Fulton County Schools
Where Students Come First

Department of Interscholastic Athletics

Procedures for Extreme Weather and Air Quality Conditions Affecting Outdoor Interscholastic Athletic

ALL EXTREME WEATHER CONDITIONS DIRECTIVES ISSUED BY THE FULTON COUNTY SCHOOLS DEPARTMENT OF INTERSCHOLASTIC ATHLETICS MUST BE FOLLOWED.

Weather Condition: HOT and HUMID

Fulton County Schools shall have, use and maintain a digital psychrometer, or a similar device for measuring environmental factors which contribute to extreme weather conditions. The digital psychrometer is used to measure the Wet Bulb Temperature (WBT), which is derived by evaluating the combined dry air temperature, humidity, ground radiated heat, and wind speed at that particular location. Conditions are subject to change during practice / activity; therefore, measurements at the practice site should be taken at regular intervals throughout the practice / activity.

All outdoor interscholastic athletic activities will monitor and follow all procedures. Interscholastic football teams will be required to measure and document the Wet Bulb Temperature (WBT) prior to outdoor practices through the months of August, during spring practices in May, and at other times when conditions warrant. Measurement and documentation can be performed by the school's athletic coordinator, athletic trainer, or football coach. All on field coaches shall be first aid trained and be familiar with all heat related symptoms and corresponding treatments, be familiar with emergency and 911 procedures, and be familiar with the Wet Bulb Temperature Chart and utilize the chart results when determining length of practice and rest periods.

	Wet Bulb Temperature (WBT) Chart				
LEVEL	FAHRENHEIT WBT	CELSIUS WBT	PRACTICE HOURS	BREAKS	FLUIDS
1 Very Low Risk	59° and lower	15° and lower	Reasonable	As Needed	As Desired
2 Low Risk	60° - 64°	16° - 17°	Reasonable	5 minute breaks, every 30 minutes	Cold Water
3 Moderate Risk	65° - 72°	18° - 22°	Use Caution	5 minute breaks, every 20-30 minutes	Cold Water
4 High Moderate Risk	73° - 75°	23° - 24°	Use Caution	Remove helmet; 5 minute breaks every 20 minutes	Cold Water
5 Low High Risk	76° - 78°	24° - 25°	Use Extreme Caution	Remove helmet; shaded 5 minute breaks every 15 minutes	Cold Water
6 Very High Risk	79° - 81°	26° - 27°	Practice Time Shortened with Low Intensity	Remove helmet; 5 shaded minute breaks every 10 minutes	Cold Water
7 Extreme High Risk	82° - HIGHER	28° - HIGHER	NO PRACTICE	NO PRACTICE	Cold Water

Cautions and Consideration for Hot and Humid Conditions

Practices and games should be held early in the morning and later in the evening to avoid times when environmental conditions are generally more severe. Hydration and fluid replacement is a daily process. Athletes should hydrate themselves before, during, and after practice. Meals should include an appropriate amount of fluid intake in addition to a healthy diet. An unlimited supply of cold water shall be available to participants during practices and games. Coaches / supervisors shall inform all athletes participating during practices or games that cold water is always available or accessible and athletes will be given permission to hydrate themselves at anytime.

Athletes shall be gradually acclimatized to the heat. Research indicates 80% acclimatization may be achieved in 7 – 10 days, but could take up to 14 days. In some cases, it may take several weeks to become fully acclimatized. The length and intensity of practice should be adjusted according to the WBT until acclimatization occurs. Athletes should weight in before practice and weight out after practice in order to monitor water loss. Water loss can lead to symptoms of dehydration. Athletes should wear clothes that are light in weight and color. Adequate rest periods shall take place during practices sessions. Athletes shall remove appropriate equipment or clothing when possible. Removal of the appropriate equipment and clothing allows exposed skin to cool more efficiently. Football player shall remove their helmets during high risk conditions. Football shoulder pads shall be removed if conditions worsen.

Athletes who need careful monitoring include: overweight participants, participants with weight control problems (fluctuation of weight), participants taking over-the counter and prescription medication, and participants who previously have done absolutely no exercise at all.

