

Additional Information

The preceding information contains many useful tips. You should, however, prepare a checklist tailored to your specific activity and to your personal needs.

Remember:

Downhill Skiers and Snowboarders

should carry a survival kit, hat, gloves, sunglasses, goggles, sunscreen, energy bars and water, and in the backcountry, an avalanche transceiver.

Snowmobilers

should carry all of the above, a basic tool kit, and spare parts, and extra food and water.

As your level of activity in the winter environment increases, you may want to improve your techniques and knowledge. More information can be obtained from the following sources:

Online Resources Sierra Avalanche Center: Avalanche advisories for the Northern Sierra including Lake Tahoe and Truckee areas. www.sierraavalanchecenter.org

American Avalanche Association: Links to regional avalanche centers, annual statistics and other avalanche information. www.avalanche.org

Map & Compass Use

Be Expert With Map and Compass Kjellström

Avalanche Education *Avalanche Handbook* Schaefer; *Snow Sense* Fredston & Fesler; *Backcountry Avalanche Awareness* Jamieson; *Staying Alive in Avalanche Terrain* Temper

Winter Skills *Mountaineering: Freedom of the Hills; Skills for Ski Touring and Ski Mountaineering* Volken, Schell & Wheeler; *Tom Brown's Field Guide to Wilderness Survival* Brown

First Aid *Emergency Care and Transportation of the Sick and Injured* Crosby & Lewallen; *American Red Cross Advanced First Aid & Emergency Care; Hypothermia, Frostbite and Other Cold Injuries: Prevention, Recognition, Rescue and Treatment* Giesbrecht & Wilkerson; *Medicine for Mountaineering and other Wilderness Activities* Wilkerson

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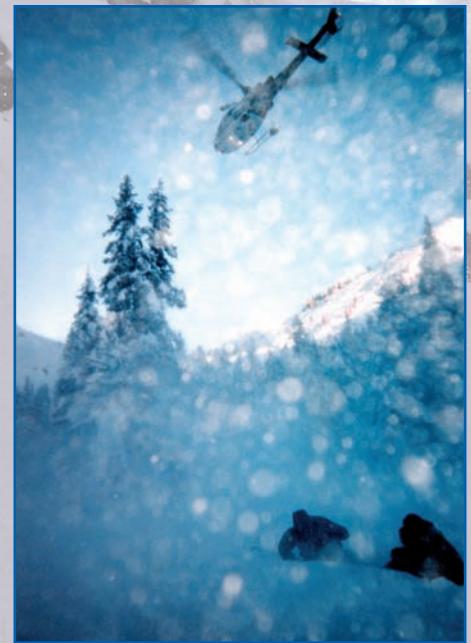
An all-volunteer group dedicated to skiing and mountaineering safety



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Tahoe Nordic Search & Rescue Team's Winter Awareness



A Guide to Winter Preparedness and Survival

We often hear about skiers, snowboarders, snowshoers, hunters, and snowmobilers lost or injured in the winter wilderness who become the victims of tragedy. Most, if not all, of these situations could have been avoided had the victims been

Winter Aware.

Whether you're a downhill skier, cross-country skier, snowboarder, or other outdoor enthusiast, please read this Guide and learn how to be prepared and carry the tools for survival.



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Before You Go...

Check the Weather Forecast

The internet, television, radio, and the Forest Service have weather and snow reports. Know what conditions exist where you're going, and be aware that weather can change rapidly in the mountains. If you go into the backcountry, check the Sierra Avalanche Center forecast at www.sierraavalanchecenter.org or the call the hotline at (530) 587-2158

Check Your Equipment

Is everything in good repair? Examine skis and bindings for loose screws, delamination, or other problems. Items that might be included in your daypack or fannypack are sunscreen, lip balm, sunglasses or goggles, extra gloves and socks, tools for fixing equipment, and a basic first aid kit. The first aid kit may include bandaids, aspirin, triangle bandages, tape, moleskin, safety pins, and a Swiss Army knife. An ensolite pad is also useful, as it provides good insulation from the snow.

A Survival Kit is a Must!

Include: Water, food, two large plastic leaf bags (to be used as a poncho or emergency shelter in bad weather), waterproof matches, plastic whistle (three short blasts means help), flashlight or headlamp, container for melting snow, duct tape (for repairs, can be wrapped around the top of a ski pole), cocoa or other powdered mix, and a cell phone for emergencies.

