



Troop 113 – Cold Weather Camping

How to Enjoy Winter from the Inside Out



Layering - When temperatures plummet and snow starts to fly there's no reason to shiver and shake. Whether you're blazing along an alpine trail on cross-country skis or walking the woods on a moonlit night, you can keep dry and warm by dressing properly and adjusting to changing conditions. Comfort in the cold requires attention to details, and more than anything that means layering your clothing from the inside out.

What is the key to a proper layering system? The answer lies in the subtle dynamics of heat and moisture against your skin. The traditional garb for combating cold was a bulky parka and lots of wool undergarments. While this combination might work for someone standing still, they are impractical for the active outdoor enthusiast. Parkas are heavy, wool is itchy, and, most importantly, both garments trap moisture, which leads to damp discomfort when someone wearing them works up a sweat and then cools down. Layering, on the other hand, allows for a variety of conditions using lightweight and comfortable fabrics.

The trick to layering is to combine the right clothing in the proper order, trapping the air warmed by your body heat while letting moisture vapor from your body's perspiration be conducted away from your skin. The choice of garments must be versatile enough to adapt to your activity level and variations in weather

conditions—maintaining the delicate balance of staying cool when active and warm when at rest.

The first layer for cold-weather exposure should keep you warm and dry on the inside. Since it's what touches your skin, it also makes sense to wear something soft, lightweight and pliable (those who have been chaffed by wool underwear will attest to this). This layer, the underclothing, will work with your outer layer to keep you dry. The best material for long underwear are those that "wick" wetness away from your skin quickly and effectively.

Do NOT wear cotton underwear for cold weather hiking or camping. Cotton dries slowly, holding heat-draining moisture against your skin. We've all done it—worn cotton socks on a cold, damp day and lived to regret it—but there are a wide range of superior fabrics available now which can wean us from our past mistakes.

Today's synthetic fibers, polypropylene and the like, work much better. (Silk is nice too, but difficult to care for.) Not only do they feel comfortable against the skin, they dry quickly and actually pull perspiration vapor away from the skin towards the next layer of clothing, the insulation layer, where it can evaporate.

The secret to staying warm and dry when temperatures dip—or when you're activity level tapers off—is to make sure you're well insulated against the cold. The moisture that's moving away from your skin has to keep moving. The best insulators will trap warm air, but offer necessary ventilation when you start too overheat. Clothing that gives you the best insulation should be comfortable and lightweight—durably windproof and adaptably breathable. GORE WindStopper® fleece is such a fabric commonly used by leading manufacturers.

Here's another tip on insulating: Incorporate as many layers as necessary to stay ahead of the cold, and control your heat retention by adding or removing layers as needed. It therefore makes sense to buy garments that are easy to put on and take off.

Versatility of the layering system is key. For example: When skiing, you can expect to be active for extended periods of time in cold

weather. Start your day wearing a wicking layer and an outer shell. It may be a little cold to begin with, but your body will warm rapidly and begin to perspire. When you stop skiing, add an insulation layer to remain warm and comfortable.

Layer 3: The Shell

The third or outside layer is your last line of defense, so outerwear should be appropriate for your activity. Jackets and pants must allow perspiration vapor to vent while blocking wind and rain. The material must reduce heat loss and assist the rest of your layers in keeping you dry and comfortable.

Over twenty years ago, an outer layer—or shell—that was capable of protecting you from wind, rain, and snow while letting perspiration escape simply wasn't available. Most people wore rubber or plastic suits for rain protection, but these materials trapped sweat, made the insulation layer wet, and kept the wearer chilled. Because they weren't breathable, your options were to get wet from the elements or get wet from your own sweat.

The invention of GORE-TEX® fabric revolutionized cold-weather outerwear. Able to withstand the most severe rain and snow while allowing perspiration vapor to escape, GORE-TEX® fabric has proven to be durable and windproof for a wide range of physical activities.

Today there are several effective performance fabrics available. In the process of making your choice, consider your activity and the level of protection you expect. Make sure the shell is large enough to fit easily over the other layers and that it is easy to care for so that you can maintain its performance over a long period of time. Use it in conjunction with the other elements of layering and, with luck, you'll never endure another uncomfortable day on the mountain.

Heat From Head to Foot

Layering works, but you'll only be comfortable and safe from the elements if you make sure your extremities are protected from the damp and cold as well.

