

RECOGNIZE TO

RECOVER U.S. SOCCER HEAT GUIDELINES

This is a guide for coaches, referees and players for training in warmer climates. Additionally, it serves as a guide for match play, hydration breaks and participant safety during extreme temperature conditions. The information provided is not a substitute for medical or professional care, and you should not use the information in place of a visit, consultation or the advice of your physician or other health care provider. For specific questions and concerns, please consult your health care provider or physician.

STEP 1

FIND THE WET BULB GLOBE TEMPERATURE (WBGT)

Measure the temperature and humidity at your site. Find the estimated WBGT corresponding below.

WET BULB GLOBE TEMPERATURE (WBGT) FROM TEMPERATURE AND RELATIVE HUMIDITY

		TEMPERATURE IN DEGREES FAHRENHEIT																														
		68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2	104.0	105.8	107.6	109.4	111.2	113.0	114.8	116.6	118.4	120.2	122.0
RELATIVE HUMIDITY (%)	0	59.0	60.8	60.8	62.6	64.4	64.4	66.2	66.2	68.0	68.0	69.8	71.6	71.6	73.4	73.4	75.2	75.2	77.0	78.8	80.6	80.6	82.4	82.4	84.2	84.2	86.0	87.8	87.8	89.6	89.6	
	5	60.8	60.8	62.6	64.4	64.4	66.2	66.2	68.0	69.8	69.8	71.6	71.6	73.4	75.2	75.2	77.0	78.8	78.8	80.6	80.6	82.4	84.2	84.2	86.0	87.8	87.8	89.6	91.4	91.4	93.2	95.0
	10	60.8	62.6	62.6	64.4	66.2	66.2	68.0	69.8	69.8	71.6	73.4	73.4	75.2	77.0	77.0	78.8	80.6	80.6	82.4	84.2	86.0	86.0	87.8	89.6	89.6	91.4	93.2	95.0	96.8	96.8	98.6
	15	62.6	62.6	64.4	66.2	66.2	68.0	69.8	69.8	71.6	73.4	73.4	75.2	77.0	78.8	78.8	80.6	82.4	84.2	84.2	86.0	87.8	89.6	91.4	91.4	93.2	95.0	96.8	98.6	100.4	102.2	
	20	62.6	64.4	64.4	66.2	68.0	69.8	69.8	71.6	73.4	75.2	75.2	77.0	78.8	80.6	80.6	82.4	84.2	86.0	87.8	89.6	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2			
	25	64.4	64.4	66.2	68.0	68.0	69.8	71.6	73.4	75.2	75.2	77.0	78.8	80.6	82.4	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2					
	30	64.4	66.2	68.0	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	102.2							
	35	64.4	66.2	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2								
	40	66.2	68.0	69.8	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	93.2	95.0	96.8	98.6	100.4	102.2									
	45	66.2	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	80.6	82.4	84.2	86.0	89.6	91.4	93.2	95.0	96.8	98.6	100.4											
	50	68.0	69.8	71.6	73.4	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	91.4	93.2	95.0	96.8	98.6	102.2												
	55	68.0	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	93.2	95.0	96.8	98.6	100.4													
	60	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	89.6	91.4	95.0	96.8	98.6	100.4														
	65	69.8	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	87.8	89.6	91.4	93.2	96.8	98.6	100.4															
	70	71.6	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	87.8	91.4	93.2	95.0	96.8	100.4	102.2															
	75	71.6	73.4	75.2	77.0	78.8	80.6	84.2	86.0	87.8	89.6	91.4	95.0	96.8	98.6	102.2																
80	73.4	75.2	77.0	78.8	80.6	82.4	84.2	86.0	89.6	91.4	93.2	96.8	98.6	100.4																		
85	73.4	75.2	77.0	78.8	82.4	84.2	86.0	87.8	89.6	93.2	95.0	98.6	100.4	102.2																		
90	75.2	77.0	78.8	80.6	82.4	84.2	87.8	89.6	91.4	95.0	96.8	98.6	102.2																			
95	75.2	77.0	78.8	80.6	84.2	86.0	87.8	91.4	93.2	95.0	98.6	100.4																				
100	75.2	78.8	80.6	82.4	84.2	87.8	89.6	91.4	95.0	96.8	100.4	102.2																				

