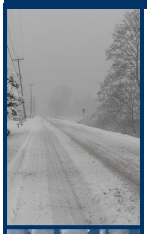
Nebraska Winter Weather Awareness Day

Thursday, November 10, 2022



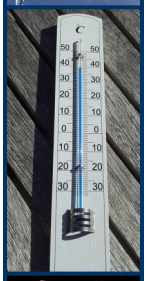
Winter Already?

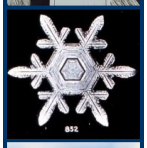
With a few portions of the state having already had their first taste of winter, now is the perfect opportunity to start thinking about winter weather safety and being prepared for the upcoming season. Brushing up on winter weather terminology such as snow squalls, blizzard warnings, and winter storm watches are one way to ensure you are prepared for what Mother Nature throws our way. See page 7 for more information.



Outlook for the Winter

After the early start to last year's winter season, many may be wondering what this winter will bring. Forecasting the long term impacts of the winter season is not easy to do. However, there are signals that can give us clues on what conditions may be like. On page 4, NOAA's official winter outlook gives a broad look at the expected temperature and precipitation trends through the winter. The outlook is not a forecast for individual storms moving across the state, but rather a snapshot of a period of time.





Impact-Based Snow Squall Warnings

Snow Squall Warnings (SQWs) are brief (30-60 minutest) warning issued for short duration intense bursts of snow and wind leading to white out visibility and possible flash freeze on roads. The National Weather Service will begin to implement the use of Impact-Based Warnings for SQWs this year. Currently, all SQWs trigger Wireless Emergency Alerts (WEAs), but once IBW tags are implemented for SQWs, WEAs will be limited to only those high-impact SQWs. With this addition of IBW tags, the NWS aims to improve the public response to SQWs by providing machine-readable information and issuing WEA alerts only for snow squall events that pose a substantial threat to safe travel. For more information on Impact-Based Snow Squall Warnings, see page 5.





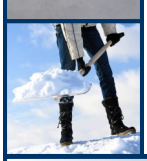
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Recap of Last Winter, Safety & More

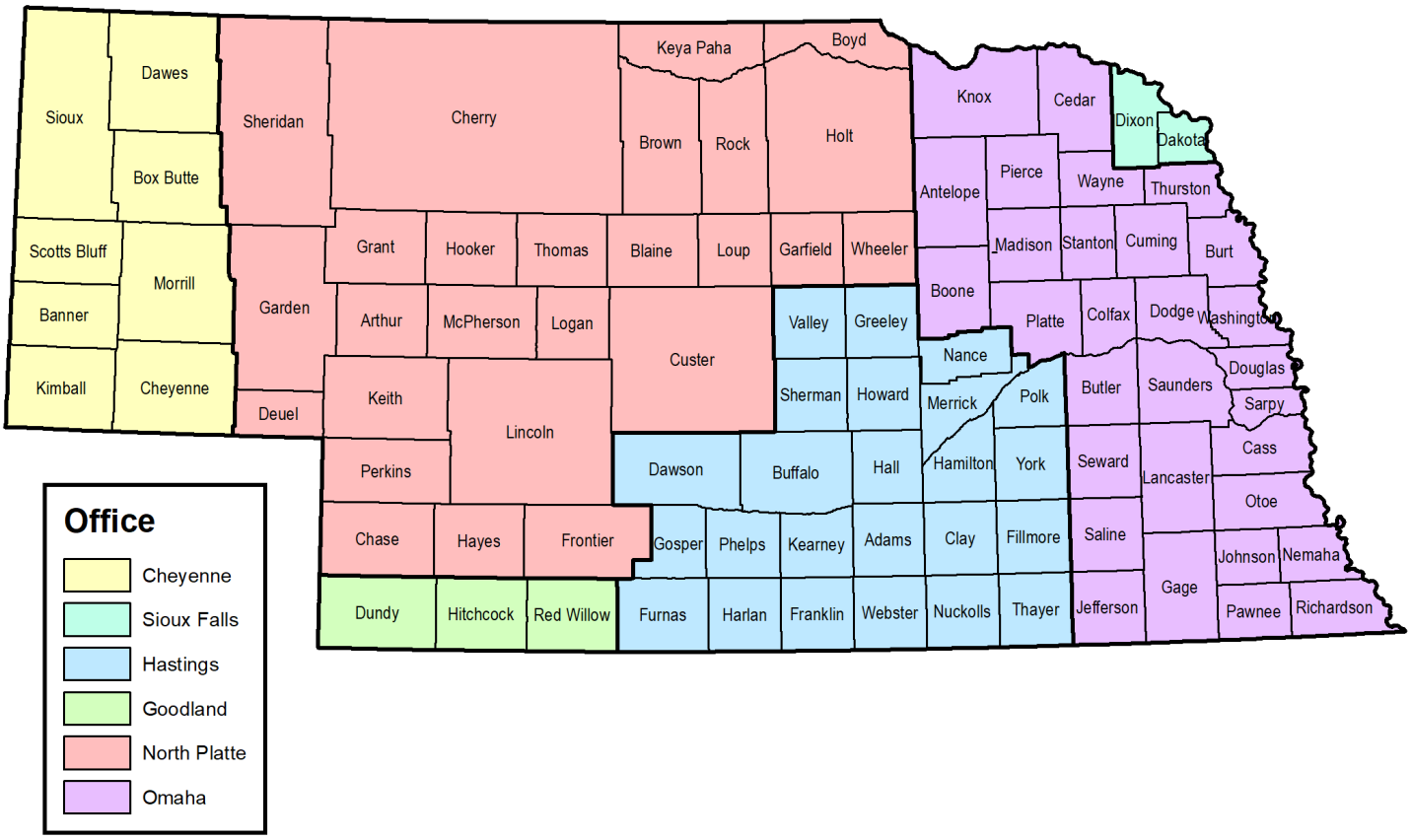
The 2021-2022 winter weather season brought a variety of forecasting challenges across the state. An Arctic outbreak brought record cold temperatures in January and February. Drought led to favorable conditions for wildfires and dust storms starting in March. As we head into another winter season, now is a great time to prepare winter emergency kits and winterize vehicles. Working to prepare ourselves and our communities before weather strikes, we can better equip ourselves keep everyone safe.



