Town of Montgomery, Vermont
HAZARD MITIGATION PLAN 2025
Draft*

Montgomery Flood July 15, 1997

Approved Pending Adoption by FEMA: Date _____, 2025
Adopted by the Town of Montgomery Selectboard: Date: _____, 2025

***The plan will be final following adoption by Montgomery Selectboard and FEMA approval.**

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Executive Summary

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from natural hazards and their effects. The Town of Montgomery, Vermont Hazard Mitigation Plan 2025 is a comprehensive strategy designed to reduce the risks posed by natural hazards and enhance the resilience of the community. Developed through a planning process involving a committee of key staff and stakeholders, the plan identifies natural hazards, assesses vulnerabilities, and outlines mitigation strategies to protect lives, property, and the environment in the town.

The legislative authority that provides the legal basis for mitigation is derived from the Stafford Act, as amended by the Disaster Mitigation Act of 2000. Section 322 of the Stafford Act specifically addresses mitigation planning. This establishes the requirement that state and local governments prepare hazard mitigation plans as a precondition for receiving FEMA mitigation project grants. More importantly, this plan and planning process lays out the strategy that will enable the town to become less vulnerable to future disaster losses. The process followed a methodology prescribed by FEMA.

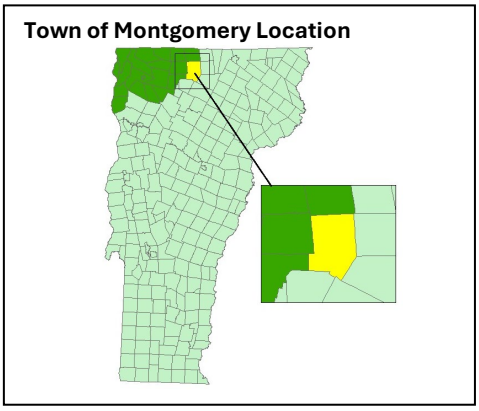
The hazard identification and risk assessment process identified and examined a range of hazards with the potential to impact the community. It focuses on the specific hazards that were considered the greatest threat to the community including strong winds, flooding and fluvial erosion and severe winter storms (ice storms). It included the history of losses and analyzed future risks posed to the town. Analysis of historical data, modeling, and stakeholder input informed the identification of high-risk areas, critical infrastructure and vulnerable populations.

The plan identifies several mitigation strategies and actions that are based on the results of the risk assessment. They are aimed at reducing risk, enhancing preparedness, and promoting resilience across The Town of Montgomery. The actions are summarized into four types: local planning and regulations, structural and infrastructure projects, natural system protections and education and awareness programs. The plan also includes a review of the town's current capabilities to reduce hazard impacts.

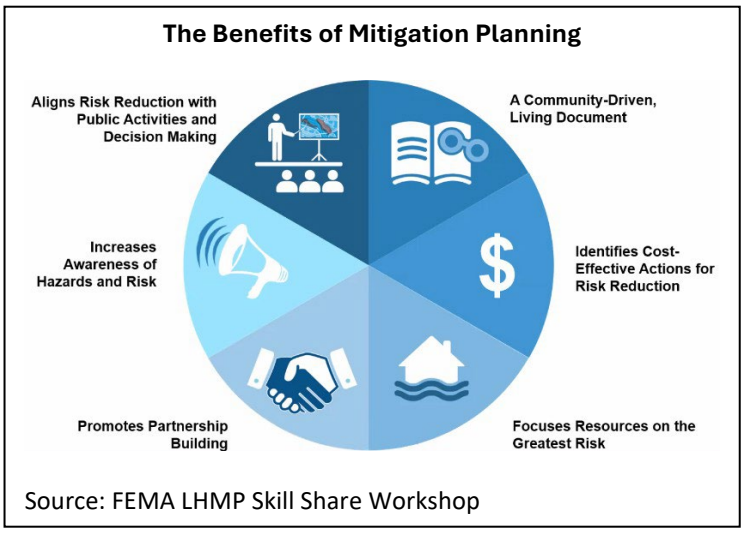
This plan (has been /will be) formally adopted by The Town of Montgomery Board of Selectboard. It is required to be updated at a minimum of every five years. Monitoring and evaluation mechanisms were established to track progress, assess effectiveness, and adapt strategies as needed to address changing conditions and emerging threats. By working together and implementing targeted mitigation measures, we can protect lives, property and the environment, and ensure a safer and more sustainable future for all residents of the community.

1. INTRODUCTION

The impact of expected, but unpredictable natural and human-caused events can be reduced through community planning. The goal of this plan is to provide an all-hazards local mitigation strategy that makes the Town of Montgomery more disaster resistant.



Hazard mitigation is any sustained action that reduces or eliminates long-term risk to people and property from natural hazards and their effects. Based on the results of previous efforts, FEMA and state agencies have come to recognize that it is less expensive to prevent disasters than to repeatedly repair damage after a disaster has struck. This plan recognizes that communities have opportunities to identify mitigation strategies. Hazards cannot be eliminated, but it is possible to determine what the hazards are, where the hazards are most severe and identify local actions that can be taken to reduce the severity of the hazard.



Source: FEMA LHMP Skill Share Workshop

Hazard Mitigations strategies and measures **alter** the hazard by eliminating or reducing the frequency of occurrence, **avert** the hazard by redirecting the impact by means of a structure or land treatment, **adapt** to the hazard by modifying structures or standards or **avoid** the hazard by stopping or limiting development and could include (but not limited to) projects such as:

- Flood-proofing structures
- Tying down propane/fuel tanks in flood-prone areas
- Elevating furnaces and water heaters
- Elevating structures or utilities above flood levels
- Identifying & upgrading undersized culverts
- Proactive land use planning for floodplains and other flood-prone areas
- Proper road maintenance and construction
- Ensuring critical facilities are safely located
- Buyout & relocation of structures in harm's way
- Establish & enforce appropriate building codes
- Public information

2. PURPOSE

The purpose of this Local Hazard Mitigation Plan is to assist the Town of Montgomery in recognizing hazards facing the community, ranking them according to local vulnerabilities, and developing strategies to reduce risk from those hazards. Once adopted, the local mitigation plan is not legally binding; instead, it outlines goals and actions to prevent future loss of life and property.

Montgomery strives to be in accordance with the strategies, goals and objectives of the State of Vermont's Hazard Mitigation Plan.

3. PLANNING PROCESS

The Town of Montgomery, Vermont Local Hazard Mitigation Plan 2025 is an update to the single jurisdictional 2017 Local Hazard Mitigation Plan. The Town of Montgomery and Northwest Regional Planning Commission conducted a thorough review of the 2017 Local Hazard Mitigation Plan at the beginning of the process and used it as a foundation to develop the Town of Montgomery, Vermont Local Hazard Mitigation Plan 2025.

At the January 14, 2025, meeting of the Montgomery Town Selectboard, they agreed to revisit and update the draft Mitigation Plan with assistance from Northwest Regional Planning Commission. Public comment was taken at the meeting regarding the update.

