

American Alpine Institute^{Ltd.}

ALPINE MOUNTAINEERING LEVEL 2, GLACIER EQUIPMENT LIST

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Temperatures and weather conditions in the summer Cascades can change from minute to minute. You'll often hear the popular weather prediction, "If you can't see the mountains it's raining, and if you can see them it's going to rain." But when the sun comes out, it's glorious, and occasionally down-right hot. Rain can fall at any time of year, and it is possible to get snow down below timberline before the beginning of July and after about mid-September. Lows at night often drop to slightly below the freezing point with daytime highs ranging anywhere from 35F to 80F.

The equipment you bring must function well in a wide variety of conditions. Your clothing should be warm and lightweight, dry quickly, and allow good freedom of movement. The layering principle, based on several thin layers of insulation (rather than one thick one), covered with an outer weather-proof shell, meets these needs well. Typically, Cascade mountaineers will wear a layer of long underwear made from polypropylene or a similar synthetic, another insulating layer of pile or fleece, and a Gore-Tex shell, in addition to gloves/mittens and a hat.

In the early summer season, which extends to about mid-July, and also in the last part of summer, from mid-September to the time the winter snows begin to fall in late October, the Cascade climber will also bring along an extra light sweater, perhaps a pair of expedition weight long underwear in addition to their lightweight pair, and a second warm hat.

City clothes and other odds and ends which you won't need during your course can be left in the AAI office. Bring a duffel and lock for this purpose. Please take the time to prepare your equipment carefully, and if possible, become familiar with it by using it in the field, perhaps on a back-packing trip. If you have any questions don't hesitate to call the Institute office or equipment shop.

CLOTHING

Boots - Plastic climbing boots are highly recommended. Leather boots** are only adequate late season when used with super gaiters. Models such as the Koflach Degre, Lowa Civetta, and Scarpa Inverno perform well.

**Should it be deemed that leather boots will be adequate, they must be designed for heavy duty mountaineering, they should be broken in, be thoroughly waterproofed, have at least a 1/2 length steel shank, and used in conjunction with a supergaitor. Your guide will evaluate the acceptability of your leather boots the morning of your course.

Gaiters - Knee high. If you buy gaiters ahead of time make sure they are large enough to fit over plastic climbing boots. Gaiters can be rented or purchased at AAI before your course. Required for everyone who is not bringing supergaiters.

Socks - Wool or synthetic, (no cotton). Bring two complete changes. It is recommended one wear a thin liner sock, and one or two pair of thick socks depending on boot fit.

Long Underwear Bottoms and Tops - This will be your base layer and should be lightweight polyester, polypropylene or similar synthetic.

2nd Layer (Top) - Expedition weight long underwear top, 100 weight powerstretch, very light weight fleece, Schoeller, or a lightweight windshirt (i.e. Marmot DriClime) are good examples of this multi-use layer.

2nd Layer (Bottom) - Schoeller, Pile or fleece preferred. Seek out quick-drying and wind/water resistant material. Black Diamond Alpine Pants and Arc'teryx Gamma LT Pants are good examples of these types of materials.

Warm Jacket - Pile, fleece or Windstopper.

Insulated Jacket - Lightweight down or synthetic in addition to the warm jacket described above. Some good examples of insulating materials are Primaloft, Polarguard 3D or any down jacket/parka. This is different than your outer most waterproof shell jacket. Needed only in the earlier part of the season (before July) or for the late season (after Sept 15).

Rain Pants or Bibs - Gore-Tex or other waterproof breathable material recommended. Full side zips recommended for easy on and off over boots and crampons.

Rain Parka with Hood - Gore-Tex or other waterproof breathable material recommended.

Liner Gloves - Polypropylene / polyester.

Modular gloves or mittens - which include a matched pair of insulating gloves or mitts and waterproof shells offer excellent protection. Good models are made by Outdoor Research, Black Diamond, Wild Country and others. (If you bring a pair of these you'll still need to bring the polypro gloves.)

Shorts - Lightweight runners shorts are best. Often worn over your lightweight long underwear.

T-shirt - Synthetics like duofold or REI MTS perform well if used for activities, or cotton for around camp and the car.

Warm Hat - Synthetic is less itchy than wool and dries faster.

Sun Hat - A baseball cap serves well.

CLIMBING GEAR

Ice Axe - 60 cm to 70 cm length with standard toothed pick and wrist loop. If your axe doesn't have a wrist loop, pre-sewn ones are available commercially or you can bring about 6 feet of 9/16 inch tubular webbing and we'll tie it on the course.

2nd Ice Tool - Depending on the specific itinerary designed by your guides you may or may not need a 2nd ice tool. If you own a technical tool you can bring it. If you do not own a 2nd tool you can rent one at our office on the morning of your course.

Rock Shoes - Depending on the specific itinerary designed by your guides you may or may not need rock shoes. If you own a pair of comfortable, all day rock shoes bring them.. If you do not own a pair you will be able to rent them at our office on the morning of your course.

Crampons - Flexible. Be sure they fit your boots. Crampons with step-in bindings should be used only with plastic boots or leather boots with soles designed specifically to accept heel and toe bails.

Climbing Harness - Should fit over bulky clothing. Adjustable leg loops help in this regard. Consider purchasing a lighter weight harness but one with gear loops.

