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Cold weather observing: The Ironman's tips for staying warm this winter

by Tom "Ironman" Dietz

Start with the right underwear

No cotton or polyester/cotton blends next to your skin. This includes underwear and socks. Polypropylene longjohns are excellent provided they're thick enough, arctic-weight wool/polypropylene blend longjohns are even better. Because cotton doesn't wick perspiration away from your skin, it quickly becomes moist and cold in cold weather, leading to rapid loss of body heat. The same property that makes cotton great for wearing in hot weather can contribute to hypothermia in cold conditions.

Dress in layers

Many thin garments with lots of dead air between layers to trap heat are better than a few thick ones. For observing in temperatures below 25 degrees, I generally wear the following:

- Wool/polypropylene or polypropylene longjohns (two pairs for subzero temperatures)
- Polypropylene sock liners
- Wool socks (one or two pairs)
- Flannel shirt (a synthetic fleece shirt would be even better)
- Jeans (synthetic fleece pants would be even better)
- Wool sweater
- Fleece layering jacket
- Down-filled bibs
- Down parka (rated to -40 degrees with the bibs)
- Baladava
- Wool/thinsulate watchcap

- Wool fingerless gloves
- Pac boots (rated to -40 degrees when the expected low is above 20 degrees or -100 degrees when the low is in the teens or below or when observing on snow)
Always bring more layers than you think you'll need. Add or remove layers depending on air temperature, wind chill, and how much you're exerting yourself. If you're wearing enough to start feeling too warm while you're driving to the site or setting up your gear, you've probably got on too many layers and will get cold after you've stopped moving around as a result of having perspired under your cold weather gear.

Don't put on all of the layers you plan to wear while observing, including heavy boots and socks, until you have everything set up and are ready to observe. On the other hand, if you feel comfortable wearing all of the layers you've brought while laboring to unload equipment and set up, you've probably not brought enough and will start to get cold as soon as you stop moving around.

What to do about cold feet and hands

Cold feet and/or hands are a symptom of a falling core body temperature. When this happens, the brain redirects blood away from the extremities to the vital organs, and the feet and hands become cold. If your core temperature is dropping, the heaviest boots and gloves won't help you feel much warmer. Only adding layers will help. Drinking something hot will also speed recovery. If you keep your core temperature

up, you can often observe in comfort without gloves.

Looser means warmer

In addition to making it easier to move around while wearing multiple layers, loose-fitting clothing will keep you warmer because it allows for more dead air between the layers. Also avoid tight-fitting boots. Even with a couple of pairs of wool socks on,



Thermos, gloves, balaclava, and chemical hand-warmers can help keep you comfortable during winter observing sessions.

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