

# POLAREXPLORERS

## POLAR SHAKEDOWN CLOTHING & EQUIPMENT



**One of the best parts of the Polar Shakedown Training** is becoming familiar with the various clothing and equipment that you'll be using on a polar expedition. You'll discover which clothing works well for you and which clothing you need to reconsider, or enhance. For this reason, our Shakedown clothing/equipment checklist is nearly identical to our North and South Pole clothing/equipment lists with the exception that you will need some kind of flashlight or headlamp. There are some differences with several of our other expedition kit lists including Greenland, Shackleton Crossing and the Vatnajökull Ski Traverse, all of which may experience warmer conditions as well as varying degrees of precipitation. If you have questions about the differences between the Shakedown clothing and equipment and your specific expedition clothing and equipment please contact us.

PolarExplorers will provide all of the group kit (tents, cooking equipment, etc.) as well as skis & bindings (unless you have your own), sleds, harnesses and sleeping systems (unless you have your own). Below you will find a list of each item. This is followed by a comprehensive description of most items. Don't hesitate to contact us with any questions. **Important tip - polar clothing is meant to be roomy! Avoid trim fitting layers, especially trim fitting outer layers!!**

\*Can't find these items? Don't want to spend time looking for them? We offer these items as a part of our optional Polar Pack Gear Store. Check our online [Polar Pack Gear Store](#) and our online [Rental Kit form](#) for details.

### Base Layer / Inner Layer

- 1 wool or synthetic light weight layer top and bottom
- 1 wool or synthetic mid weight layer top and bottom

## Mid Layers

- 1 insulated puffer-style jacket. We recommend the Mountain Hardwear Compressor Jacket.
- 1 insulated puffer-style pants. We recommend the Mountain Hardwear Compressor Pants\*

## Outer Layers

- 1 breathable wind anorak. This anorak should be roomy and protect against the wind. A fur ruff on the hood is ideal and can be added to most anoraks / shell jackets. Pit zips and other vents are helpful especially for anoraks that are water repellant.
- 1 insulated parka with hood. This parka must fit OVER your anorak (which means you should consider getting a size larger than you normally might wear). Make sure that your parka has a lot of "loft" or insulation and a hood. Some good parkas are the Marmot 8,000 Meter Parka and the Mountain Hardwear Absolute Zero Parka.\* If you are purchasing a parka for Greenland, Iceland or South Georgia Island consider a synthetic parka.
- 1 puffer-style vest (insulated with down or synthetic loft). Large enough to fit OVER your anorak.
- 1 pr. breathable wind pants (side zippers are a plus)

## Feet

- 1 pr. 3-pin boots rated to at least -90°F. We recommend Baffin Three Pin Pro boots We may have this boot available to purchase or rent depending on your size. If your foot is smaller than a men's 8 (USA) or a 41.5 (euro) please contact us for boot recommendations. \* The Alfa Polar Boot is another good option if you are looking for NNN BC boots for NNN BC bindings.
- 2 pr. thick wool or synthetic socks
- 1 pr. thin wool or synthetic socks
- 1 pr. vapor barrier socks or plastic baggies - OPTIONAL



## Hands

- 2 pr. wool, fleece, or soft-shell style gloves that will comfortably fit **INSIDE** your overmitt system. We refer to these as "working gloves" because you will be working in them all day long! Working gloves are highly personal in terms of fit and comfort. If you get cold hands easily also bring a pair of very thin wool gloves or mittens for better finger-to-finger heat sharing.
- 1 pr. expedition overmitts with removeable inner mittens for insulation. We recommend the Wintergreen Northernwear Plunge Mitt. Your A mitt leash system can be very helpful.

