

WIND CHILL  
FOR TODAY

(WHAT IT FEELS LIKE)

WIND CHILL 32° to -19°

Discomfort from cold conditions, chilblains and frostbite possible with face and extremities.

WIND CHILL -20° to -40°

Hypothermia possible with prolonged exposure and frostbite occurs within 10-30 minutes.

WIND CHILL -40° & below

Frostbite within 5 minutes. Hypothermia IMMINENT without proper precaution

HOW TO USE WIND CHILL:

1. Find today's predicted temperature

2. Next, find today's predicted wind speed

3. Follow the answers to #1 and #2. Where they intersect will determine APPARENT WIND CHILL or WHAT IT FEELS LIKE.

EXAMPLE:

1. Forecasted Temp = 25°

2. Forecasted wind = 15

3. Wind Chill (feels like) = 13°

WIND CHILL CHART

	Temperature (°F)																							
	40°	35°	30°	25°	20°	15°	10°	5°	0°	-5°	-10°	-15°	-20°	-25°	-30°	-35°	-40°	-45°						
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						

Wind chill Temperature is only defined for temperatures at or below 50° F and wind speeds above 3 mph. Bright sunshine may increase the wind chill temperature by 10° to 18° F.

5 DAY ACTUAL TEMPERATURE & WIND FORECAST

1 TEMP

WIND

2 TEMP

WIND

3 TEMP

WIND

4 TEMP

WIND

5 TEMP

WIND

HYDRATION SAFETY 365 - HYDRATE, FUEL, FOCUS

An overview of the body, fluid balance and your safety to prevent dehydration and/or accident from occurring because improper hydration is a threat in every season.

FLUID LOSS FACTORS

Factors that contribute to fluid loss\* include:

F

E

- Sweating between skin and winter clothing
- Exhaling
- Urination (increases in cold weather)
- Diuretic intake
- Natural body exertion to maintain core temperature (shivering)

\*Varying factors: age, gender, environment and conditioning

FLUID/ELECTROLYTE LOSS WARNINGS

LOSS	RESULTS
2%	Impaired Performance
4%	Muscular Function & Capacity Declines
6%	Fatigue & Exhaustion
8%	Hallucination & Disorientation
10%	Circulatory Collapse & Hypothermia

RECOMMENDATION FOR PROPER HYDRATION

Maintaining and balancing the body's fluid level is imperative. A healthy adult, in moderate climate, is recommended to drink:

WATER (cups per day)<sup>1</sup>

15.5

11.5

In hotter environments and/or strenuous activity, an increase in fluid intake may be necessary.

<sup>1</sup> Source: Water: Mayo Clinic - <http://www.mayoclinic.com/healthy-lifestyle/nutrition-and-healthy-eating/indepth/water/art-20044256>

COLD FACTORS

Contributing to unsafe drop in body temperature and fluid loss:

- Freezing Temperature & Wind Chill
- Improper Winter Clothing/Layering
- Level of Exertion/Work Load or Strain
- Direct Exposure & Duration to Weather
- Machine/Equipment Contact
- Hydration Neglect & Poor Diet
- Medical Precondition
- Lack of Physical Conditioning

THERMOREGULATION

The body's process of thermal control

As outside temperature drops, the body performs vasoconstriction - reserving heat for the body's core to maintain a safe internal temp. Thermogenesis may also occur to produce needed heat (e.g. shivering). It takes energy to perform these functions and the body needs the proper fuel and fluids to achieve thermoregulation.

ELECTROLYTES

Na

K

Mg

Ca

SODIUM POTASSIUM MAGNESIUM CALCIUM

Water is necessary, but water alone will not replace lost nutrients and minerals such as electrolytes. Electrolytes consist of minerals such as sodium, potassium, magnesium and calcium, which are critical for cell and muscular function.

6-10 oz. of electrolytes every 15-20 minutes during strenuous activity, especially in hot environments.<sup>2</sup>

Individual circumstances may vary and include water with electrolyte consumption.

<sup>2</sup> Source: Role of Carbohydrate-Electrolyte Fluid Replacement in the Industrial Environment, Human Performance Laboratory, University of Alabama, Tuscaloosa, AL.

HYDRATION LEVEL CHART

USE CHART TO IDENTIFY HYDRATION LEVEL

TARGET LEVEL

PROPERLY HYDRATED

If urine resembles or matches these colors.

Maintain level

DEHYDRATED

Needs improvement

DEHYDRATED

If urine resembles or matches these colors more fluids should be consumed.

SEVERELY DEHYDRATED

Immediate attention

SEVERELY DEHYDRATED

If urine matches these colors SERIOUS DEHYDRATION has occurred. It is suggested that a physician be contacted to determine the severity of dehydration.

WARNING

Monitor urine closely during cold weather. Urine frequency can and will be elevated during cold weather (Cold Diuresis). Urine color may also vary due to frequency. The more you go, monitor the amount. Amount can decrease upon each restroom stop. Be sure to replenish those fluids.

!

COLD AWARENESS

1. Environments of 32°F or below - Use extreme caution, especially during strenuous activity.

2. Acclimate - Allow the body to adjust to cold weather, winter elements.

3. PPE Clothing - PPE and cold weather apparel is necessary but can increase risk of dehydration; therefore, monitor yourself continuously.

4. Thirst - Thirst sensation is suppressed in cold weather. Caffeinated products will escalate fluid loss.

5. Know the Symptoms - Be familiar with frostbite and hypothermia to respond quickly. (Review Cold Illnesses to the right)

6. Prevention - Preventing dehydration and/or a cold stress injury is much easier than recovering from the injury.

For instant Cold & Hydration training check out [sqwincher.com/educate/resources/cold-stress](http://sqwincher.com/educate/resources/cold-stress)

PERSON

COLD ILLNESSES

Symptoms and responses to cold exposure and cold stress.

<b>Chilblains:</b> Red, swollen, itchy skin due to inflamed blood vessels; usually on the face, ears, hands and feet.	Cover and protect areas immediately. Lotions and ointments can treat areas. For severe cases, consult a physician.
<b>Immersion or Trench Foot:</b> Extended exposure to cold and wet conditions causing multiple symptoms: swelling, tingly, numbness, pain etc.	Go to a warm, dry place and remove wet clothing and gently dry feet. Warm the feet slowly and apply clean dry socks when able. DO NOT warm areas too quickly. Seek medical attention.
<b>Frostbite:</b> Freezing of skin and/or deeper tissue causing itching, burning, numbness, pain. Area will appear white to grayish in color and feels cold, waxy and hard.	Remove from the cold. Gradually warm areas with blankets, and body to body contact; no direct heat. DO NOT RUB areas in fear of further tissue damage especially cases deeper than the skin. Seek medical attention.
<b>Hypothermia:</b> When the body loses heat faster than it can produce heat making core body temperature drop below 98.6°F. As condition worsens look for slurred speech, confusion, violent shivering, weak pulse, shortness of breath and loss of consciousness. May have pale to blue appearance. Core temperature of 82°F or below can cause death.	Remove from cold immediately and call 911. Always handle patient gently, not to disturb vital organs under low body temperatures. Remove any wet clothing and apply dry clothing when necessary. Apply any warming to the body's core first: neck, chest and groin. DO NOT warm extremities first due to threat of shock. Get victim to the nearest hospital immediately.

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