National Weather Service Offices Serving Nebraska

Winter Weather Awareness Day - November 10, 2022

National Weather Service Office Coverage



Panhandle

Cheyenne, WY

1301 Airport Parkway
Cheyenne, WY 82001

(307) 772-2468

www.weather.gov/cheyenne

West and North Central

North Platte

5250 E. Lee Bird Drive
North Platte, NE 69101

(308) 532-4936

www.weather.gov/northplatte

Extreme Southwest

Goodland, KS

920 Armory Road
Goodland, KS 67735

(785) 899-7119

www.weather.gov/goodland

South Central

Hastings

6365 N. Osborne Drive West
Hastings, NE 68901

(402) 462-4287

www.weather.gov/hastings

East

Omaha/Valley

6707 N. 288th Street
Valley, NE 68064

(402) 359-5205

www.weather.gov/omaha

Extreme Northeast

Sioux Falls, SD

26 Weather Lane
Sioux Falls, SD 57104

(605) 330-4247

www.weather.gov/siouxfalls

National Weather Service Weather Information

Winter Weather Awareness Day - November 10 2022

How do you receive your winter weather information?

Just like for severe weather in the spring and summer, it's important to have at least two ways to check the forecast and receive alerts during extreme winter weather. Storms that produce significant snowfall may be forecast several days in advance, while squalls that produce blinding snow and gusty winds may develop in the matter of minutes. You can keep track of the latest forecasts as well as watches and warnings from your local National Weather Service forecast office by visiting weather.gov or by tuning to NOAA Weather Radio. Additionally, each office has an account on Facebook and Twitter where forecast graphics are shared and questions can be answered. Each office also maintains relationships with local television and radio stations, who broadcast watch and warning information. Snow squall warnings alert cell phones through the WEA (Wireless Emergency Alert) system. These warnings are issued for sudden bursts of heavy snow and strong winds that may result in whiteout conditions.

Follow us on Social Media!

NWS Cheyenne, WY	**@NWSCheyenne**	**NWS Cheyenne**
NWS Goodland, KS	**@NWSGoodland**	**NWS Goodland**
NWS North Platte, NE	**@NWSNorthPlatte**	**NWS North Platte**
NWS Hastings, NE	**@NWSHastings**	**NWS Hastings**
NWS Sioux Falls, SD	**@NWSSiouxFalls**	**NWS Sioux Falls**
NWS Omaha, NE	**@NWSOmaha**	**NWS Omaha**

Find NWS North Platte on Instagram too! @NWSNorthPlatte

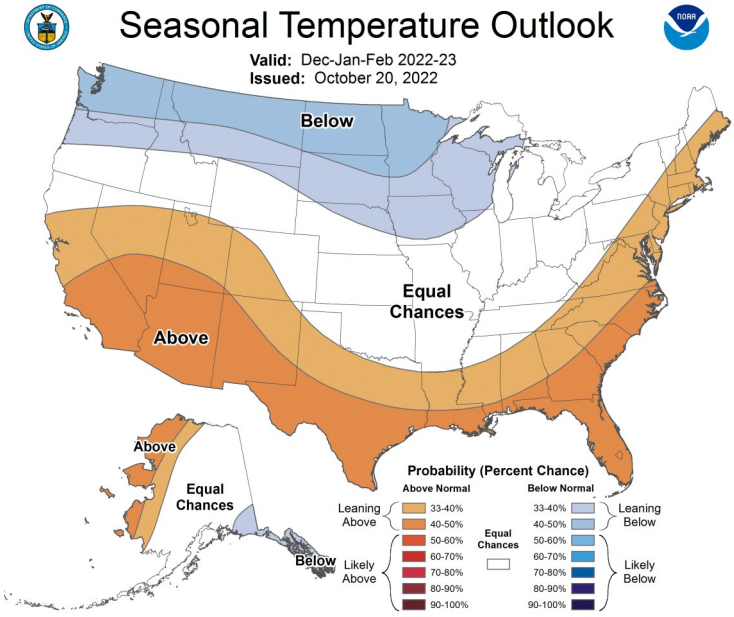
Social media information about other NWS offices can be found at:
www.weather.gov/socialmedia

2022-2023 Winter Outlook

Winter Weather Awareness Day - November 10, 2022

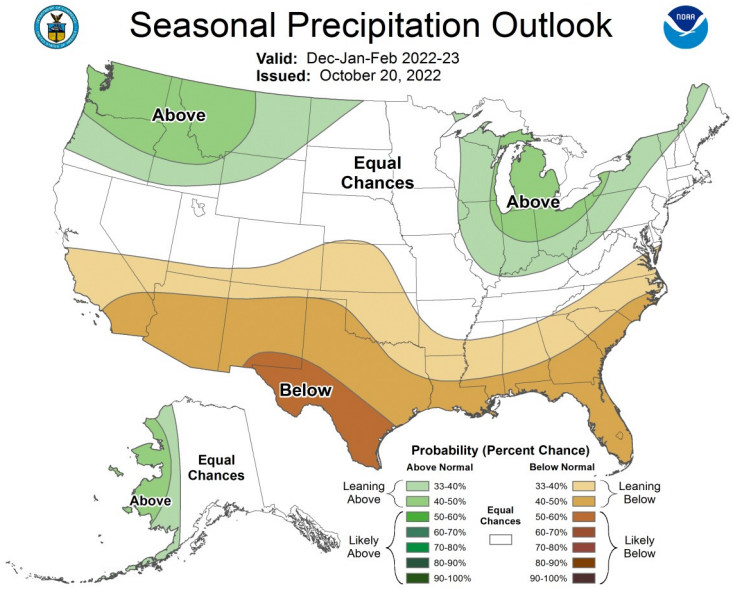
NOAA released its 2022-23 Winter Outlook for the United States. The outlook is based on several dynamical and statistical models along with ongoing climate trends, and specifically relates to the three-month period of December-January-February (DJF).

For Nebraska, the outlook for temperature leans toward cooler than normal across the north central and northeast parts of the state, while there are no strong trends to favor above or below normal temperatures elsewhere, so the rest of the state has “equal chances” of above, below or near normal temperatures.