## Head and Face

- 1 warm hat that covers your ears \*
- 1 thin hat or cap
- 2 neck gaiters
- 1 face mask with full coverage \*
- 1 pair sunglasses with full UV protection
- 2 pr. anti-fog goggles with full UV protection

## Sleeping

- 1 sleeping bag rated to at least -30°F/ -35°C (bring your own or let PolarExplorers provide this item.)
- 1 sleeping pad (we can provide 2 closed-cell foam sleeping pads, but if you want a self inflating mattress, like Thermo-rest style, which many people consider more comfortable, you will need to provide your own. In this case we will still give you one foam pad to use with the self-inflating pad.)

## Personal Kit

- 3-5 stuff sacks of varying sizes and colors
- 2 wide-mouthed Nalgene bottles (one for P bottle) \*
- 1 insulated cover for Nalgene bottle \*

## Personal Kit cont'd

- 1 insulated flask or Thermos (1 liter) \*
- 1 bowl with lid \*
- 1 insulated mug with lid \*
- 1 spoon or spork \*
- 1 flashlight or headlamp
- 4-5 high energy snacks for each day of skiing (or dogsledding) - 3 days total - see additional information at the end of this document.
- Personal toiletries
- 1 stick-style sunscreen with high SPF protection \*
- 4 carabiners \*
- 1 personal stash of toilet paper (paper towel also works well)
- 1-2 lighters
- 10 chemical hand warmers \*
- Multi-tool or pocket knife

## Optional Items

- Vapor barrier socks or sturdy plastic baggies that fit over your feet
- Camera with extra batteries
- Journal with pencil
- Sturdy small backpack (waist belt and sternum strap can be a plus)
- Personal first aid kit with items you frequently use
- Camp chair \*
- Camp booties with sole (these can be VERY nice at the end of the day!)
- GPS
- Other electronics (ipod, tablet, battery packs, phones, etc. - see ELECTRONICS at the end of this document.

# Detailed Descriptions

## Base Layers

As the clothing that lies directly against your skin, your base layers are responsible for keeping you warm AND wicking your perspiration away from your skin. To do this, it is essential that your base layers are made either of wool (preferred) or a synthetic, wicking material. Absolutely NO COTTON!!! These layers should fit snug, but not tight. They should allow for easy movement and they should fit comfortably under all your other layers. Ideally you should be able to wear your lightweight base layer and midweight base layer together without feeling constricted. You will wear your base layers all the time. You will wear them all day long and when it comes time to go to bed you will sleep in them too!

## Mid Layers

Your mid layers offer additional insulation. You will mostly wear them in camp and not while skiing during the day. Puffer-style jackets and pants are ideal mid layers. Puffer-style gear is lightweight and warm (usually made of Primaloft or another synthetic material). Make sure that both your jacket and pants are roomy enough to wear over your outer layers if necessary. Recommendation: Mountain Hardwear Compressor Pants and Compressor Jacket

## Outer Layers

**Anorak** - The wind in the polar regions can be relentless, which makes having the right wind layers absolutely critical. An anorak is basically a wind jacket, designed to be loose fitting and primarily worn in the polar regions. It is one of the most important items on your entire kit list. The purpose of your wind layer is to prevent the wind from robbing you of your hard-earned body heat. Its dual purpose is to vent heat away, when necessary, to maintain the ideal body temperature. Your wind anorak needs to have good coverage (it should cover most of your butt) and it should have an attached hood with a fur ruff. It should also be highly breathable and relatively lightweight with plenty of ways to vent your body heat (easy-to-use zippers etc). It should not have any permanent insulation. Ski jackets are not acceptable wind layers. Nor are wind jackets that are not breathable, like those made of coated nylon. For North/South Pole expeditions your anorak does not need to be waterproof (for Greenland, Iceland and South Georgia expeditions it should be waterproof). Goretex is acceptable, but in extremely cold conditions Goretex can lose its breathability allowing it to get icy.

**Wind pants** - Like your anorak your wind pants should be fairly lightweight and breathable. Your wind pants should be comfortable for full motion. They should have pockets where you like them and easy access for going to the bathroom. Many people like bib-style pants, but if you get hot easily or sweat a lot you may find them too hot. Conversely, if you get cold easily you might like bibs. Look for pants with full side-zippers for easy on/off with boots and easy venting. Your wind pants should NOT have any insulation. Ski pants are NOT acceptable. You will wear these every day, so make sure they are roomy and comfortable!

