National Weather Service
Aberdeen, South Dakota

April 2013

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## Severe Weather Awareness

# South Dakota Severe Weather Awareness Week April 22nd through 26th

Even with much of the region still experiencing winter's grip, the severe weather associated with spring and summer is just around the corner. Severe Weather Awareness Week is a time to refocus one's attention from the cold and snow of winter, to the heat and severe weather experienced during the spring and summer. Now is the time to review severe weather plans and see if any changes need to be made. For example, if your family gets separated during an emergency or disaster, has a "check in" point of contact been established, preferably out of state? Does everybody in the house know where to go in case of a tornado warning?

NOAA's National Weather Service, in partnership with state and local emergency management agencies, will hold a test tornado drill on Wednesday, April 24. A test tornado watch will be issued at 10am CDT/9am MDT, with a test tornado warning issued at 10:15am CDT/9:15am MDT. The warning and watch will be expired at 10:30am CDT/9:30am MDT. It is usually during these test warnings that some towns will test their tornado sirens with schools and businesses reviewing their tornado drill procedures.

## Impact Based Warnings

2011 proved to be a historic year in terms of the number of tornado fatalities across the United States with over 550 fatalities. The May 22, 2011 Joplin tornado resulted in 158 of those, making it the deadliest single tornado since modern record keeping began in 1950. Following the historic Joplin tornado, the National Weather Service (NWS) conducted a service assessment for the purpose of evaluating NWS warnings and societal response to those warnings.

Some of the key findings from the 2011 assessment include:
-The majority of people identified local outdoor warning systems as their first source of warning.
-The majority of people sought confirmation from additional sources before seeking shelter.
-Credible, extraordinary risk signals prompt people to take protective actions.

To address these findings the NWS Central Region (which includes WFO Aberdeen) will expand to all their offices the impact based convective warning experimental product to better communicate threats to partners and constituents. The goals in this multi-step process are to provide more information to media and EM partners, to facilitate improved public response and decision making; and to better meet societal needs in the most life-threatening weather events.

Initial efforts will build upon pre-existing Central Region efforts to employ "event tags" at the bottom of each severe thunderstorm and tornado warning. The additional event tags will contain more specific threat information as a quick means to provide users and partners with potential high impact risk signals that prompt faster risk assessment and protective action.

## Impact Based Warning (cont.)

Examples of Tags:

Tornado Tags

**-TORNADO…RADAR INDICATED**

*Evidence on radar and near storm environment is supportive, but no confirmation*

**-TORNADO…OBSERVED**

*Tornado is confirmed by spotters, law enforcement, debris ball signature, etc.*

Tornado Damage Threat Tag

**-TORNADO DAMAGE THREAT…CONSIDERABLE**

*When there is credible evidence that a tornado, capable of producing considerable damage, is imminent or ongoing (**ex…the Bowdle tornado)***

**-TORNADO DAMAGE THREAT…CATASTROPHIC**

*When a severe threat to human life and catastrophic damage from a tornado is occurring, and will only be used when reliable sources confirm a violent tornado. **(ex… the Manchester tornado)***

Tornado Tags for Severe thunderstorm Warnings

**-TORNADO…POSSIBLE**

*A severe thunderstorm has some potential for producing a tornado although forecaster confidence is not high enough to issue a Tornado Warning.*

The goal of the change is to provide more information to the media and Emergency Managers, to facilitate improved public response and decision making; and to better meet societal needs in the most life-threatening weather events.

For more information, please contact:
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## Record Cold March

March 2013 was almost a complete turnaround from March 2012 across the region, and most dramatically across northeast South Dakota and west central Minnesota. This March was in the top ten coldest on record for locations across northeast South Dakota and west central Minnesota. In fact, Sisseton had their coldest March on record with an overall average temperature of 18.2 degrees. Wheaton, Minnesota had their second coldest March with an average of 16.7 degrees. These average temperatures were dramatically different from last March where the average temperature at Sisseton was 42.9 degrees and Wheaton was 41.0 degrees, with both being the all-time record warmest. Aberdeen and Watertown had their 2nd warmest March on record in 2012 with 43.8 and 43.9 degrees respectively, while March 2013 at Aberdeen and Watertown were the 7th and 8th coldest on record with 19.8 and 20.2 degrees, respectively. The average high for Aberdeen in March 2012 was 57.9 degrees which was over 27 degrees warmer than the 30.5 degree average high for this March. Departures from normal for this March were large, ranging from 9 to 12 degrees below normal for locations across northeast South Dakota and west central Minnesota. Locations across central and north central South Dakota also had cold temperatures for March, ranging from 4 to 6 degrees below normal. Even more interesting was that March 2011 was one of the top ten coldest on record for several locations across northeast South Dakota and west central Minnesota. For example, Sisseton went from the 4th coldest in 2011, with 21.4 degrees to the all-time warmest, with 42.9 degrees in 2012, and back to the first coldest to 18.2 degrees in 2013.

