












## SVALBARD TRAINING AND EXPEDITION - EQUIPMENT LIST

Click on links to view items that we have tested and recommend.












There are many other options. If you are unsure about anything check with us before buying.

ITEM	IMAGE	EXAMPLE	NOTES	WE PROVIDE/ ON LOAN	YOU PROVIDE	OPTIONAL YOU PROVIDE
<b>SKIING/GLACIER TRAVEL</b>						
Backpack		Mont <a href="#">Sentinel</a> or <a href="#">Contour</a>	30-40 litre. Padded shoulder straps and waist belt. Used as a harness for towing your sled. We tie a lanyard to the waist belt/shoulder strap connection points and clip the sled traces into this with a carabiner.		1	
Polar boots		Baffin <a href="#">Endurance</a> (men) Baffin <a href="#">Impact</a> (women)	Flexible sole, removable inner. Do not use mountaineering, alpine touring or plastic boots.		1	
Sunglasses		Julbo <a href="#">Trek</a> Smith Optics <a href="#">PivLock</a> Oakley <a href="#">Flak</a>	Frameless, interchangeable lenses (yellow good for low light), attach a nose piece for wind and sun protection.		1	
Goggles		Julbo <a href="#">Aerospace</a> Smith Optics <a href="#">Turbo Fan</a>	Goggles fogging and icing can be a frustrating problem for polar travellers. These models work well at extracting moisture within the goggles and preventing icing up on the inside of the lens.		1	
Climbing rope			For glacier travel	1		
Sit harness			Lightweight climbing harness, used during glacier travel	1		
Carabiner - non-locking			For sledding and glacier travel.	3		
Carabiner - locking			For attachment of rope to harness during glacier travel	1		
Prussiks			Loops of 5mm rope for crevasse rescue, 2 sizes	3		
Skis			Touring skis with climbing skins to give traction when climbing and sled hauling	1		
Ski bindings			Flexi ski bindings	1		
Ski poles		Adjustable, large baskets		1		

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Sled			Plastic expedition sled with large zipped cover and traces (hauling lines)	1		
Strain reducer			Elasticated connector that reduces the strain on your back when hauling. <a href="#">Icetek Download</a>	1		
Ice screws			Used as tent anchor when camped on ice and for glacier travel	6 per tent		
Ice hammer			Technical use, double as tent peg	1 per team		
<b>CLOTHING</b>						
Underwear			Polypropylene or merino		2	
Thermal top and pants (base layer)			Worn next to the skin, polypropylene or merino, two different weights for different temperatures but both can be layered if very cold.		2 of each	
						
Fleece jacket			Worn over thermal top, full zip (gives better ventilating options), Polartec 200 (or 300 if you feel the cold), add extensions to all zippers so you can operate zips with mittens on.		1	
Fleece pants			Worn over thermal base layer. Polartec 100 for warmer conditions, Polartec 200 for colder conditions, layer both for extreme cold or bring 300 if you feel the cold.		2	
Shell jacket		<a href="#">Bergans Arctic Expedition</a>	Worn over thermals and fleece, hood with reinforced rim, large pit zips for ventilation, large-tooth zips (no waterproof zips!), add long extensions to all zipper		1	
Fur ruff			Sewn to hood of windproof jacket (not to down jacket). Wolf, beaver, husky, wolf/wolverine. Ruffs can be bought in Longyearbyen for around €100 and sewn onto your jacket by the local seamstress, however you need to book this in ahead of time, closed weekends.		1	

