EQUIPMENT LIST NOLS PATAGONIA: ICEFIELD TRAVERSE

Careful equipment selection is essential for safety and comfort. Your thoroughness in this process has very direct implications for you and your expedition as a whole. Unlike other NOLS branches, we require you to bring most of your personal gear. Before selecting what to bring, buy, or borrow from a friend, it is important that you go over the equipment list carefully: Often students find they have spent unnecessary money for new gear that is unsuitable for the conditions we will encounter.

If you are undecided between two options to meet a particular equipment need, consider bringing both items to Patagonia. Prior to departure from the NOLS base, you and your instructors will work together to determine the best strategy for getting outfitted. In advance of the course, NOLS headquarters in Lander may also be able to answer some of your equipment questions and help you determine whether a particular item will be suitable.

If you are purchasing new items for your NOLS course, we suggest that you begin by looking through mail order catalogues (Mt. Equipment Co-op, Eastern Mountain Sports, REI, etc.) and outdoor magazines (*Backpacker, Outside, Climbing*) for an approximate gauge of price range and variety. A look at advertisements should help you locate a backpacking specialty store near you, or you may wish to mail order your equipment. We do not recommend purchasing footwear via mail order. NOLS also has a mail-order catalog if you wish to purchase items like windpants, mugs, caps, etc. prior to your arrival at the branch.

There will not be an opportunity to obtain equipment marked "N/A" on the following list once you arrive at the NOLS base in Patagonia.

If you have any questions, please do not hesitate to contact the Admissions Office, NOLS, 288 Main Street, Lander, WY 82520 or phone (307) 332-5300, 8:00 a.m. to 4:00 p.m. mountain time, Monday through Friday.

EQUIPMENT RENTAL DEPOSIT AND BILL PAYMENTS:

All members of the expedition have been charged an equipment rental deposit (not included in the tuition). This deposit amount is based on an estimated rental charge for the course. Your actual charge will vary according to how many items you obtain from NOLS and will be totaled at the end of the course. If you are due a refund from the deposit, it will be sent to your home by mail from the Lander Headquarters. No refunds will be given in Patagonia. If your total exceeds the deposit, the balance will be billed to your home. The deposit is intended to cover the cost of use, cleaning and normal wear and tear of the equipment. Loss and damage costs will be charged to the individual or group depending on the situation.

LUGGAGE STORAGE AND TRANSPORT:

NOLS Patagonia has limited storage space: Items not needed for the expedition should fit in a moderately sized bag which you may store at our headquarters at your own risk. If your extra luggage exceeds "moderate," please arrange for storage elsewhere before your course begins. Past students have paid to leave bags at their hotel in Puerto Montt for the month. They can also be stored at the Santiago airport. The NOLS duffel of expedition gear that we ask you to bring and your personal gear needed for the course must have priority over all other luggage.

During the course, NOLS will transport expedition gear to and from roadheads at your own risk.

This Equipment Information packet is organized as follows:

PART I REQUIRED EQUIPMENT

- PART II OPTIONAL ITEMS
- PART III GROUP EQUIPMENT NOLS provides all of this equipment at no additional charge.
- PART IV. FITTING PLASTIC BOOTS Helpful tips.
- PART V CONSOLIDATED EQUIPMENT CHECKLIST Rental/purchase prices, section needs.

PART 1: REQUIRED EQUIPMENT

Please study this section carefully. It cannot be emphasized too strongly that your choice of personal gear could be crucial to the success of the expedition. You will need to obtain most of the items on this list prior to your course. Some items, indicated by **RNT** and \$\$\$, are available from NOLS in Patagonia.

- RNT = item can be RENTED or purchased from NOLS Patagonia.
- **\$\$\$** = item is for **PURCHASE ONLY** from NOLS Patagonia.
- N/A = item is NOT AVAILABLE from NOLS Patagonia: You must bring these items!

FOOTWEAR

It is important to your enjoyment and success that all footwear fit and perform well: A majority of the mountain and "independent student group travel" sections are spent in wet, muddy river valleys or perhaps on snow and ice in below-freezing temperatures.

