

# SKI ANTARCTICA REQUIRED CLOTHING AND EQUIPMENT LIST



Conditions in Antarctica change drastically throughout our season and vary depending on your location. At Union Glacier, the climate is very dry and generally sunny but wind chill can impact temperatures greatly with early November being as cold as -22°F (-30°C). Average mid-season temperatures range from -12°F to 30°F (-24°C to -1°C).

To be prepared for all conditions, it is important to have a selection of items you can mix and match. The layering system described below will keep you safe and comfortable in all conditions—it is also the same system utilized by our Antarctic field staff.

**You do not need to wear ALL of these layers ALL of the time.** Dress for the weather conditions and the activity level you expect to encounter and bring extra layers with you in your backpack in case conditions change.



## Base Layer

### Materials

Polyester, Merino Wool, or Silk but NO COTTON

### Examples

Patagonia Capilene or Smartwool

### Description

Your first layer consists of a lightweight or midweight long-sleeved thermal top and bottom. We recommend materials that wick moisture away from your body like polyester or merino wool. If you cannot wear artificial fibers or wool, silk is an alternate option. Cotton traps moisture and can cause you to chill more rapidly. Zip T-necks are a great option as they allow ventilation. Bring undergarments, sports bras, and/or camisoles in a similar wicking material.



## Mid Layer

### Materials

Polyester, Merino Wool, Stretch Fleece, Grid Fleece

### Examples

Patagonia R1 Fleece or Rab Power Stretch

### Description

Your second layer consists of a long-sleeved heavyweight (expedition weight) base layer top and bottom or lightweight stretch fleece top and bottom. Tops with hoods are great as they seal the neck to keep you warmer.

### Optional Additional Layer: Windshirt

A lightweight uncoated nylon windshirt can be worn as an outer layer when it's not too cold and reduces friction when layering on top of it.



## Insulation Layer

### Materials

Fleece, Down, or Synthetic Insulation (Primaloft, Thinsulate)

### Examples

Patagonia R2 or Nano, Rab Microlight

### Description

Your third layer should be a jacket that is thin, light in weight, and provides insulation. You can choose from either a mid to heavyweight fleece, a lightweight down, or a lightweight synthetic insulation. This should be a full-zip jacket but a hood is not essential.

### Optional Additional Layer: Vest

A fleece, down, or synthetic insulation vest can add insulation without much weight.



## Wind Layer

### Materials

Softshell or Hardshell

### Examples

Arc'teryx Gamma MX, Patagonia Galvanized

### Description

Your fourth layer should be highly wind-resistant and breathable. We recommend a stretch softshell jacket and pants as softshells tend to be more breathable and more comfortable. However, some skiers prefer waterproof hardshells like Gore-tex, which are sufficient, as long as they include pit zips and side-leg zips for venting. Wind protection is the most important factor for this layer and the jacket needs to have a hood.



## Polar Insulation Layer

### Materials

Down or Synthetic Insulation

### Examples

Rab Neutrino Pro Jacket, Mountain Hardwear Compressor Pant

### Description

Your outermost layer provides crucial insulation in extreme cold or wind and protection against the worst Antarctic conditions. You will need a hooded down jacket that is large enough to go over all of your other layers. Look for a minimum of 800 fill down and a minimum weight of 28 oz (800 g). It should be long enough to cover your backside.

Pants should be down or synthetic insulated with full side-zips. Make sure they are large enough to fit over your other layers.

## Head

You will need several options to cover your head, neck, and face (mouth and nose) depending on the temperature, wind conditions, and sun exposure.



**Item 1:**  
Hat or Beanie that  
Covers Ears

**Materials:**  
Wool or Fleece



**Item 2:**  
Wide brim sun hat,  
baseball hat, or trucker hat



**Item 3:**  
Neck Gaiter or Buff

**Materials:**  
Fleece or Polyester  
Microfiber



**Item 4:**  
Balaclava or Face Mask

**Materials:**  
Power Stretch Fleece or  
Windstopper

The face is especially vulnerable to cold injury and complete face protection is essential. Try combinations of balaclava, face mask, hat, and goggles together to ensure that there are no gaps—often a crescent shape between the edge of the goggle and a face mask or balaclava is hard to cover. You must be able to breathe freely and moisture from your breath must be able to escape (so that goggles do not fog).

