

# Climate Resilience & Disaster Relief

## 2025 NEW HAMPSHIRE FOOD AND AGRICULTURE STRATEGIC PLAN

**Purpose:** To explore the ability of the food system to mitigate, prepare for, adapt to, and recover from the impacts of climate change, including climate disasters, increasingly extreme temperature and weather patterns, and threats to food supply preparedness.

### What's at Stake?

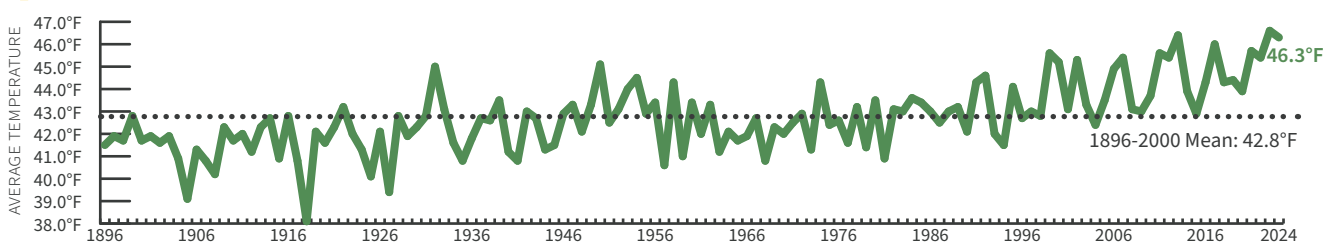
Operating a farm and maintaining a sustainable local food system is remarkably challenging in today's global economy. Climate change is intensifying that challenge; natural hazards are expected to increase in frequency and intensity in the years ahead. The ability to mitigate, survive, and recover from those extreme weather events and natural disasters is not only crucial for the future of our food system, but the future of our livelihood at large.

### Current Conditions: Climate Resilience

New England, once considered a climate haven with mild summers and seasonal cold to disrupt pest cycles, is facing significant shifts in weather patterns. Since 1970, average temperatures have risen 2.1°F, with winter averages increasing 4-6°F, extending the growing season by roughly five days per decade. While the longer growing season is beneficial in many ways, it also lengthens pest and disease cycles, resulting in higher pest pressure. The number of excessive heat days is increasing, straining agricultural workers who lack protections and posing new threats to livestock productivity. While cold-waves are projected to become less intense, warmer winters will bring more rain instead of snow and fewer days with snow cover, creating irrigation challenges for the region.

Average rainfall has increased by 18% and extreme, 2-inch precipitation events within 24 hours have surged by 157% between 1950-2021. Erosion, topsoil and fertilizer losses, microbial contamination, and access road washouts are the result of excessive rainfall events. Undersized culverts jeopardize transportation and resource distribution. Investments in soil health practices and farm infrastructure to manage excessive rainfall and to meet future irrigation needs remain inadequate. New Hampshire has also seen more frequent short-term droughts, including extreme events in 2016 and 2020, alongside a rise in flash droughts.

#### NEW HAMPSHIRE AVERAGE TEMPERATURE, 1896-2024



**SOURCE:** NOAA National Centers for Environmental Information, *Statewide Time Series*.

# Challenges and Opportunities: Climate Resilience

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## CHALLENGES

- Although the majority of farmers understand their vulnerability to climate change, they report a need for knowledge, technical skill, and financial capacity to implement adaptation strategies
- Significant updates to water management infrastructure are needed, but are costly, and require advanced technical knowledge.
- While the number of frost-free days may be increasing, the number of excessive heat days (over 90°F) also puts stressors on human health and livestock productivity.
- Summer heat stress, drought, frost and freeze damage, excessive rainfall, increased disease pressure, and introduction of new invasives are already adversely impacting tourism, farming, and forestry. Farmers are facing seasons of reduced yields as temperatures rise, potentially damaging livelihoods and the regional economy.

## OPPORTUNITIES

- Many climate adaptation practices and strategies have multiple co-benefits. For example, planting more trees increases resilience against drought, while sequestering carbon and increasing biodiversity.
- A strong network of agricultural service providers exists to support farms and is poised to do more.
- Federal conservation implementation programs from the USDA provide a payment rate for many climate adaptation practices, in addition to assistance programs for farms and communities during disaster recovery.
- Warming trends could allow new crops and varieties in New Hampshire, diversifying agriculture and offering farmers new opportunities. Extended seasons can also lead to increased production and use of non-cash crop winter cover crops.