- N/A Wool Socks: (4 pairs) Heavy wool or synthetic socks.
- N/A Neoprene Socks: (1 pair) These will be worn inside the plastic boots and should be 2 or 3 mm thick. The thicker models with covered seams (e.g., Deep Sea) offer greatest durability, an important consideration since these will probably receive daily use. Avoid socks with zippers or prominent seams as these will cause blisters and irritation. These socks are available at dive, kayak and windsurfing retail shops. These are socks, NOT hard-soled booties.
- **\$\$\$** Gaiters: (1 pair) Must be just below knee-high and should be large enough to fit over bulky plastic boots. We recommend a sturdy nylon zipper, velcro, or non-zippered type. These take a lot of abuse so they must be durable. NOLS has O.R. Crocodile gaiters available.
- N/A Camp Shoes: (1 pair) For wear around camp and in town. These get a lot of wear but are rarely used for hiking, so a very light running shoe or sneaker is recommended over heavy leather travel shoes. Opened-toed shoes are not acceptable.
- **RNT** Fleece Booties: (1 pair) Fleece or synthetic-fill booties with insole for wear inside your plastic boot shells in snow or ice camps. If fleece, look for double layer 300 weight.

RNT Plastic Boots: For the mountain section. A plastic double-boot (insulated inner bootie plus plastic outer shell) is hard to beat for its lightweight, warmth, and water resistance. Make sure that your model has a welt or groove to accept clip-on crampons. Koflach Viva Soft, Asolo AFS, and Scarpa Inverno are examples. These should fit comfortably with 2 pairs of wool socks or 1 pair each of wool AND neoprene socks. Models with some sort of closed-cell foam inner boot (such as the Asolos) dry more quickly than those insulated with wool felt. The expensive alveolite liners are not necessary. NOLS Patagonia has Koflach Viva Soft and Scarpa Inverno boots for rent in sizes 5.5 - 13.

If your feet are larger than size 13, or smaller than 5.5, you will need to purchase your own boots.

See PART III: FITTING PLASTIC BOOTS for fitting information.

N/A Insoles: (1 pair) These can be removed from a pair of running or hiking shoes or purchased separately. They will go a long way towards customizing the fit and comfort of any footwear rented from NOLS.

CLOTHING

The use of clothing systems to stay safe and comfortable in adverse conditions is a fundamental aspect of the NOLS curriculum. Your primary tool is judgment, not technology. People have climbed mountains and kayaked on oceans long before Gore-Tex or Hollofil existed. The new fabrics and materials simply increase the level of comfort and performance. Select for function and durability, not fashion.

Minimizing weight is a high priority on an extended expedition. Whenever possible, choose equipment that fills multiple needs and enables another item to be left behind. If you are purchasing equipment, scrutinize product information and select the lightest possible combinations offering reliable quality.

Lower Body Layers

- N/A Hiking Shorts: (1 pair) Nylon shorts with a liner are lightweight and dry quickly. Optional.
- N/A Long Underwear Bottoms: (1-2 pairs) These should be mid- or expedition weight polypropylene. Cotton and cotton blends are not acceptable. Many students have recommended 2 pairs, one for each of your month-long sections.
- **RNT** Fleece Pants: (1 pair, UNLESS using 2 pair long underwear) These should fit comfortably over a light layer of underwear. Bibs or shelled fleece are acceptable but unnecessarily heavy. A full-length zipper is convenient for changing layers without removing boots.
- **\$%** Wind Pants: (1 pair) Breathable, nylon wind pants (not waterproof) to fit comfortably over polypro/fleece pants. Patches to reinforce the knees and seat are strongly recommended. Wind pants designed and made especially for NOLS are available at the Patagonia branch for **purchase only**.
- **\$\$\$** Rain Pants: (1 pair) A light, strong roomy pant works best in mountain travel. If your rain jacket is a cagoule, rain pants are unnecessary.
- Note on Gore-Tex: Although a pair of Gore-Tex pants or bibs will fill the need for a waterproof and breathable layer, past students have found that in very wet environments, Gore-Tex does not perform and becomes soggy and heavy. Gore-Tex is acceptable, but students continually advise against it. A pair of windpants is usually more breathable than Gore-Tex shells, and a coated raincoat more waterproof. The combined weight of the two layers is often less than a single Gore-Tex layer. This applies for upper body shell layers as well.