**Parka** - A good expedition parka is essential to keep you warm whenever you aren't being active. Importantly, your parka will usually be worn OVER YOUR ANORAK which means you should consider purchasing a size larger than you might normally wear. Look for a parka with plenty of insulation or "loft". Loft is the dead air space that is created between the fibers of the insulation. Loft can either be created by down insulation or synthetic insulation. Down is lightweight and compressible and the choice of many of our team members who are doing expeditions in arid environments like the South Pole. Down requires more maintenance than a synthetic insulation (like Primaloft). Synthetic insulation is heavier, but it can insulate even when wet. Some good down parkas are the Marmot 8,000 meter parka, and the Mountain Hardwear Absolute Zero Parka. The best synthetic parka we have found is the Patagonia DAS (Dead Air Space) parka. The DAS parka is not as warm as the down parkas but it requires less care. Whichever parka you choose, ensure that it has an attached hood and extends lower than the waist. Having a fur ruff on your insulated parka is not necessary.

**Puffer-style vest** - This layer is like an insurance policy against a cold wind that suddenly develops. It is worn OVER your anorak and is perfect for times when you need just a little extra insulation. It should be easy to put on / take off quickly. A synthetic puffer vest is best for expeditions that may experience precipitation.

## Feet

**Boots** - Boots are a vitally important part of your kit. Without feet that are warm and dry, you can easily sustain a cold injury that can require an evacuation and result in skin and nerve damage. For North/South Pole expeditions your boots should be "pack boots" that are designed to keep feet warm in temperatures as cold as -90°F or colder. Pack boots are designed to be spacious inside to accommodate warm socks as well as sock liners or vapor barriers, with plenty of room to wiggle your toes. On the Shakedown we use 3-pin bindings which means your boots should have a three-pin (also called 75mm) toe. People with feet smaller than men's 8 USA or Euro 40.5 can use pack boots without a three pin toe. Make sure to purchase your boots early so you can break them in, and wear them while training. For Greenland, Iceland or South Georgia expeditions contact us for our boot recommendations.

**Socks** - The right sock combination is a fairly personal choice. Most people wear one or two pairs of socks. Choose a sock that is wool or synthetic and quick drying. It's not a bad idea to bring a combination of socks (1 pr. sock liners, 1 pr thin socks, 2-3 pr. thick socks) to see what combination you like. Some people opt to wear compression socks to help reduce swelling in their feet. One pair of extra comfortable and roomy socks should be designated as night-time only socks to help keep your feet dry and happy.

**Vapor barriers** - This is an optional but recommended item. The purpose of a vapor barrier is to trap moisture against your skin so it does not get your insulating socks or boot liners wet. Dry socks and boot liners are key to avoiding cold feet. If they do get wet from sweat it requires drying them over the stove each evening - a tedious task! Commercial vapor barriers are available but sturdy plastic bags also work well (worn in between a sock liner and a thicker sock). Vapor barriers tend to add some warmth to your foot system. Give them a try during your training!



## Hands

**Gloves** - Your gloves are an indispensable component in your mitt system. They rank among the most important items simply because you cannot survive without them. Because you work in them all the time we refer to them as your “working gloves”. You will be wearing your working gloves from the moment you wake, until the moment you fall asleep. So rarely will they leave your hands that you may forget what your hands look like! The best working glove is all about personal fit. Look for mid-weight soft shell-style or fleece gloves that are quick-drying but not bulky. Gloves with a windstopper membrane are nice. Gloves that have some grip on them (small patches of rubber or leather) are also beneficial. If your hands get cold easily or if you sweat a lot bring at least one pair of very thin gloves without a windproof membrane (this will promote crossfinger warmth in your overmitt and also dry faster). Consider going up a size from what you might normally wear to ensure the fit is not too tight. When you find working gloves that you like (and it's all about personal fit) buy two pair. Your second pair will be used as emergency back-ups, not as an alternate pair for when the original pair gets wet! If your gloves get wet you should continue to wear them until they dry out assuming your fingers are warm. If you leave them wet, or take them off while they are wet they will freeze - and then you will never wear them again!