Precipitation is notoriously hard to predict and this upcoming winter is no different. In fact, the winter outlook calls for essentially equal chances of above, below or near normal precipitation across almost the entire state. The exception may be the far southern sections of the state near the Kansas border, where odds favor potentially below normal precipitation as dry conditions expected in the Southern Plains eek north with time.

This year’s outlook is largely based on La Nina conditions in the central Pacific Ocean. La Nina occurs when water temperatures are cooler than normal near the equator. Though this is the third winter in a row with La Nina conditions, the impacts of La Nina can vary widely across the Central Plains, so it makes it hard to “fit” an entire winter outlook into a specific above or below normal category. Over the long-term, and generally speaking, La Nina tends to favor near normal or slightly below normal precipitation, and often imparts wide variability in temperatures from month-to-month (or more often), including more frequent bouts with cold spells followed by periods of warmer than normal temperatures. Average temperatures will also vary based on location and potential impacts from snow cover over the course of the winter. La Nina isn’t the only global phenomena which can impact the weather over the course of the winter. There are several other regional and hemispheric circulations which can impact the weather over the course of days and weeks, and possibly offset, or enhance, the impacts of La Nina.



Though the winter will no doubt bring some snow (and rain) to the state, the ongoing drought is expected to continue through much of the winter. Drought conditions will actually worsen in some areas if significant precipitation doesn’t fall. With over 40% of the state experiencing extreme or exceptional drought (the worst conditions), wildfires and blowing dust are likely to be long-term issues for the Cornhusker state this winter as well.

Impact-Based Snow Squall Warnings

Winter Weather Awareness Day - November 10, 2022



Snow Squall Warnings (SQWs) are brief (30-60 minutes) warning issued for short duration intense bursts of snow & wind leading to white out visibility & possible flash freeze on roads.

Implementation Timeline

The National Weather Service will begin to implement the use of Impact-Based Warning (IBW) for SQWs on or after November 7, 2022 for the Cheyenne and North Platte County Warning Area (CWA). All NWS Weather Forecast Offices will transition to issuing SQWs with IBW Tags by February 2023.

WEA Trigger

Currently, all SQWs trigger Wireless Emergency Alerts (WEAs), which are free notifications delivered to your mobile device.

Once IBW tags are implemented for SQWs, WEAs will be limited to only those high-impact SQWs with the Snow Squall Impact Tag of "Significant."

Public perception is that the NWS over-alerts SQWs and overuses WEA. This changes ensures WEA activation is reserved for high-impact events. The NWS has noted a need to issue SQWs at night without triggering WEA.

With this addition of IBW tags, the NWS is aiming to improve the public response to SQWs by providing machine-readable information and issuing WEA alerts only for snow squall events that pose a substantial threat to safe travel.

Snow Squall Warning Tags	Explanation
IMPACT TAG	
General (No Tag)	To be used frequently for snow squall conditions, but mitigating actions, combined with societal context, will reduce the threat to safe travel.
Significant*	Used only when snow squalls pose a substantial threat to safe travel, such that WEA is warranted to alert all devices in the path.
SOURCE TAG	
Radar Indicated	Evidence on radar and near storm environment is supportive, but snow squall conditions are not confirmed.
Observed	Snow squall conditions are confirmed by ASOS, spotter, webcam, law enforcement, emergency management, or other visibility observations.

Up to 2 Impact-Based Warning Tags will be appended to the bottom of Snow Squall Warnings.
**Category utilized for a Wireless Emergency Alert (WEA)*

Example of Snow Squall Warnings with Impact-Based Warning Tags

Impact-based warnings contain hazard, source, and impact information, including machine-readable tags to communicate the source of the information and severity of the impact. On the right is a sample impact-based warning that would trigger a Wireless Emergency Alert.

Hazard, Source, and Impact Information

Each Snow Squall Warning (SQW) will contain individual lines that clearly state hazard, source and impact.

Tags

Tags will appear at the bottom of SQWs.

```
...A SNOW SQUALL WARNING REMAINS IN EFFECT UNTIL 630 PM EST...

At 540 PM EST, a dangerous snow squall was located near Owls
Head, moving east at 40 mph.

HAZARD...Flash freeze on roads and rapidly falling visibility
         due to intense bursts of heavy snow and gusty winds.

SOURCE...Radar indicated.

IMPACT...Dangerous and life-threatening travel conditions are
         expected to develop rapidly in the warning area.

Locations impacted include...
Chazy, Mooers, Altona

PRECAUTIONARY/PREPAREDNESS ACTIONS...
Slow Down! Rapid changes in visibility and road conditions are
expected with this dangerous snow squall. Be alert for sudden
whiteout conditions.
&&

LAT...LON 4467 7395 4479 7419 4489 7403 4500 7380
TIME...MOT...LOC 1815Z 259DEG 51KT 4512 7345 4501

SNOW SQUALL...RADAR INDICATED
SNOW SQUALL IMPACT...SIGNIFICANT
$$
```

Winter Weather Terminology

Winter Weather Awareness Day - November 10, 2022

With the winter weather season already underway across portions of Nebraska, reminding ourselves of what different winter weather products mean can give us the knowledge to make plans before hazardous weather strikes. The difference between a watch and a warning can be described in terms of pizza:

A ***watch*** means that conditions are favorable or the ingredients are present that are required for an event to occur. In the pizza example, in a watch, all of the ingredients are present to make a pizza, but we don't have a pizza. We just have a bunch of ingredients.	
A ***warning*** means that conditions for a specific event are imminent or already occurring. In the pizza example, a warning means that the ingredients have come together and we have our pizza or will have our pizza shortly.	

Criteria for what constitutes a winter season warning or advisory varies depending on your location and the time of year. Specific criteria for a location can be found through your local National Weather Service office. Here are some National Weather Service products you may see issued this upcoming winter:

- **Winter Storm Watch:** Issued when there is a possibility of significant amounts of snow or ice accumulations within the next 24 to 36 hours of the onset of a winter storm system. A Winter Storm Watch can be upgraded to a Winter Storm Warning or Blizzard Warning, or downgraded to a Winter Weather Advisory.

- **Winter Storm Warning:** A Winter Storm Warning is issued when a storm is producing or expected to produce heavy snow or significant ice accumulations.

