradient, NoIR, I-Ski, Inconel, and Ray-Ban. Not recommended are Polaroid, Kalichrome, G-11, and Amber Ski goggles. They are not good enough for the extreme conditions encountered on the icefield. Please bring an extra pair of sunglasses, including prescription glasses if you have them. Glacier goggles with side shields are strongly recommended for use on the trail.

Crossing the Juneau Icefield can be very strenuous at times. You must be in good to excellent physical condition to get across with the least amount of physical discomfort. People that do best are very active and do some sort of physical conditioning at least four days a week. In the past, people that were on their school track or ski teams tended to do very well on travel days.

The following is a brief description of travel mileage, elevation gain, and length of time needed to get from camp to camp.

Juneau to Camp 17 - eight miles, 4,500 foot elevation gain taking one to two days.

PLEASE, BREAK YOUR BOOTS IN BEFORE ARRIVING IN JUNEAU!

REQUIRED CONTENTS FOR FIRST AID KIT

The following list contains material necessary to treat the medical disorders likely to be encountered on an arctic or mountain expedition. While the amount of the material in an individual kit is small, when everyone carries the required item, 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. The kit is one of the "ten trail essentials."

Band-aids (large)	10
Moleskin (large roll or sheets) *	1
Spenco 111 Second skin *	1 package
Athletic tape/cloth adhesive tape (2" wide) *	1 roll
Gauze roll (2" wide)	1 roll
Gauze 4x4 pads	6
Gauze 2x2 pads	6
Butterfly closures or steri-strips	1 package
Triangular bandage	1
Safety pins, large	3
Razor blade (single edge)	1
Ace bandage (2" wide recommended)	1
Disinfectant cleanser (Betadine)	1-2 oz.
Antiseptic ointment (Bacitracin, Betadine...)	1 sm. tube
Aloe Vera gel - for sunburn (optional)	1 sm. tube
Tylenol/Aspirin	
Ibuprofin (Motrin, Advil)	
Antacid tablets (Rolaids, Tums, or Gelusil)	1-2 rolls
Small pair of scissors (included on most Swiss Army knives)	
Any prescription medications you are taking	

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

YOU MUST INCLUDE IN THE 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. If none of these apply, then write down "NO ALLERGIES, NO PERTINENT MEDICAL HISTORY, NO MEDICATIONS, ETC." This is a quick and easy place to look if this information is needed, because **YOUR FIRST AID KIT WILL ALWAYS BE WITH YOU.** Make sure your first aid kit is kept dry by packaging items in zip lock bags.