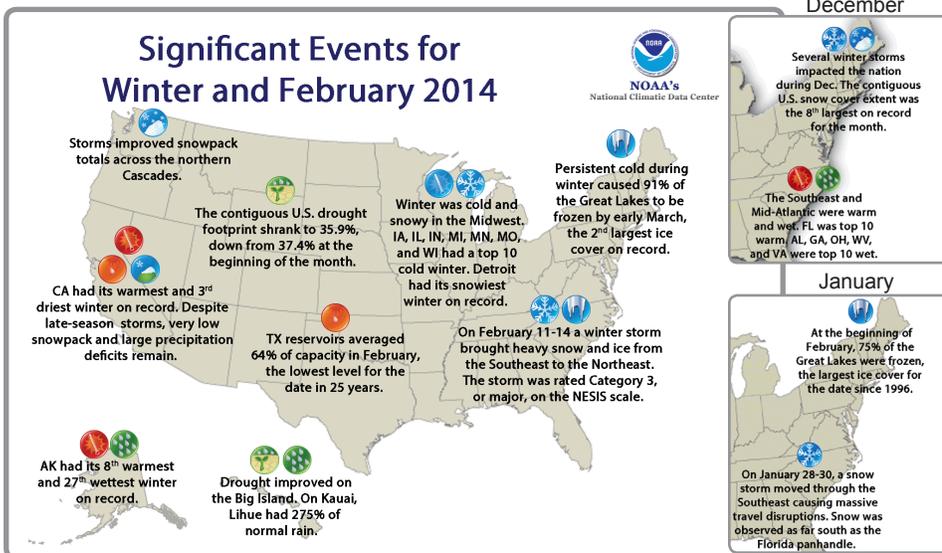


National - Significant Events for December 2013–February 2014



Highlights for the East

Two major winter storms hit the region in February. From the 4th to the 5th, a storm dropped up to 20 inches of snow and 0.75 inches of ice. Costing \$90–120 million, the storm may be the most expensive in southeastern Pennsylvania energy provider, PECO's history. From the 11th to the 13th, a storm dropped up to 30 inches of snow and 1.25 inches of ice. The storm closed Washington, DC, area airports, contributed to accidents involving 100 vehicles on the Pennsylvania Turnpike, left thousands without power for over a week in the Carolinas, and caused roof collapses in New Jersey.

With a 49°F difference between the daily high and low on January 6, Binghamton, NY, had its largest daily temperature range on record. The site also set a record for number of below-zero days in January and tied the record for any month. In December, Caribou, ME; Concord, NH; and Atlantic City, NJ, set or tied records for greatest number of consecutive days with measurable snowfall.

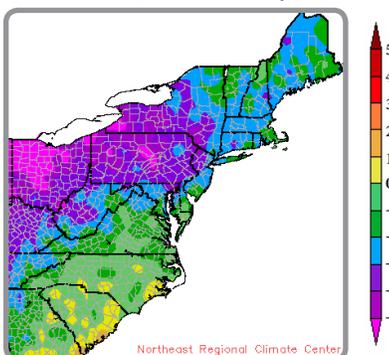
From February 20 to 21, severe storms spawned two EF-0 tornadoes in Ohio, an EF-0 in Maryland, and an EF-1 in North Carolina. The storms also caused structural and tree damage in West Virginia and the Mid-Atlantic.

The United States' average February temperature was 32.2°F, 1.6°F below average, while the average winter temperature was 31.3°F, 1.0°F below average. February precipitation was 2.12 inches, 0.01 inch below normal. Winter precipitation was 5.69 inches, 1.10 inches below normal, making it the 9th driest winter on record. February snow cover extent for the contiguous United States was 1.48 million square miles, 282,000 square miles above average, making it the 9th largest February snow cover extent in the 48-year period of record. Winter snow cover extent was 1.42 million square miles, 170,000 square miles above average, which is 10th largest.