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Shell pants		Bergans <a href="#">Arctic Expedition Salopette</a>	With full-length side zips and braces, large-tooth zips (no waterproof zips), add extensions to all zippers		1	
Ski shorts		Wedze <a href="#">Short</a> Arctica <a href="#">Short</a>	Very difficult to add warmer layers underneath your shell if you get cold legs. Padded ski shorts are an easy way to get warm. Must have full-length side zippers for donning with skis on.			1
Down skirt		Mountain Hardwear <a href="#">Skirt</a>	As above. Also a comfortable wind block when toileting. Must have full-length side zipper.			1
Down jacket - lightweight		Mont <a href="#">Neon</a> Rab <a href="#">Microlight</a> MHW <a href="#">Ghost Whisperer</a> Uniqlo <a href="#">Ultralight</a>	Down, windproof, oversized to wear easily over shell jacket when it gets windy/cold, add extensions to all zippers		1	
Warm jacket		Mont <a href="#">Icicle</a> Rab <a href="#">Batura</a> Baffin <a href="#">Polar Parka</a>	Minimum 300g of 800-fill down. Attached hood. Worn over everything when taking a break. Add extensions to all zippers		1	
Polar hat		Icetek <a href="#">Sabine Hat</a>	Windproof, fleece lined, must have full ear coverage		1	
Insulated peak cap		Klattermusen <a href="#">Rimfaxe Cap</a>	Sun and cold protection, with ear coverage		1	
Fleece or wool hat		Icetek <a href="#">Lo.Go Beanie</a>	For warmer conditions, sleeping, in tent, spare		1	
face mask		Icetek <a href="#">Guru Face Mask</a>	Neoprene, protects face in extreme cold		1	
neck gaiter or 'buff'		Buff <a href="#">Original</a>	Protects neck and face, can be worn multiple ways. Silk, fleece or capilene, NO COTTON		1	
polar mittens		Icetek <a href="#">Kelvin Mitt</a>	Modular - windproof outer and removable fleece, down or Primaloft inner. Rated for polar or high altitude mountaineering use. Oversized to accommodate liner mitts.		1	

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liner mittens		Hestra <a href="#">Pancho liner</a> Outdoor Research <a href="#">Flurry</a>	Wool, fit under polar mittens.		1	
liner gloves		North Face <a href="#">PowerStretch</a>	Polypropylene, capilene or merino. For inside the tent. Not to be used as mitten liner as this makes the hands cold by preventing skin to skin contact of fingers.		1	
vapour barrier socks		SealSkinz <a href="#">Trekking Thick</a>	Warm waterproof socks, prevent sweat from entering boot liners		1	
nylon liner socks		Wilderness Wear <a href="#">Wick Dry</a> Wigwam <a href="#">Gobi Liners</a>	Fine knit, worn next to the skin, helps prevent blisters		1	
thick tent socks		Bridgedale <a href="#">Trekker</a> Wigwam <a href="#">Snow Altitude</a>	For in the tent/sleeping bag, wool or synthetic. Can be used as a trekking sock with liner.		1	
<b>CAMPING</b>						
Tent		Hilleberg <a href="#">Keron 4</a>	With spare pole set	per pair		
Tent stakes		snow anchors	For anchoring the tent to snow surface	10 per tent		
Tent brush			For cleaning snow from tent floor	1 per tent		
Inflatable mattress		Thermarest, wide	Combined to give thermal R-value of 5+	1		
Foam mattress		Ridgerest, wide		1		
Camp chair		Thermarest Trekker Lounge	Converts mats into chairs	1		

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Sleeping bag		Red Fox North Pole	Synthetic, side zipper, 4-season, hood, -40C minimum.	1		
Tent boots		Exped <a href="#">Boots</a> Helsport <a href="#">Bivy Shoes</a> Baffin <a href="#">Cushy Booty</a>	For inside the tent and quick trips outside. Down or synthetic fill		1	
Head lamp		<i>Petzl Tikka</i>	With lithium batteries (lithium works well in the cold, <u>others do not</u> ). Only required for Svalbard Expedition in March.		1	
Snow Shovel			Used for shovelling snow onto tent flaps and for collecting snow for cooking.	1 per tent		
Snow saw			For building snow walls, double as tent peg	1		
Stove		<i>MSR XGK-EX</i>	You will be required to cook with your tent partner inside your tent. We will train you in stove use before we depart.	1 per tent		
Matches			Stored in waterproof box	2 boxes per stove		
Fuel bottles		MSR 887ml		2 per stove		
Stove bases			for kitchen	2 per tent		
Kettle			aluminium 4-litre	1 per tent		
Food			see <a href="#">Polar Food and Diet</a>	✓		
Stove fuel			450ml per person per day	✓		
Snow bag			Used to collect snow blocks for melting on the stove	✓		
Toilet paper and hand wash				2 rolls each		
Thermos flask		<i>GSI Glacier</i> <i>Thermos King</i>	1 litre. We provide one, you bring the other.	1	1	
Sipper bottle		<i>Nalgene MultiDrink</i>	Leakproof. Provides additional fluid capacity. Useful inside tent/camp, 750ml minimum		1	