## Eyes

Quality eyewear is essential to prevent snow blindness. **Sunglasses or goggles must be worn at all times outside.**

### Sunglasses and Hard Case



#### Materials

Non-metal frames with 100% UV protection

#### Examples

Julbo, Smith, Oakley

#### Description

Your sunglasses should have dark colored lenses and full side coverage. Look for sunglasses with side-flaps (mountaineering or glacier glasses) or sport sunglasses with big lenses, wide sides, and a contoured shape that prevents light from entering at the sides. Non wraparound sunglasses provide little or no protection from peripherally focused UV radiation.

Avoid metal frames as they can freeze to your skin and bring a hard case to protect your sunglasses in your luggage.

## Goggles



### Materials

100% UV Protection

### Examples

Julbo, Oakley, Smith

### Description

Quality goggles are necessary for very cold or stormy conditions. You will need at least two pairs of goggles. Make sure each pair has a different lens tint (one for low light conditions and one with a dark lens for sunny days) or bring two identical goggle frames that use the same interchangeable lenses. Keep in mind light conditions can change quickly when skiing and it can be difficult to change lenses with gloves on. Dark or mirrored lenses are best for bright light and reduce eye strain. Gold or amber colored lenses increase contrast and are good for overcast or flat light conditions. Look for a goggle with double lenses or a coating to help prevent fogging. If you wear prescription glasses, check to make sure your goggles fit over them comfortably.

## Hands

### Liner Gloves



### Materials

Polyester, Merino Wool, Silk, Power Stretch Fleece

### Examples

Seirus, Outdoor Research, Icebreaker, The North Face

### Description

Liner gloves can be layered under other gloves or mittens for additional warmth. They also protect you if you need to take off an outer glove or mitten in cold temperatures. Having two pairs allows you to switch out liners as they become damp. We do not recommend Windstopper as the membrane in Windstopper gloves makes them slow to dry out.

### Heavyweight Insulated Snow Gloves



### Materials

Waterproof Breathable Outer with Insulation

### Examples

Black Diamond Guide Gloves

### Description

Next you will need a heavily insulated snow glove. We highly recommend the Black Diamond Guide Glove as it is the warmest glove that still offers the necessary dexterity for ski mountaineering. We recommend you bring gloves with wrist loops attached as many people have taken off an outer glove to take a photo and lost it in the wind.

## Oversized Thick Insulated Mittens



### Materials

Down or Synthetic Insulation

### Examples

Marmot 8000 Meter Mitt, Black Diamond Absolute Mitt, Outdoor Research Alti Mitts

### Description

Like your outer jacket and pants, these down or synthetic insulated mittens are your ultimate protection against the coldest Antarctic conditions. Mittens will keep your hands warmer than gloves but can make taking photos challenging. You should be able to wear two pairs of liner gloves under your mittens so your hands will be protected if you take off a mitten for photography. Make sure your mittens have wrist loops to keep them attached to you if you take them off in high wind.

## Feet

### Thin Liner Socks



### Materials

Wool, Polyester, or Silk—NO COTTON

### Examples

Smartwool, Bridgedale, Thorlo, Terramar

### Thick Heavyweight Socks



### Materials

Wool or Wool Blend Socks

### Examples

Smartwool, Bridgedale, Thorlo, Darn Tough

### Alpine Touring or Telemark Ski Boots



### Examples

Dynafit, Scarpa, Garmont

### Description

You can choose to use either Alpine Touring (AT) or telemark ski boots based on your preferred style and ski binding setup. Most boot liners are warm enough for the conditions found in the Southern Ellsworths but many prefer to use custom heat-moldable liners to provide additional warmth and comfort. Make sure that you have enough room in your boots to move your toes.

**Special Note on Dynafit Bindings:** Dynafits are the preferred binding of many of our guides and are renowned for their performance, strength, and reliability. However, they do require practice to use efficiently. If you do use them, please bring a spare heel-plate for your boot. This is the metal plate that sits at the base of the heel of your boot which hold the two metal pins from the binding's heelpiece. These plates can be purchased from most dealers or Dynafit directly.

