

NEPSAC SMAC Cold Weather Guidelines - FALL & SPRING

May 2020

Individuals engaged in sports-related or work-related physical activity in cold, wet and/or windy conditions are at risk for environmental cold injuries. Cold weather is defined as any temperature, whether atmospheric or wind-chill related, that can negatively impact the body's regulatory system. It is important to remember that temperatures do not have to be freezing to have this effect.

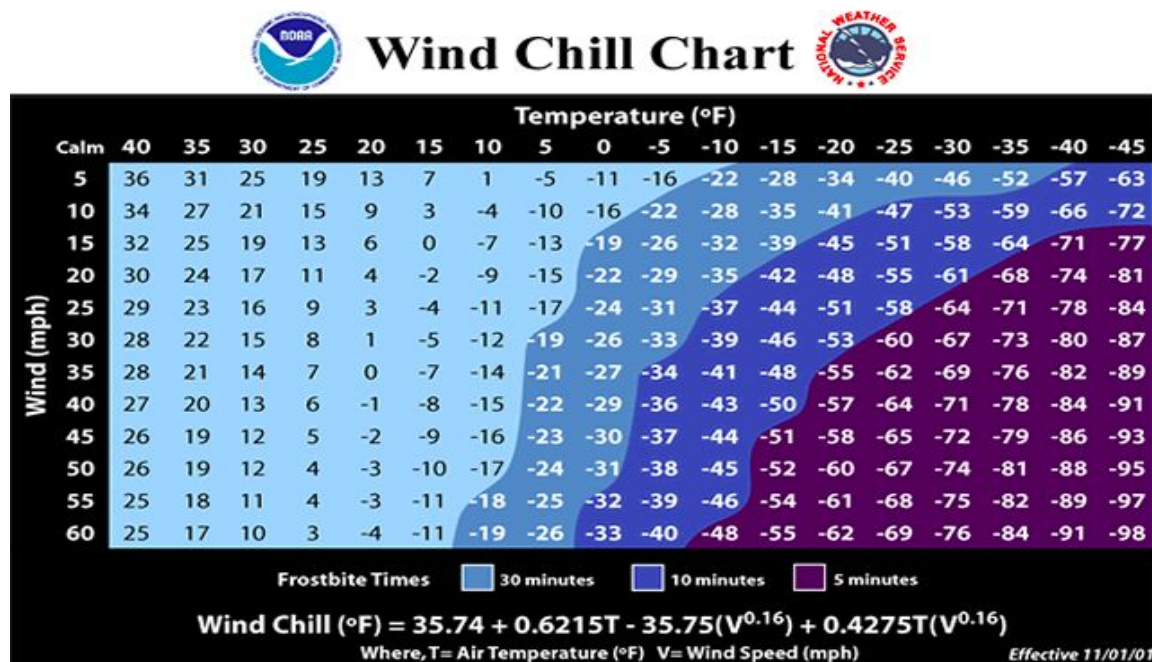
Outline

- Temperature measurements and monitoring
- Temperature advisory and suggested activity modification chart
- Recommendations for coaches and student-athletes
- Clothing guideline and recommendations
- Cold injuries and illnesses

Temperature Measurements and Monitoring:

The Athletic Trainers/Athletic Director will monitor temperature, wind speed, wind chill, and precipitation through the National Weather Service. Based on information from the National Weather Service and local weather stations and measurements, ATCs will determine the risk of potential danger to participants and will contact the coaching staff to issue an advisory and modifications if necessary.

Conditions can change rapidly and monitoring measurements frequently is recommended. Advisories may be modified as the conditions change throughout practice or competition. The following wind chill chart has been issued by the National Weather Service and its use is recommended when taking temperature measurements.



Temperature Advisory and Suggested Activity Modification Chart

The following chart was formulated while referencing the NATA 2008 Position Statement on Environmental Cold Injuries. Slight modifications have been made to better serve the needs of the Independent school environment.

