

EXTREME COLD WEATHER CLOTHING

USAP participants must supply their own socks and base layer insulation clothing to fulfill the Extreme Cold Weather (ECW) clothing requirement.

The following ECW items are **required** to deploy to Antarctica, including both USAP- and participant-provided clothing. Ask your supervisor or science implementer if you have questions about appropriate clothing.

USAP-PROVIDED ECW CLOTHING

- Parka (continental) or windbreaker jacket (peninsula)
- Boots
- Windpant with fleece pant liner
- Fleece jacket
- Hat
- Gloves
- Neck gaiter
- Goggles
- Rain jacket and rain pants (peninsula only)

PARTICIPANT-REQUIRED ECW CLOTHING

The following items must be supplied by the participant.

- Socks
 - Mountaineering, winter-weight, non-cotton
 - Fabric suggestions: Merino wool or nylon/lycra blend
 - An additional, lightweight, liner sock to be worn underneath is suggested to assist in wicking sweat away from the foot (e.g., merino wool or polypropylene)
 - Suggested quantity is 2-4 pairs each
- Base layer, lightweight (thermal, long underwear - tops and bottoms)*
 - This insulation layer is worn directly next to skin to wick moisture away from the body
 - Fabric suggestion: synthetics (e.g., polypropylene, polyester, branded materials) or natural fibers (e.g., silk or merino wool)
 - Non-cotton
 - Density approximately 140-200 grams per square meter
 - The clothing label or website might list this as "140 weight" or another number within this range
- Base layer, mid-weight (thermal, long underwear - tops and bottoms)*
 - This insulation layer can be worn independently or over base layer
 - Helps protect against cold and wicks moisture from the body
 - Non-cotton
 - Fabric suggestions are synthetics (e.g., polyester, nylon, non-bulky fleece, branded materials such as PolarTec) and natural fibers (e.g., merino wool, down)
 - Density approximately 260-320 grams per square meter
 - The clothing label or website might list this as "260 weight" or another number within this range

*An Internet search for light and mid-weight base layers and mountaineering socks will yield recommendations in several price ranges.

BRING YOUR OWN ECW

If this is your first deployment, you cannot bring your own ECW gear. If you have deployed with another program to the Antarctic and/or Arctic and have your own gear and/or are working with an experienced PI/Field Lead, you can email Field Risk Manager, Kate Koons, to discuss bringing your personal gear (katherine.koons.contractor@usap.gov).

Returning participants have the option to bring their own ECW, use the gear provided by the USAP, or a combination of both. The option to bring your own ECW only applies to participants returning to locations and seasons with which they have previous experience (e.g., McMurdo at WINFLY, summer at Dome C, sea ice summer, South Pole winter, etc.).

South Pole winterovers may bring their own ECW but must also accept USAP-provided items regardless if they are a repeat traveler.

ECW clothing is an area of personal responsibility, one that requires participants to maintain awareness of the conditions they are likely to encounter during certain activities.

If you elect to bring your own ECW, items **MUST** meet the technical specifications below.

PARKA (EXPEDITION/BELAY WEIGHT INSULATED JACKET)

- 800+ cubic inches of synthetic or down fill (loft of the insulation - "puffiness")
- 250+ grams of insulation (weight of the insulation itself)
- Windproof outer shell
- Attached hood
- Fitted closures at cuffs and bottom, to prevent drafts
- Longer than waistline, especially when bending over, to prevent drafts
- Must keep you warm when inactive for 12 hours, in case of aircraft delays or other field situations

Examples: Rab Positron Jacket 800 fill/275 grams, Patagonia Fitz Roy Down Hoody 800 fill

BOOTS

- 1000+ grams of insulation
- Removable liner-insert style boot
- Enough additional liner inserts so as to always have a dry liner available
- For summer deployments to Palmer Station, McMurdo Station and the Dry Valleys, temperature rated for -40C/F
- For South Pole and all other continental field locations and seasons, temperature-rated for -100C/-148F
- Must keep your feet warm and dry when standing on snow or ice while inactive for 12 hours, in case of aircraft delays or other field situations

Examples: Baffin Impact, Baffin Apex, Sorel Caribou

PANTS

- Layered system consisting of a windproof outer shell (Gore-Tex or Schoeller equivalent), worn with insulating long underwear of puffy layers underneath
- Or, Carhartt quilted pants/bibs, Level 4 Extreme Warmth Rating (this is the newer version of the 400 gram insulation)
- Note: Carhartt Level 4 Extreme Warmth Rating quilted items are the only products utilizing cotton that are acceptable
- Must keep you warm when inactive for 12 hours, in case of aircraft delays or other field situations

Examples: Arctic Cat Advantage bib, Canada Goose Tundra bib overall, Ski-Doo Expedition highpants