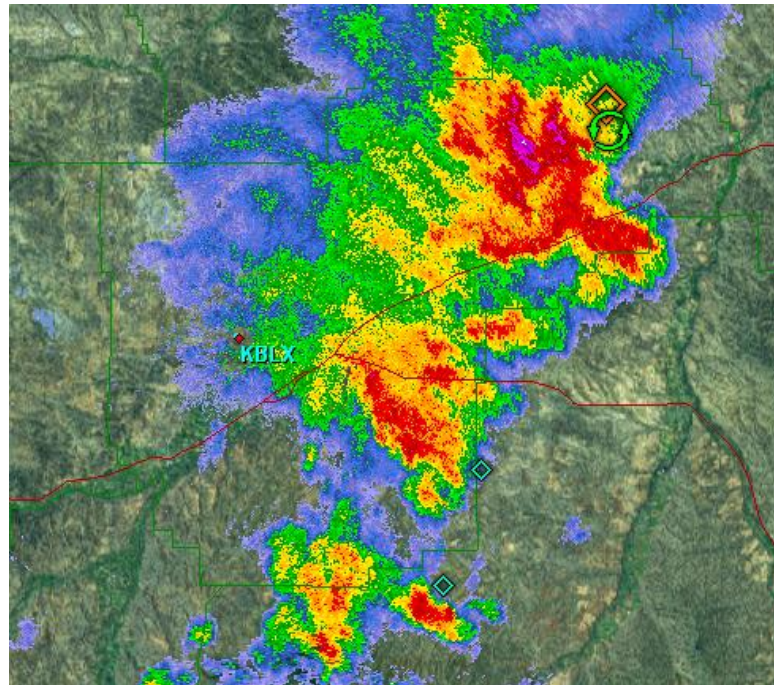


July 8, 2013
Severe Weather
Damage Assessment Report



National Weather Service
Billings, MT

Event Overview

Widespread severe thunderstorm activity occurred across central and southeast Montana the afternoon and evening of July 8, 2013. Storms produced large hail, damaging winds and two confirmed tornadoes.

On July 9, 2013, the National Weather Service in Billings conducted several damage assessments for areas with more significant impacts from these severe thunderstorms. While more detailed damage assessments were conducted at the following locations, scattered damage was noted all across the region.

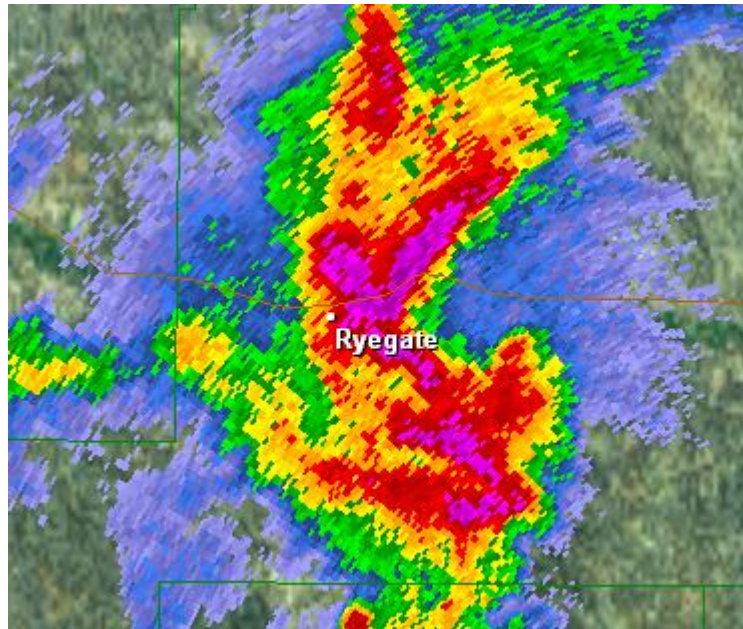
Ryegate, MT

Damage Assessment

Meteorological Description

- Severe thunderstorm moved into Golden Valley County from Wheatland County; already having a history of damaging hail
- Damage assessment indicative of enhanced microburst winds (upwards of 75 mph)

