

Plains to Northeast Winter Storm

6-8 February, 2019

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Meteorological Overview:

A significant winter storm impacted portions of the Plains to the Northeast with a variety of wintry weather, from heavy snow and blizzard conditions to accumulating sleet and freezing rain. In the days prior, the same upper level system brought significant snow accumulations in the higher terrain of the Northwest and northern/central Rockies, with even some snow accumulations reported in the lower elevations of the Pacific Northwest and northern California. Farther south, this storm also produced heavy rainfall and severe weather across parts of the Tennessee and Ohio River Valleys.

Between 4 February and 6 February, a closed low dropping southward along the Pacific Northwest Coast shifted inland and opened up into a shortwave trough over the Intermountain West. The upper level system intensified again as it moved east-northeastward through the Northern/Central Plains, the Upper Midwest, and eventually into southern Canada by 8 Feb. Meanwhile, a surface low developed in the Southern Plains late in the day on 6 February, moving through the Mid-Mississippi Valley into the Upper Great Lakes on 7 February. As a result, heavy accumulating snow fell from parts of the Plains to the Upper Mississippi Valley along an axis of lower to mid-level frontogenetic forcing to the north and west of the main surface low. This system underwent explosive cyclogenesis, with the surface low deepening 26 hPa in 24 hours between 12 UTC on 7 February and 12 UTC on 8 February resulting in widespread gusty winds and blizzard conditions. Along the southern edge of the wintry precipitation shield, significant icing was observed from parts of the Central Plains to the Midwest due to overriding warmer air aloft.

By the early morning hours of 8 February, the storm lifted into Southern Canada and snowfall across the Plains and Upper Midwest came to an end. However, very cold arctic air filtered into the north-central U.S. and combined with gusty winds resulted in dangerously cold wind chills for much of the Northern/Central Plains into the Midwest. Farther east, some light to moderate freezing rain and snow accumulations were also reported across parts of Northern New England, with the heaviest snow staying north of the border in eastern Canada.

Impacts:

The highest snow accumulations with this storm fell from the Dakotas, across northern Minnesota and Wisconsin, and into the Upper Peninsula of Michigan where 6 to 12+ inches of snow were reported. Farther south, up to an inch of sleet and freezing rain accumulated from parts of Kansas and Oklahoma to lower Michigan. Across New England, up to a third of an inch of freezing rain and a couple of inches of snow were reported. Heavy snowfall, gusty winds, and blizzard conditions resulted in widespread power outages and dangerous if not impossible travel from the Plains to the Upper Midwest. Numerous businesses, schools, and interstates were

closed as wintry weather impacted greater than 20 million people. This storm can be blamed for the deaths of 4 people, all in traffic related incidents.