- **Blizzard Warning:** A winter storm with sustained winds or frequent wind gusts to 35 mph or greater, continued blowing or falling snow that reduces visibility to ¼ mile or less for at least three hours. Forecasted snow amounts are not taken into account when issuing a blizzard warning.

- **Snow Squall Warning:** A snow squall warning is issued when an intense period of moderate to heavy snowfall and gusty winds impact an area for a short duration, usually under three hours. Snow squalls can cause significant reductions to visibility and can be described as a "mini blizzard".

Continued on next page

Winter Weather Terminology

Winter Weather Awareness Day - November 10 2022

- **Winter Weather Advisory:** A product issued to account for a system producing snow, sleet, freezing rain, freezing fog, etc. that does not meet Winter Storm Warning criteria. Local criteria for the issuance of an advisory varies by region.

- **Ice Storm Warning:** This product is issued when ice accumulations from freezing rain are expected to cause damage or significant impacts. Many areas consider ¼ inch of ice accumulation or greater to be a threshold for issuing a warning.

- **Wind Chill Advisory:** Issued when the forecasted wind chill may become life threatening due to exposure over a period of time.

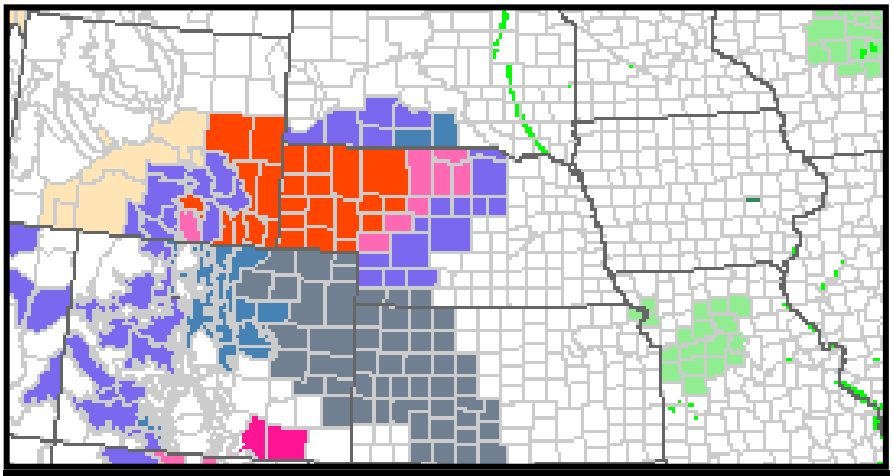
- **Wind Chill Warning:** Issued when the wind chill is forecasted to become life threatening.

- **High Wind Watch:** A High Wind Watch is issued when there is a possibility that winds could become life threatening.

- **High Wind Warning:** A High Wind Warning is issued when high winds that are life threatening are imminent or already occurring.

- **Dust and Blowing Dust Advisories:** An advisory is issued when visibility is being reduced to between ¼ and 1 mile in blowing dirt for a non-localized area.

- **Blowing Dust and Dust Storm Warning:** A warning is issued when visibility is significantly being reduced or brown out conditions are occurring for a non-localized area.



This map from March 18, 2020 shows a variety of winter products in effect across the region, including a Blizzard Warning, a Winter Storm Warning, a Winter Weather Advisory, and a Winter Storm Watch.

Pathfinder: Improving Winter Road Messaging For The Public

Winter Weather Awareness Day - November 10, 2022

NEBRASKA
Good Life. Great Journey.
DEPARTMENT OF TRANSPORTATION

The Nebraska Department of Transportation (NDOT) and the National Weather Service (NWS) offices serving Nebraska will continue the program called "Pathfinder" this winter across the entire state. This program is sponsored by the Federal Highway Administration (FHWA), and is a collaborative strategy to proactively manage the transportation system ahead of and during adverse weather events, and translate weather forecasts and road conditions into consistent transportation impact messages for the public.



Pathfinder is a unique public-private partnership. Entering our 4th year within the pathfinder framework, NWS and NDOT will continue building on the existing relationship. This continued relationship will build on our efforts to create a "shared impact message" for the public. This message will highlight how weather will impact road and travel conditions, be consistent among each entity, and shared across the various dissemination platforms of all parties involved.

Pathfinder is a state-wide project, involving all eight NDOT districts, and all six NWS offices serving Nebraska. While the main focus is on winter weather, Pathfinder will be able to address all types of weather impacts across the state, including high-end wind events, dust, and flooding.



In the end, Pathfinder is geared toward two specific outcomes:

1) Providing the traveling public consistent road-weather messaging for safer, smoother travel.

2) Continuing to foster relationships among the various public and private sector entities involved in information for the traveling public.

For more information about the Pathfinder project in Nebraska, contact either of the following:

Jesse Schulz
NDOT Meteorologist
402-479-4609

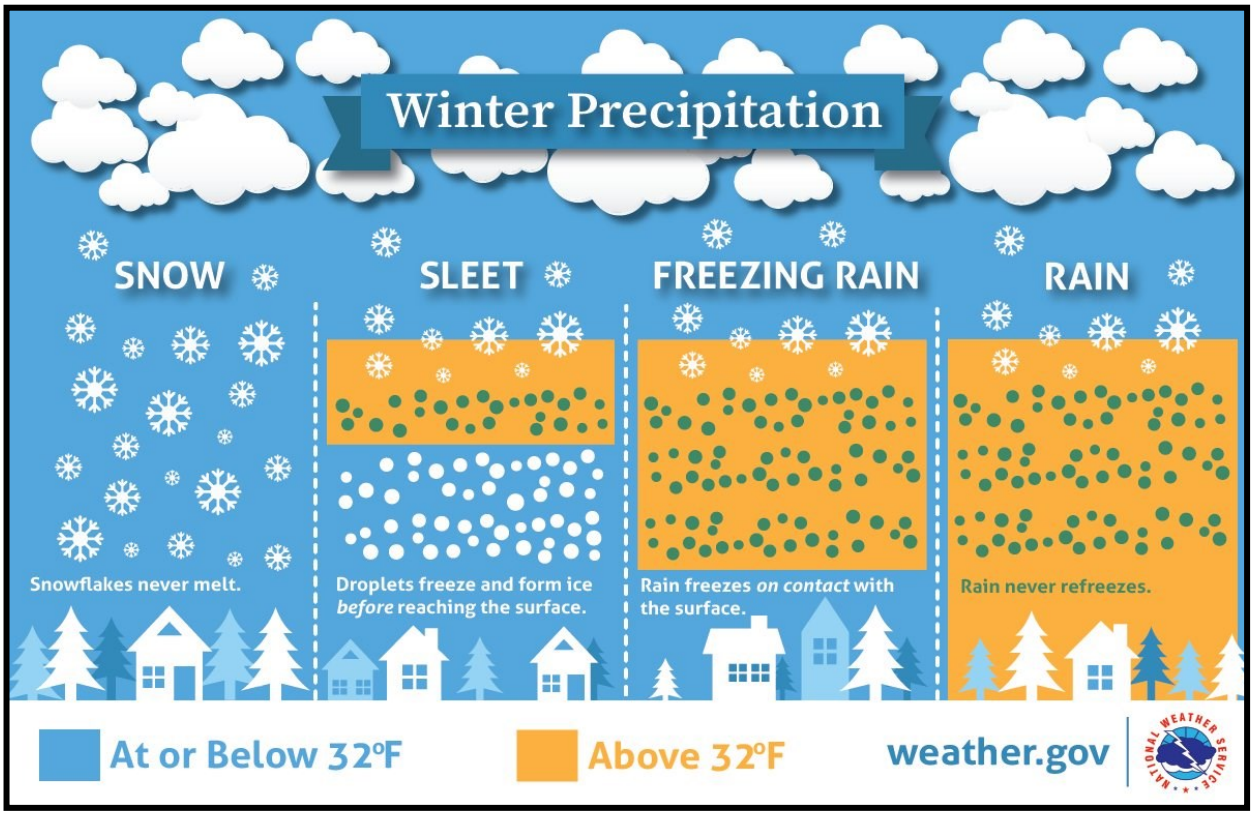
Mike Moritz
Warning Coordination Meteorologist
NWS Hastings
402-462-2127 ext. 726

Determining Winter Precipitation Types

Winter Weather Awareness Day - November 10, 2022

Determining what type of precipitation will fall in the winter can be a challenging aspect of the forecasting process. This depends on the temperature profile in the troposphere, or the lowest 7 to 8 miles of the atmosphere. Usually the temperature decreases from the ground up in the troposphere, but layers of warmer air can result in different precipitation types.

- **Snow:** Ice crystals form in clouds at heights where the temperature is below freezing. As these ice crystals fall through clouds towards the ground, they will grow and become snowflakes. If the air is below freezing all the way to the ground, they will fall as snow. However, if the atmosphere near the ground is warm enough, the snow will melt and fall as rain.
- **Sleet:** If there is a shallow layer of warmer air, slightly above freezing, snowflakes will partially melt then refreeze closer to the ground. This will create tiny ice balls known as sleet.
- **Freezing rain:** In this process, the layer of warmer air is much deeper and completely melts snowflakes into raindrops as they fall. If there is a shallow layer of air below freezing near the ground, these raindrops will freeze wherever they land, creating a potentially hazardous situation.



Challenges Of Forecasting Snowfall Amounts

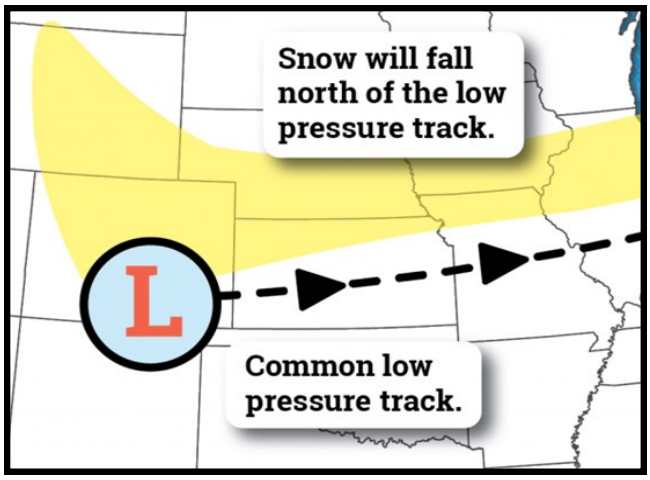
Winter Weather Awareness Day - November 10, 2022

Forecasting the amount of snowfall can be challenging for meteorologists. There are several factors involved in forecasting snow amounts, that can result in a boom or a bust for snowfall. Let's take a look at some of them.

Surface Temperature: Surface temperature plays an important role in determining the type of precipitation that reaches the ground. A cold surface will be conducive for snowfall. In events where the surface is above freezing but snow continues to fall, accumulations will be low as the snow melts upon impact.

Precipitation Type: Precipitation type is determined based on the temperature and moisture profile near the surface. Temperatures below freezing will not result in snow if the moisture profile is lacking. Similarly, a slight change of a degree or two in the temperature profile can change the type of precipitation that falls. See the precipitation type graphic on the previous page for more information.

Storm Track: A key factor in determining the type and amount of precipitation is the track of a storm system. A slight shift of a storm track to the north could result in less snow and more ice for an area to the south. A shift to the south could result in higher snowfall amounts. Forecasters use their experience and understanding of models to determine where the storm will go and where the heaviest snow will set up.



Snow to Liquid Ratio: The snow to liquid ratio is a calculation of the expected amount of snowfall for a certain amount of liquid an area is expected to receive. In a 10:1 snow to liquid ratio, a person would expect to see ten inches of snow for every inch of rain. These amounts typically range from a 1:1 to 30:1 ratio depending on the temperature and location. Typically, a 13:1 or 14:1 ratio is seen across Nebraska, however, this can differ depending on temperature and moisture. Colder surface temperatures will produce higher snow/liquid ratios which results in light and fluffy snow and higher snowfall amounts. Lower ratios result in heavier, wet snow and lower snowfall accumulation amounts.

Thunder Snow: Thunder snow is an event that is reliant on temperature. In a normal situation, a thunderstorm will develop and produce rain due to warm surface temperatures. In a thunder snow situation, the temperature at the surface is cold with a shallow layer of warm air that lifts in a process similar to a thunderstorm. With temperatures colder, precipitation falls as snow, often with higher amounts of snow than if thunder snow were not occurring.