Heat Illness: Symptoms and Treatment

(As recommended by the National Athletic Trainers Association)

Heat illness is used to define several types of afflictions suffered when an individual experiences a rising body temperature and dehydration. The following are the different forms identified by the National Athletic Trainer Association.

Heat Related Illness	Symptoms	Treatments
Heat Cramps	Muscle spasms caused by an imbalance of water and electrolytes in muscles; usually affects the legs and abdominal muscles	Rest in cool area; drink plenty of fluids; proper stretching and massaging; application of ice in some cases
Heat Exhaustion	Can be a precursor to hear stroke; normal to high temperature; heavy sweating; skin is flushed or cool and pale; headaches, dizziness; rapid pulse, nausea, weakness; physical collapse may occur; can occur without prior symptoms such as cramps.	Get to a cool place immediately and out of the heat; drink plenty of fluids; remove excess clothing; in some cases, immerse in cool water
Heat Stroke	Body's cooling system shuts down; increased core temperature of 104° F or greater; if untreated it can cause brain damage, internal organ damage, and even death; sweating stops; shallow breathing and rapid pulse; possible disorientation or loss of consciousness; possible irregular heartbeat and cardiac arrest	Call 911 immediately; cool bath with ice packs near large arteries such as neck, armpits, groin; replenish fluids by drinking or intravenously, if needed

Fluid Replacement

Weight loss during workout and Fluid amount needed to refuel your body

- 2 pounds (32 ounces) = 4 cups of water or one sports drink bottle
- 4 pounds (64 ounces) = 8 cups of water or two sports drink bottle
- 6 pounds (96 ounces) = 12 cups of water or three sports drink bottle
- 8 pounds (128 ounces) = 16 cups of water or four sports drink bottle

Guidelines for Hydration During Exercise

- Drink 16 – 24 ounces of water or sports drink one to 2 hours before workout or

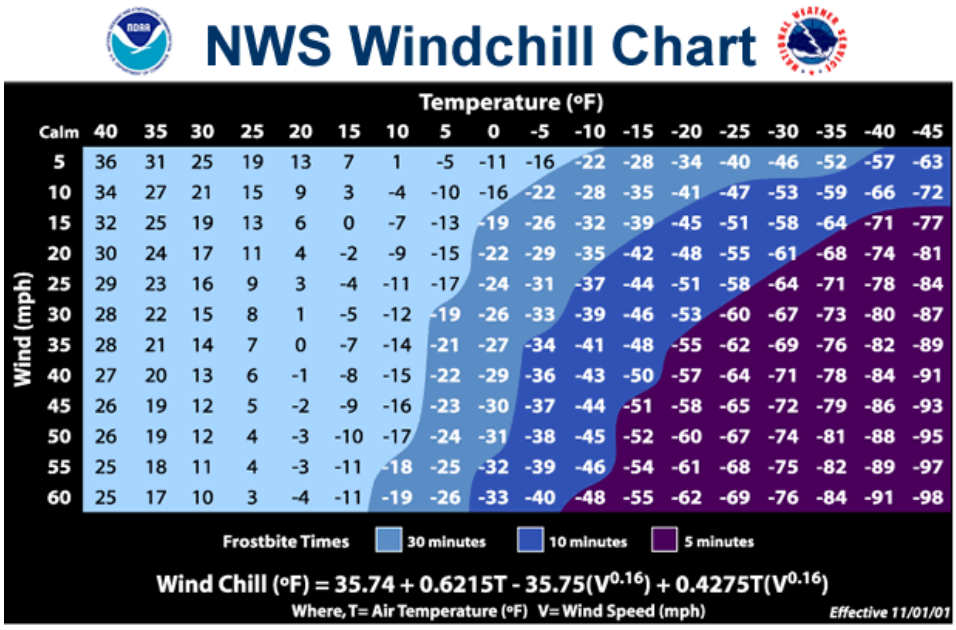
competition

- Drink 4 – 8 ounce of water or sports drink one to 2 hours before workout or competition
- Drink before felling thirsty. When a person is thirsty, needed fluids are already lost.