**Expedition overmitts** - Your expedition overmitts will be worn OVER your working gloves. They must be roomy to accommodate your working gloves and allow for plenty of space for your fingers to move. The overmitts should be made with a water-resistant outer shell and they should be easy to put on/take off, with wide cuffs that can be tightened on your lower arm. They should have removeable inner mittens that can easily be taken out to dry. Many overmitts are sold with a lining attached (they look and feel like super-thick mittens). These should be avoided. The key to a successful mitt system is that each piece of the system (working gloves, inner mittens, overmitt shell) should be able to work on its own. This means that you should be able to work in just the working gloves (as you will often do around camp) or in the working gloves and overmitt shell (as you may do while skiing) or in working gloves, inner mittens and overmitt shells. Being able to remove the inner mittens from the overmitt shells is also an important feature that allows you to dry the inner mittens if they get wet. We highly recommend using a leash system to attach your overmitts to your jacket so that when you quickly take them off (as you will frequently do) they don't disappear in the wind (many models come with this). Recommendation: Wintergreen Northernwear Plunge Mitt.

## Head and face

**Hats** - You'll want at least one warm hat that's comfortable and one lightweight hat that's comfortable, both should cover the ears. If you get hot easily you may want to bring a head band / ear band that just covers your ears. A balaclava (covering head and neck) can be very helpful at night because they don't fall off while you sleep (hats often do).

**Neck gaiter** - Neck gaiters are like socks for your neck. They easily slide over your head to cover your neck from the biting wind. Wool or fleece are good materials. Buffs are also great at this important job. Bring two.



**Face mask**- When the wind is blowing a face mask can make the difference between having frost-nipped cheeks and nose or staying comfortable. Remember that your face mask should be easy to wear over everything else that you are already wearing (hat, neck gaiter, etc.) Also remember that you should be able to put it on without taking off your mitt system. An alternative to a face mask is a fleece skirt that is sewn or taped to the bottom of your goggles. One of each is ideal.

**Goggles and sun glasses** - On cold windy days there is nothing better than goggles to protect your eyes. The soft foam is exponentially better than the cold frame of sunglasses and blocking out the wind means that your eyes won't tear up. They also offer better coverage and protection. Look for anti-fog goggles that offer full spectrum protection against U.V. rays. You'll need two pairs of goggles. An amber lens pair can be handy on days with low visibility. If you wear glasses consider getting OTG goggles (Over The Glasses). Sunglasses can be a nice alternative on warm, windless days. Sunglasses should have plastic frames, not metal. Good side coverage is beneficial on the shakedown and at the North Pole **but it's absolutely critical if you are headed to the South Pole, Greenland, Vatnajokull or Svalbard.**

## Sleeping

**Sleeping bag** - Knowing that you will sleep comfortably can be a real relief after a long day of travel. For our Shakedown Trainings and our North Pole expeditions we provide a synthetic sleeping bag rated to at least -40. If you'd prefer to bring your own sleeping bag, or if you are testing your own sleeping bag for a future expedition, it should be rated to at least -30 degrees F. If you know that you sleep cold consider bringing a silk or fleece lightweight liner. Down sleeping bags will work but they require more care in the humid environments of our Shakedown locations and the North Pole.

**Sleeping pads** - We will provide one closed-cell foam pad. You need to provide a second pad. Most people, including most of our guides, prefer inflatable mattresses such as those made by Thermarest, Nemo and Big Agnes. Look for a 4-season pad that is full length.

## Personal kit

**Stuff sacks** - There's nothing special about stuff sacks as long as you get a variety of sizes. A variety of colors can be very helpful too. Avoid dry bags (they get stiff in the cold and they are heavy). They should be easy to open and well made.

