

# TOP 5 WEATHER EVENTS OF 2020



## **National Weather Service – Billings, MT**

*These weather events were voted upon by several of our meteorologists and deemed the five most intriguing in our forecast area. Obviously, there were other impactful weather events that occurred throughout the course of the year. We apologize if there were some that you felt were more meaningful and not on this list. Enjoy!*

## #5: May 20: Severe Thunderstorms

As has been the case in recent years, our severe weather season got an early start in 2020, with several severe storms in May. A particularly busy day of severe weather began during the early morning hours of May 20 as a thunderstorm produced 2.5" (tennis ball size) hail in Lavina at 1:19 am. Severe storms ramped up in the afternoon. There were numerous reports of 1.5-2.5" hail and cracked windshields east and northeast of Miles City (including at Kinsey). There were also reports of damaging wind,



Large hail in Lavina (Hutzenbiler)



Tree damage near Broadus (Williams)

including a semi

tipped over on I-94 northeast of Miles City, along with large trees downed. A few other severe reports included: 2" hail near Garland, 1.25" hail near Volborg, tree damage near Broadus, 72 mph wind gust near Lame Deer Divide, and a 75 mph wind gust at Rock Springs.



Thunderstorm near Judith Gap (Homenuk)



# #4: February 1: Warm, Dry & Windy

The beginning of February was very warm and dry with strong west winds. Billings set a daily record high with a balmy 68°, and much of the region saw temps in the 50s and



Lode Road Fire (Conquer the Storm)

60s. Strong west winds occurred especially close to the foothills. Livingston airport reported a peak gust of 78 mph. There were also reports of tree damage. A grass fire (Lode Road Fire) in Wheatland county closed Highway 191 between Harlowton and Judith Gap for a few hours, due to windblown smoke and near zero visibility. The fire burned 3680 acres and ran 9 miles...an unusual occurrence for winter!



Wind Damage in Big Timber (Phares)