Upper Body Layers

Insulating layers: You will need 3-4 insulating garments that can be comfortably layered. These should be of a variety of weights and insulating values to mix and match as conditions vary. Synthetics are preferable to wool in the damp climate. **No cotton!** Lengths which will stay tucked in below the belt line are preferable. Note that some items are considered a half-layer.

Choose a combination of 3 to 4 layers (depending on how easily you become chilled) from the following options:

- N/A Long underwear top(s): Polypropylene-type best fit expedition needs. At least one of these layers should be lightweight (short sleeve is fine) for hiking in warm conditions. Additional polypropylene shirts (1 or 2) may be mid- or expedition-weight. A zippered turtleneck increases warmth and offers some protection against the sun. Short sleeve, silkweight or very lightweight polypropylene tops are considered a half layer.
- RNT Fleece Vest: This is considered a half layer. Great for cool days on the trail!
- **RNT** Fleece Jacket and/or Fleece Pullover: Unbeatable warmth-to-weight ratio. A variety of weights and styles are on the market. Closeable cuffs, draw cords at waist and hem, and a high snug collar are features that increase warmth without adding significant weight. A medium-weight pullover (capilene, synchilla) and a jacket combined with 2 long john tops would be a solid system.
- N/A Wool Sweaters or Shirts: Must be at least 75% wool or synthetic and should extend several inches below your belt. Wool/synthetic blends are acceptable. Wool/cotton blends are not acceptable.

Shell Layers: As with the lower body shell layers, you will need a breathable layer and a waterproof layer, or these needs can be met by one layer that is both breathable and waterproof (see above disclaimer on Gore-tex). These layers should fit comfortably over insulating layers.

- **RNT** Wind Shirt: (1, UNLESS rain parka is breathable) A breathable nylon wind shell. Select for minimal weight, but bear in mind that this layer may take a lot of abuse.
- \$\$\$ Rain Parka: (1) A light, durable and roomy garment for mountain travel. Cagoules and anoraks are acceptable designs, ponchos are NOT. This garment should be fully waterproof and have a hood. Patagonia, Montbell, and Wild Country make good, coated nylon rain parkas. Gore-Tex is acceptable, but often less reliable. Hop in a cold shower and try it out!

<u>HANDS</u>

- N/A Mittens/Gloves: (2-3 pairs total) Wool or synthetic. You will need at least two insulating hand layers, one of which must be gloves, and the second can be gloves or mittens.
- **RNT** Nylon Mitten Shells: (1 pair) Coated nylon or Gore-Tex models are acceptable, (but do not count on waterproofness). Many companies make glove or mitten shells with removable fleece liners. If you have one of these models, a very light wool or polypropylene glove should complete your needs in this area. Mitten shells rented from NOLS are not waterproof.
- **\$\$\$** Neoprene Gloves: Though not required, neoprene gloves are hard to beat for warm-while-wet protection.

<u>HEAD</u>

- N/A Wool/Fleece Hat: (1) A ski hat is fine. Consider ear flaps for added protection.
- **RNT** Balaclava , neckwarmer OR scarf: (1) Fleece, polypropylene or wool to provide protection and insulation in combination with your hat. Balaclavas offer great versatility.
- **Sun hat:** (1) Consider a full brim for maximum protection. A typical baseball cap is acceptable, but a nylon model will dry more quickly. NOLS caps are available.
- N/A Sunglasses with detachable side shields or Glacier Glasses: (1 pair) The drugstore counter varieties are inappropriate for your needs; head for the outdoor stores. Glasses should transmit no more than 10% visible light and be at least 97% UV protected. Choose a pair that you can wear comfortably both on and off snow. Please remember to bring a durable case to protect your glasses as well as Chums or other "neck leash". The side visors are needed while on snow. If you already own a good pair of sunglasses already, try purchasing or making side visors for them.