**Nalgene bottles** - Nalgene is a popular brand of water bottle. You want their "wide mouth" style bottle (as opposed to the "narrow mouth" bottle). Each bottle should be a different color (to distinguish the P bottle from the drinking bottle). Other water bottle brands may work, but Nalgene is tried and trusted and will not break in the cold.

**Insulated Nalgene cover** - Without an insulating cover your fluids will freeze solid. Your insulated cover needs to protect the whole bottle (top and bottom too). It should fit loosely over the bottle and it should be thick enough that it can be pinched and compressed with your fingertips. Being able to pinch it means there is sufficient air in the insulation. Neoprene covers don't work well and should be avoided.

**Insulated flask** - A vacuum sealed flask (i.e. Thermos) that will keep liquid warm in cold temperatures for at least 12 hours. 1 liter or more. Lids with a push-open style don't work well, they have a tendency to leak. Twist on caps work much better. The insulated flask can be replaced by an additional Nalgene wide-mouth water bottle with an insulated cover.

## Personal kit cont'd

**Bowl with lid** - A sturdy plastic bowl with a lid that screws on is best. A snap on lid is OK too. The lid is helpful while you let soups and dinners hydrate. If it tips over, will the lid stay on? Cleaning up a soupy mess in the tent is no fun.

**Insulated mug with lid** - Like the bowl, the lid is important. Will it stay on and not leak if the mug tips over? Many commuter mugs have a "lock" position that keeps the lid closed. This can be a helpful feature. Will it keep your hot chocolate warm if you set it aside for an hour? That's the goal. Keep an eye on the weight. Some insulated mugs are really heavy!

**1 spoon or spork** - Any spoon or spork will work. Plastic is much lighter and won't get cold, but they do sometimes break. Pack a second as an insurance policy. Forks and knives aren't necessary.

**Flashlight or headlamp** - This item is really important for the Shakedown (and not at all important on our North or South Pole expeditions due to the 24 hour sunlight). Look for a headlamp or flashlight that's easy to use but won't accidentally turn on and off in your sled. Bring extra batteries!

**4-5 high energy snacks** - See more details at the end of this document.

**Personal toiletries** - The usual toiletries: toothbrush, toothpaste, floss, etc. Try to clip your toenails and fingernails in advance.

**Stick style sunscreen** - Stick style sunscreen is much better than lotion which has a tendency to freeze. Look for a high SPF. It will be used mostly on your lips, nose and cheeks.

**Carabiners** - For clipping things on to your sled. Bring four. They don't need to be climbing carabiners. It's OK if they are "accessory" carabiners.

**Stash of toilet paper** - Toilet paper works OK but paper towel is more sturdy. A sheet per day is a decent amount (or more if you go more than once a day). Also bring a plastic bag for packing out your used toilet paper. We practice Leave No Trace when we are in the wilderness!

**Lighters** - 1 or 2 standard lighters are helpful when it comes time to light the stoves. Keep them in your jacket pockets.



**Chemical hand warmers** - Though you should be able to keep your hands warm without the use of chemical hand warmers we recommend bringing a small stash (10 for your training) until you have your skills honed. If you know you get cold fingers easily or if you know you have poor circulation in your fingers consider bringing more.

**Multi-tool or Pocket Knife** - It can be handy to have a multi tool or knife for simple tasks. Nothing fancy. Look for a simple tool that's easy to use while wearing gloves.

## Optional items

**Vapor barrier socks** - see above under "Feet"

**Camera** - You'll want to document this awesome adventure! Every year more people are using their smart phones as cameras but the battery life is a serious issue. They die REALLY quick, unless you make sure to keep it warm between uses, and even then they die quick. If you bring an actual camera you still have to conserve battery power and bring extra batteries. A point and shoot camera with a view finder can be nice because LCD screens can be hard to see in the bright light. If you're an SLR person plan to spend some extra energy getting shots and bring more batteries than you think you'll need. A 24-70 length lens is good.

