Example of regional WBGT guidelines

Be sure to follow all local, state or other governing body's laws and regulations.

WBGT (ºF)	Category 3 Activity and Rest Break Guidelines
<82.0	Normal activities: provide ≥3 separate rest breaks of minimum duration 3 min each during workout.
82.0-86.9	Use discretion for intense or prolonged exercise. Watch at-risk players carefully. Provide ≥3 separate rest breaks of minimum duration 4 min each.
87.0-89.9	Maximum practice time = 2 h. For football: players restricted to helmet, shoulder pads, and shorts during practice. All protective equipment must be removed for conditioning activities. For all sports: provide ≥4 separate rest breaks for minimum duration 4 min each.
90.0-92.0	Maximum length of practice = 1 h. No protective equipment may be worn during practice and there may be no conditioning activities. There must be 20 min of rest breaks provided during the hour of practice.
>92.1	No outdoor workouts, cancel exercise, delay practices until a cooler WBGT reading occurs.

Example table originates from Georgia High School Athletics Association wet-bulb globe temperature guidelines and is only applicable to those who practice, condition, train, or compete under similar environmental conditions. Source: NATA Position Statement: Exertional Heat Illness, Journal of Athletic Training volume 50, number 9 2015, Table 5.

Heat Illness and What to Do

Heat Cramps: Painful, involuntary muscle spasms (usually occurring in the legs) associated with exercise in the heat when athletes have been sweating profusely.

What to do: Stop activity and rest in cool area. Consume salty food or beverages.

Heat Exhaustion: Inability to sustain exercise in the heat due to cardiovascular strain. Signs and symptoms include: fatigue, weakness, nausea, light-headedness, headache, heavy sweating, dehydration, decreased muscle coordination, and chills.

What to do: Stop activity and rest in cool area. Rehydrate. Remove excess clothing and cool the athlete with ice-wet towels. Improvement is seen usually within 10-15 minutes. If exertional heat stroke is suspected, have a medical professional take rectal temperature to confirm diagnosis.

Exertional Heat Stroke: Occurs when (1) the rectal temperature is ≥104˚F and (2) there are signs/symptoms of central nervous system (CNS) dysfunction. Signs and symptoms of CNS dysfunction include: irrational behavior, emotional instability, confusion, nausea, diarrhea, loss of muscle coordination, collapse, heavy sweating. **THIS IS A MEDICAL EMERGENCY.**

What to do: Stop activity and aggressively cool the patient using cold water tub. Activate emergency medical service, but always cool first and transport second. Remove excess clothes. Continuously monitor the rectal temperature until it is cooled down to 102˚F.

Information provided by the Korey Stringer Institute http://ksi.uconn.edu

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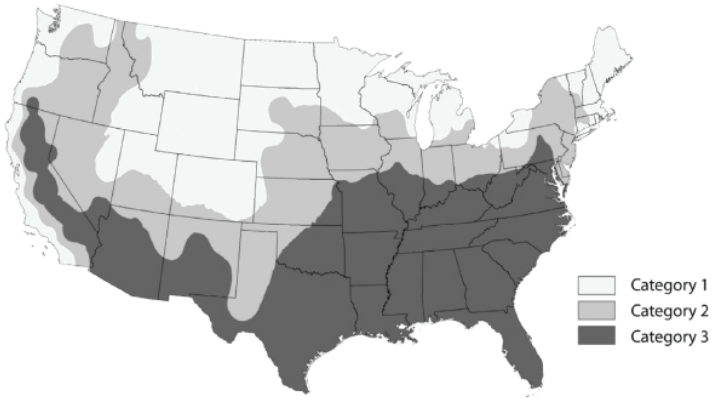

Considering local extreme WBGTs, three heat safety regions were identified. Category 3 encompasses much of the southeastern quadrant of the U.S. along with portions of New Mexico, Arizona, and the Central Valley of California.

Source: Grundstein, A., Williams, C., Phan, M., & Cooper, E. (2015). Regional heat safety thresholds for athletics in the contiguous United States. Applied Geography, 56, 55–60.

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WBGT BEST PRACTICES

1. WBGT should be used to monitor the environment during physical activity.
2. The WBGT value should be taken at the site of the activity (on the field of play).
3. WBGT should be measured at intervals of 30 minutes or less during activity.
4. If the WBGT shifts between risk categories, the guidelines for the higher risk category should be followed.
5. WBGT-based modifications should be used for practices, conditioning sessions, and competitions.

Source: Hosokawa Y, Adams WM, Casa DJ, Vanos JK, Cooper ER, Grundstein AJ, Jay O, McDermott BP, Otani H, Raukar NP, Stearns RL, Tripp BL. Roundtable on Preseason Heat Safety in Secondary School Athletics: Environmental Monitoring During Activities in the Heat. J Athl Train. 2021 Apr 1;56(4):362-371

!! WARNING!!

These WBGT Reference Guidelines are summarized from published papers, policies, and position statements relating to preventing heat injury. These guidelines provide a reference as to danger zones but do not constitute or take the place of medical advice.

The Kestrel Heat Stress Tracker is an environmental meter, not a medical device, and must be employed correctly according to these instructions to ensure accurate readings. Always let the instrument equilibrate to the environment you are in.

These guidelines, and your Kestrel Heat Stress Tracker, must be employed with care and good judgment. Remember that certain individuals are more susceptible to exertional heat stress and may suffer injury before a Zone Threshold is reached. When in doubt, set your Zone Thresholds lower, reduce work time, and increase rest, hydration and access to shade. Have and practice a heat injury emergency action plan, ensure ready access to cooling equipment such as ice baths and chilled sheets, and always intervene when any individual appears disoriented, weak or ill.