All of these factors are taken into consideration when forecasting snow amounts. Any changes to the factors listed, as well as some others not mentioned, can lead to a change in the amount of snowfall that was originally forecasted. It is important for everyone to pay close attention to updates to the forecast during a winter storm event to see if there are changes.

The latest forecast, no matter the season, can always be found at **www.weather.gov**

Winter Weather Dangers

Winter Weather Awareness Day - November 10, 2022

Exposure to cold can cause frostbite or hypothermia and become life-threatening. Infants and elderly people are most susceptible. What constitutes extreme cold varies in different parts of the country. In the south, near freezing temperatures are considered extreme cold. Further north, extreme cold means temperatures well below zero. Freezing temperatures can cause severe damage to citrus fruit crops and other vegetation. Pipes may freeze and burst in homes that are poorly insulated or without heat.

Wind Chill

- Is not the actual temperature, but how the combination of wind and cold feels on exposed skin.
- It is based on the rate of heat loss from exposed skin. As the wind speed increases, heat is carried away from the body at an accelerated rate, driving down the body temperature.
- Wind chill will also impact animals!
- The only impact on inanimate objects (cars or pipes) will be to shorten the time it takes for that object to cool, they cannot cool below the actual air temperature.

More information about the Wind Chill Index can be found at:

www.weather.gov/safety/cold-wind-chill-chart

Temperature (°F)

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 | 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)

Effective 11/01/01

Winter Weather Dangers

Winter Weather Awareness Day - November 10, 2022

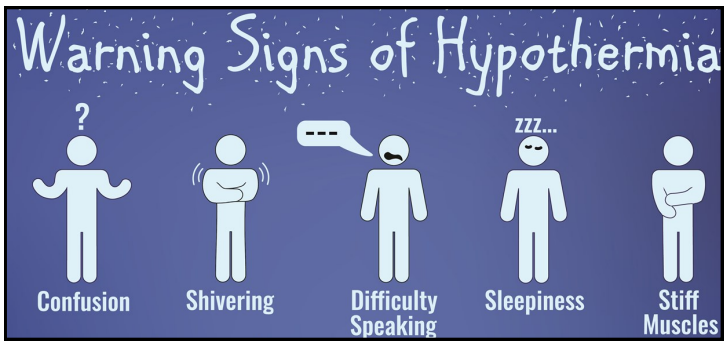


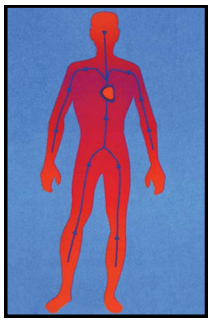
Frostbite

- Damage to body tissue caused by extreme cold.
- Can cause a loss of feeling and a pale appearance in the extremities. Your body cuts circulation to the extremities to protect the vital organs.
- Can occur in a matter of minutes!

Hypothermia

- It is a potentially dangerous drop in body temperature (below 96°), caused by a prolonged exposure to the cold.
- It can cause long lasting health issues, or could even result in death!
- Age (children and elderly), certain illnesses or even certain medications can make one more





If You Need To Provide First Aid

- Get indoors as quickly as possible. Seek medical attention!
- Warm the person slowly, starting with the body core. Warming extremities first drives cold blood toward the heart and can lead to heart failure!
- Get the person into dry clothes and in extra layers. Remove any tight items.
- Drink warm liquids. Do not give alcohol, drugs, coffee or anything hot.

Are You Prepared For The Cold?

- Before heading out the door, make sure you check the forecast so you'll know what to expect.
- Adjust your schedule (if possible) to avoid the coldest part of the day.
- Dress for the cold! Layer your clothes and protect your head and extremities.
- Make sure your pets and livestock have enough food and water!
- Is your home and vehicle prepared?



Learn more at: www.weather.gov/safety/winter

Winter Weather Safety Tips

Winter Weather Awareness Day - November 10, 2022

Be Prepared Before the Storm Strikes!

When preparing your home or workplace for the upcoming winter season, keep in mind that the primary concerns deal with the loss of heat, power and telephone service, along with a shortage of supplies if a winter storm continues for an extended period of time.

Make sure to have the following supplies available:



- Flashlight and extra batteries
- Battery-powered NOAA Weather Radio and portable radio to receive emergency information - these may be your only links to the outside world.
- Extra food and water. Have high energy food, such as dried fruit, nuts and granola bars, and food which doesn't require any cooking or refrigeration.
- Extra medicine and baby items.
- First-aid supplies.
- Heating fuel. Refuel BEFORE you are empty. Fuel carriers may not reach you for days after a winter storm.
- Emergency heat source: fireplace, wood stove, space heater.
  - Use properly to prevent a fire and remember to ventilate properly.
- Fire extinguisher and smoke alarm.
  - Test smoke alarms once a month to ensure they work properly.



On the farm and for pets:

- Move animals into sheltered areas.
- Shelter belts, properly laid out and oriented, are better protection for cattle than confining shelters.
- Haul extra feed to nearby feeding areas.
- Have plenty of water available. Animals can die from dehydration in winter storms.
- Make sure your pets have plenty of food, water and shelter.

Winter Weather Safety Tips

Winter Weather Awareness Day - November 10, 2022



I'm caught outside:

- Find shelter!
- Attempt to stay dry.
- Cover all exposed body parts.
- If there is no shelter available:
  - Build a lean-to, windbreak or cave to protect yourself.
  - Build a fire for heat and to attract attention.
  - Place rocks around the fire to absorb and reflect heat.
  - Melt snow for water, eating snow lowers body temperature.

I'm caught in a vehicle:

- Stay in the vehicle! You could quickly become disoriented in wind-driven snow and cold.
- Run the motor about 10 minutes each hour for heat.
- Open the window a little for fresh air to avoid carbon monoxide poisoning.
- Make sure the exhaust pipe is not blocked.
- Be visible to rescuers!
  - Turn on the dome light at night when running the engine.
  - Tie a colored cloth, preferably red, to your antenna or door.
  - After the snow stops falling, raise the hood to indicate you need help.



- Exercise from time to time, move arms, legs, fingers, and toes vigorously to keep blood circulating and to keep warm.