Incorporation of Existing Plans, Studies, Reports and Technical Information

The Town of Montgomery, Vermont Local Hazard Mitigation Plan 2025 development utilized plans, policies, studies, historical records, data and technical information as a foundation. Such information provided a comprehensive understanding of existing hazards, vulnerabilities and community needs. The information ensured that the plan is effective and tailored to the specific context of the community.
A complete list may be found in Table 1.

Table 1: Reference Materials

Information Source	Review and Incorporation
Vermont Electric Outage Reports	Reference during Risk Assessment section of plan.
Montgomery Municipal Plan - 2024	Existing land use, population, transportation and future land use, public facilities, public services, flood resilience. The plan was referenced throughout the process
Montgomery Local Emergency Management Plan – 2024	The plan was reviewed and referenced throughout the planning process.
Montgomery Zoning Regulations - 2018	The sections reviewed included flood hazard areas, wetland regulations, road erosion, and regulations for areas of special flood hazard.
Bridge and Roads Standards – 2024	The document was referenced during the capabilities and mitigation projects meetings.
Northwest Regional Planning Commission Regional Plan 2018	The physical region section was referenced during the risk assessment as well as various data references on population and transportation.

Northwest Regional Planning Local Liaison Reports of Storm Damage	Referenced to develop the risk assessment section.
Vermont Agency of Transportation Bridges and Culverts On-Line Database	The data was referenced during the risk assessment and mitigation actions review.
Montgomery Flood Hazard Mitigation Study 2024	Referenced for hydraulic modeling to understand flood patterns along the Trout River watershed. It includes an alternatives analysis for mitigating flood issues in several areas.
Vermont Agency of Transportation Resilience Planning Tool	Referenced to develop the risk profile and mitigation actions.
Montgomery Road Erosion Inventory (Municipal Roads General Permit)	Referenced to develop the risk assessment section and mitigation actions section.
Montgomery, VT Flood Insurance Study 1980	The date was referenced for risk assessment section and used in capabilities section.
Montgomery, VT Flood Insurance Rate Maps 2001	The date was referenced for risk assessment section and used in capabilities section.
American Community Survey Five Year Estimate 2022	Used to develop community profile section.
Vermont Climate Office Municipal Climate Change Vulnerability Index Tool	Tool used to understand municipal vulnerabilities to climate change across several social, economic, and environmental factors.
Vermont Natural Resource Atlas	Tool was referenced throughout the process.
Vermont Dam Inventory	The tool was referenced during the risk assessment section and mitigation actions to address floods.
State of Vermont Hazard Mitigation Plan 2023	The entire plan was reviewed and referenced during the development of this plan.
State of Vermont Climate Assessment	Referenced in development of risk assessment.
National Oceanic and Atmospheric (NOAA) Climatic Data Center's Storm Events Database	Data was referenced and incorporated in the hazard identification and risk assessment section of this plan.
FEMA Local Mitigation Planning Handbook 2023	The handbook was used to ensure plan meets the Federal mitigation planning requirements including those for addressing climate change. Referenced throughout the planning process.
FEMA Hazard Mitigation Assistance Program Policy Guide 2024	Used to ensure plan meets the Federal mitigation planning requirements including those address climate change.
FEMA Disaster Declaration Website	Data from the site was used during the hazard profile and risk assessment sections.
FEMA Risk Mapping, Assessment and Planning (Risk Map) Products	The data was referenced during the hazard profile and capabilities section of this plan.
FEMA NFIP Insurance Reports 2024	Used to determine how many structures are insured, number of repetitive loss properties and describe NFIP compliance.

Vermont Flood Ready Website	Data from the website was referenced throughout the planning process and used in various sections of the plan.
Vermont Department of Health website	Referenced during research of hazard identification and risk assessment section of plan/

Documentation of the Planning Process, Public Input and Input from Neighboring Communities

The Town of Montgomery assembled a Hazard Mitigation Planning Team to participate in creating a Hazard Mitigation Plan. The Northwest Regional Planning Commission (NRPC) assisted the Town with the creation of the plan. The Town actively invited various stakeholders in the planning process including residents, local businesses, local neighboring government agencies, regional emergency management committee, schools, and non-profits that work directly with or provide support to people with disabilities and functional access needs.

Planning Team Member: A planning team member is a designated individual who actively participates in the planning process. They may be responsible for specific tasks such as data analysis, strategy development, and drafting the plan. Planning team members are usually part of the formal planning structure and may have specific roles based on their expertise or position within an organization.

Stakeholder: While stakeholders are also involved in the process, they may not have a formal role or responsibility within the planning team. Their participation is often more about providing input, feedback, and support rather than executing the planning tasks. Stakeholders can influence the planning process through their contributions but are not necessarily tasked with specific planning duties. Table 2 depicts the planning team.

Table 2: Planning Team

Name	Organization	Role
Charlie Hancock	Selectboard Chair	Planning Team Lead
Shaun Coleman	Northwest Regional Planning Commission	Planning Team Member
Greg Lucas	Emergency Management Director	Planning Team Member
Mark Brouillette	Public Works Director, Selectboard	Planning Team Member
Doug Kopacz	Fire Chief	Planning Team Member
Elizabeth Reighley	Town Clerk	Planning Team Member
Lauren Weston	Franklin County Natural Resources Conservation District	Stakeholder (Conservation District)
Scott Perry	Historical Society	Stakeholder (Historical and Cultural Resources)
John Goss	Bakersfield Town Selectboard Chair	Stakeholder (Neighboring Community Official)
Cathy Mander-Adams	Belvidere Town Clerk	Stakeholder (Neighboring Community Official)
Billie Jo Draper	Enosburg Town Clerk	Stakeholder (Neighboring Community Official)

Pierre LeTourneau	Enosburgh Town EMD	Stakeholder (Neighboring Community Official)
Chrisy Pion	Lowell Town Clerk	Stakeholder (Neighboring Community Official)
Jacqueline Kelley	EP, Vermont Department of Health, St. Albans District	Stakeholder (Community Health Including Disabilities and Individuals with Functional Access Needs)
Reginald Beliveau	Interim Chair, Franklin County Regional Emergency Management Committee	Stakeholder (County EM services and first responders)
Jess Graff	Director, Champlain Valley Office of Economic Opportunity	Stakeholder (People with Disabilities and Functional Access Needs)
Pastor John Gordon	Montgomery Food Shelf	Stakeholder (Food, Water, Shelter)
Deborah Wesley	Visiting Nurses Association (*formerly Franklin County Home Health Agency)*	Stakeholder (Senior Healthcare, Hospice and Community Support Services)
Tim Smith	Franklin County Industrial Development & Northern VT Economic Development District Office	Stakeholder (Economic Development and Industry)
Keith Emery	Northwest Medical Center Community Engagement	Stakeholder (regional hospital)
Mary Niles	Montgomery Elementary School/N. Mtn. Valley School District	Stakeholder (Education)
Tim Snider	Montgomery Health Officer	Stakeholder (Community Health and Wellness)

Stakeholder Engagement and Public Outreach

The mitigation committee and NRPC developed a stakeholder and public outreach plan to ensure they were given opportunities to be involved in the plan's development process. Engagement and outreach are crucial for hazard mitigation planning for several reasons including fostering inclusive decision-making, strengthening community resilience through active participation, raising risk awareness and preparedness through education, transparency, and promoting consensus building. The plan may be found in Appendix F.