KBLX Radar Reflectivity Valid 3:55 pm MDT



Ryegate, MT

Damage Assessment



Type of Damage and Impacts

- Event
 - Microburst winds approx 4:00 pm MDT (Estimated speeds upwards of 75 mph)
- Extent
 - Majority of damage in the town of Ryegate, MT
 - Quarter mile wide and a mile long path
- Structural
 - Several structures impacted with mostly minor roof damage
 - Large tree limbs landed on several structures
- Tree
 - Numerous trees impacted with large tree limbs down
 - Several large pine trees were uprooted

Ryegate, MT

Damage Assessment (cont'd)



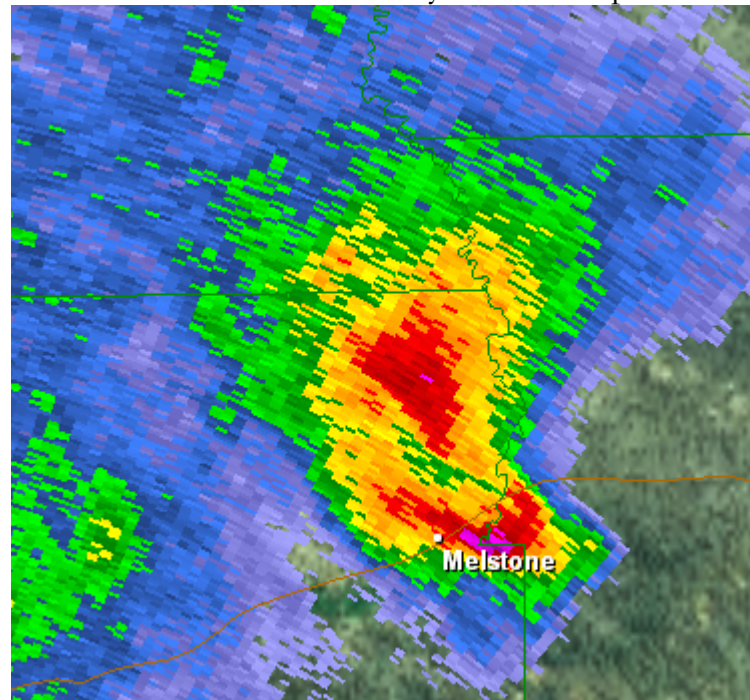
Melstone, MT

Damage Assessment

Meteorological Description

- Severe thunderstorm moved in from the northwest; originated in the Lewistown area; storm already having a history of damaging wind and hail
- Trained spotter reported a brief tornado touching down about 1 mile north of Melstone; while the town of Melstone experienced outflow winds in excess of 60 mph with minor tree and structural damage

KBLX Radar Reflectivity Valid 4:51 pm MDT



Melstone, MT

Tornado



Type of Damage and Impacts

- Event
 - Tornado approximately 4:48 pm MDT (EF0 - Estimated winds 65-85 mph)
- Extent
 - Brief touchdown reported by a trained spotter about 1 mile north of Melstone, MT
- Damage
 - No damage. Tornado remained over open areas