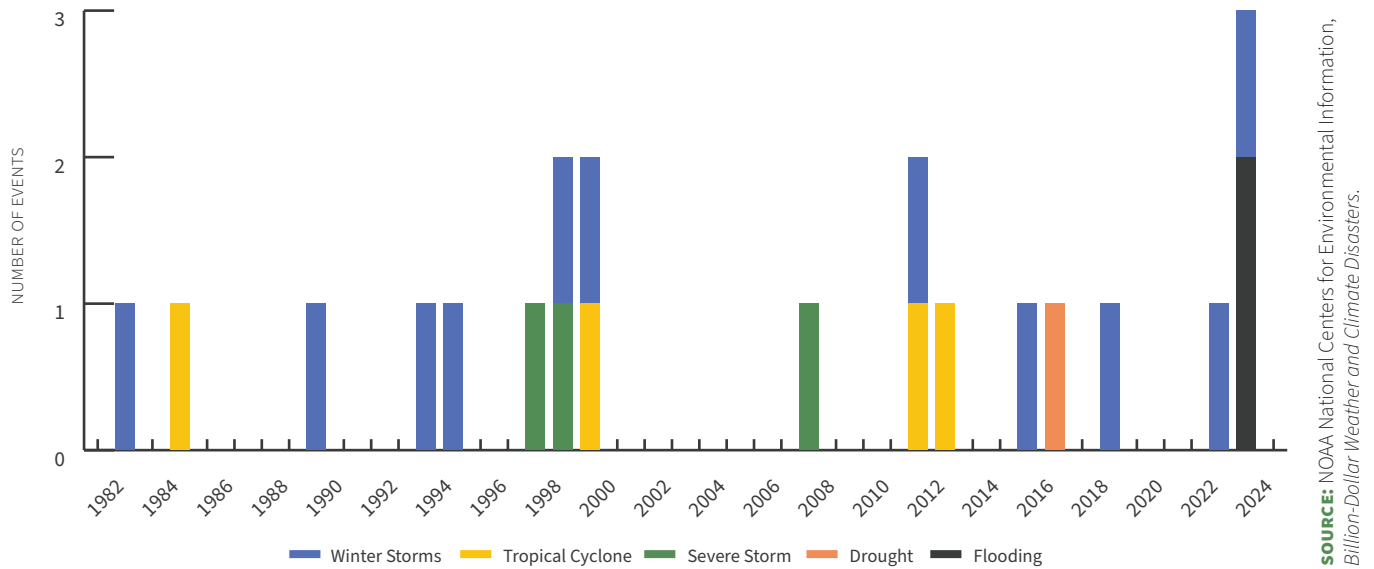
# Current Conditions: Disaster Relief

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New Hampshire's food system is characterized by small-scale farms and diversified agricultural production, including livestock, fruits, vegetables, and maple syrup. However, increasing climate variability, such as unseasonable temperature shifts, droughts, and floods, disrupt crop cycles and lead to unpredictable harvests and reduced yields. Most small farms lack a recordkeeping system where they can easily track and report crop loss. Furthermore, producers are unaware that they should be collecting data to convey losses for disaster recovery, while existing crop insurance options are not suited for the region. There is limited participation among fruit and vegetable growers, leading to underutilization and lack of responsiveness.

Federal and state disaster relief efforts rarely make a farm whole when losses are incurred. After such events, producers must report their losses to multiple agencies, each requiring different information. Currently, there is no single platform where farms and food businesses can report losses, access guidance, or navigate federal relief programs effectively. Improving livestock efficiency is underfunded with an onerous application process. Emergency programs often fall short of providing "immediate" assistance for land rehabilitation. Often, several months pass before assistance is given and then, most disaster relief programs require eligible costs to be paid out of pocket first.

THE COST OF CLIMATE EVENTS THAT IMPACTED NEW HAMPSHIRE, 1980-2024



SOURCE: NOAA National Centers for Environmental Information, Billion-Dollar Weather and Climate Disasters.

	Events	% of Events	Total Costs	% of Costs		Events	% of Events	Total Costs	% of Costs
Winter Storm	11	52.4%	\$1.0B-\$2.0B	69.6%	Severe Storm	3	14.3%	\$100M-250M	7.0%
Tropical Cyclone	4	19.0%	\$250M-\$500M	19.8%	Flooding	2	9.5%	\$5M-100M	3.1%

# Challenges and Opportunities: Disaster Relief

## CHALLENGES

- Farmers are required to navigate multiple systems and pay up front in the event of a disaster and are often reimbursed inadequately.
- Communities and individuals in the Northeast have relatively low proficiency in disaster education compared to other regions of the country where disaster events occur with greater frequency.
- The state lacks a coordinated mass feeding response plan, resulting in delays and inefficiencies in disaster response.
- Animal rescue is an immediate need in the event of disaster, but there is currently little support available to farmers for large animal rescue.