Plan Development Process

The Town of Montgomery held several planning meetings to discuss the development of a hazard mitigation plan. All meetings were open to the public and some were held at regularly scheduled Selectboard meetings. Public in attendance at the meetings were encouraged to participate. All meeting agendas were posted at 3 locations in the municipality in compliance with the requirements of Vermont

Open Meeting Law. Hard copies of drafts discussed at meetings were available to the public in attendance at meetings and upon request

December 16, 2024 - Montgomery EMD, Public Works Director and Selectboard Chair met with NRPC Senior Planner to discuss past efforts in developing a hazard mitigation plan, benefits of having a hazard mitigation plan, current FEMA requirements and were given an overview of what the planning process would entail. The public meeting was warned following Vermont's Open Meeting Law requirements. There were no public comments offered.

January 16, 2025 – Montgomery Selectboard Chair met at the Town Office with NRPC to discuss mitigation planning process, assembly of planning team and stakeholder and reviewed stakeholder public outreach plan.

February 17, 2025 – Mitigation Plan update meeting at the Town Office with a virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. NRPC staff facilitated the hybrid meeting focused on past efforts, mitigation planning process, plan development, FEMA guidance, roles and timeline.

February 18, 2025 – NRPC staff compiled and distributed meeting notes from the February 17 meeting.

February 19, 2025 - Survey and flyer were finalized and released to public to solicit input from the whole community. The Town provided notice of the survey by posting at several locations throughout the community including the library, Town Office, Post Office, school and grocery store. The flyer with QR code was also posted on the Town Office home page and Town's social media sites.

March 17, 2025 – Hazard Risk Assessment Meeting at the Town Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. NRPC staff reviewed mitigation planning process, community outreach efforts, timeline, review of local hazards, state-wide hazards as identified in the mitigation plan, review of hazard data, update the risk assessment section based on participant feedback. A survey was discussed to solicit input from the whole community.

March 20, 2025 – NRPC staff compiled and distributed meeting notes from the March 17 meeting.

April 7, 2025 – Policies, Plans and Capabilities Meeting at the Town Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. The participants reviewed existing town resource capacity and capabilities, flood plain and river corridor bylaw regulations, ordinances, stormwater infrastructure and inventories, school safety plans, and survey.

May 5, 2025 – Mitigation Actions Meeting at the Town Office with virtual option to participate. The public meeting was warned following Vermont's Open Meeting Law requirements. Communications methods followed the stakeholder and public outreach plan to ensure the whole community had an opportunity to participate. The meeting centered on hazard mitigation strategies and confirmed goals and discussed past

and future mitigation projects for the Town. There was also a review of the survey results to date and a discussion on the survey.

May 9, 2025 – NRPC staff compiled and distributed meeting notes from the May 5 meeting.

June 2, 2025 – The draft Town of Montgomery, Vermont Hazard Mitigation Plan 2025 was reviewed by the planning team, stakeholders, selectboard, and the public was given time for public comment.

June – August, 2025 – Planning Team completed work and review of final draft Town of Montgomery, Vermont Hazard Mitigation Plan 2025. Final input from the survey and comments were incorporated.

August 18, 2025 – The final draft Town of Montgomery, Vermont Hazard Mitigation Plan 2025 was reviewed at Selectboard Meeting. There was opportunity for public comment. Public comment period to open on October 1, 2025.

October 1, 2025 – Public comment period opens. Plan made available on Town website, NRPC website and social media. Hardcopies of the plan made available at town office and library. Postings included instructions to email comments to Shaun Coleman, Senior Planner at Northwest Regional Planning Commission. NRPC Senior Planner also directly emailed final draft plan to neighboring towns and stakeholders to seek input.

October 27, 2025 – The public comment period closed. Final survey results and additional stakeholder input were incorporated into the final draft. The selectboard Chair requested the draft plan and toolkit be submitted to VEM and FEMA for review and approval pending adoption.

October 28, 2025 – The final draft LHMP and FEMA plan Review Toolkit submitted to VEM and FEMA for approval pending adoption.

4. COMMUNITY PROFILE

The Town of Montgomery is located in the northwestern part of the State of Vermont in Franklin County. It is bordered by the following seven towns: Richford, Enosburgh, and Bakersfield, (all located in Franklin County); Belvidere and Eden (both located in Lamoille County – to the south of Franklin County); and finally, Lowell and Westfield, (located in Orleans County) – to the east of Franklin County).

The topography of Montgomery is characterized by rolling foothills that ascend to the steep slopes of the Green Mountain Range. The development patterns follow along The Trout River, West Hill Brook, Black Falls Brook and Jay Brook whose headwaters begin along Green Mountains. The overall change in topography ranges from approximately 460 feet in the northwestern part of Town near the Enosburgh/Richford/Berkshire border to 3,800 feet in the northeastern corner of Town near the Westfield/Jay border. High points include Big Jay (3,800 feet), Little Jay (3,600 feet) and Burnt Mountain (2,626 feet).

Demographics

The US Census estimated that the population of Montgomery was 1,184 in 2020 which is a slight decrease from 1,201 in 2010. The median age of residents is 44.9 years with 55% being female and 45% being male. The average per capita income is $40,557 with 17.4% below the poverty line. There were 803 total housing units in 2023, of which 547 were occupied, with over 1/3 used as seasonal, recreational or occasional use.

Land Use

Montgomery is primarily a rural town with a total land area is 57 square miles or 36,436 acres. The majority of land cover in the Town is comprised of forest land (approximately 84 percent) with agriculture the second dominant land cover (less than 10 percent).

The Town of Montgomery has two unique town areas: Montgomery Center and Montgomery Town. Both are considered assets to the Town. The Center and the Town need to be promoted and preserved, and this can be done by encouraging historic preservation, economic development, and the adaptive reuse of existing structures. Most residential homes are in these two towns.

The two major routes in the Town are Route 118 and Route 242. Most of the land use in Town occurs along these two routes, including residential, agriculture (such as row crops and hay or pastures), and communication and utility lines. The Town currently divides its land use into the following zoning districts: Town I, Town II, Rural/Residential, Conservation I (under 1,600' elevation), Conservation II (1,600' elevation or greater), Flood Hazard Area and River Corridor.

Economy

The economy includes tourism and growing recreation opportunities with the town. The town's location near Jay Peak Resort, local recreation sites, historic and cultural resources and the Wild and Scenic Trout River help drive the local economy. Protecting the vitality of the two town centers is important to the community and the region. Supporting sustainable and diversified businesses that supply local and regional food needs and maintaining its extensive forest land is important to the local economy as well.

Energy & Fuel

The Vermont Electric Cooperative supplies Montgomery with electricity. According to the 22023 ACS, bottled, tank, or LP gas and fuel oil and kerosene is the most popular home heating fuel (46.6%) followed by wood (26.7%) then fuel oil, kerosene, etc. (23.8%).

Emergency Services

The Vermont State Police (VSP) is the primary law enforcement agency responsible for public safety in Montgomery.