**Journal** - Keeping a journal is a little extra work but if you can muster 5+ minutes of time for reflection every night the payoff is well worth it. Bring a light weight journal with pencils (pens freeze) and a pencil sharpener. Tip - If you don't have the energy to write a narrative about the day just jot down one or two highlights and one or two challenges. A few words is all you need!

**Daypack / rucksack** - It can be helpful to have a small backpack for toting things around Longyearbyen and for the flights to/from the ice. Some people like to use the daypack as a way to store handy items (water, extra goggles, snacks) on top of their sleds (though it can make the sled top heavy). Any small daypack / rucksack will work. 20 liters is fine.

**Personal first aid kit** - Personal maintenance is important. It can be helpful to have your own stash of the items you use frequently such as blister care or over-the-counter pain medicine or an over-the-counter anti-inflammatory. We carry a comprehensive first aid kit that is available to everyone, but a personal stash of commonly used "everyday" supplies is very convenient.

**Camp chair** - A camp chair is really nice for down-time. It makes sitting in a tent or around a fire (in the case of our Minnesota Shakedown) much more comfortable and can be used as a part of your sleeping system at night.

**Camp booties** - At the end of the day it feels GREAT to get out of your ski boots and put on lighter booties. They should have a sturdy sole for trips out of the tent. You may be in deep snow, so the taller the better.

**GPS** - It can be really fun to track your route and keep tabs on your speed, distance, etc. Any modern handheld GPS should be fine. Look for a device that is easy to use while wearing gloves (bigger buttons) and an interface that's intuitive. We like Garmin GPS's. Larger screens are nice but they eat up batteries. Speaking of batteries, bring extra!



## Lunch snacks

Each person provides his/her own lunch snacks. This helps to ensure that you end up with food that energizes you and that is palatable to you (even after many days!) We each have different metabolisms and different energy needs. What one person brings will be way too much for another person or way too little. As a rule of thumb, try to bring at least 1000 calories of high energy snack foods each day. If that sounds like too little bring more. You'll be stopping to snack every hour, with four or five stops each day. Try to bring a mix of quick burning and slow burning calories, for instance nuts (slower burning) mixed with dried fruit or chocolate (quicker burning). During your Shakedown is a great time to experiment with various options. Energy bars, nut mixes, dried fruit, dried meat, cheese, candy bars, potato chips, crackers, hot soups... can all work. Importantly, they must be chewable in the cold. If they will freeze solid you'll need to plan ahead and wear the snack in an inner pocket prior to the break. Otherwise you may crack a tooth! We find that most people bring too much snack food (and usually snack food is heavy). Try to keep your daily snacks under 16 oz or 450 gr per day. Also consider bringing powdered energy drinks or flavored drink mixes. Additional information about your lunch snacks can be found in your confirmation letter.

## Electronics

We'll cover power, electronics and communication devices in greater detail during the Shakedown. Here's enough info to get you through packing. Some people love bringing technology on their expeditions, other people prefer to leave it behind - it's up to you! The most common electronics are smart phones, ipods, wireless earbuds, InReach devices (communication) and/or satellite phones. The more you bring, the heavier your sled. The more electronics, the more battery power you need. Battery packs are a great way to power devices. We recommend battery packs with at least 20,000 mAH (milliamp hour). That should charge a phone 5-6 times in the cold or a small tablet 2 times. A solar charger can also work but during the Shakedown the sun is only out during the day (vs. 24 hour sunlight at the Poles). Some people prefer a combination solar charger / battery pack. The battery pack is typically smaller (one charge) but it can be refreshed daily assuming consistent sunlight (not a given on a Shakedown).

## Questions about your kit?

Call us! Or emails us! We love to talk about kit :) We'll give you recommendations or send you links. We can also check your gear by Skype or Google Video.



[Click here to see our YouTube Gear Guide](#)

