

Wind Chill

From the user, we are given an air temperature (T) and a wind speed ($Wind_{sfc}$).

In order to calculate the Wind Chill, the temperature must be converted to degrees Fahrenheit ($^{\circ}F$).

To find out how to convert the temperature, see the link below:

[Temperature Conversion](#)

Also, in order to calculate the Wind Chill, the wind speed must be converted to miles per hour (mph).

To find out how to convert the wind speed, see the link below:

[Wind Speed Conversion](#)

Then, the Wind Chill can be calculated using this formula:

$$WindChill = 35.74 + (0.6215 \times T) - (35.75 \times Wind_{sfc}^{0.16}) \\ + (0.4275 \times T \times Wind_{sfc}^{0.16})$$

Because the user might need the Wind Chill in Watts per meter squared ($\frac{W}{m^2}$), it can be calculated using an air temperature in degrees Celsius ($^{\circ}C$) and a wind speed in meters per second ($\frac{m}{s}$):

$$WindChill = (12.1452 + 11.6222 \times \sqrt{Wind_{sfc}} - 1.16222 \times Wind_{sfc}) \times (33 - T)$$