Weather Conditions: COLD and FREEZING TEMPERATURES

The NWS Wind Chill Temperature (WCT) index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from winter winds and freezing temperatures. The wind chill temperature is how cold people and animals feel when outside. Wind chill is based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature. Therefore, the wind makes it FEEL much colder. If the temperature is 0 degrees Fahrenheit and the wind is blowing at 15 mph, the wind chill is -19 degrees Fahrenheit. At this wind chill temperature, exposed skin can freeze in 30 minutes.

Wind Chill Temperature (WCT) Chart



There are several factors influencing one's susceptibility or risk of cold related injury or illness. Those factors can be additive. This, it is essential to appreciate each of these factors, along with the associated signs and symptoms of hypothermia and frostbite. For example, exposure to 30°F - 50°F temperatures under wet and windy conditions can be equivalent to sub-zero temperatures with no wind or moisture

Risk Factors	Prevention
• Low air temperature – when cold exposure exceeds or overwhelms the boy's ability to compensate for heat loss due to the external environment • Wind chill – Wind chill identifies the risks associated with the interaction of the wind speed and air temperatures on the skin • Moisture – west skin freezes at higher temperatures than dry skin • Exposed skin – heat loss occurs primarily through convection and radiation to the external environment, but may also include evaporation if the skin is moist. This is a concern for those exercising and sweating in cold environments. • Insulation – the amount of insulation from cold and moisture significantly affects thermoregulation • Dehydration – negatively influences metabolism and thermoregulation • Caffeine – acts as a diuretic, causing water loss and dehydration	• Dress in layers • Cover the head to prevent excessive heat loss from the head and neck • Stay dry by wearing a wicking fabric next to the body and a breathable, water repellent fabric outer layer • Stay adequately hydrated • Eat regular meals • Avoid caffeine • Educate athletes, coaches, officials, and administrators in recognition of cold-related illnesses • Consider cancellation of athletic events if weather conditions warrant • If unsure whether an athlete is hypothermic, err on the side of caution and treat accordingly.

Symptoms

- **Hypothermia:** decrease in core body temperature
  - Mild hypothermia – shivering, cold sensation, goose bumps, numb hands
  - Moderate hypothermia – intense shivering, muscle in coordination, slow and labored movements, mild confusion, difficulty speaking, signs of depression, withdrawn
  - Severe hypothermia – shivering stops, exposed skin is bluish and puffy, inability to walk, poor muscle coordination, muscle rigidity, decrease in pulse and respiration rate, unconsciousness

Treatment: remove athlete fro cold environment; remove wet clothing and replace with dry clothing and/or blankets; refer all moderate cases to the emergency room once athlete is safe to transport; treat severe hypothermia as a medical emergency and wrap athlete in an insulated blanket then seek emergency medical care immediately. Call 911.

- **Frostbite:** thermal injury to skin caused by cold exposure
  - Frostnip – skin appears white and waxy or gray and mottled; possible numbness and pain
  - Superficial frostbite – skin appears white, mottled or gray; feels hard or robbery but deeper tissue is soft, insensitive to touch
  - Deep Frostbite – skin is white and has a wooden feel; numbness and anesthesia

Treatment: do not rub area; gently re-warm the area by blowing warm air onto the area, placing the area against a warm body part, or placing the affected area into warm (101°F-108°F) water for several minutes; treat deep frostbite as a medical emergency and wrap athlete in an insulated blanket then seek emergency medical care immediately. Call 911

LIGHTNING SAFETY RULES

All thunderstorms produce lightning, by definition. If you can hear thunder, you are close enough to the storm to be struck. Move inside. It doesn't have to be raining yet since lightning can strike 10 to 15 miles away from the rain portion of the storm. These lightning strokes come out of the upper portions of the thunderstorm cloud which extends 5 to 10 miles into the atmosphere.

