National Weather Service Spring 2020

The High Plains Drifter

NATIONAL WEATHER SERVICE
NORTH PLATTE, NE

http://www.weather.gov/

What's Inside

Severe Weather Awareness Week

By Jaclyn Gomez-Meteorologist

This year Severe Weather Awareness Week occurs the week of March 23-27, 2020. What is Severe Weather Awareness week you may be asking? Well, this is the time of year where we would like the community to prepare for impacts associated with severe weather. This is a good time to sit down with your loved ones and make a plan what you would do should you be affected by severe weather.

Many local businesses and schools will practice a tornado warning drill, this usually takes place on the Wednesday of Severe Weather Awareness Week, however this has been cancelled this year due to concerns about social distancing. This is also a good time to check that your weather radio is in good working order.

Here are some key safety messages to remember about severe weather:

The safest place to survive a violent killer tornado is in an approved underground storm shelter or in a above ground storm shelter.

The next safest place is on the lowest floor of your home, school or business in an interior room, such as a closest, hallway or bathroom. Stay low to the ground and cover yourself with blankets, pillows, and/or mattresses.

If a tornado approaches and you live in a mobile home, abandon it for a more substantial shelter, if you have time. If nothing is available, lie flat in a nearby ditch covering your head and neck.

Tornadic storms can also produce flash flooding. Watch out when you come to a flooded road and remember Turn Around, Don't Drown!

The National Weather Service closely coordinates with local law enforcement, emergency managers, volunteer fire fighters, storm spotters and media to help keep you safe.

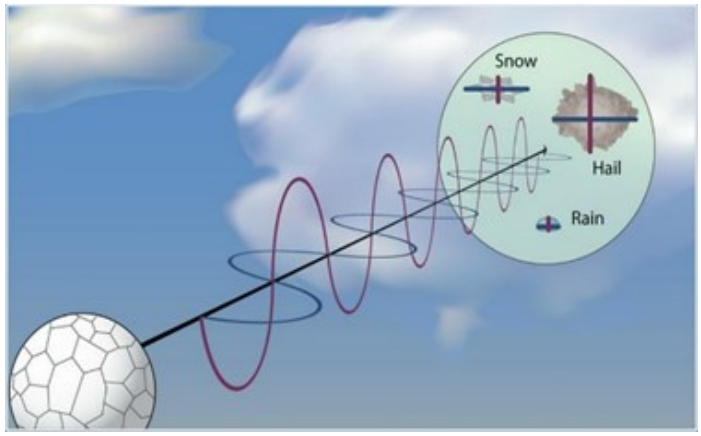
Remember to be "weather ready" so that you can be safe when you get a warning from the National Weather Service.

Severe weather research in our own backyard

By John Stoppkotte–Science and operations Meteorologist

Meteorologists use weather radars to understand how thunderstorms evolve and behave. Those in the NWS have the specific job of issuing warnings to the public when the most threatening weather develops. NWS North Platte's primary radar (the WSR-88D), which is relied on heavily to issue severe thunderstorm, tornado and flash flood warnings, is located in Thedford, NE and was built in 1995. This radar was cutting-edge for its time back then, and gave meteorologists the ability to "see inside" storms and for the first time investigate the air-flow within storms which can help to differentiate storms that may produce tornadoes from those that don't. NWS meteorologists still had an incredibly difficult job to interpret this new data, but some great strides in severe weather understanding have been made since it was installed in the mid-1990s.

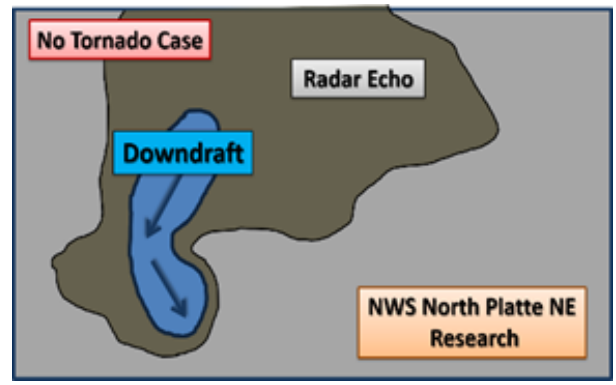
Since then the radar has been upgraded a few times to add additional capability; one of which is dual polarization of the radar outgoing signal (see image below) which can give specific information about the types of hydrometeors (rain, snow, hail) in thunderstorms. The dual polarization capability can help understand whether rain or snow will fall to the ground, but did you know it can also help warning forecasters understand the dynamics of tornado formation? ***You probably didn't know that meteorologists at NWS North Platte are on the forefront of the research to Identify these critical features using dual polarization radar information.***



We know that in the Great Plains the most common type of thunderstorm that produces tornadoes (along with large hail and damaging wind) is called a supercell thunderstorm; one that has a rising, rotating column of air at its center that can be as fast as 80 MPH or more!

