

# Cold Weather Camping Guide

Cold weather camping as defined by BSA is “camping in weather where the average daily temperature is below 50 degrees Fahrenheit and conditions are cold , wet, or windy.”

## Types of Cold

### Wet Cold: 50° F to 14° F

**The most dangerous.** Wide temperature variations from melting during the day to freezing at night makes proper dressing difficult, and important. Damp conditions from melting snow or rain makes keeping dry difficult.

### Dry Cold: 14° F to -20° F

Ground is frozen and snow is dry and crystallized. Strong winds cause the most concern with keeping warm. Extra clothing layers and wind-proof outer garments should be added.

### Arctic Cold: below -20° F

Requires insulation and wind-proofing. Many materials change physical properties, becoming brittle. Only for the most experienced campers.

The most important thing to remember about cold weather camping is to **KEEP DRY**. Moisture will reduce the insulating properties of almost anything. To keep yourself warm, remember the

## C-O-L-D.

- C** keep yourself and your clothes **Clean**
- O** avoid **Overheating**
- L** wear clothes loose and in **Layers**
- D** keep **Dry**

## Before You Go:

- Introduce yourself to winter travel and camping through short overnight trips.
- Plan an itinerary that offers “escape routes.”

- Test all your gear at home; -30 degrees is no time to realize your stove doesn't work.
- Check the local weather forecast.
- **Know yourself and your group's limitations. You are a team and your team is only as strong as its least able member.**
- Know your skills, have confidence, but don't be over confident.
- Know your equipment, how to use it, and how to repair it.
- Be aware of the surrounding terrain, avoid thin ice and stay off of ice covered streams and creeks.
- Know your route, getting lost in cold weather can be deadly.
- Maintain a good sense of time. Try to set up camp before dark.
- Have a good first aid kit.
- ***PLAN, PLAN, PLAN***

## The Key to Warm Clothing:

The **C-O-L-D** key to keeping warm applies to the clothing that you wear. Here are some ways you can use it:

- C** Keep clothing **CLEAN**. Dirt and grease clog air spaces in the clothing and reduce its insulation value. When cleaning, make sure all the soap is rinsed out, because soap residue can reduce insulation qualities.
- O** Avoid **OVERHEATING**. Select the clothes that you need to stay comfortable and even slightly cool. It is better to be cool than run the risk of perspiring and reducing the insulation value of your clothing. If you are too warm, loosen closures a few at a time; if you are still too warm, remove a layer.
- L** Wear **LAYERS**. Layers of clothing should be long and loose fitting. Not only does this allow more freedom of movement, but it lets your blood circulate freely, preventing frostbite. Select clothing that is the correct size and care for it so it retains that size.
- D** Stay **DRY**. It is important to keep clothing dry outside as well as inside. Do not get so warm that you start to perspire. Do not let snow collect on the outside of your clothing. The heat from your body melts it and some will penetrate even water repellant fabric, reducing the insulating properties of the fabric.

## Layering For Winter:

### How to dress smart and stay warm when Old Man Winter blows in.

Winter clothing keeps you warm primarily by trapping warm air next to your body (insulation). But when being active in winter and spending multiple days in the same clothes, insulation alone

is not enough. It has to stay dry, not just from the outside in, but from the inside out. This is where specialized outdoor clothing is literally a lifesaver. Wearing cotton or other moisture-retaining fabrics puts you at risk for serious heat loss.

Any moisture that remains in your clothing quickly conducts body heat straight to the atmosphere. This means your active clothing (as opposed to the super-warm down jacket that you only wear in camp) must not retain perspiration; instead it must quickly transfer body moisture to your outermost layer, where it can evaporate. The key is to wear layers made of synthetic, quick-drying material that helps evaporate your sweat. That way, your clothes aren't wet enough to transfer a significant amount of heat away from your body.

The advantage to layering, of course, is that when working hard and starting to overheat, you can simply take off an insulating layer (usually a fleece jacket or vest), replace your windproof shell, and you're on your way. When inactive and cooling down, you can replace the insulating layer.