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Bottle parka		<i>Outdoor Research <a href="#">Parka</a></i>	Insulates your drink bottle, or use your tent bootie while we are skiing. Liquids left in bottles other than thermoses will freeze if the bottle is not insulated		1	
Bowl		<i>Sea to Summit <a href="#">Delta Bowl</a></i>	Plastic, freezer safe		1	
Cup		<i>GSI <a href="#">Infinity mug</a></i>	Insulated, sealed lid, freezer safe		1	
Spoon		<i>Sea to Summit <a href="#">Long Spoon</a></i>	<i>Long-handled to eat from meal packets</i>		1	
Utility spoon			For ease of eating from food bags while wearing mittens	1		
Pee bottle		1 litre <i>Nalgene <a href="#">Wide-Mouth</a></i>	Useful for men and for women using a FUD (Feminine Urinary Director).		1	
Feminine Urinary Director		<a href="#">FUD</a>	Used by women for urinating without undressing			1
Ice brush			for cleaning ice from inside shell clothing and boots.	1 per tent		
<b>NAVIGATION, COMMUNICATIONS, SAFETY, REPAIR</b>						
Compass		<i>Silva <a href="#">Explorer 203</a> Suunto <a href="#">M-3 G</a></i>	Swung for northern hemisphere or global/universal			1
GPS				2 per team		
Maps and satellite images			laminated	✓		
Medical kit				✓		
Fire blanket			stove safety	per tent		
Personal medications			pain killers, blister kit, anti-inflammatories			✓
Scheduled and automated communications			Iridium phones, Personal Locator Beacon, Yellowbrick tracker. Not for personal comms, guide use only.	✓		
Repair kit			For maintenance and repair of equipment and clothing	✓		

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Whistle			Plastic, pealess, worn on backpack		1	
Firearms, flare guns and perimeter wires			For polar bear protection. You may be asked to carry a flare gun.	✓		
<b>POWER / CHARGING</b>						
Power supply			For charging devices.			1
Chargers and power cables			For devices			✓
<b>OTHER</b>						
Accessory cord			5m, 3mm, for adding extensions to your zippers if you have not done so already		✓	
Pocket knife / multi-tool		Leatherman <a href="#">Skeletool</a> <a href="#">Swiss Army Knife</a>	Multiple uses		1	
Camera			With lithium-ion batteries			✓
watch					1	
insurance policy					✓	
personal toiletries					✓	
sun screen (SPF40+) and lip protection					✓	
spare batteries for devices					✓	
stuff sacks		Sea To Summit <a href="#">Ultra-Sil Stuff Sacs</a>	For packing clothes etc. L or XL. do not bring dry sacks (buckle closure sacks) as they are more difficult to operate and waterproofing is not necessary		3	
book/Kindle						✓
diary and pencil						✓
iPod/iPhone, headphones						✓
ear plugs and eye shades						✓

When purchasing clothing and equipment please consult with us well in advance so that we can check it's appropriateness for the polar environment. Read our tips below.

Longyearbyen has a number of quality outdoor stores where most items of clothing and equipment can be purchased. They are closed on Sundays and public holidays. We suggest you rely on these stores only as a backup.

