

Heat: A Summer Danger (even in the RGV)



The searing [summer of 2009](#) showed residents and visitors to Deep South Texas that even in an area known for four months of hot, humid weather, with average daily temperatures above 80, potentially life threatening heat waves can occur. The heat broke dozens of temperature records, particularly across the inland portions of the Rio Grande Valley, where more than 75 days between May and October reached or exceeded the century mark in McAllen.

The heat did not go unnoticed, especially for outdoor workers and others in un-air conditioned facilities. Fortunately, local officials across Deep South Texas took many of the correct precautions (below) to ensure their employees' safety and health. As of this writing, at the end of a long, hot summer, there were no known deaths of significant injuries to workers who had to cope with the heat.

What is a Heat Advisory?

A *heat advisory* is issued by the National Weather Service in Brownsville when the apparent temperature, also known as the "heat index" (below), reaches 111° F, for at least two hours, on consecutive days. The overnight temperature between the hot days must not fall below 75° F. Heat advisories are used by decision makers to begin special safety procedures for residents, visitors, workers, and others who may be exposed to the sweltering conditions for any length of time. The term *advisory*, as used here, means that without precautions, heat stroke is likely, and death is possible.

What is a Heat Warning?

A *heat warning* is issued when the apparent temperature reaches 120° F for at least two hours, on consecutive days. The overnight temperature between the hot days must not fall below 80° F. Heat warning conditions are very rare in the Rio Grande Valley. The term *warning*, as used here, means that heat stroke and

death are likely for persons exposed to the conditions for even short periods of time. The usual precautions for heat relief may not be sufficient to prevent human and animal health deterioration.

Advisory Level: Where did it come from?

Some may ask: How did we arrive at 111 as a trigger value? Local [research](#) for McAllen/Miller Airport, representative of the majority of the population in the Rio Grande Valley, revealed a sharp drop in the number of cases of apparent temperature between 108 and 112. Advisories, as with other decision support information, should be issued on rare occasions to differentiate a significant weather event from more typical conditions, defined by local climatology. Using a lower threshold would trigger more advisories than necessary, with the possible outcome a reluctance from end users to make life and health saving decisions. 111 was chosen arbitrarily to allow for a small number of advisories to be issued in a given summer for a typically hot and humid climate. The graph below shows this drop.

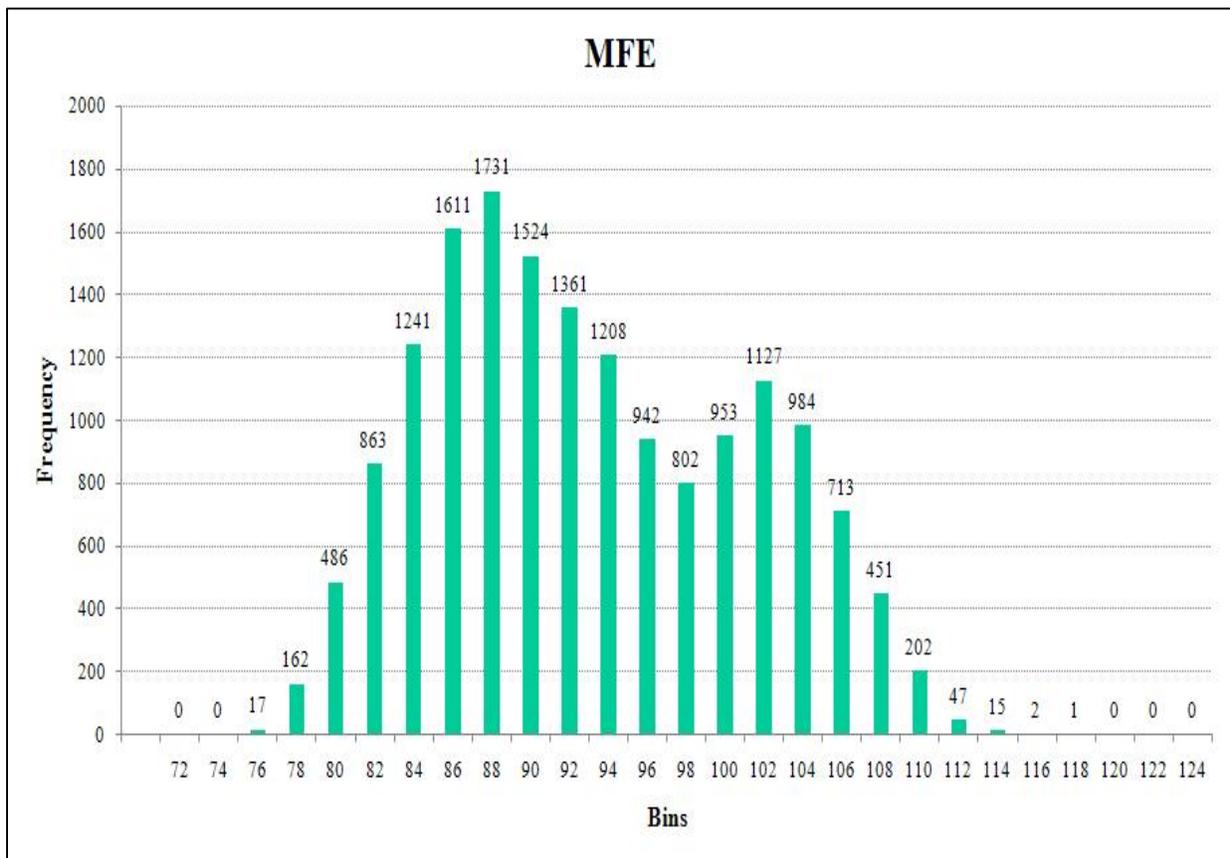


Figure 1. Frequency of Apparent Temperature (Heat Index) from observations in McAllen, Texas (MFE), for June through August. Period of record is 1997 to 2004.

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	128	136					
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

Protect yourself, family, pets and property against excessive heat and drought. Here are some tips to help:

- **Slow Down.** Schedule strenuous activities early in the morning, if at all.
- **Drink Plenty of Water.** For healthy persons, be sure to drink water at all times, even if you are not thirsty. Persons on fluid restricting diets should consult their physicians before increasing consumption.
- **Dress for Summer.** Lightweight, light colored clothing reflects heat and sunlight and helps maintain a lower body temperature.
- **Do not Drink Alcohol.** Alcoholic beverages increase dehydration rate and could bring on heat stress or heat stroke rapidly.

- **Spend time in Air Conditioning.** Cooler locations offer relief and some protection from heat dangers.
- **Avoid Sunburns.** Sunburn makes heat dissipation from the body more difficult. As the summer solstice approaches, the angle of the sun reaches its peak, increasing the threat for sunburn in a short period of time.
- **Eat Lighter.** Put less fuel on your inner fires. Foods that increase metabolic heat production can also increase the rate of water loss.
- **Never Leave Children Unattended in Vehicles. Not even for a minute!** Temperatures rise rapidly inside a car, nearly 30°F in as little as 20 minutes. Click [here](#) for more information on children and hyperthermia.