

Safety and Survival Risk Management in Winter



Hazard	Criminal Record	When/Where	Warning Signs	Assessment & Prevention	Expert Advice
Avalanche	Traveling at speeds up to 80 mph, avalanches kill 40% of their victims through trauma. If it doesn't break your neck, you have about 15 minutes of oxygen before you become unconscious and suffocate if fully buried. Only 28% of completely buried victims survive; your life depends on your friends you are with.	On slopes between 30 & 40 degrees; after new snow, high winds, and periods of fluctuating temperatures; in the afternoon, when warmer temps and strong sun can trigger slides.	A 'whoomping' sound made by collapsing snow layers; cracks in surface/ layers indicating an unstable slab; snowballs rolling down a warming slope; broken trees or debris indicating a frequent slide path.	When in doubt about the snowpack's safety, stick to gentle hills (less and 25 degrees), which are less likely to slide. Hike in trees when possible. Snow is often better-anchored on heavily forested and/or windward slopes. Travel in the morning.	Stay aware of what's above you and if there is a wide collection area with a lot of snow - or a cornice - be cautious crossing below it.
Snowblindness	At midday, as much as 90% of the sun's UV light rebounds off the snow, giving you a double dose of rays. At high altitudes & latitudes (like Alaska), the UV rays are even stronger and they will burn the corneas of unprotected eyes, causing tears, blurred vision, and temporary, excruciating pain.	Above treeline in any snowy environment; high elevations in open terrain. 	Symptoms develop 6-12 hours after radiation exposure. Eyes initially feel itchy & full of sand as the blisters form on the corneas. Later, they become red & teary and may swell shut.	Wear sunglasses that filter at least 90% of UV radiation and use side shields (or improvise with tape or cardboard). Should you lose your glasses, make emergency goggles by cutting two horizontal slits in a piece of duct tape or cardboard.	Don't use eyedrops. Cover both eyes with gauze until you can comfortably open them (usually the next day). 
Frostbite	Frostbite can happen within seconds in extreme cold & windy conditions. It begins with the outermost layer of skin freezing & becoming pale and numb (frost nip). If untreated, freezing continues deeper into the skin layers.	Below 30 degrees Fahrenheit; in high winds during cold temps. 	Pale & numb skin indicates frost nip. Skin that feels hard & looks waxy is frostbite.	Wear roomy clothing, especially at the wrists & ankles, to let blood flow to the extremities. Shield skin from wind with a balaclava/face mask or ointment. Hike with a buddy and check one another for white spots. Carry chemical heat packs for instant warmth.	Thawing skin is horrifically painful. Don't thaw frozen skin if it will refreeze. Put affected skin in lukewarm water, NOT hot water.
Hypothermia	Cold causes about 600 deaths every year in the U.S. When your core temp drops below 95 degrees, the brain starts to shut down parts of the body. Unless warmth is restored, you will quickly become unconscious and a victim to the cold.	Falling into water; wearing wet clothes; drinking alcohol.	The "Umbles": stumbling, fumbling, mumbling. Shivering; clumsy fumbling with gear & clothing; irrational behavior (like taking off layers when it's cold); slow & weak pulse.	Add layers for warmth. Avoid overheating & sweating. Put on dry clothes. Stay hydrated & fueled by sipping hot liquids & snacking on sugary foods.	It's easier to stay warm than to get warm. Put on warm layers when you stop moving. 