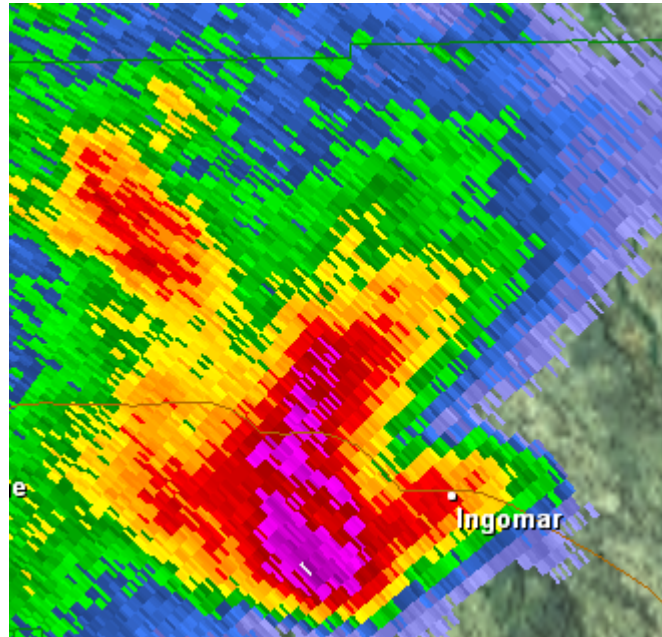
Ingomar, MT

Damage Assessment

Meteorological Description

- Severe thunderstorm moved in from the northwest; originated in the Lewistown area; storm already having a history of damaging wind and hail
- Damage assessment indicative of enhanced microburst winds (upwards of 75 mph)

KBLX Radar Reflectivity Valid 5:14 pm MDT



Ingomar, MT

Damage Assessment



Type of Damage and Impacts

- Event
 - Microburst winds approx 5:15 pm MDT (Estimated speeds upwards of 75 mph)
- Extent
 - In the town of Ingomar, MT
 - Quarter mile wide and a mile long path
- Structural
 - Numerous structures impacted with some damage
 - Corner roof on one house tore off
 - Metal shed destroyed
 - RV rolled

Ingomar, MT

Damage Assessment (cont'd)



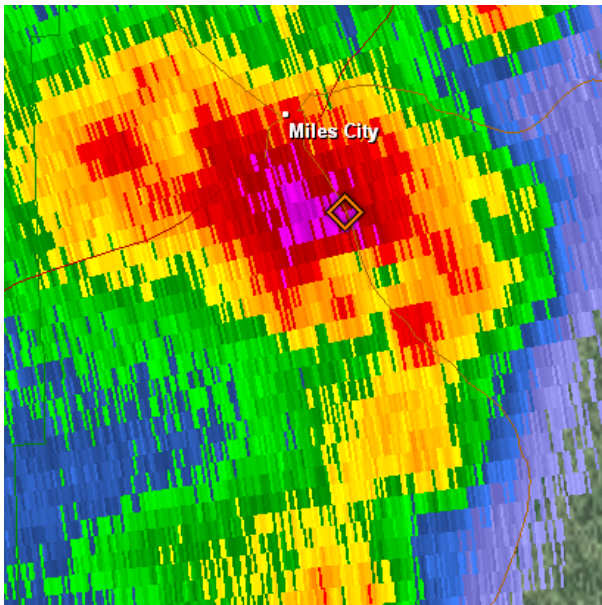
12 Mile Dam (South of Miles City, MT)

Damage Assessment

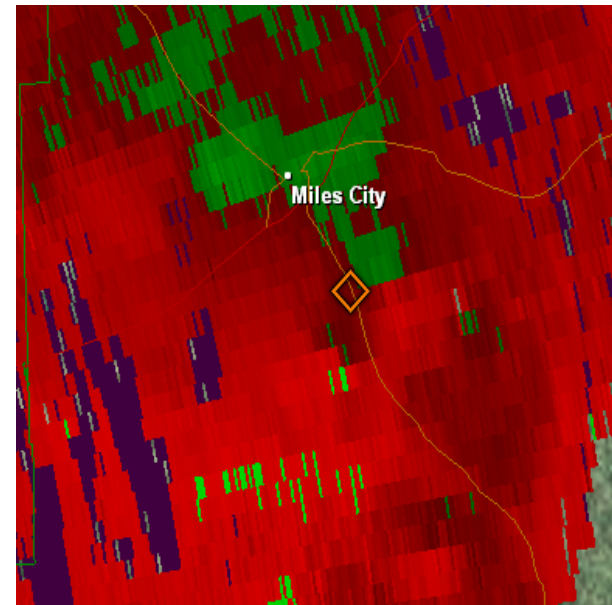
Meteorological Description

- Bow echo structure moved very rapidly through Miles City prompting a Severe Thunderstorm Warning to be issued at 6:21 pm MDT - mainly for damaging wind
- Damage assessment indicative of very strong outflow winds (75-110 mph) due to descending inflow jet and short lived spin-up tornado
- Brief touchdown of EF1 tornado was eventually outrun by storm outflow as it moved eastward

