

Heat Index

Because our bodies cool by evaporation, the relative humidity affects how cool we feel. If the relative humidity is low, perspiration on our skin absorbs heat from our bodies and evaporates into the air, carrying away body heat. However, as humidity increases, the rate of evaporation decreases. Hence, the perspiration does not readily evaporate and stays on the skin, creating that warm, "sticky" feeling. Body heat does not dissipate through evaporational cooling but builds up instead, making us feel even hotter than what we would expect to feel at that temperature.

The Heat Index, the counterpart to the Wind Chill Index, relates how warm it feels with high humidity compared to a dry environment. Various other indices have been developed to address this discomfort we all feel; they include the apparent temperature, the heat stress index, the "humiture," the "humidex," even a "Summer Simmer Index." Some account for effects of solar radiation, wind speed and barometric pressure on the human condition.

For example, a temperature of 90°F at 30 percent relative humidity is bad enough, but couple that heat with 90 percent relative humidity and it feels like 122°! For most people, no discomfort is felt until an apparent temperature of 85° is reached. Increased discomfort is felt at an apparent 90-93°. At an apparent temperature of 100-105°F the possibility of heat stroke surfaces; and a prolonged exposure at apparent temperatures over 120°, the danger of heat stroke is very real.

Maybe you'd rather not be reminded of how hot it feels. Albert Schweitzer, who did not keep a thermometer with him in equatorial Africa, declared that if he knew how hot it was, he couldn't stand it! So you may or may not want to use this chart. But if you do, remember, it's not the heat... it's the humidity.

Heat Index		<i>Relative Humidity (%)</i>									
		10	20	30	40	50	60	70	80	90	100
<i>Temperature (°F)</i>	70	65	66	67	68	69	70	70	71	71	72
	75	70	72	73	74	75	76	77	78	79	80
	80	75	77	78	79	81	82	85	86	88	91
	85	80	82	84	86	88	90	93	97	102	108
	90	85	87	90	93	96	100	106	113	122	
	95	90	93	96	101	107	114	124	136		
	100	95	99	104	110	120	132	144			
	105	100	105	113	123	135	149				