## Alpine Crampons



### Materials

Steel—**NO ALUMINUM**

### Examples

Petzl Vasak, Grivel G12

### Description

You will need a set of steel mountaineering crampons. Be sure to fit your crampons to your ski boots and ensure they are the correct size before leaving home. You can use either step-in or strap style crampons but they must be steel. Aluminum crampons are not strong enough.

## FOR CAMP: -100°F (-73°C) Rated Snow Boots with Removable Liners



### Materials

Waterproof outer and removable insulated liner

### Examples

Sorel Glacier XT, Baffin Impact or Endurance

### Description

You will need boots that are very comfortable and very well insulated. We strongly recommend that you buy boots rated down to -100°F (-73°C) as -40°F (-40°C) boots are often not warm enough. Make sure your boots fit with two pairs of socks—one liner sock and one heavyweight sock. The boots should have built in gaiters and removable liners which can be taken out at night to dry.

## Optional Footwear



Hiking Boots, Running Shoes, and/or Insulated Booties

It's nice to be able to take your polar boots off around camp and in your tent. You can also wear hiking and running shoes for activities around Union Glacier on warmer days.

# Luggage

## Large or XL Duffel Bag (120-150 liter)



### Materials

Durable PU or Ballistic Nylon

### Examples

The North Face Base Camp Duffel—XL or Patagonia Black Hole 120 Duffel Bag

### Description

We recommend using an oversized duffel bag for your checked bag on your Antarctic flight. Make sure it is made of a durable material to withstand international travel and handling on snow and ice. Look for a bag with a full zipper and multiple haul handles.

## Lightweight Expedition Pack (70-80 liter)



### Description

Look for a pack that is 4.5 lb (2 kg) or less in weight. We recommend packs of at least 70 L (4500 cu in).

## Carry-on Backpack 18" x 16" x 10" (46cm x 41cm x 26cm)



### Examples

Patagonia Lightweight Black Hole Pack 26L, Osprey Ozone Daypack 24L

### Description

All passengers are limited to one carry-on bag sized to fit under an airplane seat for the Antarctic flight. We recommend putting all of your essential items in a carry-on backpack that you can also use for daily excursions while in Antarctica.

## Stuff Sacks



### Materials

Mesh or Nylon

### Description

It's easiest to organize your clothing in your bag and tent if you have color-coded stuff sacks.

## Equipment

### Pee Bottle(s)



### Examples

Nalgene 32 oz or Nalgene 48 oz Wide Mouth Water Bottle(s)

### Description

All human waste is removed from Union Glacier and all urine or 'pee' generated in the field must be deposited only in marked pee holes at base camps. This means you will need your own container to urinate in when you are not within reach of a toilet facility or a marked pee hole. We recommend a wide mouth water bottle that is clearly marked for pee only. We recommend practicing with your pee bottle at home so you can be comfortable using it when you get to Antarctica. Females may also find a pee funnel (Freshette, SheWee, Go-Girl) helpful.

At Union Glacier Camp, our staff will show you the container where you empty pee bottles behind the toilet facility. While on expedition in the Heritage Range or elsewhere in the Southern Ellsworth Mountains, you will empty pee bottles in marked pee holes at your base camp.



# SKI ANTARCTICA CHECKLIST

**You must bring ALL of the items on this list unless they are listed as optional.** We will look for each item on this list at your Gear Check in Punta Arenas. These items may not be available for purchase in Punta Arenas and we will not let you board the aircraft to Antarctica without them.

X	#	Item
<b>Base Layer</b>		
	4 pairs	Underwear, sports bras, etc.
	2	Light or midweight tops
	2 pairs	Light or midweight bottoms
<b>Mid Layer</b>		
	1	Lightweight fleece top or expedition-weight base layer top
	1 pair	Lightweight fleece pants or expedition-weight base layer bottoms
	<i>Optional</i>	Lightweight windshirt
<b>Insulation Layer</b>		
	1	Mid or heavyweight fleece, down, or synthetic insulation jacket
	<i>Optional</i>	Fleece, down, or synthetic insulated vest
<b>Wind Layer</b>		
	1	Hooded shell jacket
	1 pair	Shell pants
<b>Polar Insulation Layer</b>		
	1	Thick down or synthetic insulated jacket with large hood
	1 pair	Down or synthetic insulated pants with full side-zips
<b>Headwear</b>		
	1	Hat or beanie that covers ears
	1	Wide brim sun hat, baseball or trucker hat
	1	Neck gaiter or Buff
	1	Balaclava and/or face mask
	<i>Optional</i>	Headband
<b>Eyewear</b>		
	2 pairs	Sunglasses with side coverage and sunglass cases
	2 pairs	Goggles with different lens tints
	<i>Optional</i>	Spare contact lenses or prescription glasses, if required
<b>Gloves</b>		
	2 pairs	Liner gloves
	1 pair	Heavyweight insulated snow gloves
	1 pair	Oversized thick insulated mittens
	10	Chemical hand warmers