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TIPS	
<b>cameras</b>	Small digital still cameras can be kept warm in a pocket but keep it in a sealed bag or case. This prevents perspiration ice forming on it when it's in your pocket. A camera brought from the cold into a warmer tent will fog up instantly. Always keep it covered until it reaches the ambient temperature before using it. Remember, the smaller the buttons, the more difficult to operate. Best performing compact camera in extreme cold is the Panasonic Lumix DMC-FT6.
<b>cold</b>	Svalbard can be extremely cold in March, down to -40c. This is manageable (and exciting!) with the right clothing and equipment, but don't underestimate it, even if you are reasonably cold-tolerant. Be sure that all of your gear - clothing and equipment - is in full working condition. Any liquids - water, gels etc - will freeze unless insulated.
<b>dexterity</b>	You will be wearing mittens while outside. Your dexterity will be drastically reduced however you still need to be functional - adjusting zippers, operating buckles and toggles, pulling straps, eating etc. While at home, practice using your mittens while adjusting your shell clothing. If you can't make adjustments with your mittens on at home, you will not be able to make them on the ice, so make changes where possible. In particular add extensions to all of your zippers.
<b>dressng</b>	Because you'll be active during the day, it will be unlikely that you will wear anything more than a fleece jacket and a thermal top under a windproof shell while skiing. If you get cool while skiing your light puffy jacket will go over everything, including your windproof, so make sure it is roomy enough. Your big down jacket will only be used during breaks and camp setup/decamping. Avoid tight fitting clothing. Even your base layer should be quite loose. Inside the tent you will be warm enough to get by without gloves and your warm jacket. The tent is warm and comfortable with the stove running.
<b>eating</b>	The food we provide is high in energy, easy to prepare and relatively low in weight and bulk. If you do not eat or drink adequately you will feel the cold much more, hunger and dehydration are two of the main contributors to hypothermia. Check the <a href="#">Polar Diet</a> on our website.
<b>electronics/ batteries</b>	Extreme cold will have a negative effect on electronics and batteries. Lithium batteries work best, alkaline, NiCad and rechargeable do not hold their charge very well in extreme cold so DON'T BRING THEM.
<b>fabrics</b>	<u>Cotton</u> . Avoid cotton garments as they do not retain heat when wet <u>Polar fleece</u> . Excellent under all conditions <u>Gore-Tex</u> . Not ideal in extreme cold as it does not breathe fast enough <u>Merino wool</u> . Excellent for base layers <u>Synthetics</u> . Excellent strength and tear resistance, not as warm as wool <u>Windstopper/Windbloc</u> . Excellent in hats but not useful under shell clothing <u>Wool</u> . Wool is an excellent insulator however it is slower to dry
<b>hygiene</b>	Consider bringing some personal hygiene items. There won't be any running water and warm water is at a premium. A quick-dry wash cloth can be used for washing yourself but bear in mind that if not dried adequately it will freeze. An alternative is using wet wipes kept in a container next to your body. Talc powder can help too. Disinfectant hand-wash is available for each tent. Use it after toileting and before cooking/eating. For toileting, if it's yellow, we're pretty mellow; if it's brown, bury it down (and away from the tent). We will allocate areas for toileting. Use a pee bottle inside your sleeping bag, ladies can use a FUD.
<b>power</b>	Only lithium batteries work well in the cold, do not bring alkaline, nicad or rechargeable batteries. The sun is too low on the horizon for solar panels to work effectively.
<b>skiing and resting</b>	We usually ski for 60 minutes then have a short break, and a longer break after each 2 hours. Breaks are usually between 5 and 20 minutes, depending on the cold. Your insulated jacket can go over everything, including your backpack. Keep your skis on during shorter breaks, take them off for lunch. Drink and eat during every break or you will feel the effects of hunger and dehydration. We may travel between 6 and 8 hours every day not including rests.
<b>sled packing</b>	You will be allocated a plastic sled. Pack the largest and heaviest equipment, including food, at the bottom, spreading the weight evenly over the base of the sled. This helps balance the sled and minimizes annoying capsizes. The sleds come with a snow cover and compression straps for securing the load. Items required during the day can be slipped under the cover or carried in your backpack. Large but lightweight items such as sleeping pads can be carried in your backpack to maximize room in your sled if required.



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<b>sleeping</b>	Your sleeping bag will keep you warm in the coldest temperatures, so long as you use it properly. Slide into the bag liner, close the zipper, adjust the neck baffle so that it sits above your shoulders, place your head in the hood and tighten the drawcord. This will prevent cold seeping into your bag and warmth from escaping. We provide insulating mattresses with a combined R-Value rating of 5 or more under your sleeping bag. We guarantee you the option of 8 hours sleep every night.
<b>steel</b>	Steel items must be insulated where possible. Even with gloves and mittens on, fingers can become frost damaged when handling cold-soaked steel. Wrap tape around your thermos flask and any other steel items you may have.
<b>teamwork</b>	Look out for your team mates. Check their faces for frost exposure or injury every time you talk to them. There are lots of little jobs to do - camp setup, filling cooking-snow bags, cooking, cleaning - so pitch in.
<b>windproofing</b>	Windproof shell jacket, pants and mitts are mandatory. A fur ruff on the hood of your shell jacket will block wind and create a warm micro-climate around your face. Shell jacket and pants must not be lined with mesh, fleece or any other fabric.
<b>waterproofing</b>	Waterproofing is not important, it's too cold to rain. Seam sealing actually retards garment breathing but it is difficult to source clothing that is not tape-sealed.
<b>zips</b>	Add extensions to all your zips, about 5-7cm is ideal, even longer on the ones you will use often, ie. main zip on windproof jacket etc. Be sure you have a big knot or toggle at the end of each extension to grab with mitts on. Extension tags should be a different colour from the rest of the garment for easy identification. Make sure all zips are working well, a broken or malfunctioning zip can be disastrous. Avoid waterproof zips as they are difficult to operate in extreme cold. The larger the teeth on your zippers, the better they will perform.