Montgomery has a Volunteer Fire Department located in the Public Safety Building on Route 242. There are currently 17 volunteer members who serve on the Fire Department. The equipment consists of two pumper trucks, one tank truck, one rescue van, and assorted smaller equipment, which is capable of fighting a fire in any accessible area of the Town. The Fire Tanker was replaced in 2020. The Fire Department also has volunteers that are trained first responders. Ambulance service is contracted to the Town by Enosburgh Ambulance Service.

Montgomery adopted a Local Emergency Operations Plan (LEOP) in May of 2025 to initiate response to serious crises. The LEOP is reviewed and updated as needed on an annual basis. The Town Selectboard has executed a National Incident Management System (NIMS) resolution and continually strives to remain current on NIMS compliance through training and reporting to Vermont Department of Public Safety.

Water Supply

There is one water system owned by the Town that serves the towns of Montgomery Center and Montgomery Town. It has approximately 190 connections servicing about 220 households and businesses certified and has capacity to supply about 76,000 gallons per day. Throughout the Town (including both the Town and the Center), the disposal of raw sewage is controlled on an individual basis, primarily using septic systems. For subdivisions it will be the developers' responsibility to provide water and sewage facilities.

Transportation

There are 14.314 miles of state highway in Montgomery, 10.5 miles of Vermont State Highway 118 and approximately four miles of Vermont State Highway 242. In the Town Highway System, there are no Class 1 Town highways, 6.7 miles of Class 2 highway, 34.8 miles of Class 3 highway and 9.2 miles of Class 4 highway. Covered bridges are a tremendous asset to the Town, drawing considerable tourist attention and adding to the scenic beauty of the area. According to VTrans, Montgomery has seven State bridges and fourteen Town bridges. This includes six covered bridges which are on the National Register of Historic Places. Bridge and culvert replacement along Town owned highways will most likely be an on-going project for the foreseeable future. The Town constructed a new Public Works Building/Garage in 2010.

5. RISK ASSESSMENT

Identifying hazards, profiling hazards, estimating losses and assessing vulnerability

The information is based on surveys and interviews with local officials and the best available data sources found from federal, state, regional, and local agencies and departments. All the hazards identified in the state hazard mitigation plan were considered. The risk and/or impact of several hazards were negligible, and the regional examination was considered sufficient in justifying the time spent on the analysis.

Hazard identification and risk estimation can be a highly complex, time consuming and very costly effort if sophisticated technical and engineering studies are undertaken. The Town of Montgomery and the Northwest Regional Planning Commission used the state's hazard assessment ranking criteria (Table 5.1) to develop a relative risk score for each identified hazard. The vulnerability classifications based on risk scores are as follows: "Low" (0-63), "Moderate" (64-127), and "High" (128-192). The community's overall risk rating is considered *moderate* (69.75 out of a possible high of 192).

The matrix was completed by relying on hazard identification and risk evaluation information that is available as well as the knowledge and judgment of planning participants. Life safety consequences, infrastructure damage, environmental damage and economic disruption are classified as potential impacts of each hazard.

Table 3: Hazard Assessment Ranking Criteria

	Frequency of Occurrence Probability of a plausibly significant event	**Potential Impact:** Severity and extent of damage and disruption to population, property, environment and the economy. Magnitude includes impacted area
1	Unlikely: <1% probability of occurrence per year	Negligible: isolated occurrences of minor property and environmental damage, potential for minor injuries, no to minimal economic disruption

2	Occasionally: 1-10% probability of occurrence per year, or at least once chance in next 100 years	Minor: isolated occurrences of moderate to severe property and environmental damage, potential for injuries, minor economic disruption
3	Likely: >10% but <75% probability per year, at least 1 chance in next 10 years	Moderate: severe property and environmental damage on a community scale, injuries or fatalities, short-term economic impact
4	Highly Likely: >75% probability in a year	Major: severe property and environmental damage on a community or regional scale, multiple injuries or fatalities, significant economic impact

Given the low growth rate, there have been no changes in development that have occurred in *hazard-prone areas* that have affected the town's vulnerability since the previous plan was approved. No new development has occurred in flood-prone areas.

Heightened Risk Due to Climate Change

Table 3 provides a summary of the hazard assessment, including the potential for increased threat as a result of climate change based on following categories:

- Low – Unlikely to pose a greater threat due to climate change.
- Moderate – May become a greater threat due to climate change.
- Substantial – Likely to increase in severity as a result of climate change.
- Severe – Highly likely to become significantly more threatening due to climate change.

Table 4: Hazard Assessment

Hazard	**Probability**	**Potential Impact**					
		Infrastructure	Life	Economy	Environment	Average	Score*
Flooding / Fluvial Erosion	4	4	1	2	2	2.25	9
Strong Winds (Windstorm, Thunderstorm, Tornado, Hurricane, Tropical Storm)	4	4	1	3	1	2.25	9
Severe Winter Storm / Ice Storm	4	4	1	2	2	2.25	9
Extreme Heat / Drought	4	4	1	2	2	2.25	9
Extreme Cold	4	4	1	2	2	2.25	9
Invasive Species	4	1	1	3	4	2.25	9
Structure Fire	4	4	1	1	1	17.5	7

Infectious Disease Outbreak	3	1	3	2	1	1.75	5.25
Hail	2	1	1	1	1	1	2
Landslides	2	1	1	1	1	1	2
Earthquake	1	1	0	2	3	1.5	1.5
Wildfire	1	1	0	1	2	1.25	1.25

Table 5: Hazard Risk Summary

Hazard Type	Probability of Future Occurrences	Magnitude or % Community Impacted	Threat from Climate Change	Risk
Flooding / Fluvial Erosion	High Likely	Minor to Major	Severe	Moderate
Extreme Heat / Drought	Likely	Minor to Moderate	Substantial	Low
Strong Winds (Windstorm, Thunderstorm, Tornado, Hurricane/Tropical Storm)	Highly Likely	Minor to Major	Severe	Moderate
Severe Winter Storm / Ice Storm	Highly Likely	Minor to Major	Severe	Moderate
Extreme Cold	Highly Likely	Minor to Major	Severe	High
Invasive Species	Highly Likely	Minor to Major	Substantial	Moderate
Structure Fire	Highly Likely	Minor	Low	Low
Infectious Disease Outbreak	Likely	Negligible to Moderate	Moderate	Low
Hail	Occasionally	Negligible	Low	Low
Landslides	Occasionally	Negligible	Low	Low
Earthquake	Unlikely	Negligible to Moderate	Low	Low
Wildfire	Unlikely	Negligible to Minor	Low to Moderate	Low

2020 Pandemic

Like many rural communities, the 2020 pandemic had a significant impact on Montgomery. The Town faced challenges such as limited local healthcare resources and economic disruptions, especially for small businesses. Social distancing measures led to the closure of local schools, restaurants, businesses, and shops, causing financial strain. The Town also saw shifts in community dynamics, with many residents relying more on neighbors and limited local services for support. The municipal offices adapted by finding ways to stay connected through continuity of operations planning that enabled staff to work remotely while still carrying out business operations, hold virtual governance committee meetings to conduct Town business, and implementing State protective guidelines for municipal departments to ensure all departments could continue to operate safely. The lessons learned from 2020, will serve the Town well should another pandemic occur.