Carabiners - Bring four, two of which should be large, locking, pear shaped (or Münter) biners.

Climbing Helmet - Kayak, bicycle or construction helmets are not acceptable.

Prusiks - Prusiks are specially tied loops of 6mm cord used for crevasse rescue. If you don't have a set of prusiks from a previous AAI course then bring three lengths of 6 mm perlon, 13 feet, 6 feet, and 5 feet. (Precut lengths are available for sale at AAI.)

Belay Device - Bring one if you have one, but you don't have to buy one for the course. If you want to get one, be sure to get advice on choices from the Equipment Department. (ATC's and like devices are recommended over Figure 8's.)

Ski Poles - this is an optional but highly recommended item that is useful in two ways:

- 1) taking the burden off your knees when coming downhill with a big pack and
 - 2) giving you good balance points when making tricky stream crossings.
- Telescoping (adjustable) poles are ideal, but non-adjustable ski poles at a length used in alpine (downhill) skiing will work too. Our guides have found them very helpful.

CAMPING GEAR

Tent - Lightweight 4-season tent capable of withstanding winds to about 40 mph and continuous, multi-day rain. We normally pair up in tents so if you don't have one, you may be able to share a rental.

Sleeping Bag - Down or synthetic, rated to about 15 F. To help keep your sleeping bag dry, down bag users should bring an extra large garbage bag with which you can line your sleeping bag stuff sack and use for storage in the tent.

Sleeping Pad - Full length closed cell or Thermarest. If you already own a 3/4 it will be adequate but your bag may get wet if not otherwise protected and your feet will not be insulated when camping on the snow.

Stove - Pump type, white gas stoves, such as the MSR models are preferred. Bring a cleaning needle. Compressed butane or propane stoves are acceptable. Course participants often pair up on stoves. Due to airline restrictions** you may not bring used fuel bottles on the airline. If you already own a MSR stove bring it and your pump and AAI will loan you a fuel bottle. If you do not own a stove you can rent everything.

Fuel - For early season prior to mid July course participants need a liter of fuel* per person the extra fuel is required to melt snow for drinking and cooking water. Later season when water is accessible 3/4 liter is sufficient for 6 days for one person. White gas can be purchased from AAI.

* (As a reminder, fuel cannot be taken on airplanes.)

Fuel Bottle** - Leak-proof bottles such as Sigg or MSR are best. Can be rented or loaned if you already own a stove.

**United Airlines has indicated that backpacking stoves with detachable fuel containers may be taken on board, but only the stove itself (the fuel container-new or used- MUST be left at home). The stove must be air dried of any fuel and be sent via checked baggage, not carry on. Further information on this regulation may be found by a United Airlines employee under Hazardous Materials: Camping equipment; footnote.

Pots - One 1 1/2 or 2 quart pot is enough for one person. Two people sharing a stove should bring two pots.

Utensils - Large thermal mug or cup (pint size best) and spoon minimum. Most people also bring a bowl.

Lighters - Bring two.

Water Bottles - Bring two 1 quart wide mouth.

Water Purification - Bring tablets such as Potable Aqua. These are lightest and most efficient. If you want to use a filter pump realize that streams will not be accessible until mid season and make little sense prior to this time.

MISCELLANEOUS

Food - On this course you should plan on carrying all of your food for the duration of the course. Depending on the specific itinerary will be car camping 1 night (typically the first) and up at a high camp (to which you must carry your food, about 4 miles) for the other 4 nights. Plan accordingly.

See the MEAL PLANNING FOR ALPINE MOUNTAINEERING for food suggestions.

Large Pack - Large internal frame pack, minimum 5000 cubic inches recommended. An external frame pack is acceptable, however these types of packs do not perform as well when climbing. If you choose to use an external frame pack it will be necessary to bring a small summit pack 1500 - 2000 cubic inches for summit day.

Headlamp - Bring an extra bulb and batteries. Flashlights are not acceptable.

Pocket Knife - Multipurpose tools like the Leatherman Tool are great, Swiss army knives work well also.

Compass - Liquid filled. Appropriate USGS topographic maps can be purchased at AAI.

Repair Kit - Needle and thread, a small amount of adhesive tape, stove repair kit, Thermarest repair kit, 20 to 40 feet of light cord, crampon adjustment tools if your crampons need them.

Personal Medical Kit - For blisters, cuts, scrapes, etc.

Insect Repellent

Glacier Glasses - With side shields make sure they are 100% UVA/UVB to protect from snow blindness.

Sunscreen - With a protection factor of at least 20 and even more for people with fair skin. You know yourself best just remember that the glare from the snow increases your chance of getting burned.

Lip Protection - With a protection factor of at least 16. For the fair an SPF of 20 is better.

Personal Toiletries - Bring half a roll of toilet paper or less.

Garbage Bags - Bring two or three large ones. They serve a large variety of uses.

Stuff Bags - Bring three or four of varying sizes and colors to help keep your gear or food organized.

Camera - With lots of film and an extra battery.

***** A special note:** On some past early season courses we have needed to take along transceivers and shovels. You will be required to rent these if necessary. If you own your own you can call the Equipment Shop to check on the necessity of these items. Again this is only for early season April - early June and only if you own your own.