## Storm Data and Unusual Weather Phenomena - August 2014

Location Date/Time Deaths & Property & Event Type and Details Injuries Crop Dmg

NORTH DAKOTA, Central and West

GRANT COUNTY --- 2.1 NNW RALEIGH [46.40, -101.31]

08/04/14 06:10 MST

08/04/14 06:15 MST 50K Source: Public

Some crop damage was reported.

A subtle shortwave moving through the area produced morning thunderstorms over southwest North Dakota.

BURLEIGH COUNTY --- 3.6 NE BALDWIN [47.07, -100.72]

08/09/14 14:23 CST 0 Funnel Cloud 08/09/14 14:25 CST 0 Source: Public

A frontal boundary along with ample low level moisture were present when a short lived funnel cloud developed.

DUNN COUNTY --- 51.8 NW KILLDEER [47.80, -103.68], 10.9 WNW MANNING [47.28, -102.99], 2.3 SW NEW HRADEC [46.98, -102.92], 11.5 SE

MARSHALL [47.01, -102.16], 15.0 NNE HALLIDAY [47.56, -102.25]

 08/15/14 22:30 MST
 1.70M
 Flood (due to Heavy Rain)

 08/17/14 15:00 MST
 0.40M
 Source: Emergency Manager

n

Hail (0.75 in)

Upwards of 10.50 inches of rain in parts of Dunn County led to very significant overland flooding. There was also flooding along the Knife River and its tributaries. There was significant damage to roads and crops. A county emergency declaration was issued.

MCKENZIE COUNTY --- 3.7 SSW ALEXANDER [47.80, -103.68], 14.7 SE GRASSY BUTTE [47.28, -102.99], 32.9 SSE GRASSY BUTTE [46.98, -102.92],

54.8 SSE MANDAREE [47.01, -102.16], 22.9 ESE MANDAREE [47.56, -102.25]

 08/15/14 22:30 MST
 1.30M
 Flood (due to Heavy Rain)

 08/17/14 15:00 MST
 0.25M
 Source: Emergency Manager

Upwards of three inches of rain in parts of McKenzie County led to significant overland flooding. There was significant damage to roads and crops. A county emergency declaration was issued.

STARK COUNTY --- 8.5 NNE SOUTH HEART [46.98, -102.92], 11.2 N ANTELOPE [47.01, -102.16], 5.5 ESE ANTELOPE [46.81, -102.10], 4.3 E SOUTH

HEART [46.86, -102.91]

 08/15/14 22:30 MST
 0.55M
 Flood (due to Heavy Rain)

 08/17/14 15:00 MST
 0.18M
 Source: Emergency Manager

Upwards of six inches of rain in parts of Stark County led to overland flooding. There was damage to roads and crops in the northern part of the county.

MERCER COUNTY --- 19.1 SSW GOLDEN VLY [47.01, -102.16], 21.1 NNW GOLDEN VLY [47.56, -102.25], 10.4 N BEULAH [47.42, -101.77], 20.0 S

BEULAH [46.98, -101.77]

 08/15/14 23:30 CST
 2.50M
 Flood (due to Heavy Rain)

 08/17/14 16:00 CST
 0.50M
 Source: Emergency Manager

Upwards of nine inches of rain in parts of western Mercer County led to very significant overland flooding. There was also flooding along the Knife River, Spring Creek, and their tributaries. Water was added to the Knife River system not only from rain in Mercer County but rain in Dunn County as well. There was significant damage to roads and crops. Officials estimated damage to at least 90 residences. Damage occurred to storm sewer and sanitary sewer systems. A county emergency declaration was issued.

BURLEIGH COUNTY --- 1.5 SSW DRISCOLL [46.83, -100.14], 10.1 ESE DRISCOLL [46.82, -99.92], 18.1 SE DRISCOLL [46.64, -99.90], 5.9 ESE MOFFIT

[46.64, -100.17]

 08/16/14 10:40 CST
 30K
 Flash Flood (due to Heavy Rain)

 08/16/14 15:00 CST
 25K
 Source: Emergency Manager

Around five inches of rain caused flash flooding across county and township roads in southeast Burleigh County, washing some out. There was also crop damage. Flash flooding also occurred across the county line into southwest Kidder County.