Climate Change

Climate change is real. The impacts are witnessed today, with more frequent and intense extreme weather events like heavy downpours, shorter frost-free growing season and warmer nighttime temperatures. Although Montgomery contributes minimally to global climate change, it must address the local consequences by building resilience and capacity. These impacts pose challenges in terms of economic or infrastructure vulnerabilities, and for native species and habitats. While some effects of climate change may be positive, the negative impacts—such as threats to agricultural production, increased flooding, and reduced snow cover affecting winter recreation—are of serious concern for their economic, social, and environmental consequences.[1]. Table 5.3 summaries the future effects of climate change for Montgomery.

Table 6: Future Effect of Climate Change by Hazard for Montgomery, VT

Hazard Event	Future Effects of Climate Change
Flooding / Fluvial Erosion	An increase in annual precipitation rates due to climate change could potentially exacerbate inundation flooding and fluvial erosion events in the future. Since the 1960s, the state of Vermont has seen a 6" increase in average annual precipitation, attributed to the warming of the atmosphere and subsequent increased evaporation rates[2]. Such changes will impact road infrastructure and the storm water infrastructure and wastewater treatment. More residents could experience flooding on their properties where minor drainage issues now may exist. Buildings and home located near the river and tributaries may be a greater risk as frequency of flooding and fluvial erosion increase.
Strong Winds (Windstorm, Thunderstorm, Tornado, Hurricane/ Tropical Storm)	According to the NOAA, as the world warms, the jet stream is expected to get faster, with the fastest winds increasing by about 2% for every degree Celsius (1.8° Fahrenheit) of warming. This could lead to greater increase of high wind events and include record-breaking winds that could cause increased damages notably to rural roads in forested areas, electric utility infrastructure, tree damage, residential roof and siding damage particularly mobile homes, and flying debris.
Severe Winter Storm (Ice Storm)	Winter in Vermont has been reported to be warming 2.5 times faster than the global average annual temperatures since 1960, affecting the snow conditions for many sectors of the local economy. Severe winter storms may bring more rain than snow, high winds, and flooding conditions due to decreased ground frost. Warming winters will have a significant effect on maple sugar production that relies on temperatures at or below 0°C / 32°F at night and above freezing during the day for sap to run. For the tourism sector, reduced snow packs will impact nearby Jay Peak Ski Resort with less skiers traveling through the Town and frequenting local restaurants and businesses.
Extreme Heat and Drought	Extreme, prolonged heat will impact the public health sector by placing those with functional access needs at risk; it will impact first response services and local health offices during long spells of heat. The Town will have to continue to monitor local capacities for their predefined cooling sites and first responder resources. Extreme heat can stress the electrical grid as more air conditioners will be put into use.

[1] Vermont Climate Assessment, (2021) University of Vermont, Gund Institute for Environment.
[2] https://climatechange.vermont.gov/vermont-today

	Warmer temperatures over prolonged periods without precipitation will lead to drought conditions. Warmer winters that lead to reduced snowpack would mean water sources are not getting recharged. This will impact those who rely on wells and impact the Town's water supply and distribution system. Drought conditions could also lead to increased wildfire risks which will impact the fire department resources and put private and public properties at risk. Climate change may intensify mud season by causing earlier snowmelt and increased spring rainfall, leading to softer, more waterlogged soils that can severely damage unpaved roads and make them difficult and at times impassable to navigate for residents.
Extreme Cold	With the climate change trend being towards warmer temperatures, future extreme cold periods beyond the norm are unlikely.
Invasive Species	Rising average annual temperatures will have potential impacts on forests and the ag sector of the local economy. Stress will occur on native species as the climate becomes more favorable for southern species. Local impacts will be on the forest products, agriculture, and tourism industry. Particularly concerning are pests like the Asian longhorned beetle (not yet found in Vermont), emerald ash borer, and hemlock woolly adelgid, which have already killed millions of trees across North America. Vulnerability: Agricultural losses, private property (crops, greenhouses, orchards, flower gardens, community trees). Overgrowth can impact powerlines and culverts.
Structure Fire	Rising global temperatures, prolonged droughts, and more frequent and intense heatwaves can increase the likelihood of wildfires spreading into developed areas, igniting structures at the wildland-urban interface. Additionally, increased use of cooling systems during heatwaves can strain electrical infrastructure, potentially leading to faults or overloads that spark fires. In some regions, the drying of vegetation around homes and buildings, combined with higher wind speeds, may also accelerate the ignition and spread of structure fires.
Infectious Disease Outbreak	The Vermont Department of Health defines an infectious disease as one that is caused by micro-organisms, such as bacteria, viruses, or parasites. A vector-borne disease is an infectious disease that is transmitted to humans by blood-feeding arthropods, including ticks, mosquitoes, and fleas, or in some cases by mammals (e.g. rabies). Rising temperatures will enable more diseases and their carriers to spread further north, where harsh winter conditions previously limited their expansion. All sectors and populations of the community including essential services, ambulance service and local health offices. public health sector, people with disabilities and functional access needs including elderly.
Hail	Greater increase in hailstorm activity would increase damages to public infrastructure such as the public works vehicles, public building roofs, and private property.
Landslides	Increased rainfall, particularly intense or prolonged storms, can saturate soil and destabilize slopes, while rapid snowmelt and ground frost thaw further contribute to ground instability. Additionally, clear cut practices that strip large areas of vegetation from hillsides, reducing soil cohesion and increasing landslide risk during subsequent rains. These changes may lead to more frequent, widespread, and severe landslides, posing growing threats to infrastructure, ecosystems, and human safety, especially in mountainous areas.

Earthquake	No known impacts from climate change.
Wildfire	Warming temperatures coupled with drought and greater frequency of wind could create a greater frequency of wildfires occurring. While much of the Town areas are developed, the likelihood of wildfire affecting them is very low. However, as has occurred in some suburban settings in Colorado in recent years, wildfire fueled by high winds could cause damage to residential areas in the Town areas. This would impact the fire department and Vermont Electric Co-op infrastructure. The tourist economy could be impacted due to wildfire smoke. Segments of the population that have functional access needs, particularly those with respiratory issues, would be impacted creating increased demands on ambulatory and health care services.

Flooding / Fluvial Erosion – *Moderate Risk*

Description:

Historically in Vermont, flooding has been the number one natural disaster in loss of life and property. Most flash flooding is caused by heavy rain from thunderstorms. Smaller creeks and streams are particularly vulnerable to flash flooding.

The following is the definition of flood, according to FEMA:

Flood: A general and temporary condition of partial or complete inundation of 2 or more acres of normally dry land area or of 2 or more properties (at least 1 of which is the policyholder's property) from:
- Overflow of inland or tidal waters; or
- Unusual and rapid accumulation or runoff of surface waters from any source; or
- Mudflow; or Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above.

Fluvial erosion is the destruction of riverbanks caused by the movement of rivers and streams. This occurs when the stream is unstable and has more energy than is needed to transport its sediment load, due to channel alterations or runoff events that increase water speed in the channel. Historic land uses along rivers and streams, including floodplain encroachments and removal of vegetation have increased the risk of fluvial erosion.

