

Research on determining the temperature range for “Substantial Health Hazard”

Extremes of air temperature occur in all parts of the country. The ideal comfort range for humans is between 16 to 32°C (60 to 90°F). Hypothermia and hyperthermia normally occur in temperatures outside this range. (source: <http://water.usgs.gov/owq/FieldManual/Chap9/A9.8.html>)

Apparent temperature range; Dangers/precautions at this range:

80-90°F (27-32°C); Exercise can be difficult; enforce rest and hydration.

90-105°F (32-41°C); Heat cramps and exhaustion; be extremely cautious.

105-130°F (41-54°C); Anticipate heat exhaustion; strictly limit activities.

130°F (54°C and above) and above; Setting for heat stroke; seek cool shelter.

(source: <http://www.umm.edu/outdoor/hyperthermia.htm>)

Due to the person’s ability to generate body heat, there are no specific outside temperatures that cause hypothermia. Hypothermia is determined by core body temperature.

Normal skin temperature in cool weather is 90 to 93° Fahrenheit (32.2 to 33.9° Celsius); this can drop to 70 to 73° Fahrenheit (21.1 to 22.8° Celsius) before core cooling begins. Mild hypothermia is defined as a core (measured rectally) body temperature of less than 98.6° Fahrenheit (37° Celsius) but greater than 95° Fahrenheit (35° Celsius); moderate hypothermia is defined as a core body temperature of less than 95° Fahrenheit (35° Celsius) but greater than 90° Fahrenheit (32.2° Celsius); severe hypothermia is defined as a core body temperature of less than 90° Fahrenheit (32.2° Celsius).

The progression of hypothermia leads to predictable physiologic responses, which roughly correspond to different body temperatures. Although not invariable, the signs and symptoms are as follows:

95 to 98.6° Fahrenheit (35 to 37° Celsius). Sensation of cold; shivering, increased heart rate; urge to urinate; slight incoordination

Information Only for Public Accommodation Regulations

in hand movements; increased respiratory rate; increased reflexes (leg jerk when the knee is tapped); red face.

90 to 95° Fahrenheit (32.2 to 35° Celsius). Increased muscular incoordination; stumbling gait; decreased or absent shivering; weakness; apathy; drowsiness; and/or confusion; slurred speech.

85 to 90° Fahrenheit (29.4 to 32.2° Celsius). Loss of shivering; confusion progressing to coma; inability to walk or follow commands; paradoxical undressing (inappropriate behavior); complaints of loss of vision; decreased respiratory rate; decreased reflexes.

Below 85° Fahrenheit (29.4° Celsius). Rigid muscles; decreased blood pressure, heart rate, and respirations; dilated pupils; appearance of death.

..."Any person who is found in a cold environment should be suspected of suffering from hypothermia. The definition of 'cold environment' is variable. Someone who is wet, improperly dressed, and intoxicated with alcohol can become hypothermic in 70° Fahrenheit weather. Do not use yourself as an indicator of warmth—you may be perfectly comfortable while your companion is lapsing into hypothermia." (source: <http://www.umm.edu/outdoor/hypothermia.htm>)