

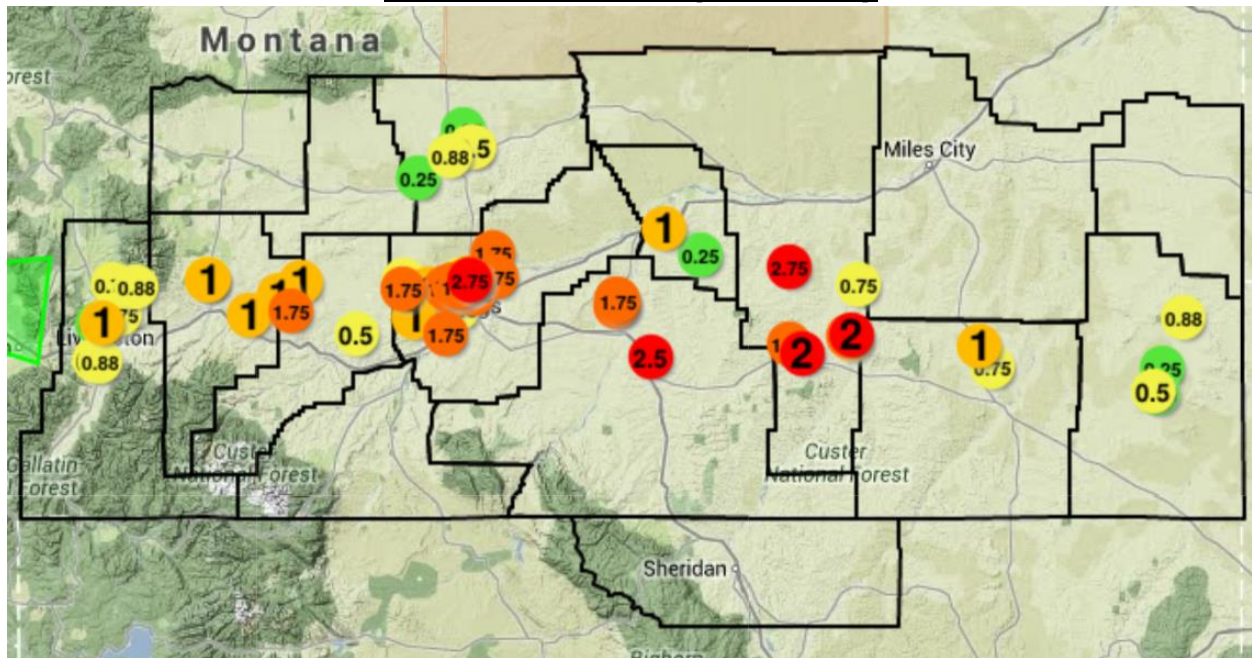
Severe Weather Event

05/18/2014

Event Summary

A line of severe storms tracked across southeastern Montana on the afternoon of May 18, 2014. The long-lived line of storms first produced hail reports up to 1 inch near Livingston in Park County around 3 pm. A funnel cloud was also reported near Livingston at 3:21 pm, although a tornado was never produced by the storm. The storms evolved toward the east, producing large hail and severe winds in Billings around 5 pm, and in Ashland by 7:30 pm. A separate supercell thunderstorm developed ahead of the line in northeast Wyoming and moved into southeastern Power River County by 5:30 pm. A short-lived tornado was reported with that thunderstorm at 5:50 pm near Belle Creek, MT. No damage was reported with that tornado as it occurred in rural portions of the county.

Hail Reports (Inches)



...BIG HORN COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
GARRYOWEN	6 PM SUN	2.50 IN
HARDIN 1.7 N	6 PM SUN	1.75 IN
HARDIN 0.4 SW	6 PM SUN	1.75 IN
HARDIN	6 PM SUN	1.75 IN
HARDIN 5.3 N	5 PM SUN	1.75 IN
HARDIN 0.6 ENE	6 PM SUN	1.25 IN

...CARTER COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
EKALAKA 16.3 SSE	10 PM SUN	0.88 IN
RIDGWAY 5.6 SSW	9 PM SUN	0.50 IN
RIDGWAY 0.9 E	9 PM SUN	0.25 IN
RIDGWAY 6.0 S	9 PM SUN	0.25 IN

...MUSSELSHELL COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
ROUNDUP 8.7 S	2 PM SUN	0.88 IN
ROUNDUP 7.6 SE	2 PM SUN	0.50 IN
ROUNDUP 8 SE	2 PM SUN	0.50 IN
ROUNDUP 17.6 SW	1 PM SUN	0.25 IN
ROUNDUP 10 S	2 PM SUN	0.25 IN
ROUNDUP 2.9 ESE	12 PM SUN	0.25 IN