## OPPORTUNITIES

- There are twenty Community Emergency Response Teams (CERTs) in New Hampshire that actively assist communities with disasters and could provide education and training about disaster preparedness and basic disaster response skills.
- Many NGOs and private sector food suppliers have agency-specific response plans, but a statewide mass feeding response plan through the NH Department of Health and Human Services (NH DHHS) would provide the structure and mechanisms for coordination of authorities and responsibilities.
- The NH DHHS's NH Disaster Animal Rescue Team is poised to work with the NH Division of Homeland Security and Emergency Management's statewide Training Officer and the NH Department of Agriculture, Markets, and Food to secure training opportunities across the state for large animal emergency rescue.

# Summary

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New Hampshire must be equipped with the necessary resources to mitigate, prepare for, adapt to, and recover from the impacts of climate change; our food supply chain is vulnerable in the face of climate disasters. According to FEMA, the Northeast region of the United States is expected to have the following climate-related hazards: extreme heat, heavy rainfall, hurricanes, and sea level rise. If emergency food infrastructure and efficient communication systems are not firmly in place, New Hampshire's food insecure population will not only be impacted most acutely, it will increase. Farms in New Hampshire are negatively impacted by extreme weather events, droughts, pest pressures, and increasing temperatures. Producers have identified solutions to these challenges, but lack sufficient financial and technical resources to make the investments needed to build the resilience of their farm businesses. Successful climate adaptation solutions for farms can vary depending on the scope of the action, but often include changes in processes, behaviors, and infrastructure. Farm disaster and recovery plans must prioritize integration with the jurisdiction's emergency operations plan. Emergency managers can help bring farmers together, with supporting public and private sector agencies, to devise strategies for responding to climate-related disruptions.

Without adequate support from the local, state, and federal levels, the viability of New Hampshire's farm businesses is at stake. This support is necessary on two fronts: to be proactive in implementing adaptation and mitigation strategies, and in the creation of emergency support infrastructure and funds to assist in recovery when natural disasters strike.

Climate adaptation planning will be most successful when it is people-centered, collaborative, and equitable. This includes building partnerships across the whole community, collectively proposing creative strategies, and sharing decision-making responsibilities to reduce risk from climate change, while preserving what the community values most.

# Recommendations

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- **Secure permanent funding for the NH Conservation Districts' Climate Resilience Grant program.** Funding for the Climate Resilience Grant program, which provides farmers with grants to invest in climate mitigation and adaptation strategies on their farms, can be supported through state and philanthropic funding.
- **Dedicate funds for UNH to provide water, soil, and pest testing services and technical assistance.**
- **Perform multi-area research on climate impacts to support farmers in adaptation.** Research climate impacts on water, soil, pests, animal management, the effects of heat on human health, and applied climate research on farming systems, all to support farmers adapt.
- **Provide grant assistance for farmers to secure funding for climate resilience.** Fund staffing positions to assist farmers in developing climate resilience plans, identifying resources, and securing funding. Craft a uniform application for farmers for the distribution of grant funds, philanthropic dollars, and emergency aid.
- **Better coordinate the state's response and communication in a disaster event.** Coordination can occur in the following ways or areas:
  - Expand opportunities for learning and practicing disaster preparedness skills in schools, 4-H programs, farms, workplaces, and other settings.
  - The NH Department of Health and Human Services to develop a coordinated mass feeding response plan and communication systems between government agencies, NGOs, and private sector food suppliers. Identify more efficient streamlined ways for food donations and coordination.

- NH Voluntary Organizations Assisting in Disaster to develop memorandums of understanding amongst its membership in order to have pre-established agreements for procurement, payment, and delivery of meals or food.
- Identify and provide training support for large animal rescue teams with knowledge in livestock handling. Work with local fire and rescue teams to improve their ability to respond to large animal rescue events. Engage all farmers to create inclusive disaster response policies. Small-scale, minority, and marginalized farmers should be sought out and included in the development of disaster response policies to ensure their specific needs are addressed.

➤ **Engage all farmers to create inclusive disaster response policies.** Small-scale, minority, and marginalized farmers should be sought out and included in the development of disaster response policies to ensure their specific needs are addressed.

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**New Hampshire**  
*Department of Agriculture,  
Markets, and Food*



This brief was developed through a participatory process led by the NH Food Alliance, a program of the University of New Hampshire. The brief content is comprised of the opinions, perspectives, and information gathered by the authors and participants, and does not necessarily represent those of the NH Department of Agriculture, Markets, and Food or the NH Food Alliance.

For more information, including references and opportunities to get involved, visit the 2025 NH Food and Agriculture Strategic Plan web page on [nhfoodalliance.org](https://nhfoodalliance.org) or scan the QR code on the inside front cover of the print version.