Dress in Layers

This will keep you warm and dry. Dress for changeable weather. Bring more clothes than you think you need.

Wicking Layer: This layer should pass moisture away from your skin. Synthetic or wool undergarments give you a dry layer next to your skin for more warmth. Don't wear cotton. Cotton is cold when wet and very slow to dry.

Insulating Layer (middle layer): Polyester pile, fiberfill, wool, thinsulate, etc. are materials that will keep you warm and dry quickly. Down is a good insulator, but unprotected down will get wet quickly and is slow to dry.

Protective Layer: Keeps wind, rain and snow out. Raingear should be large enough to fit over all your clothes and should have a hood.

A Wool or Polarfleece Hat is a Must!

20 to 40 percent of your body heat is lost through the head.

Gloves: To keep your hands warm and dry, wear polypropylene liners underneath mittens. Carry a pair of waterproof overmitts. Mittens are warmer than gloves. Bring an extra pair.

Feet: Dress in layers here, too! A liner, then wool or polypropylene socks and correctly fitted boots keep your feet warm and comfortable and prevent friction. Also, wear gaitors to keep the snow from seeping in to the tops of boots.

Be Well-Fed & Watered

Food and Nourishment

Eat before you go out and frequently during your outing to replace expended energy. Bring a lunch with a variety of long-lasting foods such as breads, bagels, jerky, nuts, peanut butter, cheese, energy bars, and dried fruit. Go easy on high sugar snacks like candy. Stopping for snack breaks lets you take the time to enjoy the winter environment, the reason you're there in the first place.

Drink Plenty of Liquids

Bring water with you, at least two liters per person. With strenuous exercise your body can lose 4-5 liters of water daily. It is essential that this water be replaced.

Don't Drink Alcoholic Beverages

Alcohol impairs judgment and opens blood vessels at the extremities, allowing blood to cool. This can lower your body's internal temperature.



The Three W's

WHERE-WHEN-WHO

*Before your trip,
tell a responsible person the Three W's:*

Where you are going.

When you are returning (day and time).

Who you are going with (never ski alone, stay together).

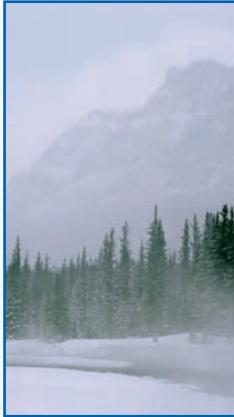
Where-When-Who

This is essential information in the event a search is started.

When You Go . . .

Map and Compass

Be familiar with the area you're entering. Carry and know how to use both map and compass and global positioning system (GPS) device.



Constant Observation

Be winter aware of the weather, and get your weather reports before going out. People get lost most often during storms. Observe the weather (sun, clouds, winds) and snow conditions (powder, crust, ice). These can dictate the length of a trip or where to ski. Continually check your surroundings, observe familiar peaks, creeks, and other landmarks that will allow you to get back to your starting point.

Personal Observation

How are you or those in your party feeling? Is everyone dressed properly? Does gear fit correctly? Is anyone hungry, wet, or tired? The weaker or more tired members of your group are less likely to have sufficient time to adequately eat, drink and rest. The strength of the group and speed it can travel is limited by its weakest members. Take special care of these people. Be willing to cancel the trip if dictated by weather or other conditions.

Obey Ski Area Signs

These are for your well-being. Ski in-bounds only. Get an area map. Tell family/friends where you'll be skiing and when you'll meet them. Most winter backcountry searches are for down-hill skiers or snowboarders who have skied out of bounds.

Stay Hydrated

Drink often. Hot soup or tea on a cold day is a pleasure. Think about carrying a thermos. Water gathering techniques: Melt snow in black plastic; refill half full water bottles with snow and shake bottle vigorously; if near a creek, pack ski pole baskets with snow and dip in water. It saturates snow like a snow cone and keeps you from falling into the creek. If you become wet, your body can lose heat 25 times faster than if you're dry. Drink enough to produce light-colored urine.

Don't Eat Snow, Crust or Ice

Especially if tired, cold, unhealthy, or injured. It takes too much energy to convert snow to water and it cools the body internally.