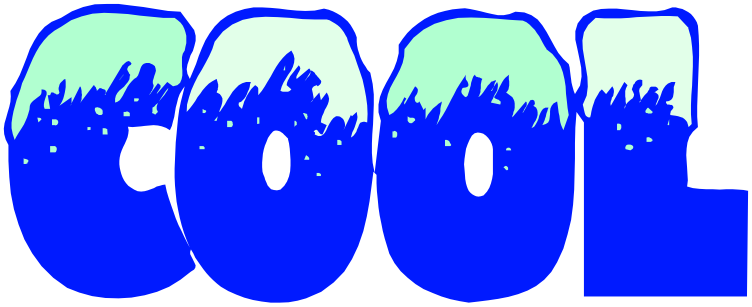
Along with the predominant Arctic and Canadian air, the deep snow cover across the eastern part of the region played a significant role in the record cold for the month. Snow cover reflects much of the sunlight during the day, along with absorbing energy from the air for melting, while radiating energy well at night. The highest and lowest temperatures for the month demonstrate this well. The snow covered areas of the east had their warmest highs only in the 40s and lower 50s, while the mainly bare ground areas of central and north central South Dakota had highs in the upper 60s to the lower 70s. The lows for March ranged from 6 below to 10 below in the east with 2 below to 3 above in the west. As for precipitation, March was generally drier than normal across the region, ranging from a tenth of an inch above to over an inch below normal. Wheaton was the only one with above normal snowfall for March with 10.2 inches.

Areas east of James Valley had the brunt of the winter weather for March with an ice storm and blizzard. The March 8th and 9th ice storm produced anywhere from a quarter to a half inch of ice across northeast South Dakota and west central Minnesota. Fortunately, temperatures were right around freezing or rose to above freezing during the event, as total precipitation amounts were from a half inch to over an inch for several locations. If the temperatures would have been a few degrees colder with the north winds picking up, things could have been much worse with heavy ice accumulations on trees and power lines. The March 17th and 18th blizzard also affected the eastern part of the region with wind gusts of 50 to 60 mph and 1 to 3 inches of new snowfall bringing frequent whiteout conditions.

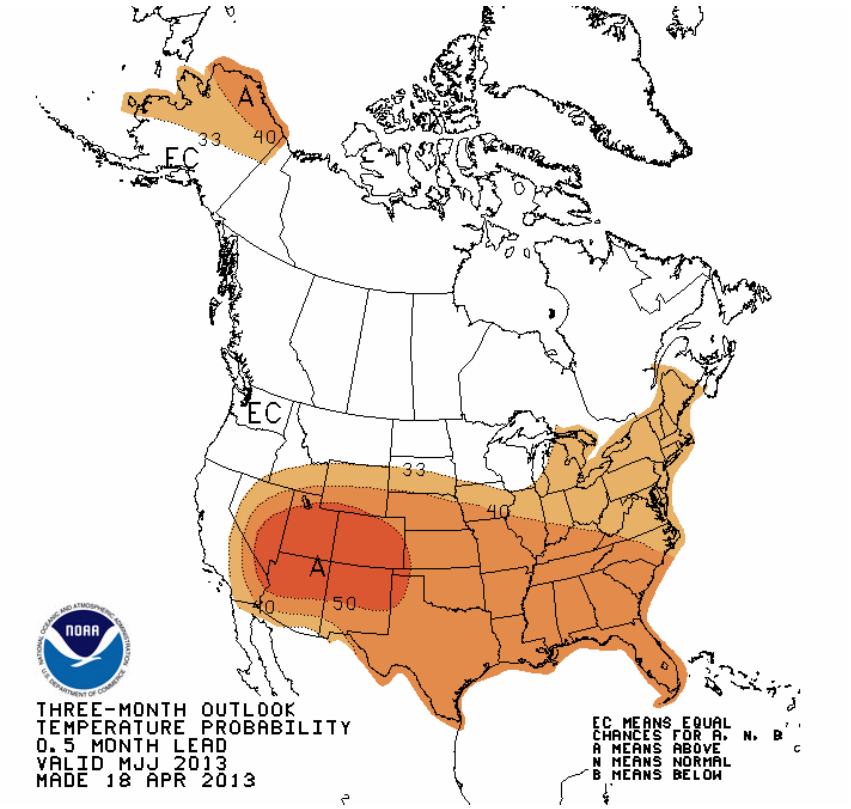
## Record Cold March (cont)