KBLX Radar Reflectivity Valid 7:01 pm MDT



KBLX Radar Wind Velocity Valid 7:01 pm MDT



12 Mile Dam (South of Miles City, MT)

Damage Assessment

Damage Location



12 Mile Dam (South of Miles City, MT)

Damage Assessment

Type of Damage and Impacts

- Extent
 - Areal coverage of about one square mile along MT State Road 332 about 13 miles south of Miles City
 - Debris thrown in all directions several hundred yards from point of origin
- Structural
 - Several structures impacted by high winds due to short lived EF1 tornado
 - Parts of several roofs blown off
 - Side of one house blown off
- Tree
 - Dozens of large trees 12-16 inches in diameter uprooted
 - Large tree limbs thrown long distances
- Miscellaneous
 - ~12 power poles knocked down
 - Irrigation pipe system thrown several hundred feet
 - Large camper overturned
- Impacts
 - Tree limbs blocking roads
 - Power outage(s)
 - Campers at 12 Mile Dam (no known injuries)
 - Major structural damage to homes/barns/garages

12 Mile Dam (South of Miles City, MT)

Damage Assessment (cont'd)



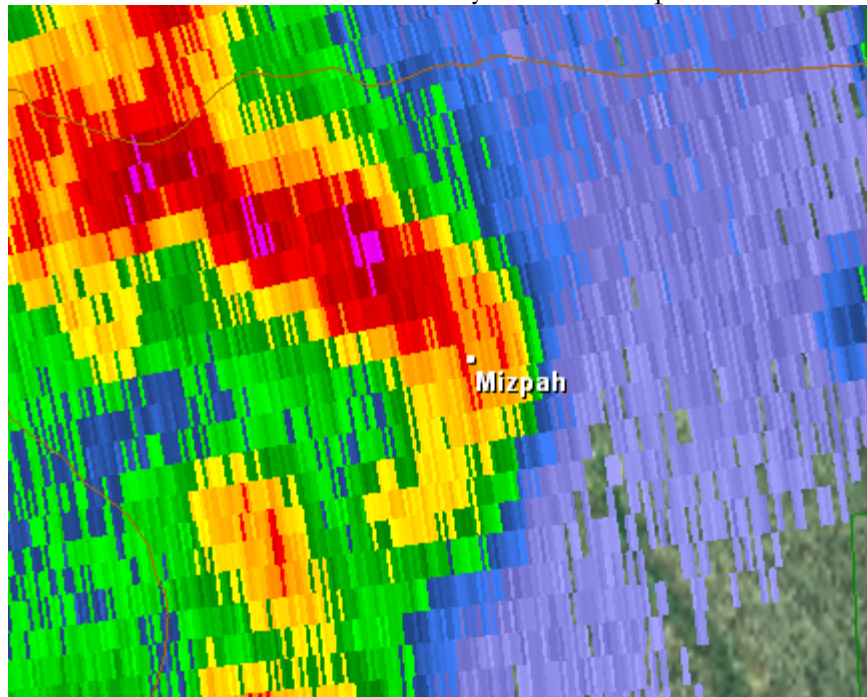
Mizpah, MT

Damage Assessment

Meteorological Description

- Same bow echo structure that impacted points west continued to move rapidly through Mizpah prompting a Severe Thunderstorm Warning to be issued at 7:29pm MDT - mainly for damaging wind
- Damage assessment indicative of very strong outflow winds (75-90 mph) due to descending inflow jet