...PARK COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
LIVINGSTON	3 PM SUN	1.00 IN
CLYDE PARK 12.8 ESE	3 PM SUN	0.88 IN
PINE CREEK 0.4 W	3 PM SUN	0.88 IN
LIVINGSTON 6.7 NW	2 PM SUN	0.75 IN
CLYDE PARK 7.2 SE	2 PM SUN	0.75 IN
LIVINGSTON 5.8 ENE	2 PM SUN	0.75 IN
PINE CREEK 2.0 WNW	3 PM SUN	0.50 IN
LIVINGSTON 1 WSW	2 PM SUN	0.25 IN

...POWDER RIVER COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
OLIVE 1.5 NNW	8 PM SUN	1.00 IN
BROADUS 4W	8 PM SUN	0.75 IN

...ROSEBUD COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
BIRNEY DIVIDE	6 PM SUN	2.75 IN
ASHLAND 1.4 E	7 PM SUN	2.00 IN
LAME DEER 1.9 E	7 PM SUN	2.00 IN
ASHLAND	6 PM SUN	1.75 IN
ASHLAND 0.25 N	7 PM SUN	1.75 IN
COLSTRIP 19.8 ESE	7 PM SUN	1.25 IN
	7 PM SUN	0.75 IN

...STILLWATER COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
REEDPOINT 3 E	3 PM SUN	1.75 IN
REED POINT 4.7 N	3 PM SUN	1.00 IN
REEDPOINT 10 NE	3 PM SUN	1.00 IN
COLUMBUS 7.5 E	5 PM SUN	0.50 IN

...SWEET GRASS COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
BIG TIMBER 0.3 ESE	3 PM SUN	1.00 IN
BIG TIMBER	3 PM SUN	1.00 IN
REED POINT 8.6 WSW	3 PM SUN	1.00 IN
BIG TIMBER 0.2 ENE	3 PM SUN	0.88 IN

...TREASURE COUNTY...

***** HAIL REPORTS *****

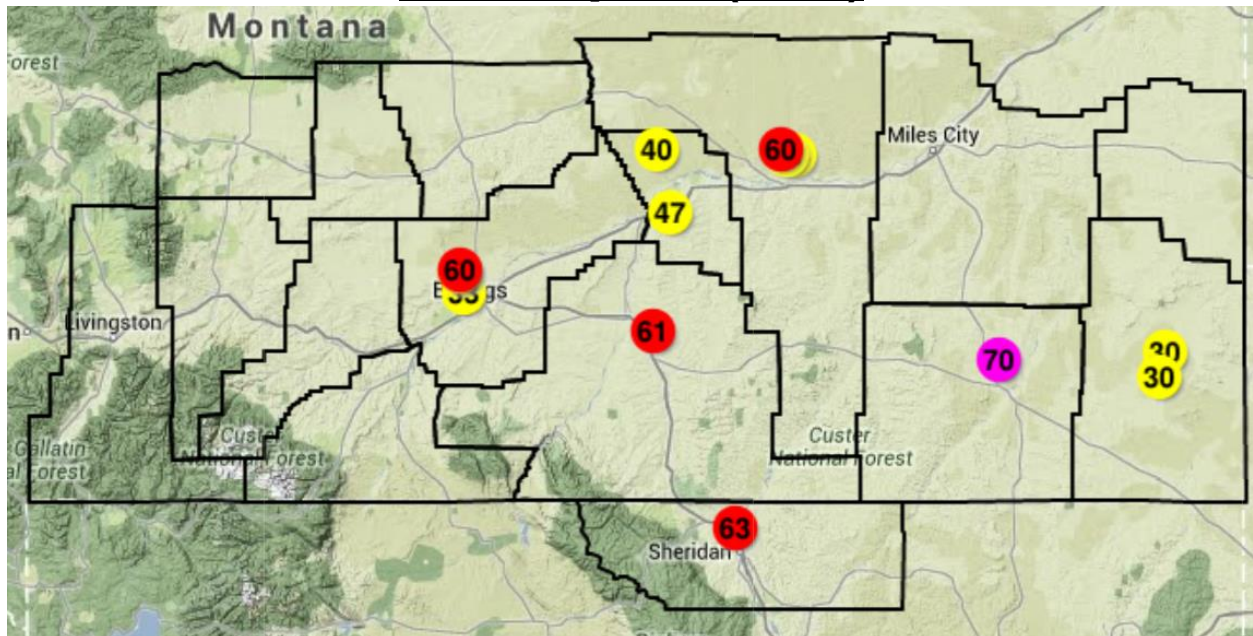
	TIME	HAIL SIZE
BIG HORN 9.2 SSE	6 PM SUN	1.00 IN
HYSHAM 25.0 SSE	6 PM SUN	0.25 IN

...YELLOWSTONE COUNTY...

