

Definition of Climate Resilience

Climate resilience: The ability of interconnected ecological, social, and economic systems to anticipate, adapt, withstand, respond, and thrive in the face of current and future conditions and disasters made worse by climate change.

These complimentary systems form the foundation for thriving communities where ecosystems, economies, and societies support and reinforce one another.

Ecological resilience: A natural community's ability to absorb shocks and recover from disturbances. The ecosystem can maintain its pieces, patterns, and processes, which allow plants, animals, and fungi to thrive, reproduce, migrate, and move.

Community resilience: A human community's ability to anticipate, withstand, and adapt to climate-exacerbated disasters and learn from past events to improve response and recovery. Resilient communities rely on systems that support human health and wellbeing, social and economic equity, sustainable infrastructure, and coordinated communication and planning.

Economic resilience: An economic region's ability to endure and sustain stability when faced with economic disruptions or pressures. Resilient economies support essential services, enable diverse livelihoods, and foster equitable and sustainable access to resources that respect environmental limits.

Vision for a Resilient Vermont

A resilient Vermont can anticipate, withstand, respond, adapt, and thrive in the face of current and future conditions and disasters made worse by climate change. Vermont will take proactive steps to reduce vulnerabilities to the impacts of climate change on the economy, environment, human health and wellbeing, and will improve response and recovery efforts. This will be done in ways that are inclusive, participatory, and culturally appropriate, acknowledging that resilience often depends on access to resources and support structures.

A resilient Vermont incorporates climate adaptation across state government systems to improve our interconnected human and natural communities. A shared sense of responsibility and commitment drives Vermont forward, ensuring that every level of society can thrive in the face of climate change, now and for future generations.

DRAFT

Vision Components and Key Themes

The Resilience Implementation Strategy includes six **components**, which group and build off considerable work done to date to make Vermont more resilient in the face of climate change. One overarching component – Government Systems – encompasses foundational activities that will connect and strengthen resilience strategies across all others. Through a review of public comments, described in more detail under Process, *Key Themes* were identified and associated with the six components of the Resilience Implementation Strategy. Key themes are nested below the six components, with the number of public comments reviewed and associated with that theme indicated in parentheses. Outcome-based priorities were developed that capture the sentiment of key themes and desired impact of resilience-building activities reflected in the comments reviewed.

1. **Government Systems:** Government Systems form the essential framework that supports and strengthens all components of the Resilience Implementation Strategy (RIS). This component ensures that climate resilience is integrated across all sectors and agencies and enables the State to support and empower communities, particularly those most vulnerable to climate impacts. This foundational component aligns with the goal of the RIS by building trust, addressing systemic inequities, and coordinating resources that ensure a comprehensive and unified approach to building resilience to the impacts of climate change.
 - *Data-Informed Decision Making (12):*
 - Decisions at the individual, community, and State levels about climate adaptation are informed by the best available science on climate change impacts. Data systems are informed by the most socially and economically disadvantaged Vermonters. Metrics that indicate progress toward climate adaptation goals help decision-makers to weigh the benefits and drawbacks of actions to drive short- and long-term climate adaptation.
 - *Effective State Governance and Planning (19):*
 - State Government provides resources and technical assistance that support adaptation to climate hazards. State Government modernizes governance and planning structures that build trust and address systemic injustices, and addresses all aspects of climate resilience, resulting in a Vermont that is adapted and thriving in the face of climate-related impacts.



2. **Community-Centric Approach:** This core component includes actions that protect and build resilience in human health and wellbeing; help communities plan for the resilience of their ecological, social, and economic systems; bring local perspectives and needs to climate resilience conversations and decision-making processes, and promote community engagement in line with Vermont’s Environmental Justice law.
 - *Engagement and Empowerment (10):*
 - Engagement with Vermonters through two-way communication channels produces equitable outcomes that center the most vulnerable, empower public participation and input, and solve complex problems.
 - *Health and Wellbeing (27):*
 - Public and mental health support to Vermonters yields a better quality of life in the face of climate change impacts, greater understanding of the effects of climate change on human health, and better long-term outcomes for Vermonters.
 - *Identity and Resilience (36):*
 - Community resilience is felt most acutely at a neighborhood level. Support structures are adaptable to climate change impacts and help to build trust between governmental entities, community partners, and individuals.
 - *Justice, Equity, Diversity, Inclusion (30):*
 - Actions to enhance resilience to climate change center Vermont’s most marginalized, and socially and economically vulnerable populations; through strategy development, decision making, and funding allocation, equitable outcomes and resilient structures are developed with the voices and experiences of Vermont’s most vulnerable at the center.

