

Using the Heat Index: A Guide for Employers

About the Heat Index

The U.S. National Oceanographic and Atmospheric Administration (NOAA) developed the heat index system. The heat index combines both air temperature and relative humidity into a single value that indicates the apparent temperature in degrees Fahrenheit, or how hot the weather will feel. The higher the heat index, the hotter the weather will feel, and the greater the risk that outdoor workers will experience heat-related illness. NOAA issues heat advisories as the heat index rises. To learn more about the heat index, visit NOAA's website.

NOAA's National Weather Service

Heat Index

Temperature (°F)

	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	126	130					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

- Caution
- Extreme Caution
- Danger
- Extreme Danger

Why humidity matters: Relative humidity is a measure of the amount of moisture in the air. Sweat does not evaporate as quickly when the air is moist as it does in a dry climate. Since evaporation of sweat from the skin is one of the ways the human body cools itself on a hot day, high humidity reduces our natural cooling potential and we feel hotter. Low humidity can also be a problem for outdoor workers in hot, desert-like climates. Sweat evaporates very rapidly in low humidity, which can lead to severe dehydration if a person does not drink enough water throughout the day.

IMPORTANT NOTE: The heat index values were devised for shady, light wind conditions, **and exposure to full sunshine can increase heat index values by up to 15° Fahrenheit.** To account for solar load, added precautions are recommended. See Protective Measures to Take at Each Risk Level.

NOAA issues extreme heat advisories to indicate when excessive, extended heat will occur. The advisories are based mainly on predicted heat index values:

- *Excessive Heat Outlook*: issued when the potential exists for extended excessive heat (heat index of 105-110°F) **over the next 3-7 days**. This is a good time to check on supplies, such as extra water coolers, and refresh worker training.
- *Excessive Heat Watch*: issued when excessive heat could occur within the **next 24 to 72 hours**, but the timing is uncertain.
- *Excessive Heat Warning*: issued when the heat index will be high enough to be **life threatening in the next 24 hours**. This warning indicates that the **excessive heat is imminent or has a very high probability of occurring**.
- *Excessive Heat Advisory*: similar to an Excessive Heat Warning, but less serious. This is issued when the heat index could be **uncomfortable or inconvenient, but is not life threatening if precautions are taken**.