KIDDER COUNTY --- 7.7 W STEELE MUNI ARPT [46.83, -100.14], 2.3 SSW STEELE [46.82, -99.92], 14.5 S STEELE [46.64, -99.90], 17.1 SSW STEELE

MUNI ARPT [46.64, -100.17]

08/16/14 10:40 CST25KFlash Flood (due to Heavy Rain)08/16/14 15:00 CST35KSource: Emergency Manager

Page 1 of 4 Printed on: 10/31/2014

Storm Data and Unusual Weather Phenomena - August 2014 Date/Time Deaths & **Event Type and Details** Location Property & Injuries Crop Dmg Around five inches of rain caused flash flooding across county and township roads in southwest Kidder County, washing some out. There was also crop damage. Flash flooding also occurred across the county line into southeast Burleigh County. LOGAN COUNTY --- 6.1 NW NAPOLEON [46.57, -99.85], 13.8 ENE NAPOLEON [46.60, -99.52], 4.2 E BURNSTAD [46.38, -99.53], 6.9 SSW NAPOLEON [46.40, -99.81] 08/16/14 10:40 CST 0.25M Flash Flood (due to Heavy Rain) 08/16/14 13:00 CST 0.10M Source: Emergency Manager Many homes had significant amounts of water in their basements from runoff. Some basements collapsed. Rain amounts were up to six inches. Crops were flooded. BURLEIGH COUNTY --- 6.5 ENE WILTON [47.20, -100.67], 1.6 WNW ARENA [47.14, -100.20], 4.8 NW DRISCOLL [46.90, -100.20], 10.3 ESE BALDWIN [46.97, -100.57] 08/16/14 13:30 CST 20K Flash Flood (due to Heavy Rain) 08/16/14 18:30 CST 50K Source: Emergency Manager Around four inches of rain caused flash flooding across county and township roads in southeast Burleigh County, washing some out and forcing them to be closed. There was also crop damage. STUTSMAN COUNTY --- (JMS)JAMESTOWN MUNI [46.93, -98.68], 1.5 ESE STATE HOSPITAL [46.87, -98.64], 2.7 SW JAMESTOWN [46.87, -98.74], 2.1 NW JAMESTOWN [46.92, -98.73] 08/16/14 15:45 CST 10K Flash Flood (due to Heavy Rain) 08/16/14 17:45 CST n Source: Law Enforcement Around two inches of rain in parts of Jamestown caused flash flooding in the city as storm drains could not accommodate the rate of rainfall. Streets were flooded and there were a few reports of water flowing across front yards and into basements. Several waves of heavy rain, with embedded non severe thunderstorms with torrential rain, moved through western and central North Dakota. There was overland, stream, river and flash flooding, mainly over the southern half of the western and central parts of the state. The hardest hit areas were between Williston and Dickinson, and between Bismarck and Jamestown. Up to six inches of rain fell from Kintyre to Napoleon to Menoken. Up to 11 inches was indicated by radar and verified through ground truth rain gauge reports in the Dunn and Mercer County areas. 10.50 inches of rain was reported nine miles south of Dunn Center, Dunn County. Damage was in the millions of dollars. Some counties had to close roads because of flooding. Weight limits were placed on other roads as the road beds softened. The rain was the result of a mid level atmospheric circulation that moved very slowly across North Dakota. Flood watches were posted for parts of the area more than a day in advance and were followed by advisories and warnings. Several counties issued disaster declarations. BOWMAN COUNTY --- 13.8 WSW RHAME [46.16, -103.92] 0 Hail (0.75 in) 08/17/14 12:15 MST 08/17/14 12:16 MST 0 Source: Public BOWMAN COUNTY --- 8.3 S RHAME [46.11, -103.67] 08/17/14 12:48 MST 0 Hail (0.75 in) 08/17/14 12:51 MST 0 Source: Trained Spotter BOWMAN COUNTY --- 4.2 S BOWMAN [46.12, -103.39] 08/17/14 13:34 MST 0 Thunderstorm Wind (MG 50 kt) 08/17/14 13:36 MST 0 Source: Department of Highways RENVILLE COUNTY --- 0.7 S GLENBURN [48.51, -101.22] 0 08/17/14 14:00 CST Hail (1.00 in) 08/17/14 14:02 CST 0 Source: Trained Spotter BOWMAN COUNTY --- 0.5 W SCRANTON [46.15, -103.14] 08/17/14 14:27 MST 0 Hail (1.00 in) 08/17/14 14:28 MST 0 Source: Public

Storm chasers estimated the wind gust. No damage was reported.

