



MINIMET

Wind Chill Information

Anyone who has ever waited at a bus stop or taken a walk on a blustery winter day knows that you feel colder when the wind blows. We call the cooling sensation caused by the combined effect of temperature and wind the 'wind chill'.

On a calm day, our bodies insulate us somewhat from the outside temperature by warming up a thin layer of air close to our skin, known as the boundary layer. When the wind blows, it takes this protective layer away-exposing our skin to the outside air. It takes energy for our bodies to warm up a new layer, and if each one keeps getting blown away, our skin temperature will drop, and we will feel colder.

Wind also makes you feel colder by evaporating any moisture on your skin-a process that draws more heat away from your body. Studies show that when your skin is wet, it loses heat much faster than when it is dry.

Wind chill for temperatures from +5 to -20°C

T_{air} (°C)		5	0	-5	-10	-15	-20
V_{10} (km/h)	V_{10} (m/s)						
5	1.4	4	-2	-7	-13	-19	-24
10	2.8	3	-3	-9	-15	-21	-27
15	4.2	2	-4	-11	-17	-23	-29
20	5.6	1	-5	-12	-18	-24	-30
25	6.9	1	-6	-12	-19	-25	-32
30	8.3	0	-6	-13	-20	-26	-33
35	9.7	0	-7	-14	-20	-27	-33
40	11.1	-1	-7	-14	-21	-27	-34
45	12.5	-1	-8	-15	-21	-28	-35
50	13.9	-1	-8	-15	-22	-29	-35
55	15.2	-2	-8	-15	-22	-29	-36
60	16.7	-2	-9	-16	-23	-30	-36
65	18.1	-2	-9	-16	-23	-30	-37
70	19.4	-2	-9	-16	-23	-30	-37
75	20.8	-3	-10	-17	-24	-31	-38
80	22.2	-3	-10	-17	-24	-31	-38

where

T_{air} = Actual Air Temperature in °C

V_{10} = Wind Speed at 10 metres in km/h and m/s (as reported in weather observations)

1 metre per second (m/s, ms^{-1}) = 3.60 kilometres per hour (kph)

1 kilometre per hour (kph) = 0.28 metre per second (m/s, ms^{-1})

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Wind Chill Information

Frostbite Guide

Low risk of frostbite for most people

Increasing risk of frostbite for most people within 30 minutes of exposure

High risk for most people in 5 to 10 minutes of exposure

High risk for most people in 2 to 5 minutes of exposure

High risk for most people in 2 minutes of exposure or less

Wind chill for temperatures from -25 to -50°C

T_{air} (°C)		-25	-30	-35	-40	-45	-50
V_{10} (km/h)	V_{10} (m/s)						
5	1.4	-30	-36	-41	-47	-53	-58
10	2.8	-33	-39	-45	-51	-57	-63
15	4.2	-35	-41	-48	-54	-60	-66
20	5.6	-37	-43	-49	-56	-62	-68
25	6.9	-38	-44	-51	-57	-64	-70
30	8.3	-39	-46	-52	-59	-65	-72
35	9.7	-40	-47	-53	-60	-66	-73
40	11.1	-41	-48	-54	-61	-68	-74
45	12.5	-42	-48	-55	-62	-69	-75
50	13.9	-42	-49	-56	-63	-69	-76
55	15.2	-43	-50	-57	-63	-70	-77
60	16.7	-43	-50	-57	-64	-71	-78
65	18.1	-44	-51	-58	-65	-72	-79
70	19.4	-44	-51	-58	-65	-72	-80
75	20.8	-45	-52	-59	-66	-73	-80
80	22.2	-45	-52	-60	-67	-74	-81

INFORMATION TAKEN FROM THE GREEN LANE™, ENVIRONMENT CANADA'S WORLD WIDE WEB SITE. SEPTEMBER 2004