SLEEPING GEAR

- N/A Sleeping Bag: (1) We require a synthetic fill sleeping bag (Fiberfill, Dacron, Polarguard, Hollofil, Quallofil) with a hood. You will need 3 to 4 pounds of fill weight. The bag should have a temperature rating to about 15° Fahrenheit. Down is not acceptable, nor are bags with cotton linings.
- N/A Sleeping Pad: (1) Choose either a closed cell foam pad of 3/8 inches thickness or an inflatable Therm-A-Rest. If you are buying a Therm-A-rest, opt for a lightweight model and select the shortest necessary length. It need not extend from head to toe as you can use clothing layers and other odds and ends to make up the difference.
- **Half Pad:** (1) An additional half-pad increases insulation while on snow and serves as a portable seat for meetings. This can be a short-cut piece of ensolite, 2-3 ft. long.
- **RNT** Compression Stuff Sack: (1) This is to pack your sleeping bag and clothing layers that you will not need to access during the day.
- **RNT** Sleeping Pad Stuff Sack: (1). A nylon sack to protect the environment from your ensolite/Therm-A-Rest and vice versa.

PACKS and BAGS

- **RNT** Backpack: (1) Many packs on the market are not large enough to handle the amount of gear we carry or to withstand the use we give them. Internal frame packs are preferable for this course given their durability and ease of shipping and handling. Your pack must have enough room to comfortably hold 70 to 80 pounds of equipment (over 7000-7500 cubic inches). Reliable brands include Dana Design Astraplane, Gregory, Osprey, and Lowe . If you bring your own pack, it will have to be approved before use on the course. NOLS has Lowe backpacks for rent in Patagonia and available for purchase through NOLS Mail Order before the course.
- N/A Small Nylon Stuff Sacks: 3 each. Used to organize gear in your pack.
- **RNT** Medium Nylon Bag: (1) A medium-sized, very light-weight zip bag or stuff sack helps to organize and protect clothing in your boat or backpack.

N/A Heavy Duty Trash Bags: (3-4) The large, strong trash compactor variety work best. These are used to waterproof your clothing and sleeping bag.

MOUNTAINEERING GEAR

- NOLS Patagonia rents these items for a minimal charge. If you bring your own, it must meet our specifications.
- **RNT** Crampons: (1 pair) Used for glacier travel and ice climbing. NOLS uses Grivell 12-point, step-in crampons.
- RNT Harness: (1) NOLS uses Chouinard Bod Harnesses. This must fit over all your layers.

MISCELLANEOUS PERSONAL GEAR

- N/A Cotton Bandannas: (1 or 2) Useful for all sorts of things.
- N/A Headlamp, Extra Bulb & Batteries: Lightweight is preferable. Bring approx. 5 sets of batteries, or more if you use a super bright halogen bulb. Lithium battery headlamps work well in cold weather. If you will be using lithium batteries, 4 sets should be sufficient.
- N/A 1 Small Notepad/Journal, 3 Pens or Pencils: Notebooks will be required for class notes and are nice to have for personal writing.
- N/A Sunscreen: (2 medium tubes) Should have a sun protection factor (SPF) of at least 30 and should be water repellent.
- N/A Lip Balm: (1 or 2). SPF 15 or greater. Carmex is not suitable as it has no sunscreen.
- N/A Toiletry Items: Toothbrush, toothpaste, contact lens solution, comb, tampons, etc. This is an area to minimize weight by bringing only what you need: no more, no less. Remember, you've got to carry it!
- N/A Mug, bowl, spoon: (1 each) Make sure that these are unbreakable! They must withstand boiling water, cold and abuse. Insulated NOLS mugs are available in Patagonia. Your mug should be at least 12 oz. We highly recommend that your bowl have a tight lid to carry leftovers on the trail. Tupperware is ideal.
- N/A Water Bottle: (1 L capacity minimum) Wide mouth is convenient. Should be indestructible! Consider bringing an additional 1/2L bottle instead of a mug.
- N/A Watch: (1) Waterproof, with an alarm.
- N/A Lighter: (3) For starting stoves and fires.
- N/A Small Waterproof Bags: For books, passport, papers etc. Nothing bigger than 8" X 12". Zip-lock bags or small stuff sacks lined with a plastic bag are good options.
- N/A Extra Glasses or Contacts: If you wear prescription lenses, bring a spare set. Purchase all contact solution before you arrive. If your natural vision is significantly limited, bring prescription sunglasses or glacier glasses or very high quality ski goggles to fit over your glasses. We recommend keeping your glasses safe in your carry-on luggage during your travel to Patagonia.

Passport: Also bring a photocopy of the identification page and 2 extra passport photos. **You need to retain your Tourist Visa that you'll receive upon entering the country.** For more information, see the Travel and Logistics section of your pre-course information packet.