- *Urban, Community, and Regional Planning and Development (14):*
 - Sustainable planning and development — including compact settlements, infill development, safe and affordable housing for all, and improved transportation access — support communities' ability to withstand and thrive amidst the impacts of climate change.

DRAFT



3. **Nature-Based Solutions:** This core component includes actions that protect Vermont's rich natural resources; safeguard ecosystems; promote biodiversity; mitigate the impact of extreme weather events on agriculture, forestry, and water resources; and buffer the state's infrastructure and built environment from the most intense impacts of climate change.
- *Ecological Resilience and Biodiversity (22):*
 - Conservation, habitat restoration, and biodiversity protection activities enable the long-term sustainability and health of natural lands in the face of climate change.
 - *Ecosystem-Based Land Management (9):*
 - Sustainable land management practices that integrate ecological principles, traditional ecological knowledge, and recreational opportunities support the resilience of agricultural and forestry practices, promote soil health, and remove carbon from the atmosphere.
 - *Water Resources and Quality (20):*
 - Management of Vermont's water resources through watershed restoration and pollution control ensures clean water, reduces the risk of flooding, and enhances the resilience of aquatic ecosystems.

Infrastructure Design and Reinforcement



4. **Infrastructure Design and Reinforcement:** This core component includes actions that protect, repair, or relocate Vermont’s critical assets, such as roads, bridges, wastewater treatment facilities, power lines, and communications services due to the impacts of climate change.
 - *Energy and Resource Resilience (5):*
 - Diversifying and expanding the fleet of renewable resources within and interconnected to New England can reduce greenhouse gas emissions and increase resilience to large disruptions to energy supplies. Strategically and cost-effectively deploying storage and grid controls and relocating and hardening grid infrastructure bolsters the resilience of delivery of those energy supplies to Vermonters.
 - *Infrastructure Resilience and Adaptation (18):*
 - Updated infrastructure codes and design standards, comprehensive flood insurance programs, and strategic retrofitting ensure that Vermont’s infrastructure network — including bridges, roads, buildings, and utilities — can withstand extreme weather events and adapt to changing climate conditions.



Early Warning Systems and Fast, Effective Response

5. **Early Warning Systems and Fast, Effective Response:** This core component includes actions that enhance Vermont's early warning mechanisms, provide fast, effective responses to ensure Vermonters' safety from climate change impacts, and enable Vermont to anticipate and swiftly respond to climate-related impacts.
- *Early Warning Systems (24):*
 - Accessible and comprehensive emergency warning systems and increased understanding of climate change vulnerabilities enhance Vermonters' ability to plan for and swiftly respond to climate-related hazards.
 - *Emergency Preparedness and Response (10):*
 - Preparing for climate exacerbated hazards aids in rapid emergency response and recovery, uses resources efficiently, supports the most vulnerable, and ensures that essential services can continue despite climate-related disruptions.
 - *Planning and Future Risk Mitigation (17):*
 - Local, regional, and state-level plans incorporate climate change science. Plans lay out a path to a future where Vermonters thrive amidst the challenges exacerbated by climate change.
 - *Sustaining Community Essential Services (4):*
 - Fundamental community services such as food, water, and shelter; health and medical systems; energy and communications infrastructure; and transportation systems enable all aspects of society to function. There are systems in place to ensure continuation or rapid restoration of those services in the face of climate-related disruptions.



