

## Winter storm in America

The 2007 mid-February Eastern North America winter storm was a massive winter storm that affected most of the eastern half of North America and started on February 12, 2007 with the peak of the storm on Valentine's Day, February 14, 2007. It produced heavy snowfalls across the Midwest of the United States from Nebraska to Ohio and produced similar conditions across the Northeastern United States as well as in Ontario, Quebec and New Brunswick . Significant ice fell across the southern Ohio Valley and affected portions of the East Coast of the United States including the cities of Boston and New York City. In the southern portion of the storm, it has produced severe thunderstorms with tornadoes. One tornado hit a subdivision of New Orleans which was still recovering from the effects of Hurricane Katrina that hit the region in August 2005. In total, this storm system was responsible for 17 deaths across nine U.S. states and the Canadian province of Ontario.

Through much of January, in sharp contrast to the mostly mild weather in the first few weeks of winter, the eastern half of the continent was under the influence of cold temperatures. Numerous areas had substantial snowfall deficits before this storm. After several weak Alberta Clippers crossed the eastern half of the continent and brought occasional light snowfalls, a large dip in the Northern branch of the jet stream favoured a more active pattern, which, as it connected with the southern branch, led to the development of the storm.

On February 10 through 11, a low pressure system developed near the Rockies and moved towards the Great Plains of the United States. It later tracked across the Ohio Valley and merged with a new coastal low. It then moved over eastern Quebec on Valentine's Day.

It dumped over six inches of snow across numerous areas from Iowa to New Brunswick including major cities such as Akron, Cleveland, Chicago, Springfield, Peoria, Indianapolis, Fort Wayne, Dayton, Toledo, Detroit, London, Hamilton, the Niagara Region, Toronto, Sherbrooke, Saguenay, Trois-Rivieres, Ottawa, Montreal, Quebec City, Pittsburgh, Buffalo, Rochester, Windsor, Syracuse, and Albany. This also includes areas such as Northern Oswego County, New York which received historic lake effect snowfall amounts.

In addition to the general snowfall, snow squalls coming from Lake Ontario gave local amounts of over 2 feet (60 cm) of snow near the Hamilton and Niagara regions where 1 foot of snow had already fallen on February 13.

Heavy ice amounts fell for locations along Interstate 95 from Maine to Virginia and west towards southern Ohio and Indiana. Ice was expected for parts of the Canadian Maritimes.

Maine Governor John Baldacci declared a state of emergency in order to assure heating oil for residents of the state which was one of the hardest hit areas by the snowstorm. Most schools in the region were closed due to the inclement weather. Airports faced long delays including a JetBlue plane headed towards the Mexican resort of Cancún, which was delayed on the tarmac at John F. Kennedy airport for eight hours. Due to the additional heavy snowfall, New York Governor Eliot Spitzer called in the National Guard to assist in the snow removal efforts in the areas hit by the lake effect snow storm.

Essex, Warren and Clinton counties in New York state, which were affected by extensive snowfall from the storm had declared a state of emergency.

Virginia Gov. Timothy Kaine declared a state-wide emergency in advance of the storm, directing state agencies to help in the response to and recovery from the storm.

Most counties in the northern tier of Pennsylvania declared a state of emergency, Interstates 81 and 380 were closed for hours.

The storm left a mark on states like Illinois, Indiana, and Ohio, which received heavy snow for over 24 hours, accumulating upwards of 18 inches (45.72 cm) in some areas. In Chicago, O'Hare International Airport received 10.2 inches (25.9 cm) of snow, while Midway Airport received 9.7 inches (24.6 cm). The Midway total was the largest amount of snow received in the month of February since records began to be kept in 1928.

Areas of the Appalachian Mountains in northern New England and Quebec received accumulations of over 16 inches (40 cm) with local amount exceeding 3 feet (90 cm) in parts of Vermont and 42 inches (105 cm) in the Adirondacks in New York State. The City of Hamilton and the Niagara region received just over 18 inches (45 cm) due to snowsqualls off of Lake Ontario.

Approximately 5 inches (12.5 cm) fell near Beekman, New York, while other areas were affected more significantly.

A notable feature of the system was its array of precipitation type. While the interior sections of the Northeast received mostly snow from the system, the Mid-Atlantic received snow, sleet, freezing rain and non-freezing rain. Due to the three-dimensional nature of the atmosphere, warm air was poised to overtake the cold air closer to the ground, causing precipitation to melt, then refreeze as either sleet or freezing rain. As temperatures hovered around freezing on the southern edge of the storm track, light snow accompanied freezing rain and sleet. The freezing rain coated all surfaces with thick layers of ice, including power lines and tree limbs which break under the additional weight.

Ice accumulations in Virginia and Maryland reached locally three-quarters of an inch (20 mm) while it reached 1 inch in central Ohio near Columbus and Xenia.