Flood inundation can occur from dam failure. While there are no dams in Montgomery, beaver dams can pose a threat. Dam failure is caused by the overtopping or structural failure of a dam resulting in a significant, rapid release of water, which can lead to flooding. Structural failure of beaver dams can be caused by many factors, such as internal soil erosion in earth embankment dams, high velocity and depth of stormwater runoff and deliberate sabotage.

While a rare occurrence, beaver dam failure and resulting flooding can be devastating and threaten property downstream. It occurs not only during large storms and high flows, but also and more rarely during normal, sunny day conditions. While the depths and extents of flooding caused by dam failure are most severe during storms when streams and rivers are at their highest, the public is generally conscience of flooding under these conditions.

Geographic Area and Impact

Inundation flooding of land adjoining the normal course of a stream or river is a natural occurrence. If these floodplain areas are in their natural state, floods would likely not cause significant damage. However, most town areas and business districts within Vermont are built within the floodplain due to the historical significance of waterpower.

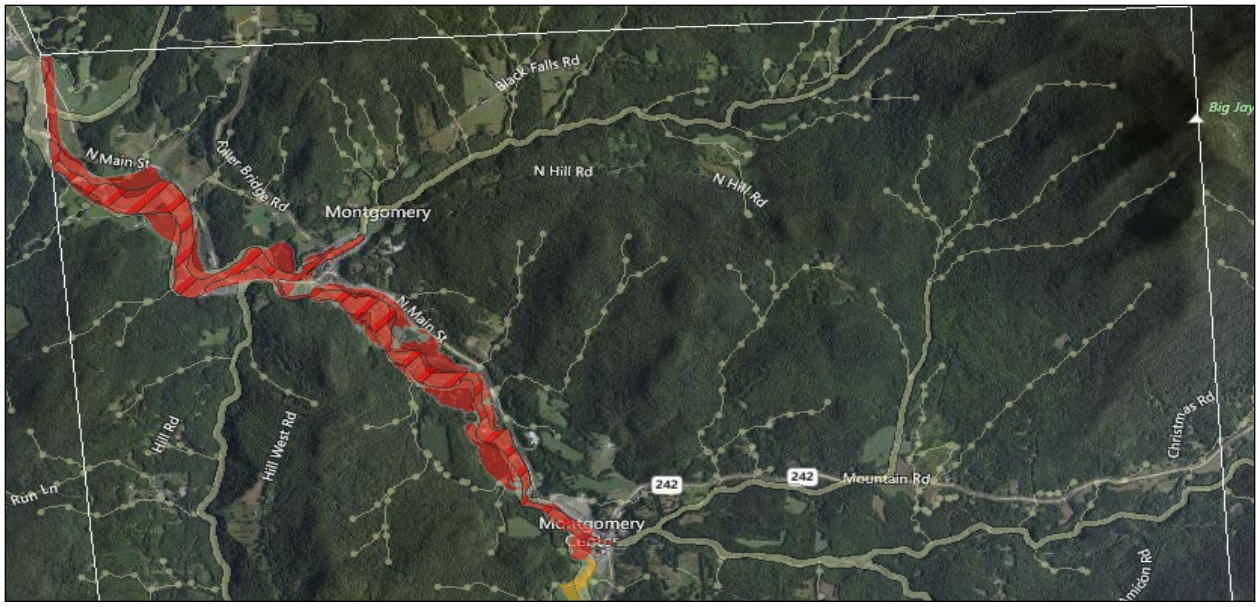
The following maps were created using the Vermont Agency of Natural Resources (ANR) *Natural Resources Atlas* which is an online mapping tool. The maps depict the River Corridors that VT ANR has designated and special flood hazard areas (SFHAs) that FEMA has mapped. It should be noted that the current map effective date (as of this plan writing) for the Flood Insurance Rate Maps (FIRMS) for Montgomery is July 5, 2001. New FIRMS are in development and are anticipated to be widely available by 2027.

The map below is of the northern half of the Town of Montgomery. The orange shaded areas are SFHAs, red areas are FEMA Floodways, and the white shaded areas are the ANR River Corridors. The red floodway is the Trout River. The Trout River flows into the Missisquoi River at its confluence in East Berkshire just northeast of Town. There is an additional floodway on Black Falls Brook at its confluence with the Trout River in Montgomery. This area sees flooding on a semi-annual basis according to the committee. During the 1980's and 1990's and on March 14, 2007, residences along West Hill Road and Hill West Road as well were inundated by flood waters from West Hill Brook. There is a gravel bar in the stream channel near the state highway bridge on VT118 (2.8 miles N from junction with VT242) that contributes to flooding issues by constricting the flow of water. Areas above the gravel bar become flooded. In former years, gravel was removed from the stream and river channels by the State and Town to alleviate public safety concerns. There was a home buyout that took place recently to remove a residence that was frequently impacted by flooding. There is also a floodway along the Trout River in Montgomery Center. VANR and the Town of Montgomery have done extensive river corridor restoration work along this stretch of river to reduce the risk of flooding to Montgomery Center.

The river corridors span more stream length than the SFHAs. It is worth noting that river corridors are only mapped for streams with a watershed of two or more square miles, but they do also apply to the area within fifty feet of top of bank for all mapped streams in the Vermont Hydrography Dataset[3]. Areas within mapped river corridors are included in the restrictions set out in Montgomery's floodplain bylaw.

[3] USGS houses the National Hydrography Dataset, out of which you can extract data by state < http://nhd.usgs.gov/>

Figure 5.1: *Special Flood Hazard Areas, Floodways & River Corridors, North Montgomery*



The map below is of the southern half of Montgomery. The orange shaded area is SFHAs and the white shaded areas are the ANR River Corridors. The SFHA in Montgomery Center is the most serious flood hazard in Montgomery which is the floodway along the Trout River. Floodplain and floodway extend northwest through the town and along State Route 118/N. Main Street into neighboring Enosburgh Town. The floodway is the area of the floodplain that accommodates moving flood waters; whereas other designated A and AE zone SFHAs accommodate standing floodwaters. Therefore, intrusions in the floodway are prohibited. The River Corridors extend to much more stream length than the SFHA.

Figure 5.2: *Special Flood Hazard Areas, Floodways & River Corridors, Southern Montgomery*

Probability and Extent

The Missisquoi River traverses through most of Franklin County. The Trout River, which runs through the Town of Montgomery, is one of its many tributaries. The Trout River watershed includes the Black Falls and West Hill Brooks which have a history of flooding. The watershed is a valuable natural and cultural resource.