Despite their propensity to produce all types of severe weather, we also know however, that the majority of supercells do NOT produce tornadoes. Why is that? While there has been extensive research into tornadoes and their formation in the last 2 decades, we are still just scratching the surface of understanding one of nature's most devastating phenomenons. Research using high resolution computer models at several universities has discovered in the last few years however that one critical aspect of the storms that do NOT produce tornadoes is the occurrence of relatively cold air in the critical downdraft portion of the storm.

While we can't tell the temperature inside the storm with the WSR-88D radar, we can infer many details relating to temperature, based on the characteristics of the hydrometeors within each storm. The dual polarization capability of the NWS radar allows those who issue warnings the ability to see when hail or a rain/hail mixture in that critical portion of the storm could disrupt the tornado formation process. **Research conducted by meteorologists at the NWS North Platte have looked at hundreds of cases throughout the country to further identify this occurrence, and to apply this understanding in real-time warning situations.** The end the goal of course is to provide the best possible information as quick as possible so you can make life-saving decisions for yourself and your loved ones. There is still much to learn and we'll be working hard to find more clues to how tornadoes form in Great Plains supercells!

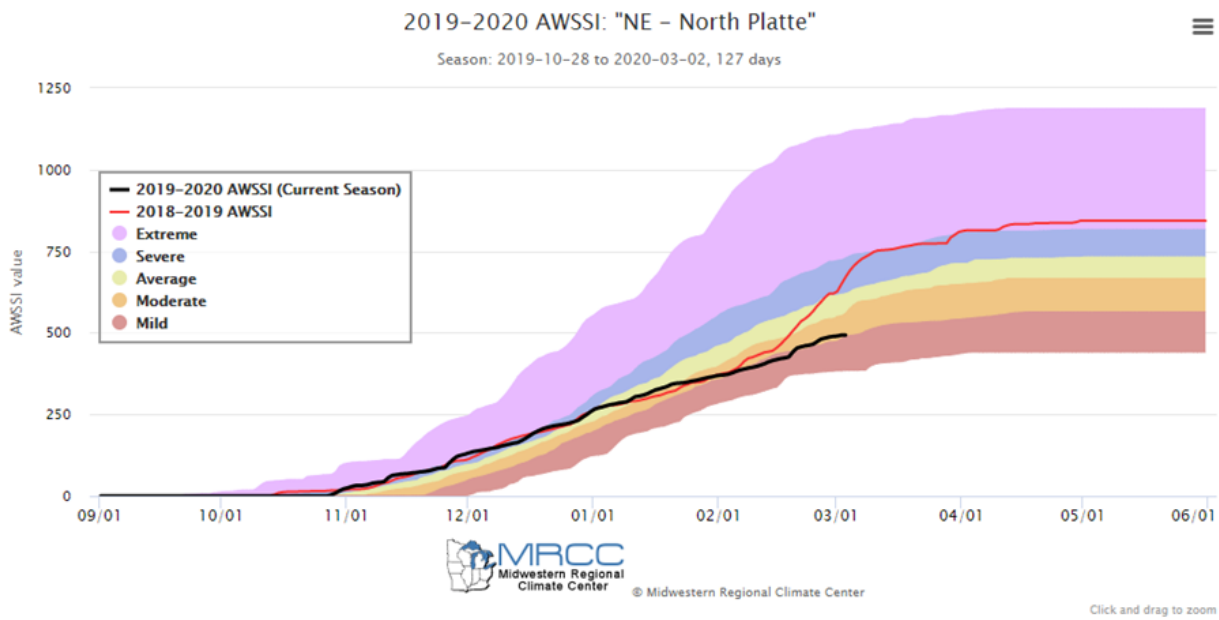


Winter 2019-2020 across western and north central Nebraska
By Darren Snively—Senior Forecaster

After a relatively cool and snowy start to the winter season, warmer weather set up across the Sandhills and southwest Nebraska. Most locations averaged 3 to 4 degrees above normal over the 3-month period of December to February, anchored by a very mild January. The extreme cold was held at bay, as only two Wind Chill Advisories were issued this winter. No daily record low temperatures were broken at the main climate reporting sites (North Platte, Valentine, Broken Bow, Imperial), although Broken Bow did report -16º during a clear, calm night after a snowfall. Valentine recorded their 10th warmest winter overall, dating to 1889-90, while North Platte just missed the list of top 20 warmest winters.