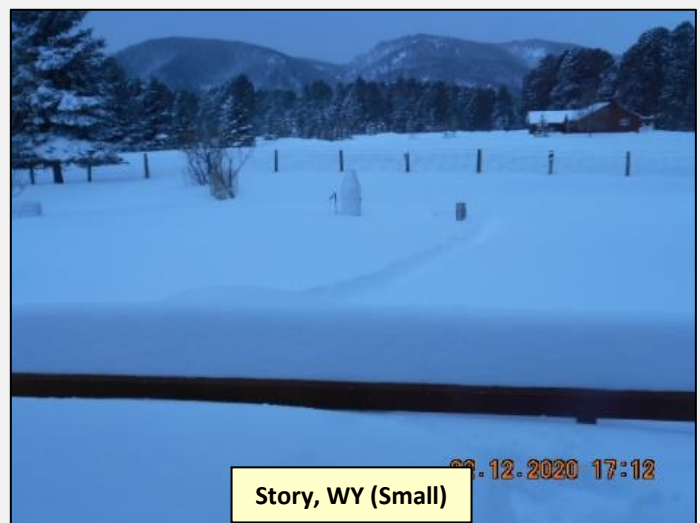
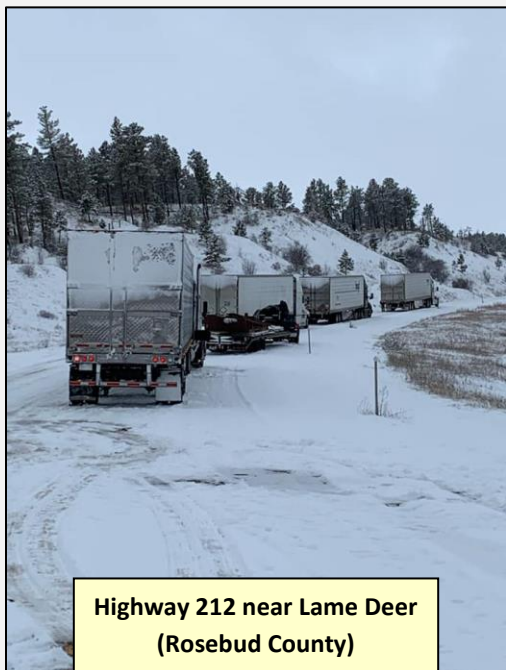
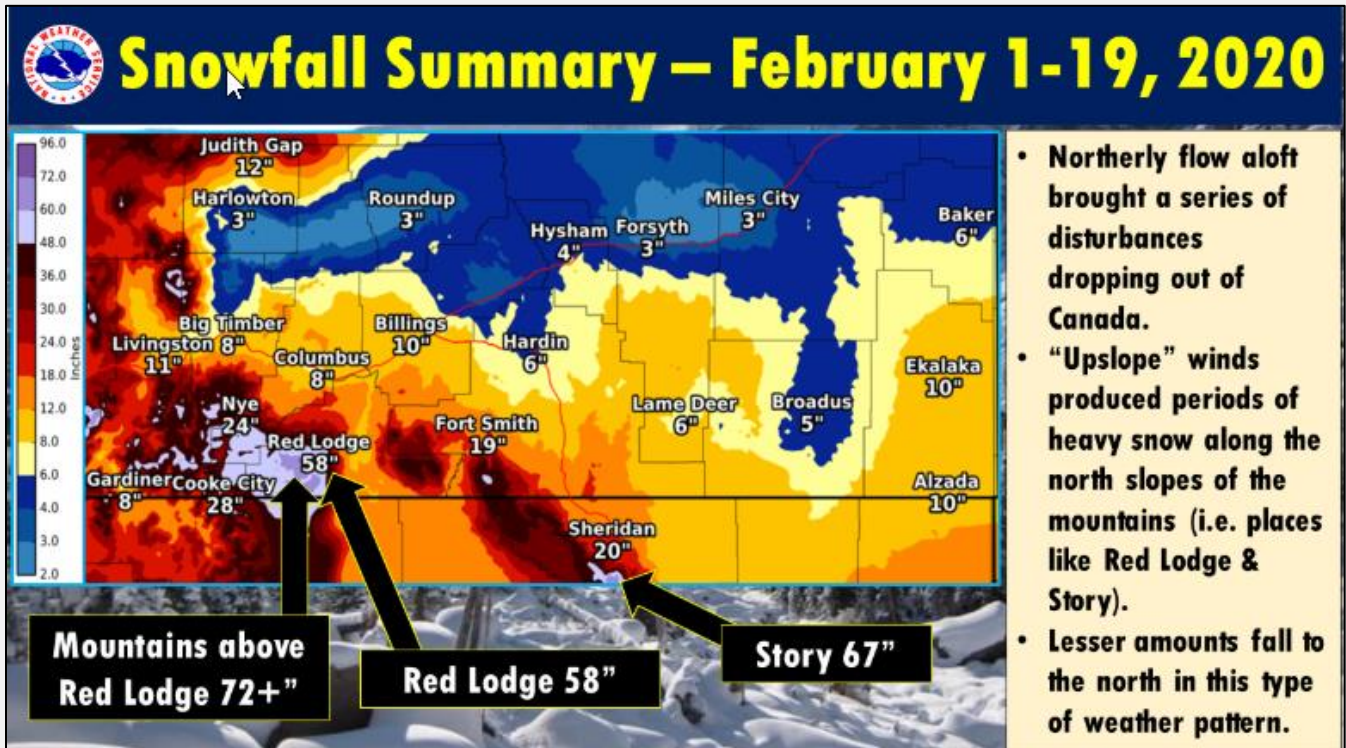


Wind Damage in Red Lodge (Simonsen)

| 2/1/20 Stats | Max Temp | Peak Wind Gust | Min Relative Humidity |
|--------------|----------|----------------|-----------------------|
| Baker        | 53°      | 36 mph         | 38 %                  |
| Billings     | 68°      | 41 mph         | 12 %                  |
| Harlowton    | 62°      | 62 mph         | 12 %                  |
| Livingston   | 59°      | 78 mph         | 20 %                  |
| Miles City   | 58°      | 36 mph         | 32 %                  |
| Sheridan     | 64°      | 52 mph         | 16 %                  |

# #3: February 1-19: Heavy Snow along Foothills

The first two-thirds of February saw a northerly flow that brought frequent periods of snowfall for southern “upslope” areas (i.e. mainly south of Billings). Amounts over the mountains and foothills were significant.