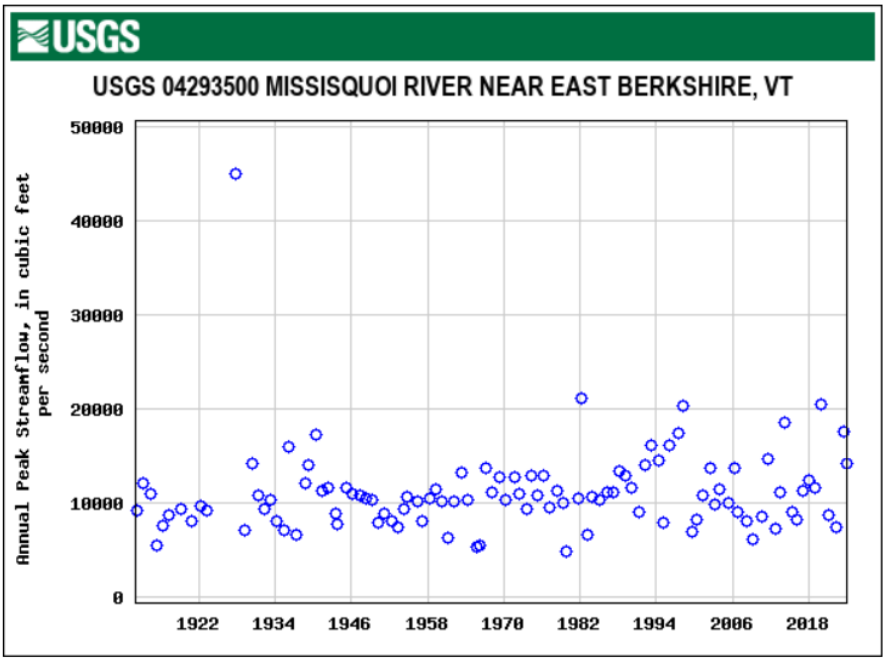
Figure 5.3: *Missisquoi River Gauge at Eat Berkshire*

Recent Crests	Historic Crests
1. 13.60 ft on 12-19-2023	1. 23.10 ft on 11-04-1927
2. 15.14 ft on 07-11-2023	2. 18.92 ft on 03-15-1946
3. 16.49 ft on 11-09-2019	3. 17.50 ft on 04-01-1918
4. 15.64 ft on 04-16-2014	4. 17.45 ft on 04-18-1982
5. 14.13 ft on 08-29-2011	5. 17.42 ft of 02-28-2000

There are no stream gauges on the Trout River, South Branch or Black Falls Brook, which are the three watersheds that lie within Montgomery. The Trout River drains into the Missisquoi River in East Berkshire. This is the nearest gauge to Montgomery, and the highest recorded measurement was 23.10 feet, which was measured on November 3, 1927. Average height for this reach is about 12.59 feet. A USGS gauge was in operation on the Trout River from July 31, 2009 through October 13, 2011. This gauge, Trout River at Hopkins BR, NR Enosburg Falls, VT (USGS 04293600), does not have a long enough flow record to support statistical analysis of flood flows. However, the gage was in operation for one important flood within the Trout River watershed – Tropical Storm Irene on August 28, 2011. The gage is located 0.9 miles downstream of the lower end of the hydraulic model at Hopkins Bridge Road

Flash floods typically occur in high elevation drainage areas because of summer thunderstorm activity according to committee members. Flash flooding can occur during summer when a large thunderstorm or a series of rain over a short period of time, at least two rain events recorded two to four inches of rain falling in a few hours. Flood depths range from a few inches to several feet, while erosion severity can range from minor soil displacement to major land loss. Higher elevation drainage areas and streams are particularly susceptible to flash floods. Flash floods are likely in Montgomery, and potential damage to Routes 52, 118 and 242 could limit access to town, as they are the major transportation corridors through the community.

Figure 5.4: *Missisquoi River Gauge East Berkshire Annual Peak Flow*



Source: USGS

The Town Highway system experiences erosion events annually due to periods of high precipitation and runoff along roads including Black Falls Road, Fuller Bridge, Hannah Clark Brook Road, Hill West and West Hill Road, Hazen's Notch Road, Longley Bridge Road and Amidon Road among others. As local drainage structures become overwhelmed during periods of high precipitation, there is the potential that roads could be undermined.

Fluvial erosion hazard mapping by the VT Agency of Natural Resources (ANR) assists municipalities in developing bylaws and effective mitigation strategies to regulate development within fluvial erosion hazard zones. Montgomery has a river corridor bylaw, which is included with their zoning regulations following criteria set by Vermont Agency of Natural Resources.

Following the ANR's geomorphic assessment data for fluvial erosion hazards, the Trout River corridor in Montgomery Town was given a very high-risk rating. Comstock Bridge Road is the area that is at greatest risk in the town. There are three residences and one commercial business that could be impacted by stream channel erosion in this area. The Trout River corridor in Montgomery Town is classified with an extreme risk rating for fluvial erosion. There are 20 residences, 4 commercial sites and the Town Hall that are at risk from fluvial erosion in this area. Extent information in terms of area measurements is unavailable even for the most significant areas where erosion is a concern.

In 2024, FCNRCS and SLR Consulting produced a flood study selected areas within the Town of Montgomery. Please refer to Appendix B for existing conditions results to determine extent of flooding around buildings, roads and bridges for 50-year, 100-year and 500-year flood events.

Flooding is a reminder to Montgomery residents of the power inherent in nature and is an urgent reminder of the need for proper management and appropriate use of critical floodplain areas. Development within floodplains poses significant risks and should generally be avoided. River channels and floodplains function as a single hydrologic unit, periodically transferring floodwaters and sediment from one to the other. Appropriate uses of floodplains are those that can accommodate this cycle. Examples of uses that are appropriate to floodplains include agriculture, open space, and recreation.

Potential Future Impacts

Climate Change: Climate change is causing stronger, more persistent storms with more rainfall, which makes steeper terrain and saturated soil more prone to flooding. The 2019 Halloween storm caused over $6 million in damage to infrastructure after producing 3–5 inches of rain in a single day in northwestern Vermont. Damage due to stronger storms will cause impacts to road infrastructure, wastewater systems, storm water infrastructure. Private properties located near the river and streams could become susceptible to flooding for the first time which may lead to more property buyouts. Ag. based businesses will be impacted due to saturated soils.

Changes in Land Use/Development: The establishment of the Flood Hazard District within Montgomery Town's Subdivision and Zoning Bylaws enabled the Town to qualify for participation in FEMA's National Flood Insurance Program (NFIP). This program allows property owners within the designated Flood Hazard District to purchase flood insurance. The district is intended to prevent increased flooding risks resulting from development in flood-prone areas, minimize future public and private losses due to flooding, and promote the health, safety, and general welfare of the community. Montgomery Town remains committed to enforcing its floodplain

regulations and ordinances to maintain eligibility in the NFIP and to protect both residents and property by limiting development in areas vulnerable to flooding. As a result, changes in land use and development are not expected to increase the risk of inundation flooding for current or future assets.

Changes in Demographics: Enosburg Fall's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History

Floods of large magnitude occurred in Montgomery in 1888, 1895, 1927, 1973, 1976, 1983, and 1997. One of the worst natural floods of historic record in Montgomery probably occurred in the late 1800's according to recollections of the senior citizens in the Town. The summer of 1976 brought the most damaging flooding since *the Great Flood* that occurred on November 3-4, 1927.

January 15, 1996 (FEMA 1101-DR): A severe winter storm triggered flooding throughout the Town and County. The flooding damaged many roads in the area.