***** HAIL REPORTS *****

	TIME	HAIL SIZE
BILLINGS HEIGHTS NORTHEAST (4.2 NE)	5 PM SUN	2.75 IN
BILLINGS 16.2 W	4 PM SUN	1.75 IN
BILLINGS HEIGHTS 1.9 NE	5 PM SUN	1.75 IN
PRYOR CREEK & I90	5 PM SUN	1.75 IN
BILLINGS 3 NW	5 PM SUN	1.75 IN
BILLINGS 2.8 WNW	5 PM SUN	1.75 IN
BILLINGS 2.6 NNE	5 PM SUN	1.75 IN
HUNTLEY 3.5 S	5 PM SUN	1.75 IN
BILLINGS 4.3 NNE	5 PM SUN	1.75 IN
BILLINGS HEIGHTS 4.5 NE	5 PM SUN	1.75 IN
LOCKWOOD 2.5 SSW	5 PM SUN	1.75 IN
SHEPHERD 1.0 E	5 PM SUN	1.75 IN
BILLINGS 5 W	5 PM SUN	1.50 IN
BILLINGS HEIGHTS 5.3 NE	5 PM SUN	1.25 IN
BILLINGS	5 PM SUN	1.00 IN
LAUREL 1N	4 PM SUN	1.00 IN
BILLINGS 7.2 W	5 PM SUN	1.00 IN
BILLINGS NORTHWEST (4.1 WNW)	5 PM SUN	1.00 IN
BILLINGS 7.1 W	4 PM SUN	1.00 IN
BILLINGS BRIARWOOD 5.1 S	5 PM SUN	0.88 IN
BILLINGS 3.5 N	5 PM SUN	0.75 IN
ACTON 9.3 SW	4 PM SUN	0.50 IN
BILLINGS 10 W	4 PM SUN	0.50 IN
BILLINGS 4.3 WSW	5 PM SUN	0.50 IN

Wind Reports (MPH)



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...BIG HORN COUNTY...
***** WIND REPORTS *****
      LITTLE BIGHORN RAW (CROW AGENCY 2.2 SSE)  6 PM SUN      61 MPH

...CARTER COUNTY...
***** WIND REPORTS *****
      RIDGWAY 0.9 E      9 PM SUN      30 MPH
      RIDGWAY 6.0 S      9 PM SUN      30 MPH

...POWDER RIVER COUNTY...
***** WIND REPORTS *****
      BROADUS 2 WNW      8 PM SUN      70 MPH

...ROSEBUD COUNTY...
***** WIND REPORTS *****
      FORSYTH 2.3 NNW      7 PM SUN      60 MPH
      FORSYTH 0.4 ENE      7 PM SUN      45 MPH
      FORSYTH 2.6 E      7 PM SUN      44 MPH

...SHERIDAN COUNTY...
***** WIND REPORTS *****
      SHERIDAN 2.2 SSW (AIRPORT)  7 PM SUN      63 MPH

...TREASURE COUNTY...
***** WIND REPORTS *****
      BIG HORN 9.2 SSE      6 PM SUN      47 MPH
      HYSHAM 8.7 W      6 PM SUN      40 MPH

...YELLOWSTONE COUNTY...
***** WIND REPORTS *****
      BILLINGS 3 NW      5 PM SUN      60 MPH
      BILLINGS AIRPORT (2.6 NW)  5 PM SUN      59 MPH
      BILLINGS BRIARWOOD 5.1 S  5 PM SUN      33 MPH

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Tornado/Funnel Cloud Reports

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0321 PM      FUNNEL CLOUD      NW SPRINGDALE      45.74N 110.23W
05/18/2014      PARK      MT      LAW ENFORCEMENT

0538 PM      FUNNEL CLOUD      1 ENE RIDGEWAY      45.48N 104.49W
05/18/2014      CARTER      MT      TRAINED SPOTTER

0550 PM      TORNADO      3 WNW BELLE CREEK      45.16N 105.16W
05/18/2014      POWDER RIVER      MT      TRAINED SPOTTER

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LOCATION ESTIMATED. RURAL LOCATION. NO DAMAGE REPORTED.