Economic and Environmental Sustainability

6. **Economic and Environmental Sustainability:** This core component acknowledges the interconnectedness of climate resilience and economic stability, and the impact climate change has on Vermont’s economy. This component includes actions that support businesses and working lands enterprises to adapt to changing climate conditions.
- *Adaptation and Resilience Funding (23):*
 - Sustainable funding supports climate adaptation projects that address the specific needs of vulnerable populations, supports economic stability, and prepares communities for future climate challenges.
 - *Demographic and Community Growth (51):*
 - Demographic growth and community development fosters resilient communities that can adapt to changing climate conditions.
 - *Economic Development and Stability (14):*
 - Economic initiatives that foster workforce growth and support new economic opportunities integrate climate resilience and reduce economic disparity so that all Vermonters can thrive in the face of climate change.
 - *Integrated Land and Resource Management (42):*
 - Integrated land and resource management—including agroforestry, local food systems, and sustainable farming practices—ensure that natural resources are used sustainably, benefiting both the environment and the economy.

Vision Development Process

To take a community-centric approach to the development of the Vision for a Resilient Vermont and key themes for the Resilience Implementation Strategy, the Climate Action Office (CAO) reviewed prior community engagement with a connection to climate resilience that has occurred over the past five years by various organizations (State, non-profit). The CAO selected 18 engagement reports to review, prioritizing those that were strongly relevant to issues related to climate change, clearly demonstrated direct input from Vermonters, and represented a diverse range of sectors (e.g. agriculture, electricity, emergency response). Across the selected reports, the CAO reviewed 420 comments - inclusive of direct feedback and input, comment summaries, and responses to poll questions – and categorized comments by theme. Major themes were grouped according to the Resilience Implementation Strategy’s Components, and outcome-based priorities were drafted for each theme that capture the sentiment and desired impact of resilience-building activities reflected in the comments reviewed. A list of community engagement reports reviewed can be found in table 1 below.

This process has a few benefits:

- Including a broad range of voices, including members of frontline communities (those who are disproportionately harmed by climate change, and often have less access to resources that aid in recovery and response).
- Minimizing the burdens of engagement by using existing knowledge and resources.
- In some cases, the engagement was run by or co-led by trusted community partners who have direct relationships at the local level, allowing for more direct community dialogue about climate related issues.

The development of the Vision for a Resilient Vermont did not start from scratch, but began with the vision laid out in [Vermont’s Roadmap to Resilience](#), developed by the Institute for Sustainable Communities in close partnership with key stakeholders following the devastating flooding impacts of Tropical Storm Irene in 2011. The Roadmap to Resilience acknowledged that resilience begins with the ability to adapt, and recommendations should evolve as conditions change, strategies are implemented, and new opportunities for collaboration arise. Recognizing that Vermont has experienced many climate change impacts over the 13 years since Tropical Storm Irene, this vision was developed by updating the vision from the Roadmap to Resilience to reflect the key climate change issues, challenges, and opportunities that Vermonters raised, captured through the review of community engagement reports done for this initiative.

The vision, and the key themes identified through the review of community engagement reports, will be used in prioritizing gaps and measures identified through the RIS.

Table 1: Prior Community Engagement Reports Reviewed for the Resilience Implementation Strategy

| Report or Initiative |
|--|
| Resilience Implementation Strategy Kick-Off Events |
| Input gathered by Consensus Building Institute & Climate Action Office to date |
| The Vermont Proposition - Vermont Council on Rural Development |
| Designation 2050: Design the Future of Vermont |
| Vermont Weighs In: Public Opinion on Renewable Electricity (PSD) |
| VT Transportation Equity Framework Stakeholder Engagement Summary (VTrans) |
| Amplifying Vermont's Economic Resilience (UVM's Office of Engagement and Center for Rural Studies) |
| Vermont Manufactured Home Communities Flood Risk Assessment |
| Barre Up Flood Recovery Report |
| Ludlow Flood Recovery Forum |
| Vermont Farm to Plate - Roadmap to Food Security |
| Connecting People to Power: Environmental Justice Community Engagement Report |
| Vermont Forest Futures Strategic Roadmap |
| VT Agency of Agriculture Statewide Listening Sessions |
| Bennington County Conservation District's Sept. 2023 Community Resilience Forum polling results |
| Public Engagement Findings from 2021 Climate Action Plan |
| State Recreation Plan (SCORP) |
| Wildlife Action Plan |