Recognize and Avoid Snow Avalanche Terrain



Most avalanches that bury people are triggered by those people. The main causes of avalanches are people entering an avalanche zone and/or new snowfall. Learn to be "Avalanche Aware". Call your avalanche hotline or avalanche forecaster for current, local conditions. Avoid all avalanche terrain during periods of unstable snow. Many, but not all, avalanches occur during or immediately after a storm and on steep slopes. Deep and unstable snow tends to accumulate on the lee side of mountains and in gullies. Learn to recognize and avoid snow avalanche terrain. Also, be aware of snow- and ice-covered streams and lakes. Crossing these can be dangerous.

In the case of an

EMERGENCY

During an emergency, such as Becoming Lost, Injured, Fatigued or Experiencing Equipment Failure, remember...

STOP Stay put (if in a safe place). The farther you go, the longer it will take searchers to find you.

THINK Evaluate your options. How prepared are the others in your party? How to remedy the situation?

OBSERVE Look around and use what you see to help the situation. Check your surroundings and equipment.

PLAN Formulate a plan of action. Stopping and implementing a plan will help you to control fear and to avoid panic. Remain calm even if things aren't going quite to plan. Control your thoughts.

Think Positive!!!

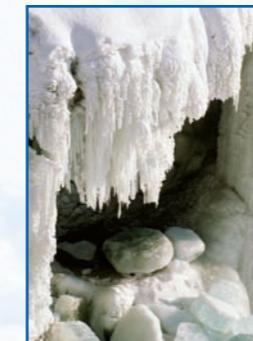
Your situation is only temporary. If you do get anxious, breathe deeply, hold onto something, hug-a-tree, talk to yourself and keep yourself busy.

If You Do Become Lost

Stop... Stay where you are!
Do not get more lost!!!

Make a Shelter

It should protect you from wind, rain, snow and avalanche. Build them small, as large shelters require more time and effort. Use materials at hand (tarps, ropes, garbage bags, bark, branches, ice, crust, etc. Improvise). Emergency shelters are easy to build, but take time and effort. Do whatever is necessary to keep warm and dry. A tree is the best type of shelter since it is already half built. Select a tree-well that is out of the wind and has limbs drooping to the snow. Add more limbs, bark, tarp, garbage bags or slabs of snow for the roof and build up snow for the sides. Insulate the floor with boughs, pack, etc. Keep off the snow. Face the shelter's entrance east for morning sun. Leave some clue that you are hunkered down, so you are not hidden from search parties. Trenches, fallen trees, rock outcroppings and caves also offer protection.



Make Signals to Help Others Find You

Cross your skis and poles; stamp out a trail in four directions from your shelter. Also, stamp SOS or other distinguishable signals such as an X or an O in the snow. Any signal three times (such as shouting or whistling) means help. Fires create smoke in the daytime and a light source at night. Don't waste energy or get wet. Try to make yourself big and obvious to searchers.



In the Event of an Injury

1. Monitor breathing. Keep the airway open.
2. Check for heart beat. Is CPR required?
3. Check for bleeding. Usually the most effective way to stop bleeding is direct pressure on the wound and elevation above the heart.
4. Keep the victim warm and dry, out of the wind and off the snow. Treat for shock.
5. Immobilize broken or badly sprained limbs.
6. Seek help.

Hypothermia is a Deadly Condition

Hypothermia is a lowering of the core temperature of the body. It is easier to prevent hypothermia than it is to treat it in the field.

1. Wear proper clothing, dress in layers.
2. Stay dry. Wet clothes, especially cotton, are useless. Don't get caught wearing jeans. Wear a wool or polarfleece hat.
3. Eat high energy foods and drink plenty of liquids.
4. Do not become overly fatigued, rest often.

The Warning Signs of Hypothermia

1. Shivering.
2. Loss of coordination and the ability to do simple tasks.
3. Disoriented or confused attitude. As one of the symptoms of hypothermia is a reduction of mental ability, you may not notice the onset in yourself. It is very important to carefully observe the others in your party.

If Left Untreated, Hypothermia Will Kill

TREATMENT OF HYPOTHERMIA

1. Get the victim out of the wind and elements.
2. Prevent heat loss by getting the victim in warm, dry clothes (your own if necessary) or a pre-warmed sleeping bag. Get into the bag with the victim (both unclothed). Insulate the victim from the ground.
3. Give warm liquids and sugars/carbohydrates for food.
4. Continually assess their condition.



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