Belle Creek, MT (Southeast Powder River County) Tornado

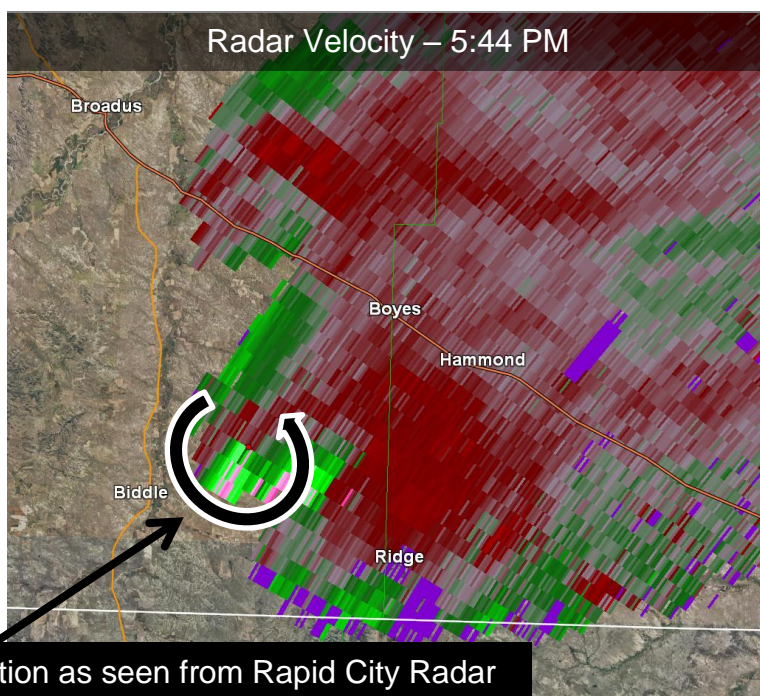
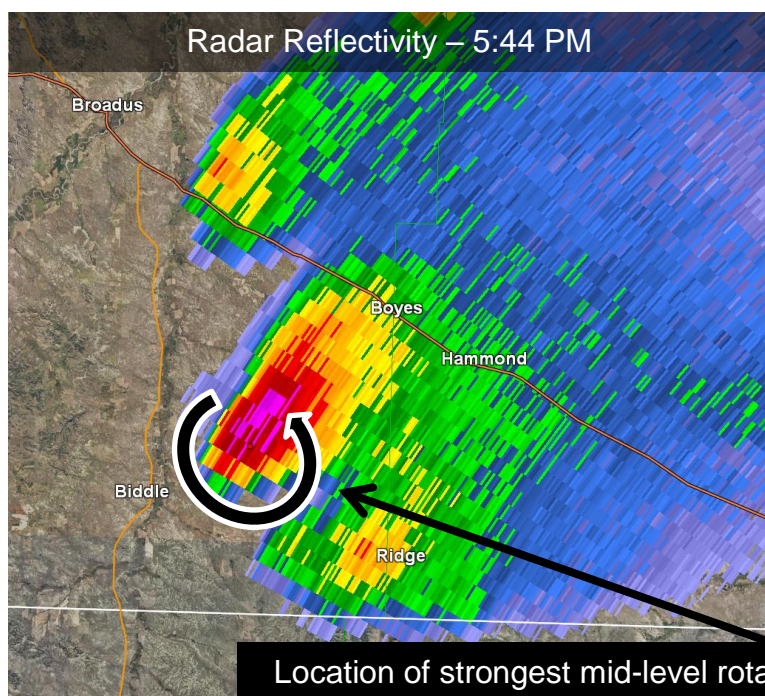
A supercell thunderstorm in southeast Powder River County produced a short-lived tornado at about 5:50 pm on May 18, 2014. Trained weather spotters reported the tornado, and supplied a picture of it (seen at right).

Imagery from the Rapid City radar (UDX) showed strong mid-level rotation in a supercell thunderstorm located near Belle Creek at the time. The thunderstorm and its mid-level rotation weakened quickly after the time of the tornado report, and correlates well with the report that the tornado was short-lived.

The tornado occurred over rural areas of the county and thus no damage was reported. Therefore a damage survey will not be conducted and the tornado will be rated an EF-0 with winds estimated at 65 to 85 mph.



