Heat Index

About 237 Americans succumb to the taxing demands of heat every year*. Our bodies dissipate heat by varying the rate and depth of blood circulation, by losing water through the skin and sweat glands, and as a last resort, by panting, when blood is heated above 98.6°F. Sweating cools the body through evaporation. However, high relative humidity retards evaporation, robbing the body of its ability to cool itself.

When heat gain exceeds the level the body can remove, body temperature begins to rise, and heat related illnesses and disorders may develop.

The **Heat Index** (HI) is the temperature the body feels when heat and humidity are combined. The chart below shows the HI that corresponds to the actual air temperature and relative humidity. (This chart is based upon shady, light wind conditions. **Exposure to direct sunlight can increase the HI by up to 15°F.)**

(Due to the nature of the heat index calculation, the values in the tables below have an error +/- 1.3F.)

Temperature (F) versus Relative Humidity (%)

°F	90%	80%	70%	60%	50%	40%
80	85	84	82	81	80	79
85	101	96	92	90	86	84
90	121	113	105	99	94	90
95		133	122	113	105	98
100			142	129	118	109
105				148	133	121
110						135

HI	Possible Heat Disorder:
80°F - 90°F	Fatigue possible with prolonged exposure and physical activity.
90°F - 105°F	Sunstroke, heat cramps and heat exhaustion possible.
105°F - 130°F	Sunstroke, heat cramps, and heat exhaustion likely, and heat stroke possible.
130°F or greater	**Heat stroke highly likely with continued exposure.**

Below is a table comparing Temperature and Dewpoint, with the same disorders possible:

Temperature (Down) versus Dewpoint (across)

°F	55	60	65	70	75	80	85
80	80	80	81	83	84	87	
85		84	86	89	93	99	107
90			91	95	100	107	117
95				101	106	114	125
100					113	121	131
105						127	138
110						134	145

* 10-year average of heat related fatalities from 1994-2003. U.S. Natural Hazard Statistics. source: National Weather Service http://www.crh.noaa.gov/pub/heat.php Last modified: April 21 2005