## #2: September 2 & 5: Hot & Dry with Wildfires

After a relatively quiet fire season for most of the summer, an historically hot and dry beginning of September resulted in the development and rapid spread of many large wildfires over a short period of time. Our office issued a whopping 57 Spot Forecasts (site-specific forecasts for a wildfire or other incident) from the 1<sup>st</sup> through the 8<sup>th</sup>.

- September 2<sup>nd</sup>: Temperatures rose to the low-mid 90s, with relative humidity near 10% and wind gusts of 40-60 mph. Livingston had a peak gust of 63 mph.

Fires started on this day included the Bobcat Fire south of Roundup, Sarpy Fire northeast of Crow Agency, and Rice/Snider north of Ashland.



- September 5<sup>th</sup>: Record-breaking heat occurred on this day. Billings (102°), Livingston (102°) and Sheridan (103°) set



daily record highs, and it was the latest in the year each site had ever reached triple digits. Other highs on the 5<sup>th</sup>: Billings NWS 105°, Busby 103°, Hardin 103°, and Broadus 101°. It was also very dry, with relative humidity less than 10%. The Bridger Foothills Fire near Bozeman grew from a small fire reported on the 4<sup>th</sup>, to thousands of acres as it spread into Bridger Creek Canyon on the

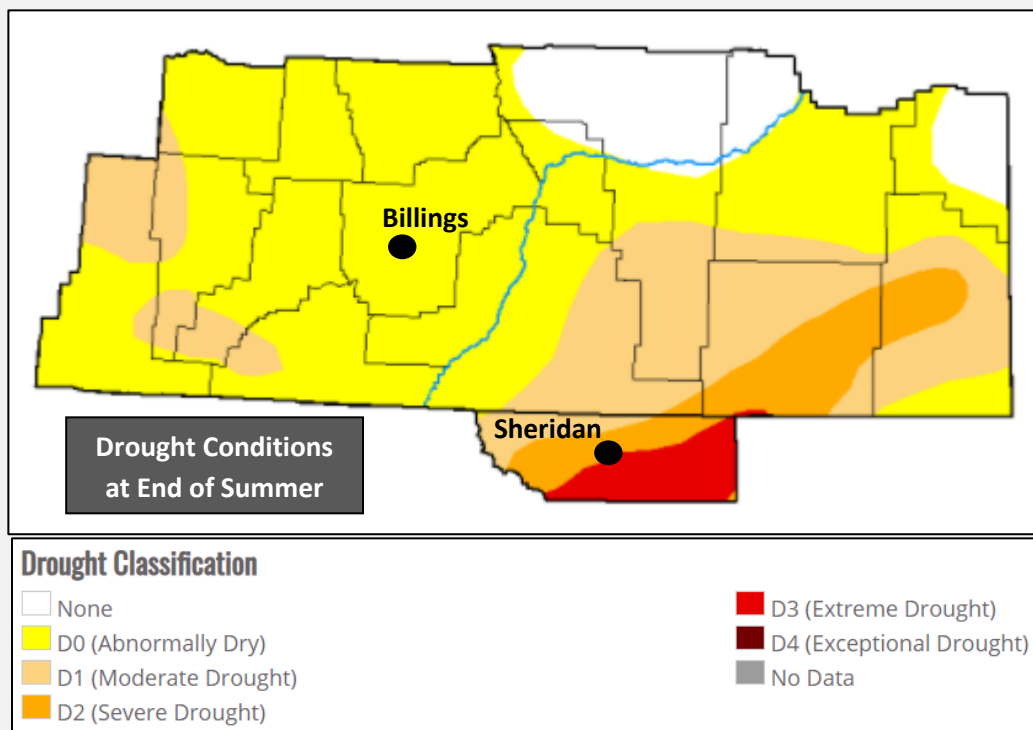
east side of the Bridger Mountains.