From bottom to top, here are the layers you should include in any cold-weather travel:

### **Underlayer:**

- One or two pairs liner socks (thin, quick-drying)
- liner gloves
- Synthetic underpants
- Synthetic long underwear tops and bottoms

### **Insulating layer 1:**

- Thick insulating socks (one pair per day)
- Synthetic pants
- Synthetic shirt

### **Insulating layer 2:**

- Heavy gloves or mittens (mittens conserve heat better); plus extra pair in case one is lost
- Fleece pants
- Fleece vest

### **Outer layer:**

- Down jacket, preferably with waterproof/breathable outer material
- Shell pants, waterproof/breathable
- Shell jacket with hood, waterproof/breathable
- neck gaiter or scarf
- shell mittens of waterproof/breathable material
- hat (fleece or wool)
- brimmed cap for warm, sunny days

- boots, waterproof and roomy enough for thick socks and toe-wiggling to prevent frostbite
- gaiters
- goggles (for wind and snow)
- sunglasses, sunscreen and lip balm with sunblock

Fleece offers more warmth for the weight than wool, but some still prefer good old wool. Goose-down is the warmest for the weight, and should be included for rest stops and while hanging around camp, so that you can maintain a constant body temperature between exercising and resting. It also compresses easily for stuffing into a pack. But don't break a sweat while wearing it; it dries poorly and won't keep you warm when it's wet the way fleece or other synthetics do. With today's synthetic clothing, socks are the only thing you need to change in the backcountry (dry feet are absolutely essential to preventing frostbite). Bring a pair of insulating socks for each day, ideally with a plastic bag for storing each separately.

## Cold Weather Sleeping Systems:

Sleeping condition is one of three factors that can make or break a cold weather camping experience, along with keeping warm and having the proper amounts of food and water.

You may encounter controversy about which kind of bedding is best for cold weather camping, but your choice will depend on the type of cold in which you camp. Many factors contribute to the selection of bedding, but the following points apply to all cold weather camping situations:

- The body cools down during sleep. The blood (heat) is drawn from the extremities (feet and hands) and brought to the center, or core, of the body.
- In all cold weather camping situations, the ground is colder than the body. Proper insulation must be provided to prevent heat loss by conduction.
- **C-O-L-D**, the key to staying warm, is as important as it is with clothing.

**C** Your bedding should have a washable liner so that it stays **CLEAN**.

**O** To keep from **OVERHEATING**, Your bedding must be ventilated. Overheating in a sleeping bag produces perspiration just as when you wear the wrong clothing.

**L** Your bedding should be lightweight and large enough to accommodate you. If possible, use a **LAYERED** system. When a layered system is used, it is easier to remove frost buildup that occurs naturally when your body produces warmth. It is a major concern if you are camping for more than one night.

**D** Keep your equipment as **DRY** as possible by pumping all of the warm, moist air out of the bag in the morning and then airing and exposing it to the radiant warmth of the sun. Turn the bag inside out and check for frost. Then leave them open until they cool to the air temperature.

## In Bed Tips:

- Your sleeping bag will absorb several hundred calories worth of body heat during the first few hours of the night to bring it up to sleeping temperature. So, do jumping jacks or take a hike before you go to bed – anything to raise your core body temperature to start the night warm. Be careful not to over do it and begin to perspire.
- Use two sleeping pads under your sleeping bag. A self-inflating foam mattress together with a closed-cell foam pad makes a warm comfortable combination.
- Sleep on top of your coat and insulated pants. Put your gloves, socks, boot liners, and tomorrow's clothes inside the sleeping bag.
- Wear warm, loose-fitting layers to bed. Always wear a hat. Booties worn with clean, dry socks help keep feet cozy.
- Vent your tent. Leave one door partially open at the bottom a second door or window open at the top to allow cross ventilation and to prevent frost buildup.
- Slip a hot water bottle inside your bag, but make sure the lid is tight. This gives you handy water to drink in the night and unfrozen water available to cook with in the morning.
- Flare open your boots as wide as possible so you can slip them on more easily in the morning when they're frozen.
- When nature calls, don't hold it. Keeping fluid at body temperature uses up energy better spent warming your body. A pee bottle can save you a nippy trip outside of the tent. Make sure the bottle doesn't leak and the cap is on tight. Also label the bottle, so you don't drink from the wrong one.
- Keep some high-energy food handy for midnight snacking.
- Be careful not to breathe inside your bag. Humid breath can lead to frost buildup.
- No open flames (candles, matches, etc.) inside the tents

## Shelters:

Finding shelter from the elements in winter is an important consideration for overnight camping or in emergency situations. There are several options available, using items you have brought with you, or natural shelter sites. It is recommended that you always carry a small waterproof tarp or reflective emergency blanket. It provides an excellent lightweight emergency shelter as well as a ground cloth for your tent. Tents are most popular because of their portability and convenience. Tents for winter camping should be able to withstand heavy snow loads and strong winds. Natural features such as low hanging evergreen branches or large rocks can often provide shelter from the elements. Avoid areas that could drift overnight in high winds. Another option that provides excellent shelter and insulating qualities is to construct a snow cave. Be cautioned that a certain amount of experience is needed to build one correctly. Never construct a snow cave alone it could collapse while being built. Also constructing a natural lean-to shelter from deadfall ahead of time works great.