



Winter Weather

Naval Station Great Lakes

Winter Season 2015-2016



Local Area Information Resources

Lake County Passage – (local road conditions)

- <https://www.lakecountypassage.com/index.jsp>
- 1620 AM

National Weather Service – (weather information)

- <http://www.weather.gov>
- <http://forecast.weather.gov/MapClick.php?lat=42.30271118807195&lon=-87.86588676646033&site=all&smap=1#.Vd0bedNViko>
- <https://www.facebook.com/NWSChicago?fref=ts>

Lake County Skywarn – (local area weather/impacts)

- <http://www.lakecountyskywarn.org/>
- <https://www.facebook.com/LakeCountySkywarn?fref=ts>



NSGL - Getting the Word Out

- **AtHoc** – dissemination via text message, email and desktop notification
- **Hotline**
 - 847-688-2459
- **Facebook**
 - <https://www.facebook.com/NavalStationGreatLakes?fref=ts>
- **Twitter**
 - @navstaglakes



Types of Messages/Notices

- **Messages will be sent out for the following types of weather:**
 - Winter Storm Warnings
 - Blizzard Warnings
 - Ice Storm Warnings
 - Base Closures/Delays
 - Any other significant information determined by the NSGL CO
- **Messages will NOT be sent out for:**
 - Winter Storm, Blizzard or Ice Storm Watches

****ALL Personnel should monitor local roadway reports, local media stations and weather apps and not rely solely on installation information reports.**



Mission Essential Personnel (MEP)

Your command is responsible for designating mission essential personnel, notifying all personnel of their status, and reporting mission essential personnel to the NSGL EMO

When the installation declares mission essential personnel only

- If you are designated as MEP, you respond normally**
- If you are non-MEP, you must contact your supervisor for further direction.**



Base Operating Status

- **Normal OPS**
 - Generally means that the installation roadways and parking lots have been adequately cleared
 - Use caution on municipal streets
- **X-hour Delay**
 - Used when additional time is necessary to ensure the installation is safe for personnel
- **Mission Essential Personnel Only**
 - Snow removal/sanding/salting operations are anticipated to be extensive



What types of Winter Weather does the area experience?

- **Blizzards**
 - Lake County has experienced 5 blizzard events since 1996, February of 2011
- **Heavy Snow**
 - 16.2 inches of snow on February 1, 2015, breaking an all-time record.
- **Extreme Cold Temperatures**
 - February of 2015 was the coldest in Chicago since 1875, average monthly temperature was 13.1 degrees below normal for the month
- **Wind Chill**
 - Wind chills in the area were more than -35 degrees at times during the 2015 season
- **Ice Storms**
 - Main impact is related to slips/falls and vehicle accidents



Impact to Personnel

- **Individual personnel and tenants are responsible for monitoring weather conditions and potential impacts to staff and students**
 - **NSGL will monitor and send out messages if necessary regarding impact to installation operations and personnel**
 - **NSGL generally does not send out messages regarding conditions off the installation**



Winter Weather Information

Blizzard Warnings

- Issued for the following conditions lasting for a period of 3 hours or longer being forecast:
 - Visibility below $\frac{1}{4}$ mile due to falling and/or blowing snow
 - Sustained winds or frequent gusts greater than or equal 35 mph



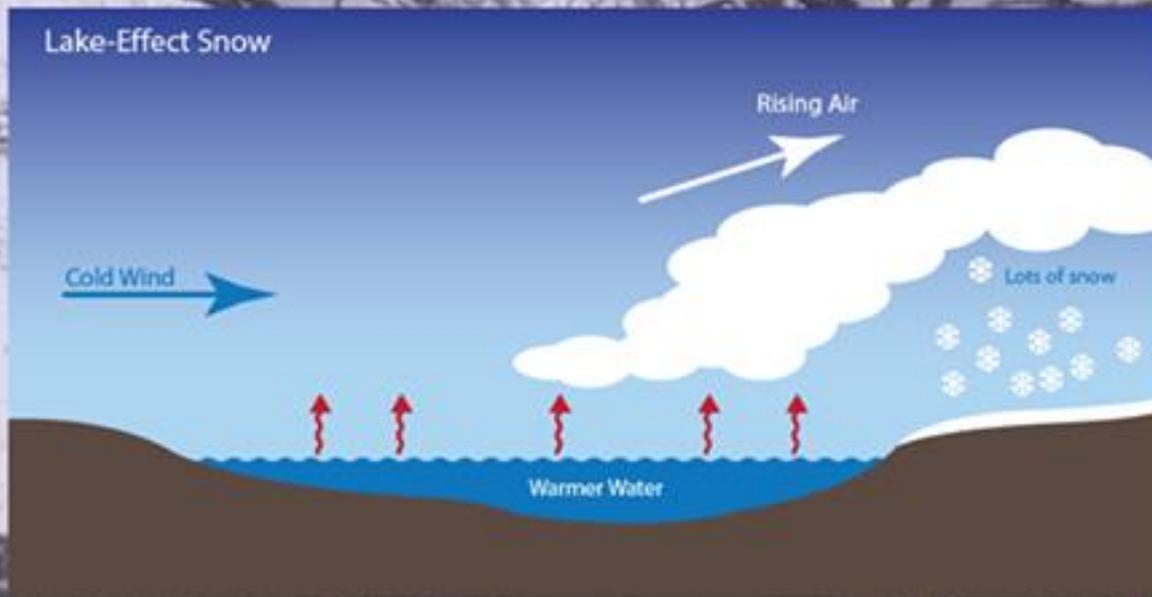
Ice Storms

- When the layer of ice accumulates to at least one-half inch thick, the weight of the ice can down tree limbs, power lines, and communication towers.
 - Extended period without power, potentially during extreme cold, and widespread impacts to mass transit.
- Even just a trace of freezing rain can create a glaze of ice on roads, causing significant impact to transit.



