



NATIONAL WEATHER SERVICE - BISMARCK, NORTH DAKOTA

DAKOTA SKIES

NWS Bismarck

Building a Weather Ready Nation

Fall 2014

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Welcome Message

by Tony Merriman

Welcome to the Fall edition of the Dakota Skies newsletter! This publication is issued twice each year, one in the spring and one in the fall. The content is produced by a team of meteorologists at the National Weather Service in Bismarck.

This newsletter's purpose is to heighten safety awareness for the coming severe weather season, whether it be summer or winter. Other educational and useful information will be provided.

If you have any comments or questions about this publication, please feel free to contact us at 701-250-4224. Enjoy!



Map of the Bismarck County Warning Area (CWA). We issue warnings and forecasts for 36 counties in western and central North Dakota. The office is staffed 24 hours a day, seven days a week.

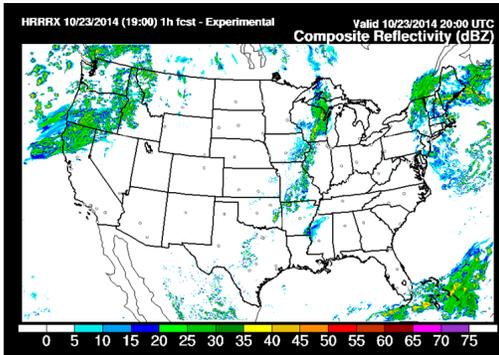
High Resolution Rapid Refresh Model (HRRR)

by Ken Simosko

National Weather Service meteorologists rely on the trends and predictions that are produced from the High Resolution Rapid Refresh Model, or HRRR. This model has undergone many significant upgrades since 2009. The HRRR is a National Oceanic Atmospheric Administration (NOAA) research to operations success story. It provides short-term detailed predictions that include, but are not limited to, severe weather

evolution, temperature, precipitation type, and aviation forecasts. These predictions extend out to 15 hours with a new model forecast available every hour. Meteorologists compare previous and current forecasts of the HRRR to what is actually happening from satellite images, radar, and surface observations. When the HRRR is verifying well with current conditions, meteorologists then apply the HRRR model forecast to pinpoint which counties could have a high impact weather event within the next 15 hours.

Dr. Louis Uccellini, Director of the National Weather Service says, "Implementation of the HRRR is just one of many model improvements made possible with NOAA's boost in its super-computing power for weather prediction. With advances in our forecast models, like the HRRR, we're moving toward building a Weather Ready Nation by improving our forecasts, providing better information to decision makers, and helping communities become more weather-ready and resilient against severe weather events."



Example output of reflectivity from the HRRR



Social Media at NWS Bismarck

by Adam Jones



US National Weather Service Bismarck North Dakota
September 26 at 6:16am · 🌐

Record heat possible again today. We will be warmer than Texas this afternoon. Enjoy the heat!

Warmer than Texas Today

80s and 90s in the Dakotas

70s and 80s in Texas

Location	Forecast High	Record High
Bismarck	93	96 in 1963
Minot	91	91 in 1963
Williston	94	92 in 1983
Dickinson	91	92 in 1963
Jamestown	84	92 in 1963

September 26, 2014
National Weather Service - Bisma

The images left and below were some of our most popular Facebook posts in 2014.

US National Weather Service Bismarck North Dakota
August 15 · Edited · 🌐

A very impressive satellite loop of the thunderstorms across North Dakota this morning. Normally images are taken every 15 minutes, however, the satellite is being run in "Super Rapid Scan" mode this morning. This means an image every minute, which will be the norm with the next generation of satellites soon to come.

Here is the link to the loop: http://rammb.cira.colostate.edu/.../15aug14_g14_vis_morning.g...

The National Weather Service in Bismarck is on Facebook, Twitter, and YouTube. Whether you like us on Facebook, follow us on Twitter, or subscribe to us on YouTube; you can receive weather updates for western and central North Dakota through either one or all three social media outlets.

