

Storm Data and Unusual Weather Phenomena - April 2011

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
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NORTH DAKOTA, Central and West

(ND-Z003) RENVILLE, (ND-Z004) BOTTINEAU, (ND-Z005) ROLETTE

04/02/11 21:00 CST			0	Heavy Snow
04/03/11 17:00 CST			0	

A deep area of low pressure pushing east across the Central Plains brought heavy snow to portions of north central North Dakota from the evening of April 2nd through the afternoon of April 3rd.

Forcing for vertical ascent was focused across far south central Canada and far north central North Dakota during this episode. This is where surface convergence along an inverted trough, and mid and upper level divergence ahead of an upper low, were collocated.

Storm total snowfall amounts of six to ten inches were reported over northern portions of Renville, Rolette, and Bottineau counties near the Canadian border.

(ND-Z019) MERCER, (ND-Z020) OLIVER, (ND-Z021) MCLEAN, (ND-Z022) SHERIDAN, (ND-Z023) WELLS, (ND-Z025) FOSTER, (ND-Z034) MORTON, (ND-Z035) BURLEIGH, (ND-Z036) KIDDER, (ND-Z037) STUTSMAN, (ND-Z042) GRANT, (ND-Z045) SIOUX, (ND-Z046) EMMONS, (ND-Z047) LOGAN, (ND-Z048) LA MOURE, (ND-Z050) MCINTOSH, (ND-Z051) DICKEY

04/14/11 17:00 CST			0	Heavy Snow
04/15/11 20:00 CST			0	

An inverted surface trough extending from a deep area of low pressure moving slowly across the central plains, brought heavy snow to much of south central and southeastern North Dakota from April 14th through April 15th.

Strong southerly moisture advection along the inverted surface trough, combined with large scale forcing ahead of a northern stream mid level short wave trough, acted to enhance snowfall during the overnight and morning hours over portions of the Dakotas.

Storm total snowfall amounts for this episode ranged from six inches to just over one foot. State and county officials issued multiple travel advisories due to poor visibilities and snow covered roads.

(ND-Z031) GOLDEN VALLEY, (ND-Z032) BILLINGS, (ND-Z033) STARK, (ND-Z034) MORTON, (ND-Z040) SLOPE, (ND-Z041) HETTINGER, (ND-Z042) GRANT, (ND-Z043) BOWMAN, (ND-Z044) ADAMS, (ND-Z045) SIOUX

04/18/11 22:00 CST			0	Heavy Snow
04/19/11 22:30 CST			0	

An inverted trough of low pressure extending from low pressure over the central plains combined with a mid level short wave pushing into the Northern Plains to bring heavy snow to southwest and parts of south central North Dakota April 19th and 20th.

Storm total snow amounts ranged from six to fifteen inches along and south of the Interstate 94 corridor and west of the Missouri River. Areas east of the Missouri River experienced more rain than snow, resulting in much lower storm total snowfall.

Numerous travel advisories were issued by state and county officials over the southwest as wet and slushy roads became icy after sunset. Those areas that experienced the heavier snow had snow covered roads along with very low visibilities in heavy snow.

(ND-Z043) BOWMAN

04/22/11 11:00 CST			0	Heavy Snow
04/22/11 20:00 CST			0	

A strong area of low pressure moving across northern South Dakota brought heavy rain and heavy snow to west and central North Dakota April 22nd.

Surface temperatures in the 40s resulted in much of the precipitation falling as rain over most locations, with only minor snow accumulations on grassy areas. However, across the elevated terrain over the southwest corner of the state stronger cold air advection on the back side of the surface low coincided with a much colder thermal profile underneath the upper level trough to result in mainly snow. Storm total snowfall over Bowman County ranged from seven to twelve inches.

(ND-Z001) DIVIDE, (ND-Z002) BURKE, (ND-Z003) RENVILLE, (ND-Z004) BOTTINEAU, (ND-Z009) WILLIAMS, (ND-Z010) MOUNTRAIL, (ND-Z011) WARD, (ND-Z012) MCHENRY, (ND-Z017) MCKENZIE, (ND-Z018) DUNN, (ND-Z019) MERCER, (ND-Z020) OLIVER, (ND-Z021) MCLEAN, (ND-Z022) SHERIDAN, (ND-Z031) GOLDEN VALLEY, (ND-Z032) BILLINGS, (ND-Z033) STARK, (ND-Z034) MORTON, (ND-Z035) BURLEIGH, (ND-Z040) SLOPE, (ND-Z041) HETTINGER, (ND-Z042) GRANT, (ND-Z043) BOWMAN, (ND-Z044) ADAMS

04/30/11 02:00 CST		1	3.44M	Blizzard
04/30/11 23:59 CST		1	0	

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Direct Fatalities: M49VE

(ND-Z023) WELLS, (ND-Z036) KIDDER, (ND-Z037) STUTSMAN, (ND-Z045) SIOUX, (ND-Z046) EMMONS, (ND-Z047) LOGAN, (ND-Z048) LA MOURE, (ND-Z050) MCINTOSH, (ND-Z051) DICKEY

04/30/11 13:00 CST	0	High Wind (MAX 52 kt)
04/30/11 23:00 CST	0	

A powerful late spring storm system swept across the Northern Plains region April 29th into May 1st. Significant amounts of moisture was drawn into the storm from the Gulf of Mexico, leading to heavy amounts of precipitation over west and central North Dakota. Strong cold air advection on the back side of the surface low resulted in a changeover from rain to freezing rain and eventually to heavy wet snow from west to east during this event.

In addition, a tight pressure gradient and strong pressure rises on the back side of the surface low resulted in the development of very strong winds ranging from 40 to 60 mph across much of the region. Some reporting stations observed peak wind gusts in excess of 75 mph.

Parts of western and north central North Dakota were hit the hardest, experiencing a prolonged period of very strong winds, freezing precipitation, and the heaviest snow of up to 14 inches. Impacts here were extreme and devastating, as the ice and heavy wet snow combined with the strong winds to knock down numerous trees and power lines, resulting in the loss of power to thousands, as well as stranding many motorists. Across the southwest and central impacts were less severe, however the widespread blizzard conditions still resulted in numerous road closures and travel advisories. Far south central and eastern North Dakota received very little snowfall but still experienced the high winds.

A preliminary damage assessment by state officials documented an estimated 6.5 million dollars in damages, leading the North Dakota Governor to issue a State Disaster Declaration. Over 1,500 power transmission structures were damaged, and estimated livestock losses were more than 1,000. Also, one direct fatality and one direct injury were attributed to the storm near New England in Hettinger County, where a two-vehicle head on crash occurred due to low visibilities in the blizzard.

See also storm data entries for May 2011.