In general, lightning will travel the easiest route from the cloud to ground which means that it often strikes the tallest object. Therefore, a simple rule is to not make yourself the tallest object or stand

near the tallest object in your immediate surrounding. For instance, do not stand in an open field, on a beach, or on a hilltop. Do not stand under an isolated or large tree or near a pole, and do not stay out on a boat. If you are in a forest, you should seek shelter in a low area under a thick growth of small trees. If you are in a group of people, spread out keeping several yards apart from each other.

Stay away from metal objects such as fences, poles, equipment, pipes, etc. Get rid of metal objects on your body such as coins, money clips, hair pins, jewelry, etc. Stay away from water. Inside, stay away from electrical appliances,

Televisions, and telephones. Only use the phone in an emergency.

If you feel your hair stand on end, you are in immediate danger of being struck. Unless you can instantly jump inside a shelter, drop to a crouching position, bending forward and keeping your feet close together with your hands on your knees. The object is to be as low to the ground as possible, but with as little of your body surface touching the ground.

Persons struck by lightning carry no electrical charge and can be handled safely. Lightning often has a paralyzing effect that is temporary. Even though a person appears dead, he or she may be resuscitated. If a victim is not breathing, immediately start mouth to mouth resuscitation every 5 seconds for adults and children. If a person is not breathing **AND** there is no pulse, cardiopulmonary resuscitation, or cpr, must be administered. This is a combination of mouth to mouth resuscitation and external cardiac compression, and should only be undertaken by persons with proper training.

Tornado Safety Rules

WHAT TERMS ARE USED TO ALERT YOU?

WATCH: A Tornado or Severe Thunderstorm Watch is issued by the National Weather Service whenever conditions exist for severe weather to develop. Watches are usually for large areas of Georgia and are usually two to six hours long. Watches give you time to plan and prepare. Make sure your family and friends are aware of the watch and are informed about what to do if a tornado is sighted. Keep an eye on the sky and listen for further statements and warnings.

WARNING: A Tornado or Severe Thunderstorm Warning is issued whenever a tornado or severe thunderstorm has actually been sighted or strongly indicated by radar. Warnings are for smaller areas, such as a county, and are usually 30 minutes to 1 hour long. You must act immediately when you first hear the warning. If the severe weather is reported near you, seek shelter immediately. If not, keep a constant lookout for severe weather and stay near shelter.

WHAT SHOULD YOU DO WHEN YOU RECEIVE A WATCH OR WARNING?

1. Monitor weather information by tuning your radio or your television, or NOAA Weather Radio at 162.400 (VHF).
2. Listen for weather sirens and know what their signals mean.
3. Notify friends and relatives and locate children or handicapped individuals who may not be able to seek shelter quickly.
4. Make sure you shelter is ready (check flashlight batteries, etc.)

WHAT SHOULD YOU AVOID DOING?

1. Do Not Panic!
2. Do not call Emergency Services for information as your call may hold up information vital to all the county.
3. Use telephones only in case of Emergency. Lightning strikes are more common than tornadoes.
4. Do not attempt to leave a building during the approach of a tornado but rather seek the best cover in the building you are presently in. Sit in a hallway without windows with your back to the wall. Stay away from windows and doors.

WHERE SHOULD YOU SEEK SHELTER?

As a general rule the further into the interior of a building you can get and the closer to below ground level you can get the better.

AT SCHOOL:

Follow advance plans to move to interior hallways or small rooms on the lowest floor. Avoid areas with glass and wide, free span roofs. Schools, factories and office buildings should designate someone to watch for severe weather and initiate an alarm.

IF DRIVING A VEHICLE OR CAUGHT IN OPEN COUNTRY:

Get into a sturdy building if possible, or lie flat in a ditch or depression and hold onto something on the ground if possible. Do not try to outrun the storm or ride it out in your vehicle.

WHAT IF YOU ARE A VICTIM?

Do your best to protect yourself, your family and your neighbors from further danger. Notify authorities. Photograph the damage to your property. Do not sign contracts for repair work or debris removal without consulting authorities and your insurance company.

WHAT IF A TORNADO TOUCHES DOWN NEARBY?

Do not go to the tornado scene. The area must be kept clear and secure for the victims and for emergency personnel.

ARE THERE ANY OTHER NATURAL DANGERS ASSOCIATED WITH THUNDERSTORMS?