Like our Facebook page by navigating to <https://www.facebook.com/NWSBismarck> and clicking the "Like" button. To ensure you receive every update click "Get Notifications" under the "Like" button.

If you prefer to follow us on Twitter, navigate to <https://twitter.com/NWSBismarck> and click the "Follow" button.

To subscribe to our YouTube channel, navigate to <http://www.youtube.com/NWSBismarck> and click the "Subscribe" button.

Our goal is to not only better communicate weather information and impacts, but to also be more interactive with you, the people we serve. We always welcome real-time weather reports via Facebook comments or pictures and Twitter replies. We use your real-time field reports to gain a better understanding of the weather that is happening in your area. We integrate your reports into the forecasts with the goal of creating the most accurate and most representative weather forecast for your area.

Together we can provide up-to-date, accurate weather information. Become a National Weather Service Bismarck social media fan today!



Winter 2014-2015 Climate Outlook

by Zachary Hargrove

It is that time of year again, when meteorologists at the National Weather Service try to get a glimpse of what is going to happen in regards to temperature and precipitation for the winter. The 2014-2015 NOAA winter outlook was released on October 16 and could spell good news for those who enjoy slightly warmer temperatures in North Dakota. The forecast time frame for this outlook includes December, January, and February (DJF). Based on climate signals, forecasters believe North Dakota is favored for above normal temperatures during the DJF time frame.

The other variable that is examined in the long range outlooks is precipitation. More often than not in wintertime, this precipitation falls as snow in North Dakota. So, what is the precipitation forecast for this winter? Forecasters are calling for equal chances of either below normal, near normal, or above normal precipitation. There is just not a strong enough climate signal to give confidence one way or the other at this time. Check the Climate Prediction Center website below for up-to-date outlooks.



<http://www.cpc.ncep.noaa.gov/>

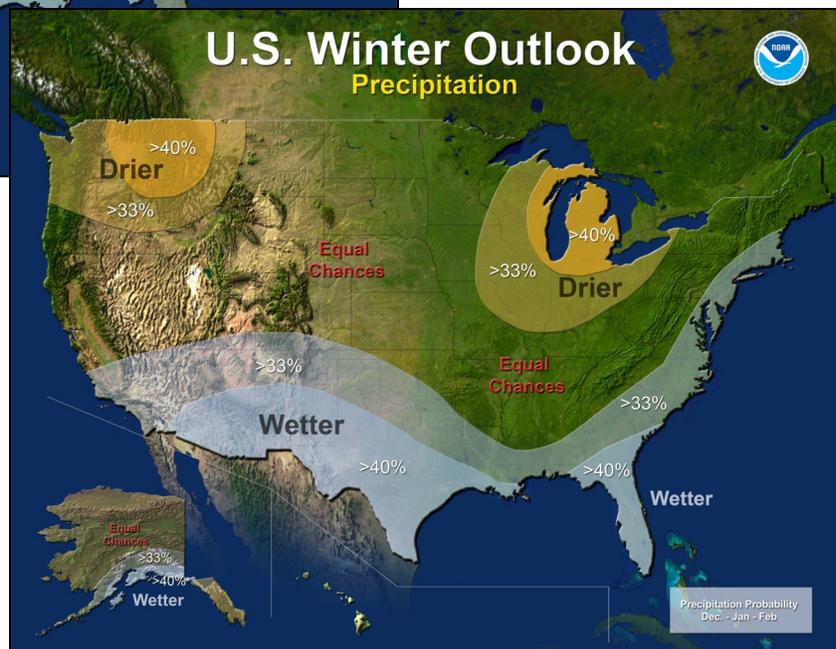


The image to the left shows the winter temperature outlook for December, January, and February. There is a greater probability of above normal temperatures for the western, north central, and northeastern U.S. Cooler than normal temperatures are forecast for the southern U.S.

(Source: NOAA)

The image to the right shows the winter precipitation outlook for December, January, and February. There is a greater probability of below normal precipitation over the Pacific Northwest and Great Lakes. Wetter than normal conditions are forecast for the southern U.S.