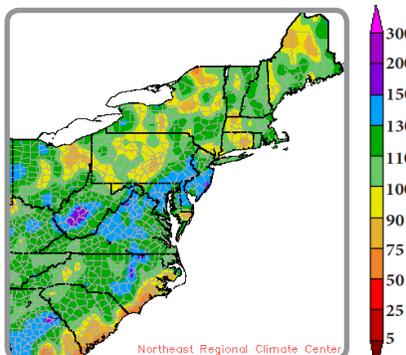
Regional - Climate Overview for December 2013–February 2014

Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
December 1, 2013–February 28, 2014

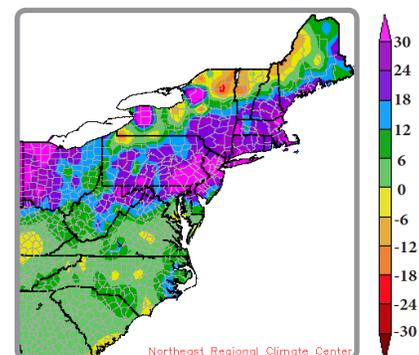


Percent of Normal Precipitation (%)
December 1, 2013–February 28, 2014



Seasonal Snowfall

Departure from Normal Snowfall (in.)
December 1, 2013–February 28, 2014



With an average temperature of 29.1°F, it was 2.3°F colder than normal during winter in the Eastern Region. December was slightly warmer than normal at 34.0°F, 0.6°F above normal. Nearly 60 high temperature records were set at major cities from December 21 to 22. However, January 2014 was the 18th coldest on record at 24.5°F, 4.7°F below normal. Eight of the region's sixteen states ranked this January among their top 20 coldest. From January 6 to 8, over 40 low temperature records were set at the region's airport climate sites. February's average temperature was 29.1°F, 3.0°F below normal.

The Eastern Region received 110% of normal precipitation during winter. The region wrapped up December at 133% of normal, making it the 14th wettest December on record. Seven states ranked this December among their top 20 wettest. January was drier at 87% of normal, while February was wetter at 108% of normal.

At the start of December, 15 states had areas of abnormally dry or moderate drought conditions. Above-normal precipitation in December and February eased dryness, with only small areas of abnormal dryness in the Northeast by February's end.

December snowfall departures generally ranged from -6 inches to +6 inches. Maine and lake-effect areas of New York had departures of over 18 inches. During January, most areas were within 6 inches of normal. Parts of upstate New York and northern New England were 6–18 inches below normal for snowfall, while Cape Cod, Long Island, southern New Jersey, and parts of Ohio had departures of over 12 inches. February was a snowy month for the entire region, with the greatest departures of over 24 inches stretching from West Virginia up through New Hampshire.

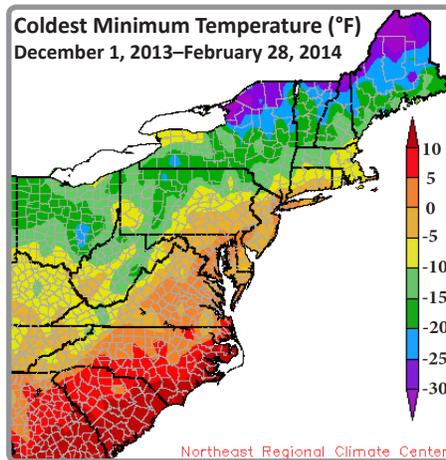
Regional - Impacts for December 2013–February 2014

Transportation

The Ohio Department of Transportation (DOT) used a record one million tons of salt from October–mid-March, compared to 630,000 tons during an average winter. Maryland's State Highway Administration estimates it spent \$130+ million on **snow removal** versus its budget of \$46 million. Several states even ran low on or out of salt. Many areas dealt with an increased number of potholes this winter. New Jersey DOT filled more than double the number of **potholes** this January compared to last. **Air travel** was also adversely affected. Of the major U.S. cities, New York metro area flights were the 3rd most impacted this winter, with 35.1% of passenger flights delayed or cancelled. LaGuardia Airport had the highest cancellation rate of major U.S. airports at 10.9%.