# *MARCH 2013*

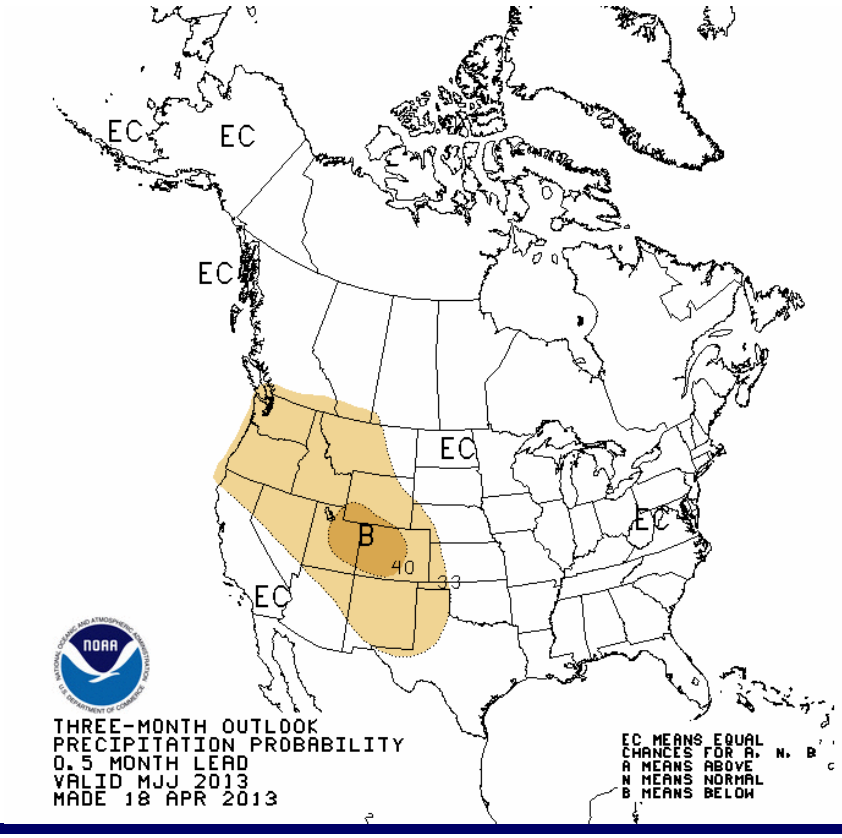
| Temperature Data | Aberdeen | Sisseton | Wheaton | Watertown |
|---|---|---|---|---|
| Warmest Temperature / Date | 47 / 14th | 40 / 29th | 42 / 30th | 52 / 29th |
| Coldest Temperature / Date | -8 / 13th | -10 / 21st | -6 / 22nd | -7 / 21st |
| Average High / Departure from Normal | 30.5 / -9.5 | 27.5 / -11.8 | 26.4 / -10.4 | 29.1 / -9.8 |
| Average Low / Departure from Normal | 9.0 / -10.8 | 8.9 / -11.9 | 7.0 / -11.0 | 11.4 / -8.5 |
| Monthly Average / Departure from Normal | 19.8 / -10.1 | 18.2 / -11.8 | 16.7 / -10.7 | 20.2 / -9.2 |
| **Precipitation Data** | | | | |
| Monthly Precipitation / Departure from Normal | 0.24 / -0.92 | 0.97 / -0.15 | 1.55 / +0.07 | 1.21 / +0.10 |
| Monthly Snowfall / Departure from Normal | 1.9 / -5.3 | 5.4 / -2.9 | 10.2 / +1.9 | 5.6 / -0.6 |
| Most Precipitation in 24 hours / Date | 0.10 / 3rd | 0.35 / 9th | 0.60 / 9th | 0.67 / 9th |
| Most Snow in 24 hours / Date | 0.4 / 4th | 2.2 / 9th | 4.3 / 10th | 4.0 / 9th |
| **Temperature Data** | **Pierre** | **Kennebec** | **Mobridge** | **Timber Lake** |
| Warmest Temperature / Date | 72 / 29th | 73 / 29th | 71 / 14th | 69 / 14th |
| Coldest Temperature / Date | 3 / 20th | 2 / 11th | -2 / 20th | 0 / 20th |
| Average High / Departure from Normal | 41.5 / -3.9 | 43.8 / -4.1 | 37.3 / -5.3 | 41.0 / -2.2 |
| Average Low / Departure from Normal | 17.1 / -6.4 | 17.4 / -6.0 | 14.3 / -6.8 | 15.8 / -5.7 |
| Monthly Average / Departure from Normal | 29.3 / -5.1 | 30.6 / -5.1 | 25.8 / -6.1 | 28.4 / -4.0 |
| **Precipitation Data** | | | | |
| Monthly Precipitation / Departure from Normal | 0.15 / -1.08 | 0.78 / -0.48 | 0.38 / -0.52 | 0.58 / -0.57 |
| Monthly Snowfall / Departure from Normal | 3.0 / -3.0 | 8.0 / 0.0 | 4.7 / -1.2 | 7.1 / -0.5 |
| Most Precipitation in 24 hours / Date | 0.15 / 22nd | 0.63 / 9th | 0.13 / 22nd | 0.25 / 22nd |
| Most Snow in 24 hours / Date | 2.8 / 22nd | 6.0 / 9th | 2.9 / 22nd | 2.1 / 22nd |