Photo by: Nate Little
Location: Near Belle Creek, MT



Location of strongest mid-level rotation as seen from Rapid City Radar

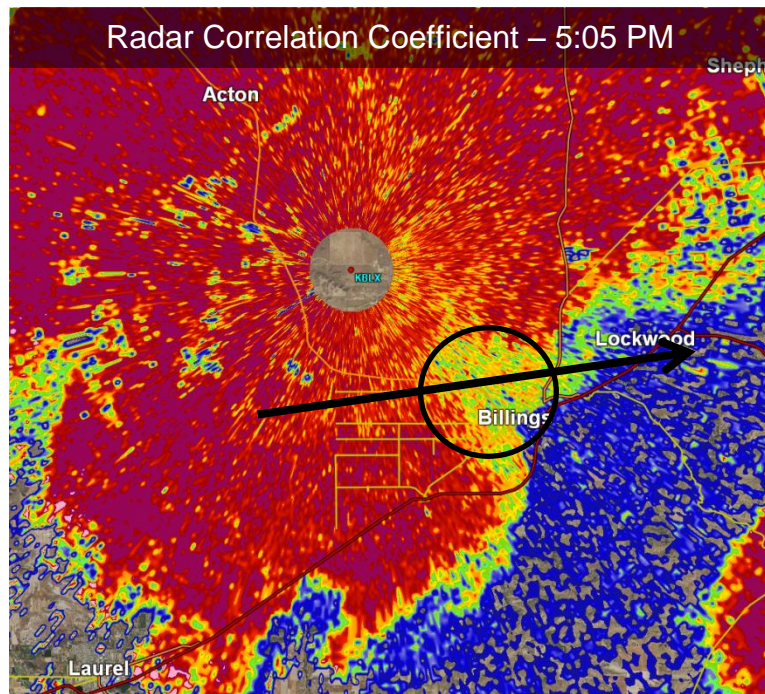
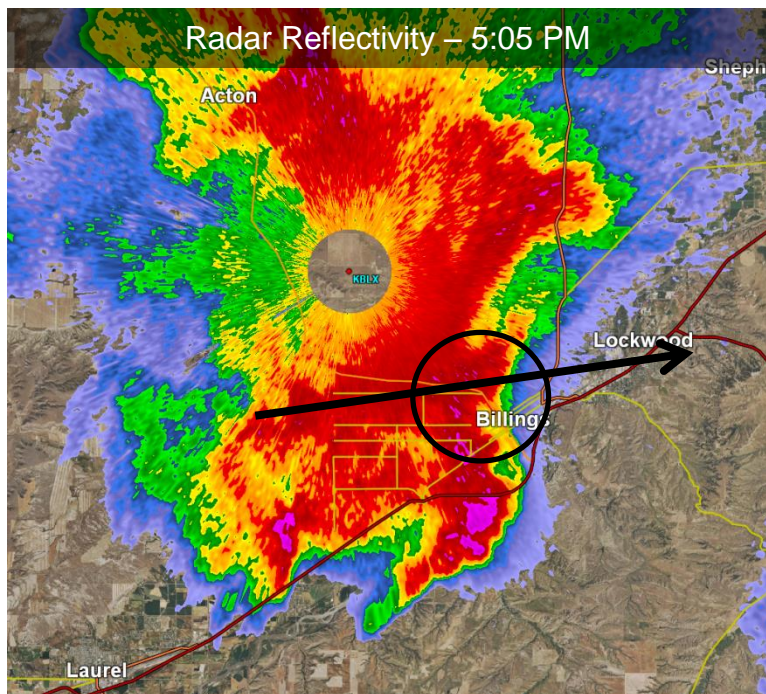
Large Hail and Severe Winds in Billings, MT

Large hail up to the size of baseballs (2.75") and severe wind gusts up to 60 mph were reported in Billings, MT on 05/18/2014. The severe thunderstorm tracked through Billings between about 4:45 pm and 5:30 pm.

Spotter reports and Billings Radar indicate the largest hailstones (golf ball size and larger) tracked from the north side of the Billings West End (near 32nd and Rimrock), across the Billings Airport, into the Billings Heights and finally through Lockwood. The baseball size hailstone was reported east of Main Street in the Billings Heights.



Damage from the large hailstones was accentuated by the strong winds that accompanied the storm. Wind gusts up to 60 mph were reported at the Billings airport at 5:09 pm, and Doppler radar indicated winds of 60+ mph over Lockwood moving east along I-90 at 5:16 pm as the storm departed Billings.



The arrow on the radar imagery indicates the track of the largest hail through Billings. The circled area indicates the area of largest hailstones at 5:05 pm. Note the Dual Pol Correlation Coefficient showed an area of lowered values down to around 0.8 (the yellow-green coloring inside the black circle), which was a good indicator of the large hail associated with this storm.