PART II: OPTIONAL ITEMS

- N/A Ski Goggles: These will come in handy when the wind blows up on the glacier. If you bring goggles, make sure that they block UV light or fit over your other sunglasses.
- N/A Camera and Film: You will want a protective, waterproof container. Keep this light and simple as you will have to carry the extra weight! Dry boxes and dry bags (e.g. Pelican Cases or Sportbags) are available from most outdoor stores. If you are investing in a new camera or binoculars for this trip, consider those that are water resistant. Because of the likelihood of adverse weather, avid photographers may be interested in bringing a small "point and shoot." Film is more expensive in Chile than in the U.S.A.
- N/A Knife: A small, lightweight, single blade is fine.
- N/A Binoculars: A pair of small, light 7 x 20 or 8 x 20 binoculars will enhance your enjoyment of the wildlife. Again, you will need a protective waterproof container for these.
- N/A Sewing Kit: A small assortment of needles and polyester thread or dental floss are handy.
- N/A Book: One is fine. When you're done, you can trade with a tentmate.
- N/A Coffee: NOLS does not supply coffee. Ground coffee can be difficult to find in Patagonia; however, instant is readily available

For Pre- and Post-Course Travel:

- N/A Photos of Family, Friends, Home. Spanish/English dictionary: It's great to have photos of your community back home to share with people you meet. Chileans are very family oriented and will always ask about your family and hometown.
- N/A Small Towel, shampoo, soap, deodorant: Only for pre and post-course use. Travel-size.

PART III- GROUP EQUIPMENT

Group gear is distributed among all expedition members. The specific equipment taken on your course will be determined by the anticipated weather and terrain and the number of group members. All of this equipment is provided by NOLS and is included in your tuition; it is NOT a part of your personal rental fee.

Ice Axes: 55-70 cm.	Snow Shovels
Climbing Ropes	Tents
Climbing Helmets	Food Bags
Climbing Hardware and Slings	Repair Kits
Multi Fuel Stove and Cook Gear	Maps
Fuel Bottles	Compasses
Group Library: books can range from flora and fauna, technical skills, environmental issues, to Chilean history and politics	First Aid Kits: our instructors bring an adequate first aid and drug kit, so no need to bring your own

The expedition format of the course emphasizes the importance of equipment care: The success of your expedition is highly dependent on the performance of your gear which in turn depends on the care that YOU give it!

Gear maintenance and repair will be ongoing. Normal wear and tear is expected, and most repairs can be successfully executed in the field. However, students will be held financially responsible for the loss of any items and for any damage that is due to mistreatment or neglect. This could be as small as a lost \$ 2.00 cook spoon or as large as a poorly treated \$700 tent. At the end of the course, a group gear "damage and loss" charge will be calculated and distributed among the appropriate members of the course. Individuals or groups of individuals will be held fully accountable if they alone bear the responsibility for the loss or damage.

PART IV FITTING PLASTIC BOOTS

If you plan to purchase plastic boots before coming to Patagonia, or if you need to check the fit of boots you already own, **please read the following tips**:

- 1. For prevention of foot problems, it is more important to have a good fit than a well broken-in boot. In fact, plastic boots will never be "broken in," but your feet will.
- 2. Your plastic boots should fit comfortably with 1 pair of thick wool or neoprene socks. Err on the loose side so that you can wear two pairs of socks (wool, or a neoprene/wool combination) in response to changes in conditions or activities. If you wear prescription arch supports or other orthopedic aids, make sure you have a good fit with the devices in the boot.
- **3.** When trying on plastic boots, remove the **inner** boot and ask the salesperson to fit this to your "Branick." This is a measurement of fit across your foot. If your foot is not held in place widthwise, it will slide lengthwise and be more subject to blistering. After you have a good fit widthwise, slip your bare foot into the inner boot and slide your foot forward until your toes touch the front of the boot. If you prefer (some shops may request), you may wear a thin liner sock to perform this test. With the toes at the front of the boot, lean forward slightly and see if you can place your index finger between your heel and the back of the boot. If you can, the boot is probably the right size; if you can't, the boot is too small and you should try a larger size.
- 4. If the boot passes the above test, put on one pair of heavy ragg wool socks or thick neoprene socks and put on the **whole boot**, lacing to comfortable snugness. Take a few steps. The toes should be comfortable -- not too tight -- with a bit of room to wiggle. The boot should feel comfortable in the arch, with a bit of support but not tight. As you take a few steps, your heel should feel like it is being held snugly in the boot with just enough lift to lose contact with the insole of the boot. If you have zero lift, it is too tight; a half-inch or more is too loose.
- 5. If your foot feels comfortable in the boot so far, try to determine how much room your toes have at the front of the boot: Kick a wall with the intent of getting your foot to slide forward in the boot with each hit. Kick the wall until your foot feels like it is caught by the instep of the boot at the same time your toes hit the front of it. This should happen on the third or fourth kick. Your toes should just make contact at the end of the boot. If they hit hard on the first or second kick, the boot is probably too small, or else too loose. Try lacing the boots a bit tighter or try a narrower boot before trying a larger size. If your toes don't hit the end of the boot at all, try a smaller size. If your foot feels comfortable in the boot, if your heel lifts up from the bottom of the boot only slightly, and if your foot is caught and held by the instep at the same time that your toes hit the front of the boot, then you probably have a good fit.
- 6. Shop for boots in the afternoon; feet tend to swell during the day, and this can affect fit. Most people have one foot that is larger than the other. Always fit the larger foot. If the difference is significant, wear an extra sock or use an insole on the smaller foot.
- 7. Take your time when purchasing boots. Walk around the shop; kick a solid wall; use a ramp; try a different boot. One brand may fit better than another, even if they are the same size. The boots will feel awkward, but they should not be uncomfortable.

PART V: EQUIPMENT CHECKLIST & RENTAL/PURCHASE PRICES* *Rental and purchase prices are subject to change

	Item		Rental	Purchase	Item		Rental	Purchase
FOO	TWEAR				PACKS and BAGS			
	Heavy socks	NA			Backpack	RNT	\$70.00	\$295.00
	Neoprene socks	NA			Small stuff sacks	RNT	\$1.00	\$3.00
	Gaiters	\$\$\$		\$40.00	Medium nylon bag	RNT	\$6.50	\$13.50
	Camp shoes	NA			Trash bags	\$\$\$		\$1.00
	Insoles	NA			MOUNTAIN GEAR			
	Plastic boots	RNT	\$60-\$90	\$90-200	Crampons	RNT	\$10.00	\$154.00
	Insulated Booties	RNT	\$8.00		Harness	RNT	\$5.00	\$31.50
CLOTHING				MISCELLANEOUS				
	Nylon shorts	NA			Cotton bandanas	NA		
	Polypro bottoms	NA			Headlamp	NA		
	Fleece pants	RNT	\$15.00	\$35.00	Batteries (6 sets)	NA		
	Wind pants	\$\$\$		\$50.00	Notebook, pens	NA		
	Rain pants	\$\$\$		\$44.00	Sunscreen SPF 30+	NA		
	Polypro top	NA			Lip balm SPF 15+	NA		
	Fleece vest	RNT	\$7.00	\$28.50	Toiletries	NA		
	Fleece jacket	RNT	\$15.00	\$40.00	Mug	\$\$\$		\$4.00
	Wind shirt	RNT	\$15.00	\$50.00	Bowl/lid	NA		
	Rain jacket	\$\$\$		\$68.00	Spoon	NA		
HAN					Water bottle	NA		
	Mittens	NA			Watch	NA		
	Gloves (1-2)	NA			Lighters	NA		
	Mitten shells	RNT	\$5.00	\$27.50	Waterproof bags	NA		
	Neoprene gloves	\$\$\$		\$21.00	Passport			
HEA	DGEAR				OPTIONAL			
	Wool/pile hat	NA			Camera/film	NA		
	Balaclava/scarf	RNT	\$8.00	\$21.00	Knife	NA		
	Sun hat	\$\$\$		\$10.00	Binoculars	NA		
	Sunglasses	NA			Sewing kit	NA		
SLEE	EPING GEAR				Book	NA		
	Sleeping bag	NA			Photos/maps/etc.			
	Sleeping pad	NA			Spanish dictionary			
	Half pad	\$\$\$	\$4.00	\$15.00				
	Compression sack	RNT	\$10.00	\$30.00				
	Sleeping pad sack	RNT	\$2.00	\$7.00				