- Total acreage burned by each fire:
  - Bobcat 30000 acres
  - Sarpy 52000 acres
  - Rice/Snider 47000 acres
  - Bridger Foothills 8200 acres
- Due to an overall dry summer and intense late summer heat, drought conditions were classified as severe to extreme over portions of southeast Montana by the beginning of fall.



Sarpy Fire (Cooper)

The hot and dry spell came to an abrupt stop as a cool/wet weather system produced rain and wet snow on the 7<sup>th</sup> and 8<sup>th</sup>. Red Lodge saw as much as 10 inches of wet snow with this system!



# #1: October 17-27: Snow & Very Cold

This was a remarkable period of cold & snowy weather for October. Many temperature records were broken, including the earliest sub-zero temperatures on record at

| Oct 17-27 Stats | Average Temp (°F) | Departure from Normal (°F) | Rank       |
|-----------------|-------------------|----------------------------|------------|
| Billings        | 24.5              | -23.0                      | #1 coldest |
| Livingston      | 23.7              | -22.1                      | #1 coldest |
| Miles City      | 23.3              | -22.4                      | #1 coldest |
| Sheridan        | 24.2              | -20.7                      | #1 coldest |

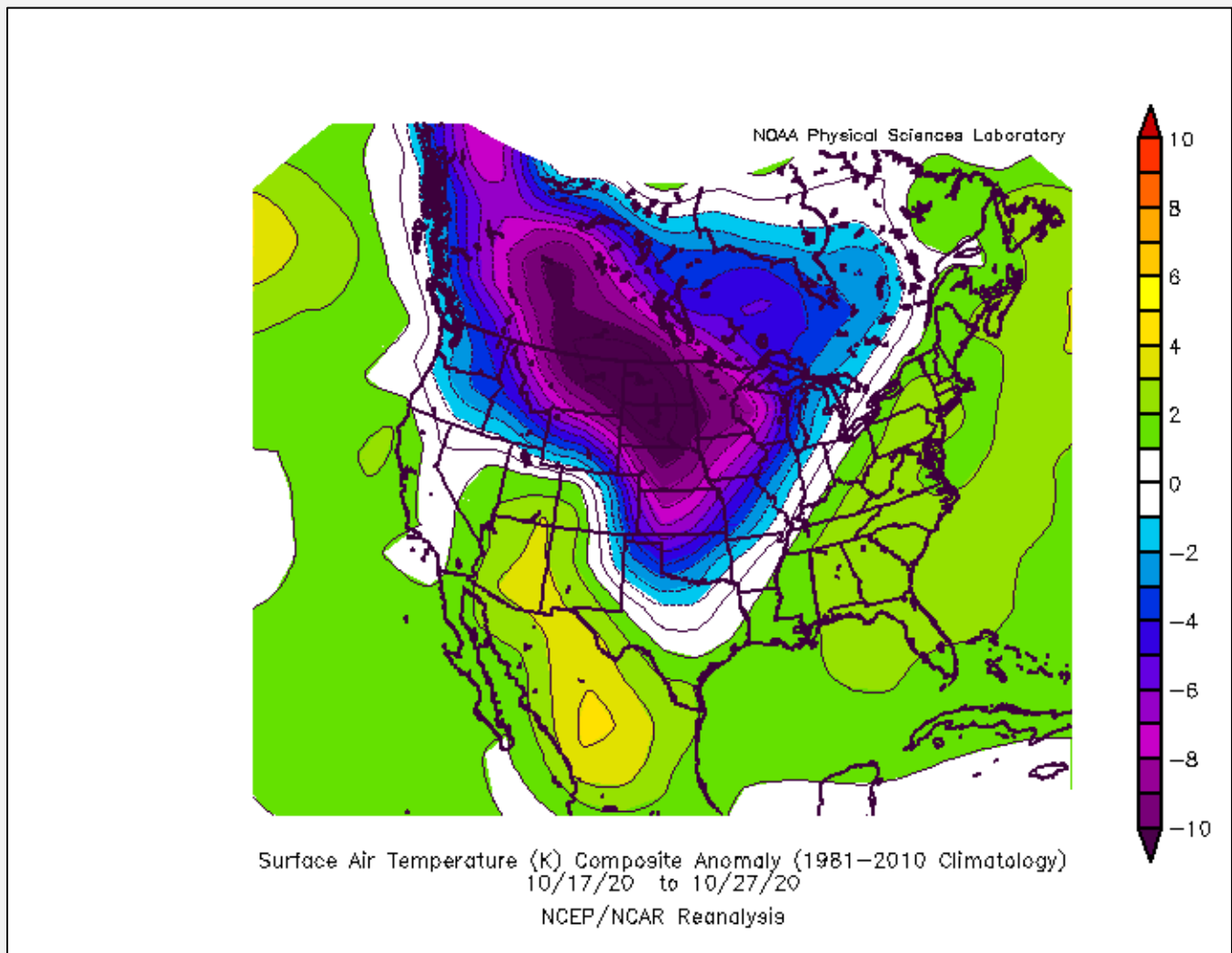
Livingston, Miles City and Sheridan. Many periods of snow occurred during this time. Mystic Lake picked up a total of 49.5 inches of snow, Billings 19.9 inches,