Fisheries

The cold weather is being blamed for a large die-off of **speckled trout** in the Mid-Atlantic. The North Carolina Division of Marine Fisheries closed waters to speckled trout fishing from February 5 to June 15, 2014. In early February, **oysters** were not able to be harvested in parts of the Chesapeake Bay because boats that harvest the oysters were iced in.



Agriculture

Cold temperatures damaged **wine grape buds** in upstate New York, northwestern Pennsylvania, and parts of Ohio. For more susceptible varieties, 50–70% of wine grape buds were damaged, with 80–90% of buds damaged in harder hit areas. In Connecticut and Rhode Island, **maple season** was running about three weeks behind schedule in late February. Cold temperatures prevented sap from running up to and out of taps. In addition, deep snow made it hard to reach some taps.

Insects

There may be fewer numbers of invasive insects this spring due to winter's cold temperatures. A research project at Virginia Tech showed a 95% kill rate of **stink bugs** in an experiment that simulated their overwintering locations while exposing them to January's chill. In parts of North Carolina, 100% of **hemlock woolly adelgids** were killed off by winter's cold temperatures, while in Massachusetts around 80% should die. A large die-off of Asian Tiger mosquitoes is expected when the average mean temperature drops below 23°F. Those mosquitoes overwinter in the egg stage, making them vulnerable to the cold. Large temperature fluctuations and subzero lows may have also caused some of the **southern pine beetle** population, which has been ravaging New Jersey's Pine Barrens, to die off. Unfortunately, the cold may have also killed off beneficial insects.

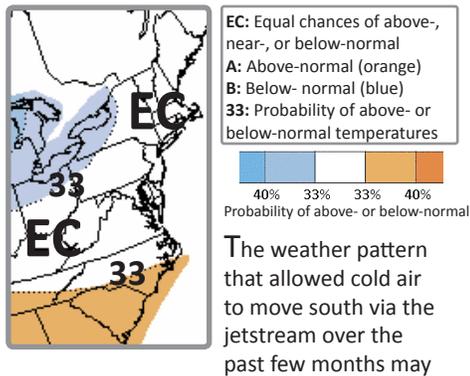
Energy

On January 7, several energy providers, including New York's power grid, set new **winter peak demand records**. The cold temperatures increased demand for wood pellets, causing a shortage in some areas.

Regional - Outlook for Spring 2014

Three-Month Temperature Outlook

Valid for April–June 2014



The weather pattern that allowed cold air to move south via the jetstream over the past few months may remain in place through April. That pattern combined with unusually high Great Lakes ice cover increase the chance of below-normal temperatures for the Great Lakes region. For South Carolina and parts of North Carolina, computer models and a weighted combination of statistical forecast tools, trends, and models indicate an increased chance of above-normal temperatures. In areas with weak or unreliable climate signals, equal chances of above-, near-, or below-normal temperatures were forecast. As for the precipitation outlook, the entire Eastern Region falls into the "equal chances" category. There is an increasing chance of El Niño development from late spring through fall, which could influence weather patterns.

NOAA's Spring Flood Outlook

Issued: March 20, 2014



However, the flooding potential for late spring is above-normal in northern New York and northern New England. Snow depth was near- to above-normal in mid-March, with river ice also near- to above-normal in those areas. Predicted below-normal temperatures through March would keep the snow pack and river ice in place later into the spring season, increasing the chance of a quick melt that could cause flooding. In addition, the frozen ground would cause precipitation to run off instead of being absorbed. In the Mid-Atlantic and Carolinas, low snow pack, near-normal streamflow, and little river ice indicate a near- to slightly above-normal chance of river flooding.

Eastern Region Partners

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Normals based on 1981–2010