08/17/14 14:55 CST

08/17/14 14:57 CST

MCHENRY COUNTY --- 1.8 E DEERING [48.40, -101.01]

Page 2 of 4 Printed on: 10/31/2014

Thunderstorm Wind (EG 52 kt)

Source: Storm Chaser

0

0

## Storm Data and Unusual Weather Phenomena - August 2014

	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
PIERCE COUNTY 4.6 E WOLFORD [48.50, -9	=			T
	08/17/14 16:46 CST		0	Thunderstorm Wind (EG 52 kt)
	08/17/14 16:47 CST		50K	Source: Trained Spotter
A trained spotter estimated the wind speed and n	oted crop damage.			
Modest instability and shear were noted ahead into the evening.	of a cold front that entered	western North Dal	ota in the afterno	on and progressed east
STARK COUNTY 5.5 S (DIK)DICKINSON MUN				
	08/20/14 13:46 MST		0	Hail (0.75 in)
	08/20/14 13:47 MST		0	Source: Public
ROLETTE COUNTY 3.7 NNE THORNE [48.78,	-99 891			
(OLE 172 OCON 17 0.7 MM2 1110MM2 [40.70,	08/20/14 14:19 CST		0	Hail (1.00 in)
	08/20/14 14:20 CST		0	Source: Trained Spotter
TARK COUNTY				
STARK COUNTY 0.5 E LEFOR [46.68, -102.54	08/20/14 14:32 MST		30K	Thunderstorm Wind (EG 61 kt)
	08/20/14 14:35 MST		0	Source: Public
A shed was destroyed and trees were damaged.				
MORTON COUNTY 4.9 S HEBRON [46.83, -10	=			Hoil (1 00 in)
	08/20/14 16:55 CST		0	Hail (1.00 in)
	08/20/14 16:57 CST		0	Source: Public
MORTON COUNTY 5.5 S GLEN ULLIN [46.74]	, -101.83]			
	08/20/14 17:00 CST		0	Thunderstorm Wind (EG 52 kt)
	08/20/14 17:04 CST		0	Source: Public
A driver going north on North Dakota Highway 49		n the road. Visibilit		
	was having trouble staying o	n the road. Visibilit		near zero in torrential rain.
	was having trouble staying o	n the road. Visibilit		
	was having trouble staying o	n the road. Visibilit	y was reduced to r	near zero in torrential rain.
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying o -100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST	n the road. Visibilit	y was reduced to r	near zero in torrential rain.  Hail (1.25 in)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying o -100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST	n the road. Visibilit	y was reduced to r	near zero in torrential rain.  Hail (1.25 in)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying of the control of the co	n the road. Visibilit	y was reduced to r	Hail (1.25 in) Source: Broadcast Media
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying of control of the contro	n the road. Visibilit	y was reduced to r	Hail (1.25 in) Source: Broadcast Media Hail (0.75 in)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying of control of the contro	n the road. Visibilit	y was reduced to r	Hail (1.25 in) Source: Broadcast Media Hail (0.75 in)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,	was having trouble staying of control of the contro	n the road. Visibilit	y was reduced to r	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,  WARD COUNTY 3.5 N SAWYER [48.13, -101.0	was having trouble staying of the st	n the road. Visibilit	y was reduced to r	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,  WARD COUNTY 3.5 N SAWYER [48.13, -101.0]  EMMONS COUNTY 8.1 E LINTON [46.27, -100]  Small tree branches were broken and yard furnit.  Thunderstorms formed mainly to the north of a reported, with multiple reports of heavy rain sp	was having trouble staying of the st	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public
A driver going north on North Dakota Highway 49 BURLEIGH COUNTY 5.5 S BALDWIN [46.95, WARD COUNTY 3.5 N SAWYER [48.13, -101.0 EMMONS COUNTY 8.1 E LINTON [46.27, -100 Small tree branches were broken and yard furnitum. Thunderstorms formed mainly to the north of a reported, with multiple reports of heavy rain specond in north central North Dakota. BILLINGS COUNTY 6.9 N FAIRFIELD [47.28,	-100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST  08/20/14 18:15 CST 08/20/14 18:17 CST  0.06] 08/20/14 20:45 CST 08/20/14 20:48 CST  ure was damaged.  