Use a Hat

Body heat escapes through your head more readily than hands or feet. That's because it has a large, exposed surface area and a rich, warm blood supply that is not diminished when exposed to cold. A hat can therefore be one of the most effective dampers for quick adjustments in temperature. Put it on when you feel a chill, and take it off when you're hot and sweaty.

Get Good Gloves and Mittens

Your body, when exposed to the cold, will limit the amount of blood pumped to extremities to preserve heat within the vital organs. That's why your hands and feet are the first things to get cold—they're being sacrificed, in a sense, for the more important body parts. Because body heat escapes easily through your hands, it's hard to keep them warm. If they get wet, you can more or less forget about it. Always wear a good pair of gloves that are breathable and waterproof. Mittens are warmer than gloves, but are obviously more limiting with some winter activities. Carry both. You can buy liner gloves or mittens, followed by a waterproof shell to layer warmth for your hands.

Protect Your Feet

Like your hands, your feet can quickly get cold and allow heat to escape. In fact, your feet can pump a full cup of perspiration over the course of an active day. The best defense for the cold is to keep them dry and warm. Durably waterproof, breathable footwear will provide you with the insurance you need to enjoy your outdoor activity. Add to that a heavy pair of synthetic-fiber (such as polypropylene or polyester) socks and a thin pair of wicking socks, and your days of cold feet should well be over.



10 Steps to a Goosebump-Free Night

by Ted Stedman from *GORP*

Lucky is the warm sleeper. You know you're a member of this club if you've ever slept blissfully through the night with the zipper to your bag wide open while companions with nearly identical sleeping bags complained of the bone shivering cold.

Warm sleepers and cold sleepers are indeed born that way, due in large part to metabolism and body size. But a whole bunch of other factors come into play that influence your ability to sleep comfortably through the night, such as how much water and food you consumed that day and how much insulation lies between you and the heat-sucking ground.

So, cold sleepers, don't despair. You can level the playing field with a few easy-to-follow tips to help you generate and conserve more body heat when the night turns frosty. Here's how:

1. Get enough "bag" for your buck. Select a temperature rating for your sleeping bag that's adequate for the nighttime temperatures you're likely to encounter. Head into New Hampshire's White Mountains in November with a 35-degree bag, for example, and you'll likely be a cold pup.

2. Hold onto your heat. A sleeping bag's design plays a big role in your ability to retain body heat. If you're a serious camper or backpacker, your slam-dunk choice is a mummy-cut bag for the simple reason that there's less empty space

inside that needs to be heated and the close-fitting hood prevents heat from escaping. (Attention women: new women's bags conform to the realities of the female form and metabolism—narrower fitting in the shoulders, wider in the hips, shorter overall, and extra insulation in the foot area—to create a bag that's easier to heat up.) Other warmth-enhancing bag features to look for: an insulated draft collar, which drapes or cinches around your neck like a gasket to seal in heat; a hood with loads of insulation as well as cinch cords to narrow the face opening; and an insulated zipper draft tube running the entire length of the zipper.

3. Get off the ground. The ground is always colder than you, so without an insulating layer between you and it, you'll be robbed of precious body heat. Your best bets in pads are either the closed-cell foam variety or self-inflaters. Tip: When camping on snow or frozen ground, the best formula for warmth is to carry two pads, a smooth, full-length closed-cell foam pad topped with a full-length self-inflater.

4. Eat before you sleep. Think of your body as a furnace that needs stoking with food to generate heat. Treat yourself to some high-calorie indulgences before turning in. For quick heat, carbohydrates like a cereal bar will rev your internal motor almost instantly, but the burn peters out after a few hours. That's where proteins and fats come in. Peanuts and beef jerky, for example, are like big ol' Yule logs that burn long and slowly to help generate metabolic heat into the wee hours.

Generating and Retaining Heat

5. Drink your fill. Blood is to your body what water is to a hot-water heating system in a house. Run low on fluid and your blood pressure begins to drop as the volume of blood decreases. Another side effect is that blood viscosity increases and flow becomes sluggish, which slows its progress throughout small capillaries in your extremities. The sum total is you'll begin to feel cold. Get in the habit of drinking beverages even before you feel thirsty throughout the day and hydrate in a big way at dinner time.