(Source: NOAA)





NOAA Weather Radio All Hazards acts as an alarm clock for severe weather. It alerts you immediately that a warning has been issued for your area.

“A survival kit may mean the difference between an inconvenient and a life-threatening situation.”



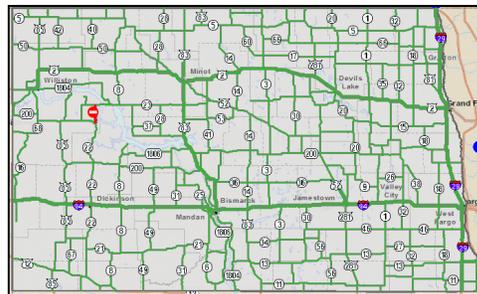
Severe Winter Weather Awareness Week: Oct. 27 - Oct. 31

by Tony Merriman

Winter conditions in North Dakota can be unpredictable. The following precautions may help you avoid an unpleasant or dangerous situation when traveling or at home.

Winter Driving Tips

Winterizing your vehicle can enhance your winter weather driving safety. Before driving this winter, make sure your vehicle's battery is fully charged, that your wiper blades are in good working condition, and that the windshield washer reservoir is filled with antifreeze washer fluid. Check your vehicle's exhaust system to make sure it has no leaks. Keep your gasoline tank full to minimize water in the tank and provide the maximum advantage in case of trouble. Make sure your lights are clean and turned on to increase your visibility to other motorists and snowplow operators. Slow down and drive according to the conditions and never drive through “white-outs”. Most winter crashes are caused by driving too fast for conditions. Check the road conditions BEFORE you travel by visiting the NDDOT Travel Information Map below or calling 511. Let someone know when you depart, your route, and expected arrival time at your destination.



(Source: NDDOT) North Dakota Road Conditions can found at the following link: <http://www.dot.nd.gov/travel-info-v2/>

Pack a Winter Survival Kit

A survival kit may mean the difference between an inconvenient and a life-threatening situation. The following are some key items to have in a kit.

- Blankets and warm clothing.
- Sources of heat, such as multiple candles, and matches.
- Food, such as hard candy, jellybeans, raisins, nuts, candy bars, dehydrated fruit, and jerky.
- A bright cloth and whistle to signal for help.
- A first aid kit, shovel, nylon rope, a radio, a cell phone, and flashlight with extra batteries.
- A gallon of water per person.

What to do if You Become Stranded

If you become stranded, stay with the vehicle and do not try to walk away from the vehicle. Tie a brightly colored cloth to the antenna. This will make your vehicle more visible to rescuers. Make sure the exhaust pipe is not blocked and run the engine for about 10 minutes each hour for heat with a window open slightly for fresh air. Do not let all occupants sleep at the same time. Be sure someone stays awake!



Stranded Vehicle (Source: NOAA)

Keep Safe at Home

Winter weather can also affect you at home. Run a trickle of water through faucets to help prevent pipes from freezing. Install carbon monoxide alarms in central locations on every level of your home and outside sleeping areas to provide early warning of accumulating carbon monoxide. All fuel-burning equipment should be vented to the outside and kept clear. If your home loses power or heat during periods of extreme cold, go to a designated shelter.

Cold-Related Emergencies

Frostbite and hypothermia are two dangerous and potentially life-threatening emergencies. Protect yourself from frostbite and hypothermia by wearing warm, loose-fitting, lightweight clothing in several layers. Stay indoors, if possible.



Blowing and drifting snow (Source: NOAA)

Winter Weather Terminology

by Nathan Heinert

During the winter, a **Watch** is issued when the risk of a hazardous winter weather event has increased, but its occurrence, location, and/or timing is still uncertain.

Warnings or Advisories are issued when a hazardous winter weather event is occurring, is imminent, or has a high probability of occurrence.

A **Warning** is used when there is a threat to life or property.

An **Advisory** is for less serious conditions that cause inconvenience, and, if caution is not used, could lead to situations that may threaten life or property.