I'm caught inside:

- Stay inside! If using alternate heat from a fireplace, wood stove, space heater, etc., be sure to use fire safeguards and properly ventilate.
- If you don't have heat available:
  - Close off unneeded rooms.
  - Stuff towels or rags in cracks under doors.
  - Cover windows at night.
- Eat and drink, providing the body with energy and preventing dehydration.
- Wear layers of loose fitting, lightweight, warm clothing. Remove layers to avoid perspiration and subsequent chill.



Winter Weather Travel Tips

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Along with your home and workplace, vehicles also need to be prepared for the upcoming winter season. It is very important to fully check and winterize your vehicle, which includes having a mechanic check your battery, antifreeze, wipers, windshield washer fluid, ignition system, thermostat, lights, exhaust system, heater, brakes, and oil levels.

If you must travel during winter conditions, it is best not to travel alone. Try to plan your travel during the day, and make sure to let others know your destination, route, and when you expect to arrive. Make sure to keep your gas tank near full to avoid ice in the tank and fuel lines.

Always carry a Winter Storm Survival Kit in your car!!

- Mobile phone, charger and batteries
- Flashlight with extra batteries
- First-aid kit
- Knife
- Shovel
- Tool kit
- Tow rope
- Battery booster cables
- Compass and road maps
- A windshield scraper and brush or small broom for ice/snow removal
- Blankets and sleeping bags, or newspapers for insulation
- Rain gear, extra sets of dry clothes



- Large empty can to use as emergency toilet. Tissues, paper towels, and plastic bags for sanitary purposes
- Small can and waterproof matches to melt snow for drinking water
- Cards and games
- High calorie, non-perishable food, such as canned fruit, nuts, and high energy snacks (Include a non-electric can opener if necessary)
- A small sack of sand or cat litter for generating traction under wheels and a set of tire chains or traction mats
- A brightly colored (preferably red) cloth to tie to the antenna



Road Condition Information

Winter Weather Awareness Day - November 10, 2022

Before you travel, check out the latest road conditions. Road report information across Nebraska can be found at the Nebraska Department of Roads web site at:

511.nebraska.gov

Nebraska: When in-state, call 511.
When out of state call: 1-800-906-9069

If you are located inside the states listed below, you can dial 511 for road information.

South Dakota: www.sd511.org
Out of state: 1-866-MY-SD511 (1-866-697-3511)

Wyoming: map.wyoroad.info/
Out of state: 1-888-WYO-ROAD (1-888-996-7623)

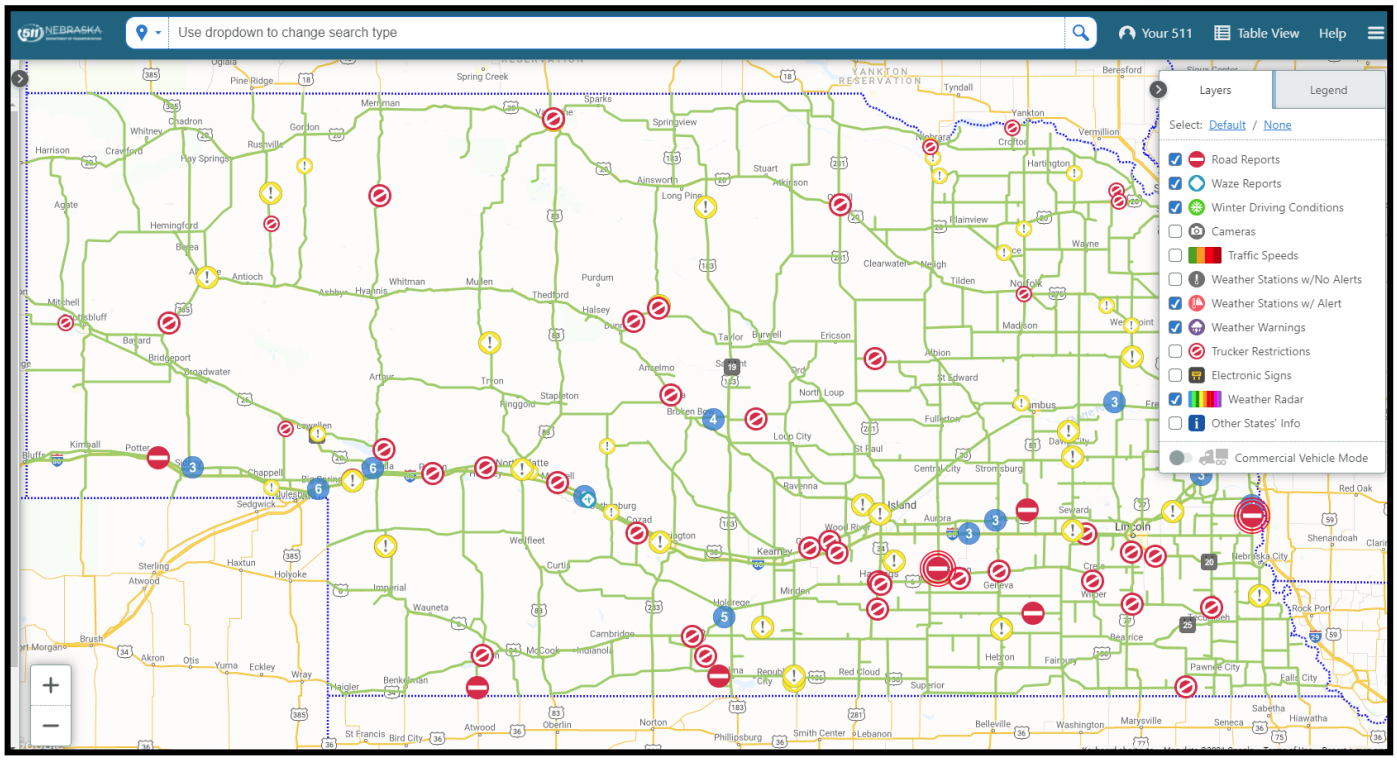
Colorado: www.cotrip.org/home.htm
Out of state: 1-303-639-1111

Kansas: www.kandrive.org/
Out of state: 1-866-511-KDOT (1-866-511-5368)

Missouri: traveler.modot.org/map/
Out of state: 1-888-ASK-MDOT (1-888-275-6636)

National Traffic and Road Closure Information can be found at:

www.fhwa.dot.gov/trafficinfo/index.htm



Winter Preparedness For Schools

Winter Weather Awareness Day - November 10, 2022

Be a Force Multiplier in Your Community

- Know where to get weather information: Utilize NOAA Weather Radio, local media sources, Internet, social media and paging services.
- There are many trusted weather sources on social media. Follow and share an organization you know and trust.