NOTE: This table is compiled from an approximate formula which only depends on temperature and humidity. The formula is valid for full sunshine and a light wind. Table adapted from Bureau of Meteorology

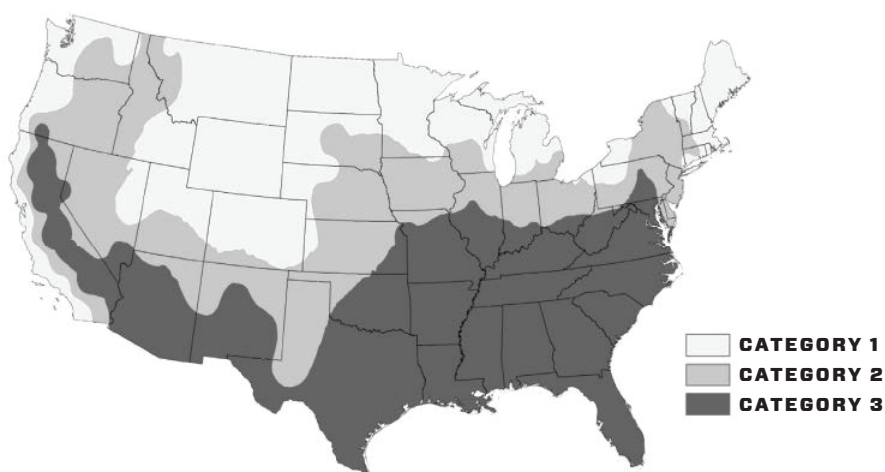
Living organisms can survive only within a certain temperature range. When the ambient temperature is excessive, humans and many animals cool themselves below ambient by evaporative cooling of sweat to help prevent potentially fatal hyperthermia due to heat stress. Cooling of the human body through perspiration is inhibited as the temperature and absolute humidity of the surrounding air increases in summer.

The Wet Bulb Globe Temperature (WBGT) provides a useful indication of the degree of heat stress, and is used by several agencies as the basis for heat stress prevention guidelines. A sustained wet-bulb temperature exceeding 95 °F is likely to be fatal even to fit and healthy people. At this temperature, our bodies switch from shedding heat to the environment, to gaining heat from it. Thus 95 °F is the threshold beyond which the body is no longer able to adequately cool itself.

STEP 2

FIND YOUR REGIONAL CATEGORY

Determine which region category you are in based on the map.



TRAINING & MATCH PLAY LIMITS

CANCELLATION OF TRAINING

Depending on your region category, recommend cancellation of training or delay until cooler when WBGT for

Cat 1 >86.2°F

Cat 2 >89.9°F

Cat 3 >92.0°F

MATCH PLAY HYDRATION BREAKS: WBGT OF 89.6°F

Provide hydration breaks of 4 minutes for each 30 minutes of continuous play (i.e., minute 30 and 75 of 90 minute match)

STEP 3

FIND YOUR ALERT LEVEL AND WORK TO REST RECOMMENDATIONS

Based on your WBGT and Regional Category determine your Alert Level and Work to Rest Recommendations using the table below.

ALERT LEVEL	WBGT BY REGION (°F)			EVENT CONDITIONS	RECOMMENDED WORK TO REST RATIOS (ACTIONS & BREAKS)
	CAT 1	CAT 2	CAT 3		
BLACK	>86.2°	>89.8°	>92.0°	Extreme Conditions	No outdoor training, delay training until cooler, or cancel training.
RED	84.2-86.1°	87.8-89.7°	90.1-91.9°	High Risk for Heat Related Illness	Maximum of 1 hour of training with four separate 4-minute breaks within the hour. No additional conditioning allowed.
ORANGE	81.1-84.1°	84.7-87.7°	87.1-90.0°	Moderate Risk for Heat Related Illness	Maximum of 2 hours of training with four separate 4-minute breaks each hour, OR a 10-minute break every 30 minutes of training.
YELLOW	76.3-81.0°	79.9-84.6°	82.2-87.0°	Less than Ideal Conditions	Three separate 4-minute breaks each hour, OR a 12-minute break every 40 minutes of training.
GREEN	<76.1°	<79.8°	<82.1°	Good Conditions	Normal activities. Three separate 3-minute breaks each hour of training, OR a 10-minute break every 40 minutes.