warm front in a moisture ric lit into two main areas. One	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,  WARD COUNTY 3.5 N SAWYER [48.13, -101.0]  EMMONS COUNTY 8.1 E LINTON [46.27, -100]  Small tree branches were broken and yard furnitum.  Thunderstorms formed mainly to the north of a reported, with multiple reports of heavy rain specond in north central North Dakota.	-100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST  08/20/14 18:15 CST 08/20/14 18:17 CST  0.06] 08/20/14 20:45 CST 08/20/14 20:48 CST  ure was damaged.  warm front in a moisture ric lit into two main areas. One	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,  WARD COUNTY 3.5 N SAWYER [48.13, -101.0]  EMMONS COUNTY 8.1 E LINTON [46.27, -100]  Small tree branches were broken and yard furnitum.  Thunderstorms formed mainly to the north of a reported, with multiple reports of heavy rain specond in north central North Dakota.	-100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST  08/20/14 18:15 CST 08/20/14 18:17 CST  0.06] 08/20/14 20:45 CST 08/20/14 20:48 CST  are was damaged.  warm front in a moisture ric lit into two main areas. One	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0 arge hail and stror in south central No	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public
BURLEIGH COUNTY 5.5 S BALDWIN [46.95, WARD COUNTY 3.5 N SAWYER [48.13, -101.0]  EMMONS COUNTY 8.1 E LINTON [46.27, -100]  Small tree branches were broken and yard furnitude tree branches were broken and yard furnitude tree branches formed mainly to the north of a seported, with multiple reports of heavy rain specond in north central North Dakota.  BILLINGS COUNTY 6.9 N FAIRFIELD [47.28, 1988]	-100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST  08/20/14 18:15 CST 08/20/14 18:17 CST  08/20/14 20:45 CST 08/20/14 20:48 CST ure was damaged.  warm front in a moisture ric lit into two main areas. One -103.22] 08/30/14 18:16 MST 08/30/14 18:26 MST	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0 arge hail and stror in south central No	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public  ag wind gusts were borth Dakota and the  Hail (1.00 in)
BURLEIGH COUNTY 5.5 S BALDWIN [46.95,  WARD COUNTY 3.5 N SAWYER [48.13, -101.0]  EMMONS COUNTY 8.1 E LINTON [46.27, -100]  Small tree branches were broken and yard furnitum.  Thunderstorms formed mainly to the north of a reported, with multiple reports of heavy rain specond in north central North Dakota.	-100.78] 08/20/14 18:00 CST 08/20/14 18:02 CST  08/20/14 18:15 CST 08/20/14 18:17 CST  08/20/14 20:45 CST 08/20/14 20:48 CST ure was damaged.  warm front in a moisture ric lit into two main areas. One -103.22] 08/30/14 18:16 MST 08/30/14 18:26 MST	ch atmosphere. La	y was reduced to r  0 0 0 0 2K 0 arge hail and stror in south central No	Hail (1.25 in) Source: Broadcast Media  Hail (0.75 in) Source: Public  Thunderstorm Wind (EG 52 kt) Source: Public  ag wind gusts were borth Dakota and the  Hail (1.00 in)

An isolated severe storm struck southwest North Dakota.

Page 3 of 4 Printed on: 10/31/2014

## Storm Data and Unusual Weather Phenomena - August 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
WILLIAMS COUNTY 5.8 NE TRE	NTON [48.12, -103.75]			
	08/31/14 16:30 CST		0	Thunderstorm Wind (EG 52 kt)
	08/31/14 16:35 CST		0	Source: Trained Spotter
The wind gust was estimated. No da	amage was reported.			
MORTON COUNTY 3.4 N NEW S	ALEM [46.90, -101.42]			
	08/31/14 20:55 CST		3K	Lightning
	08/31/14 20:55 CST	1	0	Source: Law Enforcement

A vehicle, traveling north on North Dakota Highway 31 north of New Salem, was struck by lightning. Airbags in the vehicle deployed. A female passenger in the front right seat of the vehicle suffered injuries and was taken to a hospital by ambulance. The vehicle sustained cosmetic damage and all electronics were inoperable. The vehicle was disabled.

An isolated severe thunderstorm moved through parts of northwest North Dakota and produced severe wind gusts. A non severe thunderstorm caused a lightning injury in south central North Dakota, north of New Salem, in Morton County.

Page 4 of 4 Printed on: 10/31/2014