Alerting Students and Staff

- Alert students and staff to take action: Use mobile communications for bus drivers and a PA system for school staff and students.
- Parents should be reminded about the dangers of improperly dressing their children for school.



Activating a Plan

- Determine when to activate a plan: Gather information about the type of winter storm, expected impact and time of impact on the school district. The primary decision will be whether to cancel, delay, or hold classes as usual. In Watch situations, immediate action will usually not be required. When a Warning or Advisory is issued, assess the weather situation by monitoring forecasts, current weather conditions and road conditions.
- Consider what kind of an impact will the storm make? Will roads be impassable or will road conditions just have a minimal effect on transportation of students, causing only small delays? How will the storm impact students traveling on foot?

School Bus Driver Actions

- For heavy/blowing/drifting snow: Be familiar with alternate routes, stay up to date on the latest forecast, and maintain communication with school officials.
- For ice storms: Remain alert for downed trees, utility lines, and other road hazards. Be familiar with alternate routes. Stay up to date on the forecast and maintain communication with school officials.
- Extreme cold: Learn to recognize and treat symptoms of hypothermia and frostbite.
- Know how to get road information: State Highway Departments or Law Enforcement are often your best sources for road conditions. City and county transportation or school officials are also excellent sources.

511.nebraska.gov

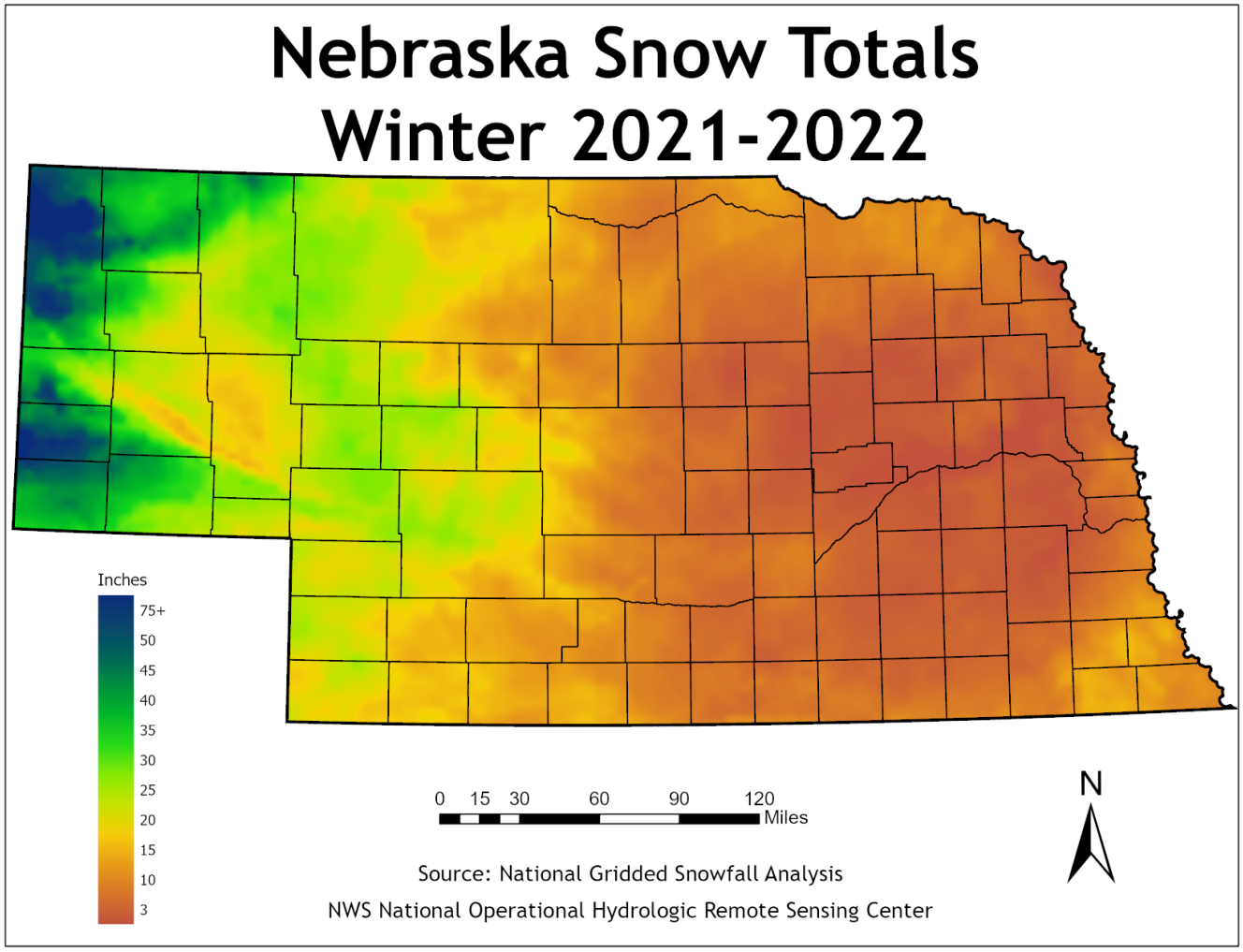


Safety Instruction

- Nebraska Winter Weather Awareness Day is a great opportunity to test your organizational drills and procedures.
- Contact your local Emergency Manager or National Weather Service Office for a speaker to discuss winter weather safety.

2021-2022 Nebraska Winter Weather Summary

Winter Weather Awareness Day - November 10, 2022



Location	Normal	2021-22 Total	% of Normal
Scottsbluff	42.5″	36.4″	85.6%
North Platte	29.6″	23.7″	80.0%
Valentine	34.2″	18.8″	54.9%
Hastings	29.0″	9.1″	31.3%
Grand Island	27.7″	12.1″	44.4%
Norfolk	29.9″	4.1″	13.7%
Omaha	27.1″	10.8″	39.8%
Lincoln	26.0″	5.1″	19.6%