



USDA Regional Climate Hubs: Managing your risk in a changing climate.



Climate Risks in the Northeast

What type of agricultural production is in the Northeast?

The 12 northeastern states form a diverse region producing more than \$21 billion yearly in agricultural commodities. The Northeast region contains the seven most densely populated states and leads the nation in direct-to-public farm sales. Animal agriculture is important, particularly dairy and poultry. About half of the field crops and pasture grown in the Northeast are for animal feed. Horticulture and perennial fruits (e.g., apples, pears, blueberries, grapes, cranberries) are also a relatively large portion of total plant production. Overall, farms in the Northeast are usually smaller in size and organic production is higher in comparison to other regions. About 21% of land in this region is farmland (6% of the national total), and 62% of land is classified as timberland.

How are climate change and weather variability affecting Northeastern producers?

Farmers, ranchers, and foresters in the Northeast are feeling the pressures of a changing climate and increasing weather variability. In recent years the Northeast has experienced large increases in the frequency and intensity of heavy rains, more so than any other part of the country. In 2016, while record rains fell in the southern part of this region (WV), many other parts of the Northeast experienced the worst drought in 50 years (NY, MA, CT, RI, NH). Unusually warm winters (2010, 2012, 2016, 2017) are leading to early breaking of plant dormancy and increased freeze losses. Impacts include:

- **Drought:** *The 2016 drought severely limited pasture and crop growth and resulted in USDA disaster declarations in all or parts of MA, RI, CT, NH, VT, ME, NJ, PA, and NY. The drought was particularly damaging to pasture and hay. By mid-August the USDA reported that New England pasture condition was the worst in the country with NH, RI, and CT each reporting more than three quarters of all pasture in poor or very poor condition.*
- **Warm Winters and Spring Cold:** *Recent winters have been unusually warm leading to early release from dormancy in perennial plants and damage from late winter or spring cold. In 2016 peach crops in the northern half of the Northeast were affected in this way with almost total losses. Grapes, apples, cherries, and other fruit crops in this region suffered widespread losses following cold conditions after warm winters in 2010 and 2012. For example, in 2012, record high March temperatures were followed by record low temperatures at the end of April leading to huge losses for growers in NY, VT and other states.*
- **Extreme Rainfall:** *One of the most pronounced changes in climate in the NE during the past several decades has been a 71% increase in the frequency of extreme precipitation events since the mid-1990s—the most of any region of the U.S. These heavy rains are increasing erosion, accelerating fertilizer and manure runoff, and making fields too wet to work. A recent analysis of FSA loss statistics shows that excessive rainfall was the largest cause of loss in the region.*

What is USDA doing about it?

USDA established the Northeast Climate Hub in Durham, NH. This multi-agency effort (Forest Service, Agricultural Research Service, Natural Resources Conservation Service, and Farm Services Agency) is led by David Hollinger, Plant Physiologist with the Forest Service. The Hub delivers science-based knowledge and practical information to farmers and forest landowners that help them adapt to climate change and weather variability by coordinating with local and regional partners in Federal and state agencies, universities, NGO's, private companies, and Tribes.

The USDA Northeast Climate Hub provides:

- Technical support for land managers to prepare for and respond to drought, heat stress, floods, pests, diseases, and variability in growing seasons.
- Regional assessments and forecasts for hazard and adaptation planning.
- Outreach and education for land managers on ways to adapt to climate-related risks and increase long-term working land sustainability and income.

Building on success stories

Helping Farmers Adapt: Producers face challenges dealing with weather and climate variability. [Adaptation Resources for Agriculture: Responding to Climate Variability and Change in the Midwest and Northeast](#), is a comprehensive new USDA Climate Hub workbook that provides educators and advisors information, perspective, and resources to help farmers increase their resilience to and take advantage of climate variability and change.

Virtual 360° Farm and Forest Demonstrations: Farmers and foresters looking for innovative ways to increase their operation's resilience or wanting to take advantage of changes in the Northeast have a new resource. The Northeast Hub and University partners are rolling out a virtual network of demonstration sites featuring climate-informed practices in agriculture and forestry. The project uses innovative 360° photography and videos to bring you on a tour showcasing adaptation practices throughout the region.

Identified Vulnerabilities and Agricultural Needs: To focus regional efforts, the Northeast Hub worked with Land Grant University partners to produce updated assessments of the vulnerabilities of Northeast livestock and crops to climate variability and change. The Hub and partners also analyzed climate change research and extension needs, and identified our four immediate focus areas: (1) climate- and weather-related decision support tools, (2) evaluation of sector-specific practices, (3) farm-level economic analysis of adaptation practices, and (4) assessment of best practices for climate communications.

Video Series on Climate Adaptation: The Northeast Hub partnered with the [University of Vermont Extension Center for Sustainable Agriculture](#) to produce [three videos](#) highlighting farmer experiences and adaptation to climate change using cropping strategies, water management, and soil protection practices to mitigate the climate impacts and help them farm successfully.

Need more information?

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