and many areas from Billings westward and southward around 20 inches. Billings had 12 straight days with a snow depth of at least an inch, an October record. The following tables summarize coldest temperatures and total snowfall around the region. The temperatures in October were colder than at any time during November and December!

| Site           | Oct 17-27 Coldest Temp (°F) |
|----------------|-----------------------------|
| Busby          | -14                         |
| Columbus       | -14                         |
| Hardin         | -13                         |
| Ryegate        | -12                         |
| Yellowtail Dam | -11                         |
| Sheridan       | -10                         |
| Judith Gap     | -9                          |
| Dayton         | -9                          |
| Forsyth        | -9                          |
| Big Timber     | -7                          |
| Livingston     | -7                          |
| Joliet         | -5                          |
| Red Lodge      | -3                          |
| Miles City     | -3                          |
| Ekalaka        | -2                          |
| Bridger        | 1                           |
| Billings       | 5                           |

| Site             | Oct 17-27 Total Snowfall (inches) |
|------------------|-----------------------------------|
| Mystic Lake      | 49.5                              |
| Rapelje          | 42.0                              |
| Red Lodge        | 36.5                              |
| Big Timber       | 35.0                              |
| Story            | 32.4                              |
| Melville 4W      | 30.9                              |
| Burgess Junction | 28.5                              |
| Springdale       | 27.5                              |
| Big Horn         | 25.0                              |
| Ryegate          | 25.0                              |
| Livingston       | 24.8                              |
| Joliet           | 22.6                              |
| Columbus         | 22.6                              |
| Yellowtail Dam   | 22.0                              |
| Dayton           | 21.0                              |
| Hardin           | 20.0                              |
| Billings         | 19.9                              |

The unseasonably cold air mass dropped out of Canada and settled over the entire north central U.S. The map below shows the location of the coldest air over this 11-day period. The darkest purple colors show average temperatures of 10°C (18°F) or more below normal!



When the cold air finally began to depart for good on the 27<sup>th</sup>, strong west winds caused significant blowing snow and severe driving conditions on I-90 in the Big Timber area.

**Thanks for reading. We wish everyone a happy 2021!**