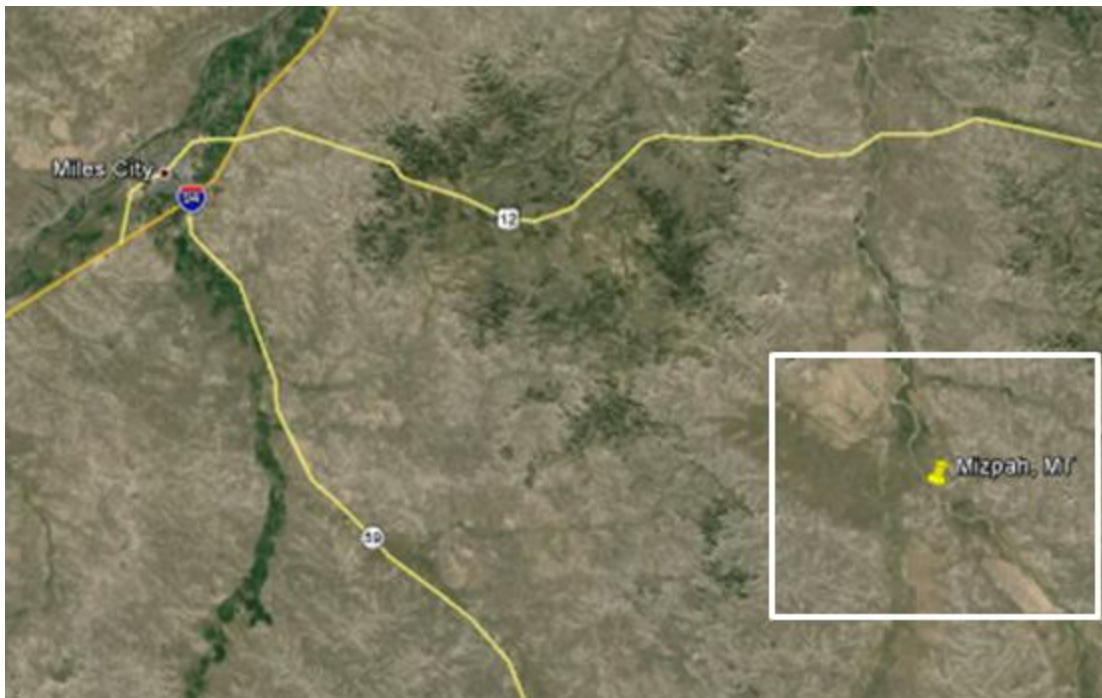
KBLX Radar Reflectivity Valid 7:15 pm MDT



Mizpah, MT

Damage Assessment (cont'd)

Damage Location



Mizpah, MT

Damage Assessment

Type of Damage and Impacts

- Extent
 - Areal coverage of about two square miles, along Mizpah Road (30 miles southeast of Miles City)
 - Debris thrown in the southeasterly direction several hundred yards from point of origin
- Structural
 - Several structures impacted by high winds
 - Grain silos indented
 - Several large barn / storage structures completely destroyed
 - Roof of local school house severely damaged
- Tree
 - Large tree limbs thrown long distances
- Miscellaneous
 - Several automobiles within barn structure damaged
 - Large semi-trailer knocked over
- Impacts
 - No known injuries
 - Major structural damage to homes/barns/garages

Mizpah, MT

Damage Assessment (cont'd)



Photos Courtesy of NWS Billings
and the Ostendorf Family

Mizpah, MT

Damage Assessment (cont'd)



Plevna, MT (4 miles Northeast)

Damage Assessment

Meteorological Description

- Bow echo structure that impacted points west continued to move rapidly eastward and impacted the area in and around Plevna, MT through Mizpah prompting a Severe Thunderstorm Warning to be issued at 7:29 pm MDT - mainly for damaging wind
- Damage assessment indicative of very strong outflow winds (75-90 mph) due to descending inflow jet

Plevna, MT (4 miles Northeast)