Lake Effect Snow

#winterprep



Lake Effect Snow 1/21/14
Griffith, IN
Jason Lee Miller



- Significant lake effect snows are most common in parts of northwest Indiana, but occasionally in northeast Illinois, such as in winter '13 – '14.
- Lake effect can have a HUGE impact driving with greatly reduced visibilities and sudden changes in road conditions over short distances.
- Lake effect season usually runs from November through March.

IL and IN Winter Weather Preparedness Week: November 16th - 22nd, 2014



National Weather Service Chicago: weather.gov/chicago



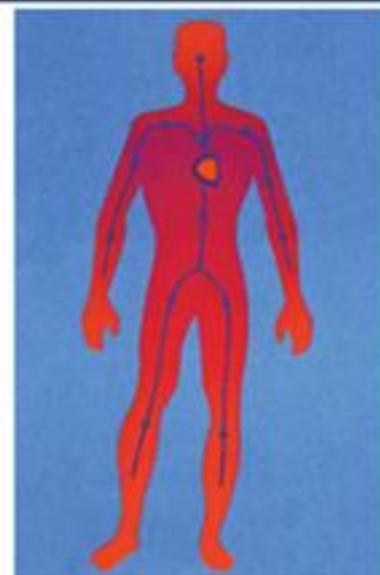
Dangers of Extreme Cold

Hypothermia: a condition when the body temperature drops less than 95°F. It can be fatal.

- Warning signs include:
 - uncontrollable shivering
 - memory loss
 - disorientation
 - incoherence
 - slurred speech
 - drowsiness
 - apparent exhaustion
- **What to do:** Warm the person slowly, starting with the body core. Warming the arms and legs first drives cold blood toward the heart and can lead to heart failure.



Hypothermia occurs when the extremities are excessively cold (blue)



Improperly warming the body will drive cold blood from the extremities to the heart, leading to heart failure

Did You Know?

- 50% of injuries related to cold happen to people over 60.
- More than 75% happen to males.
- About 20% occur in the home.

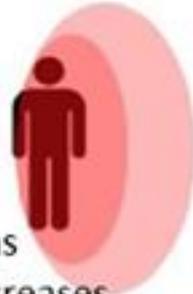
Frostbite: damage to body tissue caused by extreme cold.

- A wind chill of -20°F will cause frostbite in just 30 minutes.
- Frostbite causes a loss of feeling and white or pale appearance in extremities.
- **What to do:** Slowly rewarm the affected skin.

What is Wind Chill?

Wind Chill is how wind and cold feel on exposed skin. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature.

Heat around our bodies with no wind



Heat escapes as wind speed increases

Wind Chill Advisory: Cold temperatures and breezy winds combine to create a wind chill between -20° and -30°.

Wind Chill Warning: Cold temperatures and breezy winds combine to create a wind chill below -30°.



NWS Windchill Chart



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

Frostbite Times: 30 minutes (light blue), 10 minutes (medium blue), 5 minutes (dark blue)

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

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

Effective 11/01/01

The colder the temperature and stronger the wind, the quicker frostbite could set in on exposed skin.



NWSChicago



NWSChicago

Winter Storm Watches & Warnings

- **Heavy Snow:** Average of at least 6 inches in 12 hours or 8 inches in 24 hours is forecast.
- **Significant freezing rain:** When at least one half inch of ice accretion is forecast.
- **Combination of snow, sleet, and freezing rain** expected to cause impacts similar to those of either heavy snow or significant freezing rain.

Other Watches and Warnings

- **Wind Chill:** Wind chills at least -30°F
- **Flood:** Flooding of rivers, small streams, streets and poor drainage areas due to ice jams and/or heavy rain and snowmelt.

Advisories

- **Winter Weather:** Difficult travel due to either snow, sleet, mixed precip., or blowing snow or combination of the above
- **Freezing Rain:** Light ice accumulation less than $\frac{1}{2}$ "
- **Wind Chill:** Wind chill values -20F to -29F
- **Dense Fog:** Visibility $< \frac{1}{4}$ mile at any temperature
- **Freezing Fog:** Temperature $< 32\text{ F}$ with widespread fog

Winter Weather Products

Hazardous Weather Outlook (HWO)

- Issued at least (2) times a day.
- When the potential exists for significant winter weather in the Day 1-7 period, the details will be included in the HWO.
- Examples include when we have the potential for snowstorms, ice storms, lake effect snow, river flooding well in advance.
- **Confidence** at this point can be **low** and again this is just an outlook.

Watch

- Issued 24 hours to as much as 72 hours in advance.
- Anytime there is a **50% chance** or greater that local warning criteria will be met or exceeded.
- **Confidence** at this point is **medium** and a watch means these conditions are possible.
- Examples include: **Winter Storm** Watches, **Blizzard** Watches, **Lake Effect Snow** Watches, etc.



Winter Weather Products

Warning

- Issued 12 hours to as much as 36 hours in advance.
- Anytime there is a **80% chance** or greater that local warning criteria will be met.
- Potential for **life threatening, confidence is high.**
- Examples include **Winter Storm** Warnings, **Blizzard** Warnings, **Ice Storm** Warnings & **Wind Chill** Warnings.

Advisory

- Issued 12 hours to as much as 36 hours in advance.
- Anytime there is a **80% chance** or greater that local advisory criteria will be met or exceeded.
- More of a **nuisance, confidence is high.**
- Examples include **Winter Weather** Advisory, **Freezing Rain** Advisory, and **Wind Chill** Advisories.





Questions?

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