## Seasonal Outlook - May through July




Temperature outlook for May through July




Precipitation outlook for May through July

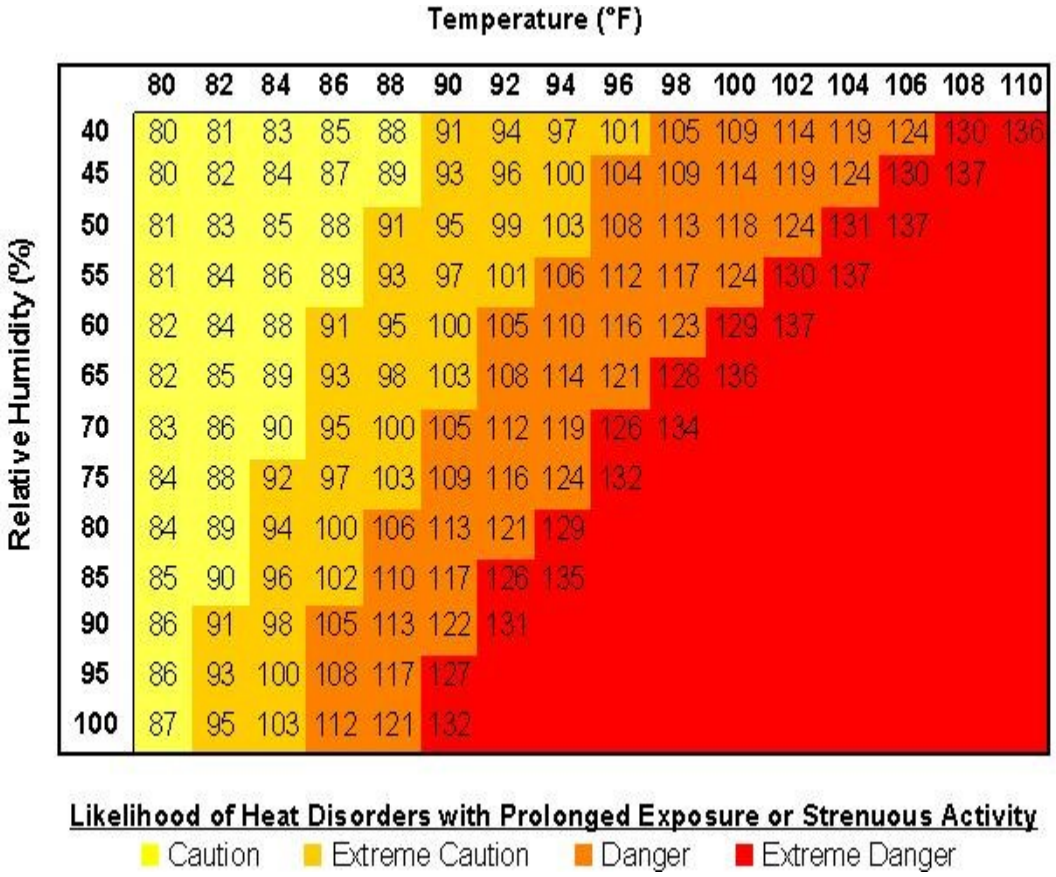
## National Weather Service and Social Media

The National Weather Service has recently taken the plunge into the world of social media. We recognize the potential power it possesses with regard to the spread of timely information. It is our goal to tap this power and utilize the rapid-fire nature of social media to enhance our services to all of our partners. As of now, these services are experimental. However, it is becoming apparent quickly that this is a tool that will become essential and we intend to integrate it fully into operations over the coming weeks and months. This is a much more personal means of communication and it has granted us access to population bases that were previously inaccessible. We would love for you to join this effort as we continue to expand our reach.

For those who have Facebook or Twitter, you can click on the icons below to Like our page or follow us!

Also, please feel free to contact taylor.trogdon@noaa.gov for more information or to provide feedback on these experimental services.

# Heat Index Chart

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It is spring again. The earth is like a child that knows poems by heart.

~ Rainer Maria Rilke