<b>X</b>	<b>#</b>	<b>Item</b>
<b>Footwear</b>		
	3 pairs	Thin liner socks
	3 pairs	Thick heavyweight socks
	1 pair	AT or telemark ski boots
	1 pair	Steel crampons
	1 pair	Snow boots rated -100°F (-73°C)
	<i>Optional</i>	Hiking boots or running shoes
	<i>Optional</i>	Insulated booties with no-slip sole
<b>Luggage</b>		
	1	Extra large duffel bag (120-150 liter)
	1	Lightweight expedition pack (70-80 liter)
	1	Carry-on backpack 18" x 16" x 10" (46cm x 41cm x 26cm)
	4-6	Stuff sacks
<b>Sleeping Equipment</b>		
	1	Sleeping bag rated -40°F (-40°C) with full-length zip
	1	Full-length, closed cell foam mat
	1	Full-length lightweight inflatable mattress
<b>Skiing Equipment</b>		
	1 pair	AT or telemark skis with bindings that fit your boots
	1 pair	Adjustable ski poles
	1 pair	Skins sized for your skis
	<i>Optional</i>	Self-arrest ski poles
<b>Other Equipment</b>		
	2	32 oz Nalgene wide-mouth water bottles (option to substitute one for a Thermos flask)
	2	32 oz Nalgene wide-mouth bottles (marked for pee). Option to substitute for one 48 oz Nalgene wide-mouth water bottle.
	1-2	Insulated covers for Nalgene water bottles (Outdoor Research or Forty Below)
	1	Large insulated mug with lid
	1	Large lightweight non-breakable Tupperware bowl
	1	Lexan spoon
	2	Lip balm with minimum SPF 50
	1	Sunscreen with minimum SPF 50
	1	Personal toilet bag with wash cloth, small towel, Wet Wipes, toothbrush, toothpaste, lotion, Band-Aids, blister kit, contact solution, feminine products, etc.
	As needed	Personal medication. Bring enough for your expedition plus an additional 4 weeks' supply.

X	#	Item
<b>Optional Climbing Equipment</b>		
	1	Lightweight touring ice axe
	6	Snaggate non-locking karabiners (Black Diamond Neutrino)
	2	Large screwgate locking HMS or Pear karabiners (Black Diamond VaporLock)
	2	Small screwgate locking HMS or Pear karabiners
	40 ft (12 m)	6 mm Perlon cord for prusiks/pack leash/sled hauling/utility
	1	Lightweight mountaineering climbing harness with adjustable leg-loops (Black Diamond Couloir)
	1	Climbing helmet sized to fit with a hat or beanie underneath (Petzl)
<b>Other Optional Items</b>		
	<i>Optional</i>	<b>For Antarctica:</b> USB or 120V A/C (North American Type A or B plugs) <b>For Chile:</b> Plug adapters and 220V transformers
	<i>Optional</i>	US cash to purchase satellite phone cards or merchandise at Union Glacier Camp
	<i>Optional</i>	Cotton t-shirts to wear at Union Glacier Camp
	<i>Optional</i>	Lightweight journal, paperback book, sketchbook, pencils, pen, e-reader
	<i>Optional</i>	Cameras, chargers, extra batteries
	<i>Optional</i>	iPod or tablet with headphones
	<i>Optional</i>	Eyeshade and earplugs for sleeping in 24-hour daylight
	<i>Optional</i>	Handkerchiefs/bandanas
	<i>Optional</i>	Pee funnel for women