LIGHTNING is actually more common the tornadoes. When a thunderstorm threatens get inside a home or building as quickly as you can.

HAIL also can be dangerous if you are out in the open. The larger the hail size the bigger and more destructive the storm is going to be.

FLOODING is also a product thunderstorms. Torrential rainfall often accompanies severe storms and can quickly flood low lying areas, rivers and streams. Take extra precautions if you are in a flood prone area.

Weather Conditions: Air Quality

Millions of people live in areas where air pollution can cause serious health problems. Local air quality can affect our daily lives. Like the weather, it can change from day to day. EPA developed the Air Quality Index, or AQI, to make information available about the health effects of the five most common air pollutants, and how to avoid those effects. In the booklet, Air Quality Index a Guide to Air Quality and Your Health, you will find information about these common pollutants and the AQI.

Ground-level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in this country. You can find information about these pollutants in the documents listed below. Ozone, also known as smog, can irritate your respiratory system, causing coughing, irritation in your throat or a burning sensation in your airways. It can reduce lung function, so that you may have feelings of chest tightness, wheezing, or shortness of breath. Ozone can aggravate asthma and trigger asthma attacks. People at greater risk from ground-level ozone are people with lung diseases, such as asthma, and children and adults who are active outdoors.

Particle pollution, also known as particulate matter, is composed of microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. When exposed to these small particles, people with heart or lung diseases and older adults are more at risk of hospital and emergency room visits or, in some cases, even death from heart or lung disease. Even if you are healthy, you may experience temporary symptoms from exposure to elevated levels of particles. Symptoms may include: irritation of the eyes, nose and throat; coughing; phlegm; chest tightness; and shortness of breath. At greatest risk from particle pollution are people with heart or lung disease, older adults (possibly because they may have undiagnosed heart or lung disease), and children.

The Air Quality Index (AQI) is a uniform way of reporting ambient concentrations of the major air pollutants (criteria pollutants) regulated by the Clean Air Act. The Air Quality Index converts pollutant concentrations to a common scale, so that they may be compared more easily. An Air Quality Index value of 100 or less indicates a pollutant concentration that should not cause adverse health effects for most people. An index value above 100 indicates a pollutant concentration that may cause adverse health effects. Air Quality Index values are calculated for each day for each air monitoring site, using the highest concentration of each pollutant recorded that day. The highest pollutant-specific index value at a site is that site's Air Quality Index value for the day, and the pollutant associated with that Air Quality Index value is the *main pollutant*. The Air Quality Index value for a county or metropolitan statistical area is the highest value calculated for the day among the monitoring sites within that geographic area. The highest value on the Air Quality Index scale is 500. Each pollutant has a concentration equivalent to that 500 value. Rarely, a concentration is reported that exceeds the 500-equivalent level. In those instances, the Air Quality Index chart shows the index value as 501, which means "higher than 500."

A **daily** Air Quality Index chart shows daily index values for a county or metropolitan statistical area, and identifies the main pollutant each day. The chart also displays qualitative health risk categories (*good*, *moderate*, *unhealthy*, etc.) that are associated with ranges of Air Quality Index values.

A **summary** Air Quality Index chart for a county or metropolitan statistical area shows how many days each pollutant was the main pollutant (bar chart), how many days were in each health risk category (bar chart), and percentiles of daily index values (boxplot).

The EPA has assigned a specific color to each AQI category to make it easier for people to understand quickly whether air pollution is reaching unhealthy levels in their communities. For example, the color orange means that conditions are "unhealthy for sensitive groups," while red means that conditions may be "unhealthy for everyone," and so on.

Air Quality Index Levels of Health Concern	Numerical Value	Meaning
Good	0 to 50	Air quality is considered satisfactory, and air pollution poses little or no risk
Moderate	51 to 100	Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.
Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is not likely to be affected.
Unhealthy	151 to 200	Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.
Very Unhealthy	201 to 300	Health alert: everyone may experience more serious health effects
Hazardous	301 to 500	Health warnings of emergency conditions. The entire population is more likely to be affected.