



# SOUTH CAROLINA HIGH SCHOOL LEAGUE

## Cold Weather Guidelines

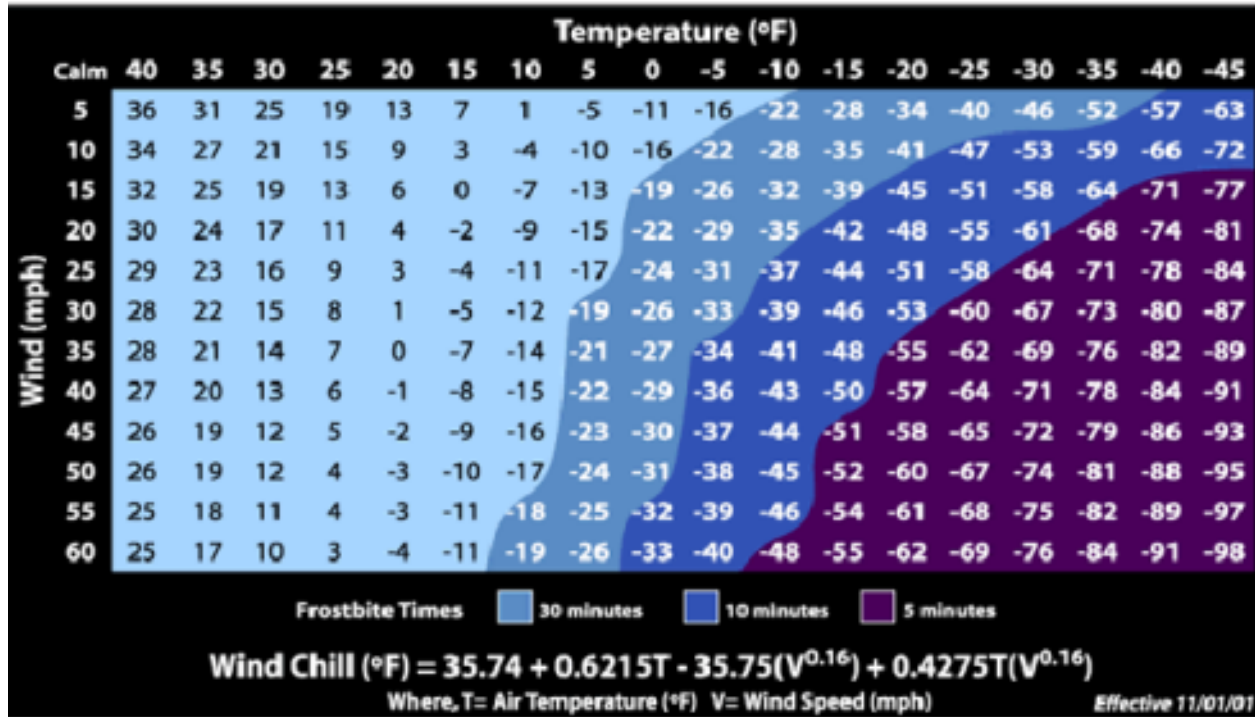
Participating in athletic events in cold weather poses a range of potential dangers that coaches and student-athletes must be mindful of. One primary concern is the increased risk of hypothermia and frostbite, as exposure to low temperatures can lead to a rapid loss of body heat. Cold weather can also impair muscle function and decrease flexibility, elevating the chances of injuries such as strains and sprains. Additionally, cold air can cause bronchoconstriction, making it harder for athletes with respiratory conditions to breathe, while simultaneously increasing the risk of respiratory infections. It is essential for athletes to be vigilant about maintaining appropriate attire, staying adequately hydrated, and taking precautions to prevent these potential hazards when engaging in sports during cold weather. Below are guidelines for participation in cold weather.

### **1. Guidelines for monitoring cold weather and implementing modifications:**

- a. Weather conditions should be monitored by an appropriate school official and relayed to the coaching staff.
- b. Temperature, wind speed, and wind chill should be monitored and utilized to determine safe outdoor practice and games.
- c. Athletic departments should utilize the National Weather Service Wind Chill Index Chart (below) to adjust outside activities utilizing the Cold Weather Activity Modification chart (below).
  - i. The Wind Chill Index considers effects of temperature and wind speed (see Chart 1 below)
  - ii. Keeping in mind that ***precipitation increases risk dramatically***
  - iii. This chart is also available at:  
<http://www.nws.noaa.gov/om/winter/windchill.shtml>
- d. Measurements should be taken from the National Weather Service, local weather stations, or an on-site weather instrument.
  - i. On-site WBGt devices can be used. The ambient temperature (aka: dry bulb) and wind speed measures are used from the device and applied to the windchill chart (below).