Precipitation has been hit-and-miss across the region, as north central Nebraska continued to receive moisture, while parts of southwest Nebraska have dried substantially. Most of the widespread snow events occurred in November and December. Despite generally drier air settling in for the new year, a series of light snowfalls resulted in nearly 7 inches of snow at North Platte in February. Overall, this winter is quite the change from the past two seasons.

Temperature and snowfall are among the factors used by the "accumulated winter season severity index", a product of the Midwestern Regional Climate Center, to measure the effects of winter. As of early March, North Platte and Valentine were in the 'moderate' category, or deemed "milder" than at least 60% of winters. The black line indicates the current 2019-20 season, while the red line showcases last winter's late season uptick in snow and cold. With that said, our snow may not be done yet… March is climatologically the snowiest month for western Nebraska!



Virtual Spotter Talks
By Jaclyn Gomez-Meteorologist

Interested in becoming a storm spotter for western and north central Nebraska? This year we are holding virtual spotter talks through April. What is a storm spotter you may be asking? Well a storm spotter is anyone that assist their local community by reporting weather events that occur during severe weather. Spotters will report hail size, wind speeds, rainfall, flooding events and even tornadoes.

All you need to do to attend a virtual spotter talk is to pre-register for the spotter talk so that we can give you the link to attend the virtual talk. Choose the spotter talk in your town or if your town is not available you can choose your County. It is free to attend and the talk lasts approximately 1:30 to 2 hours. The spotter talk is a combination of a basic and advance spotter talk. Once you have completed the spotter talk you will become a trained spotter. Below is a list of upcoming spotter talks, you can register for a specific spotter talk by visiting this link: https://www.weather.gov/lbf/Spotterschedule2020

Burwell	3/24/2020 6:30 PM Central	Burwell - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Hayes Center	3/30/2020 7:00 PM Central	Hayes Center - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Broken Bow	3/31/2020 7:00 PM Central	Broken Bow - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Atkinson	4/6/2020 7:00 PM Central	Atkinson - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Tryon	4/7/2020 7:00 PM Central	Tryon - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Oshkosh	4/14/2020 6:30 PM Mountain	Oshkosh/Big Springs - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Valentine	4/15/2020 2:00 PM and 6:30 PM Central	Valentine Fire Department - Online	Combo	Gary Weaver 402-376-4105	Required: Please Register Above
Bartlett	4/16/2020 7:00 PM Central	Bartlett Fire Department - Online	Combo	Doug Reiter 308-750-1070	Required: Please Register Above
Mullen	4/21/2020 7:00 PM Mountain	Mullen Fire Department - Online	Combo	Hooker County Sheriff's Office	Required: Please Register Above
O'Neill	4/27/2020 7:00 PM Central	O'Neill Fire Department - Online	Combo	Deb Hilker 402-340-5664	Required: Please Register Above
Ogallala	4/28/2020 7:00 PM Mountain	Ogallala Fire Department - Online	Combo	NWS 308-532-4936	Required: Please Register Above
Hyannis	4/29/2020 6:00 PM Mountain	Hyannis Fire Department - Online	Combo	NWS 308-532-4937	Required: Please Register Above

COOPERATIVE OBSERVER NEWS
BY JACLYN GOMEZ-METEOROLOGIST

The North Platte Weather Service Office appreciates all the hard work that our cooperative weather observers do year round. The data that you provide, whether its snowfall, rainfall, wind, hail or even tornado reports, greatly assist us in our work. Without observers like you we would not be able to collect the data and reports from your site and would like to thank all of our observers.

So far this year we have given out one length-of-service award but have many more to give out later this spring and summer.

Judith Schlobohm, pictured on the left received a 40 year Length-of-Service award for her observation site located in Oshkosh. Judith takes temperature, precipitation and snowfall data daily from her home. Ms. Schlobohm received her award January 21st.

We have also had two of our observers retire, Carolyn Cerny from Arthur and Cory Schuller from Imperial. Cerny, will continue to be a backup observer for the Arthur cooperative site that is located at the Arthur County Courthouse. The new primary observer for this location is Theresa Bowlin. Schuller's neighbor, Mike Francis has now become the new observer for Imperial. We would like to congratulate our two newest observers and thank Carolyn Cerny and Cory Schuller for their many years of observing.

National Weather Service Office North Platte, NE

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Comments and suggestions are
always welcome. Your feedback is very important to us!

http://www.weather.gov/northplatte