Temperature/ Wind Chill	Risk	Practice Modifications	Game Modifications
30°F & Above	Low - Be aware of the potential for cold injury and notify appropriate personnel of the potential.	Outside participation allowed w/ appropriate clothing	Outside participation allowed with appropriate clothing
30°F-20°F	Moderate - Provide additional protective clothing; cover as much exposed skin as practical; provide opportunities and facilities for re-warming.	Encourage proper layering. Extend warmup. Consider indoor warm-up. Minimize time not moving.	Encourage proper layering while playing and while on bench. Consider changing into dry layers between halves or periods. Extend warmup. Consider indoor warm-up. Consider going inside between halves or periods.
20°F-10°F	High - Consider modifying activity to limit exposure or to allow more frequent chances to re-warm.	Consider shorter practice time. Require proper layering. Warm up indoors. Minimize time not moving.	Require proper layering while playing and while on bench. Consider changing into dry layers between halves or periods. Extend warmup with possibility of indoor warm-up. Go inside between halves or periods. Consider extended time indoors between halves or periods. Consider removing non-breathable equipment while indoors.
10°F & Below	Extreme - Termination, modification and rescheduling of all activities.	All outdoor activities cancelled. Move activities indoors.	Cancellation/reschedule

Recommendations for Coaches and Student-Athletes:

Exercise in windy or rainy conditions in cold temperatures has unique challenges to the body's ability to maintain normal temperature. Prolonged exposure to cold requires more energy from the body. Additional caloric intake and increased hydration is recommended to meet this need.

Appropriate clothing must be closely monitored and mandated by athletic administration and coaching staff. Training alone, outside in cold temperatures is extremely dangerous as cold injuries and illnesses can have a quick onset.

Appropriate Clothing Guidelines:

- First layers constructed of "wicking" materials such as polyester, polypropylene, silk, or wool.
- Multiple thin layers provide better insulation and greater comfort control than a single thick layer.
- Clothing should be snug fitting to prevent air exchange with the environment (chimney & bellows effects).
- Wear a hat. 30 – 40% of body heat is lost through the head.
- Sock and glove liners should be a synthetic material such as polyester to ensure wicking of moisture from the extremities, which are most susceptible to frostbite.
- Chemical heat packets can be stuffed wherever necessary to provide immediate auxiliary heat.

Cold Injuries and Illnesses

Signs/ Symptoms of Cold Stress:

- Fatigue
- Confusion
- Slurred Speech
- Red or Painful extremities
- Dizziness

Signs/Symptoms of Cold Injury

- Blurred vision
- Numbness/tingling of skin
- Uncontrollable shivering
- Swollen Extremities
- Headache

Hypothermia: body core temperature below 95°F

Symptoms:

- Shivering
- Impaired motor control
- Decreased heart rate
- Impaired mental function
- Lethargy
- Amnesia
- Pale, cold face and extremities
- Slurred speech

Suggested Treatment: Remove wet clothing, warm with dry insulating blankets, cover the head, get the athlete to a warm environment. Provide warm beverages, avoid friction, initial warming of extremities.

Frostnip/Frostbite: freezing of body tissues.

Symptoms:

- Dry, waxy skin
- Burning, tingling
- White/blue/gray patches
- Swelling
- Limited movement
- Aching, throbbing, shooting pain

Suggested Treatment: Re-warm slowly in warm water (not hot). Avoid friction/rubbing tissue

Chilblain: exaggerated or uncharacteristic inflammatory response to cold exposure

Symptoms:

- Red or blue lesions
- Swelling
- Tenderness
- Itching, numbness, burning
- Increased temperature

Suggested Treatment: Wash, dry area; elevate, cover with loose clothing/blankets. Avoid friction, lotion.

Sources:

<https://natajournals.org/doi/pdf/10.4085/1062-6050-43.6.640>

<https://www.weather.gov/safety/cold-wind-chill-chart>