# NWS Windchill Chart



## Outdoor Activity Modification Chart

Risk Level	Wind Chill Temp	Modifications
Low	30°F & Below	Outside participation allowed with appropriate clothing (most skin should be covered, and layers should be used)
Moderate	25°F & Below	<u>Mandate</u> additional protective clothing (hat, gloves, layers). Limit practice time to 60-90 minutes/15 min rewarm. Provide re-warming facilities (warm dry environment, fluids, blankets, hot packs, etc.)
High	15°F & Below	All participants <u>must</u> have appropriate clothing as above. Cover <u>all</u> exposed skin. Outside participation limited to 45 minutes/15 min rewarm. Provide re-warming facilities as above. If precipitation is present (mist/rain/flurries)- consider termination of outside activities
Extreme	0°F & Below	Termination of all outside activities

## 2. Prevention of Cold Exposure Injury:

- a. In cold weather temperatures, proper layered clothing should be worn and encouraged. These include:
  - i. Several layers around the core of the body to insulate, especially for those individuals who are least active
  - ii. Long pants designed to insulate. A nylon shell or wind pant on top serves well as a wind break.
  - iii. Long sleeve shirt/sweatshirt/coat designed to block wind and insulate. These may be layered.
  - iv. Gloves
  - v. Ear Protection/Hat
  - vi. Wicking socks that do not hold moisture inside. Cotton absorbs and holds moisture, wool is a better alternative.
- b. Athletes who are not dressed adequately for the weather should not be allowed to participate for his or her safety.
- c. Cold exposure requires more energy from the body. Additional caloric intake may be required to support energy needs.
- d. Cold weather activity has similar hydration needs to warm weather activity. Athletes lose more water through respiration and sweat as the air is much drier than in warmer less windy months. Though the thirst reflex is not activated as quickly in cold, a conscious effort to hydrate before, during and after activity should be made.
- e. Never allow athletes to train alone in cold weather.

## 3. Common Cold Exposure Injuries:

<b>Frostnip</b>	<p>A non-freezing injury of the skin, usually of the fingers, toes, ears, cheeks, and chin. Redness, numbness and tingling are present, but no tissue freezing occurs. Symptoms develop when blood vessels supplying the affected tissues narrow because of the cold temperature. Frostnip can occur at temperatures of about 59°F or below.</p> <p>Do not rub the affected area, but gently rewarm the skin with clothing or skin contact.</p>
<b>Chilblain</b>	<p>A more significant nonfreezing injury of the skin, which can also occur at temperatures at or below 59°F and usually the involvement of soaked shoes, gloves, or clothing. Swelling of the exposed area is noted due to the rupturing of blood vessel walls in addition to the redness, numbness and tingling of frostnip.</p> <p>Do not rub the affected area, but gently rewarm the skin with clothing or skin contact.</p>

<b>Frostbite</b>	<p>Frostbite is the destruction of body tissues due to freezing which occurs at temperatures 32°F and below. Ice crystal formation in the tissues breaks apart cells, thereby destroying the tissue.</p> <p>Do not rub. Immerse the affected area in a warm, not hot, bath to reheat quickly. Consider further evaluation by another healthcare professional depending on amount and depth of injury.</p>
<b>Hypothermia</b>	<p>Abnormally low core body temperature. Because it happens gradually and affects thinking, an athlete may not realize he or she needs help. That makes it especially dangerous. A body temperature below 95° F is a medical emergency and can eventually lead to death if not treated promptly. Signs/vitals include pale, bluish skin, tachycardia eventually turning into decreased or abnormal heart rate, increased respiration eventually leading to slow and shallow breathing. *See table below of signs and symptoms.</p> <p>Warm the body as best as possible and activate EMS. Warming options include: remove wet clothes, blankets, warm fluids, hot packs, warm air (i.e. bair hugger)</p>
<p><b>Factors that may contribute to cold injuries include:</b></p> <ul style="list-style-type: none"> <li>• dehydration • poor conditioning • wearing wet or tight clothing • malnutrition • altitude</li> <li>• medical conditions associated with poor circulation, such as diabetes, heart disease, anemia, or sickle cell disease.</li> </ul>	

<b>“Umbles”</b>	<b>Sign or Symptom</b>
Grumbles	Irritability, personality change
Mumbles	Slurring of speech, difficulty articulating speech
Stumbles	Coordination Issues, Ataxia
Fumbles	Dexterity Issues