

What is Wind Chill Temperature?

It is the temperature it “feels like” outside and is based on the rate of heat loss from exposed skin caused by the effects of wind and cold. As the wind increases, the body is cooled at a faster rate causing skin temperature to drop. Wind Chill does not impact inanimate objects like car radiators and exposed water pipes, because these objects cannot cool below the actual air temperature.

What is Frostbite?

Frostbite is an injury to the body caused by freezing body tissue. The most susceptible parts of the body are the extremities such as fingers, toes, ear lobes, or the tip of the nose. Symptoms include a loss of feeling in the extremity and a white or pale appearance. Medical attention is needed immediately for frostbite. If help is not immediately available, SLOWLY re-warm the affected area.

What is Hypothermia?

Hypothermia is abnormally low body temperature (below 95°F). Warning signs include uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness, and exhaustion. If symptoms are present, seek medical care immediately! Get the victim into dry clothing, and wrap them in a warm blanket covering the head and neck. Do not give alcohol, drugs, or hot beverages; warm broth is better. Warm the body core first - not the extremities (arms and legs). This drives the cold blood to the heart and can lead to heart failure.

Tips on how to dress for cold weather

- Wear layers of loose-fitting, lightweight, warm clothing. Trapped air between the layers will insulate you. Outer garments should be tightly woven, water repellent, and hooded.
- Wear a hat, because 40% of your body heat can be lost from your head.
- Cover your mouth to protect your lungs from extreme cold.
- Mittens, snug at the wrist, are better than gloves.
- Try to stay dry and out of the wind.

What Else do I Need to Know?

Wind chills given in forecasts may seem milder than in the past. For example: A temperature of 0°F with 25 mph winds will give a wind chill of -24°F. Remember - the index is based on the actual impact of cold and wind on your skin. *Knowing the time to frostbite is the key.*

The NWS will inform you when Wind Chill conditions reach critical thresholds. A Wind Chill Warning is issued when wind chill temperatures are life threatening. For Southeast Alaska, a Wind Chill Warning is issued when the wind chill temperature is -55°F with a minimum of 15 mph sustained winds for 3 hours or more.

A Wind Chill Advisory is issued when wind chill temperatures are potentially hazardous. For Southeast Alaska, a Wind Chill Advisory is issued when the wind chill temperature is -30°F with a minimum of 15 mph sustained winds for 3 hours or more.

For more information on the index, including an online wind chill calculator, go to <http://www.weather.gov/om/windchill/>

WIND CHILL TEMPERATURE INDEX

National Weather Service
<http://weather.gov/juneau>



NWS WINDCHILL CHART

		Temperature (°F)																	
		Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40
Wind (mph)	5	36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
	10	34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
	15	32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
	20	30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
	25	29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
	30	28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
	35	28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
	40	27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
	45	26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
	50	26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
	55	25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
	60	25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times 30 minutes 10 minutes 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T=Air Temperature(°F) V=Wind Speed (mph)

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