Damage Assessment (cont'd)

Damage Location



Plevna, MT (4 miles Northeast)

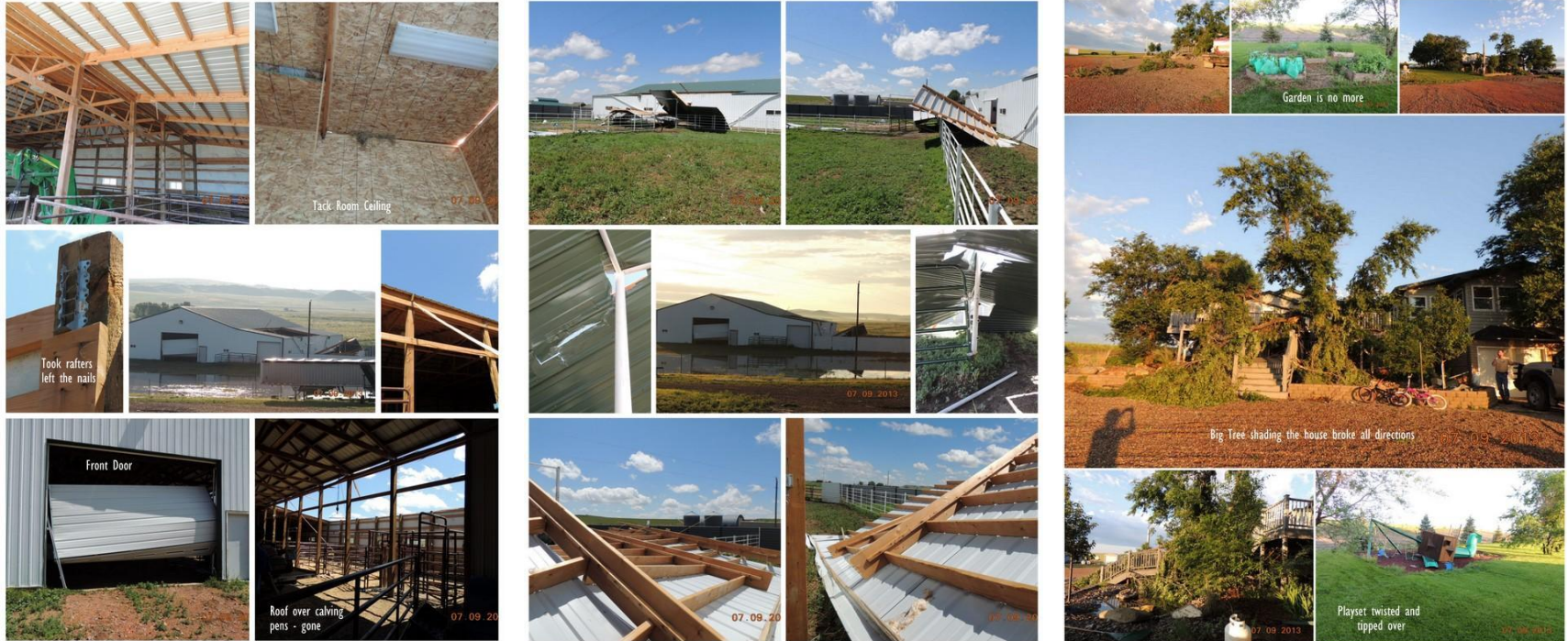
Damage Assessment (cont'd)

Type of Damage and Impacts

- Extent
 - Areal coverage of about one square mile
 - Debris thrown eastward several hundred yards from point of origin
- Structural
 - Several structures impacted by high winds
 - Large silo separated from tie down
 - Large garage door and roof of structure severely damaged
- Tree
 - Large tree limbs down on back deck of home
- Impacts
 - Major structural damage to barn/garage/silo

Plevna, MT (4 miles Northeast)

Damage Assessment (cont'd)



Plevna, MT (4 miles Northeast)

Damage Assessment (cont'd)

