

Wind Chill, Frostbite, Hypothermia

The combination of wind and cold temperatures in winter can be deadly. Winter storms often bring heavy snow to the High Plains which results in slick roadways, traffic accidents and stranded travelers. While the attention of most people is focused on expected snow accumulation before a storm arrives, many ignore the life threatening combination of extreme cold and strong wind which often develops after the storm passes. Wind chill is a measure of heat loss from the body due to wind and cold air. Frostbite and hypothermia are two consequences of wind chill. All three are discussed below as part of Tri-state Winter Weather Preparedness Week.

The **wind chill index** helps you to determine when dangerous conditions develop that could lead to frostbite or hypothermia. It takes into account heat loss from the human body to its surroundings during cold and windy weather. The calculation utilizes wind speed in miles per hour and temperature in degrees Fahrenheit. For example, a temperature of minus 5 degrees occurring with a 20 mph wind gives a wind chill near minus 30 degrees. This means that your body will lose heat at the same rate as it would if the air temperature were minus 30 degrees with no wind. Wind chill values near minus 25 degrees mean that frostbite can occur in as little as 15 minutes.

Frostbite first affects exposed body tissue where blood circulation may be limited, such as fingers and toes, as well as your nose and ears. To minimize frostbite, make sure all body parts are well covered. When frostbite starts, feeling is lost in the affected area and the frozen tissue will take on a white or pale appearance. If you suspect you are experiencing frostbite, hold the frostbitten area closely against warm skin to return blood flow and warmth to the affected area.

Hypothermia is a dangerously low body temperature and is the most common weather killer in winter. When you hear of a hiker or climber, or a hunter or stranded traveler perishing from cold weather exposure, hypothermia was the cause. Most people are surprised to learn that hypothermia deaths can occur with temperatures between 30 and 50 degrees. If you or your clothing are wet, then hypothermia becomes even more likely.

Warning signs of hypothermia include uncontrollable shivering, memory loss, disorientation, slurred speech and drowsiness. Immediate medical attention should be given to victims suspected of suffering from hypothermia. If no help is available, the victim should be warmed slowly with warm liquids along with dry clothing and blankets.

The National Weather Service office in Goodland, Kansas will issue wind chill advisories and warnings when a deadly combination of wind and cold air threaten the area. To learn more about wind chill and to see a wind chill chart, visit the National Weather Service internet site at: <http://www.weather.gov/om/windchill>. Use lower case letters when entering this address.

When cold weather threatens the High Plains, follow these tips for survival:

Stay dry. Wet clothing results in much faster heat loss from your body. Wear waterproof insulated boots.

Stay covered. Wear mittens or gloves on your hands and a hat to cover your Head. At least half of your body heat is lost if your head is not covered.

Dress layered. The trapped air between loose fitting clothing helps to Insulate.

Stay informed. Have a portable NOAA Weather Radio All-Hazards to keep you up-to-date with the latest forecasts and warnings. Use wind chill temperatures to guide you in dressing properly for the outdoors. On very cold days, be smart and minimize your exposure to the outdoors if possible.