Snow criteria for a **Warning** is 6 inches or more in 12 hours or less, OR, 8 inches or more in 24 hours or less.

Snow criteria for an **Advisory** is 3 to 5 inches.

Winter Storm Warnings and **Winter Weather Advisories** are also issued for a combination of elements like snow coupled with wind and blowing snow, or snow coupled with sleet and freezing rain.

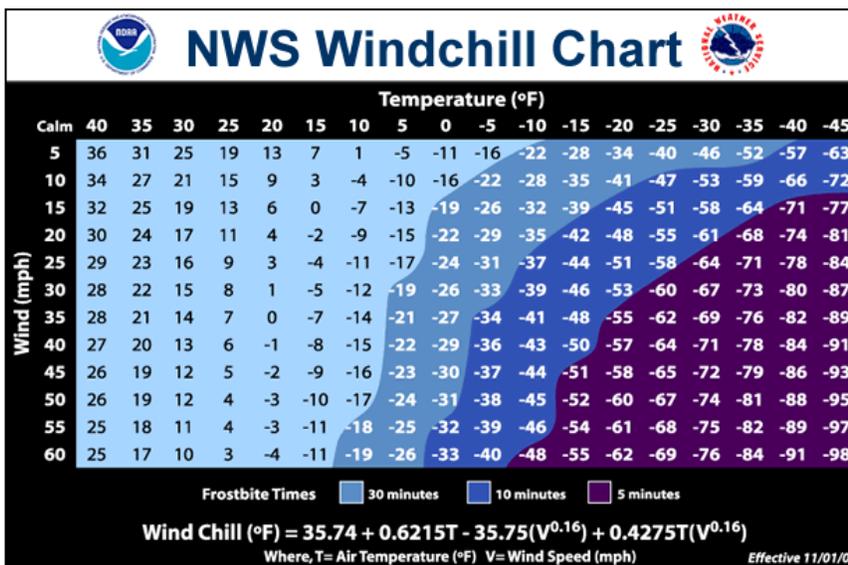
An **Ice Storm Warning** is used to describe occasions when the ice from freezing rain is significant enough (1/4 inch thick of ice or more) to cause major damage.

A **Freezing Rain Advisory** is issued when freezing rain is expected to cause roads and sidewalks to become slippery (with less than 1/4 inch thick of ice).

A **Blizzard** is a storm with winds of 35 mph or higher, AND visibility frequently below 1/4 mile in snow and/or blowing snow, AND these conditions last three (3) hours or longer.

A **Wind Chill Advisory** is issued for wind chills of 25 to 39 below zero.

A **Wind Chill Warning** is issued for wind chills of 40 below zero or colder.



Staff Spotlight: Zachary Hargrove

by Michael Mathews



Zack Hargrove is the newest addition to NWS Bismarck and works the Intern/Hydro-Meteorological Technician position.

Although he attended graduate school at the University of North Dakota, Zack is originally from Georgia and is one of two southerners in the office.

He received his bachelors degree in meteorology from the University of North Carolina-Asheville. Zack has been a weather enthusiast his entire life and an avid storm chaser. Back in his college days, he traveled all over the Great Plains to chase storms, even traveling as far as Arkansas.

Zack is also an amateur photographer. Some of his camera work has been used by the media.

If Zack is not helping with warning operations here at the NWS office during severe weather, he is most likely out chasing it.





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Building a Weather Ready Nation

National Weather Service Mission Statement:

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

Brief National Weather Service History:

The National Weather Service has its beginnings in the early history of the United States. Weather has always been important to the citizenry of this country, and this was especially true during the 17th and 18th centuries. The beginning of the National Weather Service we know today started on February 9th, 1870, when President Ulysses S. Grant signed a joint resolution of Congress authorizing the Secretary of War to establish a national weather service.

Social Media Links

Twitter: [@NWSBismarck](http://twitter.com/NWSBismarck)

Facebook: <http://www.facebook.com/NWSBismarck>

YouTube: <http://www.youtube.com/NWSBismarck>

On the Web

<http://www.weather.gov/bis>