Tip: Cold water causes a direct net energy loss, so drink warm beverages before bedtime.

6. Zip into a tent. A tent creates a buffered airspace around you to counteract heat loss on calm, cold nights as well as windy nights. Maximize your tent's warmth potential by pitching camp sheltered from prevailing winds, and try to stay out of depressions or hollows where cold air settles. To ward-off morning chill, scout out a tent location that will receive full sunlight at daybreak.

Tip: four-season campers should consider purchasing a convertible tent with zip in-zip out panels that cover breezy mesh panels to retain precious body heat. A well designed tent can be 5 to 10 degrees warmer than the outside temperature.

7. Wear the right amount of clothing. Too much bulky clothing can strangle blood flow and needlessly compress the bag's insulation. Wear non-constricting synthetic long underwear; preferably, a pair that's not damp from the day's activities. Vital to staying warm: cover your noggin with a synthetic or wool pullover hat.

Tip: Reduce the amount of internal air space that needs to be warmed in a bag by loosely stuffing next morning's apparel around your feet or along your sides. As a bonus, you'll wake up to prewarmed clothing.

8. Give your bag a boost. Slip your bag into an overbag and you'll ratchet up the comfort factor a good 10 to 20 degrees. Another warmth booster that also happens to preserve you bag's interior is a liner, which can add about 10 degrees of warmth. In a pinch, try draping a down parka, a shell jacket or any apparel item over your bag to add a few precious degrees of warmth.

9. Get your blood pumping. Remember as a kid when you warmed your hands by swinging your arms like a windmill? That's centrifugal force powering blood into your extremities, and it works. So does a brisk jog-in-place, or anything that temporarily elevates the heart rate. As simple as it sounds, brief exercise prior to bedding down will turn your body into a blast furnace that quickly transforms a crinkly, cold nylon bag into a cozy cocoon.

Conversely, once inside the bag try to keep your movement to a minimum. Thrashing and rolling creates a bellows effect that blows hard-earned warmth right out the neck opening of the bag.

10. Maintain loft. Trapped air is at the core of a sleeping bag's ability to retain your body heat, so it figures that the more fluffed up and "lofty" the bag the greater it's heat conserving ability. When you arrive in camp, unroll your sleeping bag as soon as possible and grab one end and give it a few good fluffing shakes. At home, avoid keeping a bag compressed too much or too long. Synthetic fills are more easily damaged in this way than down. Worse still is leaving a stuffed synthetic bag to overheat in the trunk of your car.



Expert Hiking Advice

by Karen Berger from GORP

Now that the mercury in the thermometer is starting to shrink, many hikers and backpackers head indoors and content themselves with looking at last summer's slides. But winter hiking can be magic and peaceful, especially after a frenetic holiday season. The key is staying warm. Here are a few tips:

- **First and foremost is a hat.** You lose more body heat through your head than anywhere else. Use your hat as a thermostat: If you get too hot, take it off, and your whole body will cool. Put it on if you feel a chill.
- **The layering principle works on your head as well as your body:** Two hats are warmer than one. For the bottom layer, use a lightweight balaclava that also covers your neck
- **Take plenty of socks.** Battery-charged socks have mixed reputations: When they work, they're wonderful, but they don't always. So bring extra socks—and change into them at the end of the day.
- **Chemical hand or foot warmers.** Available at outdoor stores, chemical warmers give off heat after they are activated. They are fairly heavy, so you won't want to pack too many of them. But take a long a couple just in case: They can help prevent frostbite.
- **Bottle warmers.** Thick insulating bottle warmers are available from outdoor stores (OR—that's short for Outdoor Research—makes them.) They help keep hot drinks hot—or cold water from freezing.
- **Mitten systems.** Also available are systems of an insulating inner mitten and an outer, waterproof mitten. You can wear them separately or together.
- **Lightweight gloves.** A thin layer of gloves means that your hands will be protected even when you're fiddling with your camera or stove.
- **Booties.** Down or synthetically insulated booties make it possible to walk around your campsite to do chores without having to put your boots back on.
- **Pile socks.** The ultimate luxury for your feet: Thick pile socks will keep your toes warm at night.
- **Facemask.** In really bitter cold, a ski mask or neoprene facemask can help keep the chill off your nose and cheeks, which are prime targets for frostbite.