

## Wind chill

Wind chill (often popularly called the wind chill factor) is the felt air temperature on exposed skin due to wind. It measures the effect of wind on air temperature. The wind chill temperature is usually lower than the air temperature, since the air temperature is usually lower than the human body temperature. In contrast, humidity on the skin can result in a higher felt air temperature, and the heat index is used instead.

The human body loses heat largely by evaporation and convection. The rate of heat loss by a surface depends on the wind speed above that surface: the faster the wind speed, the more readily the surface cools. For inanimate objects, the effect of wind chill is to reduce any warmer objects to the ambient temperature more quickly. It cannot, however, reduce the temperature of these objects below the ambient temperature, no matter how great the wind velocity. For most biological organisms, the physiological response is to maintain surface temperature in an acceptable range so as to avoid adverse effects. Thus, the attempt to maintain a given surface temperature in an environment of faster heat loss results in both the perception of lower temperatures and an actual greater heat loss increasing the risk of adverse effects such as frostbite and death.