July 14-15, 1997 (DR-1184): the Town of Montgomery suffered extensive damage from a flood so severe that it is known statewide as the Montgomery Flood. Late in the night on July 14th through the morning of the 15th, after more than ten hours of almost continuous rain, a wall of water poured into the center of Town. Route 118 Bridge in Montgomery Center over the Trout River collapsed, cars were carried away, pavement was ripped up, and huge trees were uprooted.

"It was an extremely localized storm which flooded Montgomery. Other towns such as East Berkshire, Hyde Park, Wolcott, Eden and Hardwick all suffered extensive road damage. Houses were damaged in the township of Enosburg and in the community of Enosburg Falls the Missisquoi River flooded the wastewater treatment plant. Montgomery was by far the hardest hit with damage estimated in the millions. Montgomery Disaster Command News reported in mid-August that "FEMA inspectors had visited 76 locations (13% of all 613 homes) in Montgomery. Of these, four had been totally destroyed, 59 had lost furnaces, 37 septic systems were destroyed, 32 buildings sustained significant structural damage, 35 vehicles were destroyed, 8 had hazardous materials contaminations and 27 had lost appliances."[4] Those numbers would grow over time." (Montgomery Town History, 3rd edition).

July 4, 1996: Heavy rain event again overwhelmed local drainages and damaged many local roads.

February 28, 2000: A stalled cold front over Northern New England brought steady rain to the area. Ice jams formed along the Missisquoi River which produced 1 to 2 feet of water along Route 105 between Enosburg Falls and East Berkshire. Flooding receded on the 29th. There was an estimated $20,000 in damages. One homeowner on Town Drive reported water in the garage from flooding.

June 5, 2002: Flash flooding occurred in Montgomery due to a heavy local thunderstorm. Road washouts occurred along Route 58 near Montgomery Center resulting in $25,000 in damages.

September 23rd, 2004 (FEMA-1559-DR): A disaster declaration was declared due to severe storms and flooding from August 12th through September 12th, 2004. Franklin County was included in the disaster

[4] Montgomery Disaster Command News, Vol.6 August 14, 1997, Page 2.

declaration. Flooding occurred because of heavy rain produced from Tropical Storm Francis. The highway crew replaced one culvert on TH1 (Tyler Branch Road). Estimated cost of repairs from FEMA reports and testimony from the Public Works director were approximately $5,000.

May 18 and 19, 2006: A two-day heavy rainfall event brought 3 to 5 inches of rain in Franklin County with locally more than 6 inches along the western slopes of the Green Mountains. Heavy rainfall produced flooding within the Trout River basin, especially in the Town of Montgomery. Numerous roads were flooded and several culverts were washed out. Several basements were inundated. A swift water rescue from a vehicle was conducted and a minor evacuation took place. There was approximately $75,000 in property damages from the event.

June 4, 2007 (FEMA-1698-DR) and August 24, 2007 (FEMA-1715-DR): Franklin County was on the edge of a strong frontal system that brought heavy rain which damaged roads in gin the area. Franklin County was not part of the disaster declaration.

June 14 - 17, 2008 (DR 1778): A series of storms affected the entire state. Stronger storms on Monday June 16 produced up to 1 inch hail. These storms also produced heavy rainfall but were moving more quickly. No flooding resulted. On Tuesday June 17th strong thunderstorms produced pea sized hail and heavy rain in the Trout River basin in northwest Vermont. Flash flooding occurred in the eastern parts of Franklin County.

April and May of 2011 (DR 1995, 4043): The year 2011 was a record year for flooding in the state of Vermont. The first floods occurred over a two-week period in late spring. These floods impacted the northern half of the state, including the counties of Addison, Chittenden, Essex, Franklin, Grand Isle, Lamoille, Orleans, Washington, and Windham. The damage totaled over $1.8 million in FEMA assistance. In the spring, heavy rains in late March/early April on top of a deep late season snowpack resulted in riverine flooding and sent Lake Champlain well over the 500-year flood elevation breaking the 140-year-old peak stage elevation. Additional spring runoff events resulted in Lake Champlain being above base flood elevation for more than a month. High lake levels coupled with wind driven waves in excess of 3 feet resulted in major flood damage for shoreline communities.

Additionally, flooding caused by Tropical Storm Irene in Southern and Central Vermont was catastrophic, destroying property and taking lives, and again eliciting a disaster declaration (DR 4022). Montgomery was spared from the catastrophic damages that occurred elsewhere in the state. Most damages in the state resulting from Tropical Storm Irene were due to flooding and fluvial erosion.

April 15-18, 2014: Severe storms and flooding affected Caledonia, Essex, Franklin, Lamoille, Orange, Orleans, and Washington Counties in Vermont. A federal declaration was made (DR 4178). In Montgomery, flooding occurred along local roads with an estimated $5,000 in damages.

January 13, 2018: Record high temperatures followed by precipitation caused rapid snow and ice melt. The conditions were perfect for localized flooding along the Missisquoi River and its tributaries. Town properties were spared of significant damages.

October 31 to November 1, 2019 (DR 4474): This event is locally referred to as the “Halloween Storm”. Steady rain developed during the mid to late evening of October 31st and became heavy at times through the early morning hours. Rainfall amounts from 2.5 to 4 inches fell across northwest and north central

Vermont. Numerous rivers including the Missisquoi River and area streams flooded. Several roads were fully or partially washed out in northern areas of the state. In Montgomery, costs for the town were in excess of $200,000, including rebuilding the Recreation Field.

July 7 to July 23, 2023: This event was a federal disaster declaration (DR 4720) but it did not include Franklin County. During this period, clusters of showers and thunderstorms crossed the state. Torrential downpours were frequent with some storms especially over the southern and central Green Mountains and northeastern Vermont. In portions of northeastern Vermont, considerable flash flooding occurred. Franklin County was largely spared from the severity of damages that occurred in other areas of the state.

Showers and thunderstorms with heavy rainfall trained across the affected area during the afternoon hours of July 21. Radar estimates and ground observations showed that between two and four inches of rain fell, leading to scattered reports of flash flooding, most notably in the Enosburgh area where Routes 105 and 108 were closed due to high water and road damage.

Additionally, strong southwest to west winds, gusting to 40 to 50 mph and locally higher, developed around sunrise and continued through mid-afternoon before quickly diminishing by evening. These persistent strong winds combined with over-saturated soils, led to numerous downed trees, structural damage and escalated power outages to their peak of more than 100,000 outages. Estimated public infrastructure damage exceeded $5 million state-wide.

December 18-19, 2023: This event was a federal disaster declaration (DR-4762) but it did not include Franklin County. Heavy rain and rapid snowmelt caused significant flooding in parts of the Northern Adirondacks and Vermont. This marked the second major flood for Vermont in six months, highlighting the increasing frequency and severity of flooding in the region due to climate change. Unlike the previous flood, which was caused by thunderstorms, this event was primarily driven by persistent rainfall. The Ausable, Lamoille, Otter Creek, Passumpsic, and Winooski River basins were particularly hard hit.

Widespread heavy rainfall and substantial snow melt (1 – 1.5 inches) led to saturated soils and ponding of water and runoff across roads into streams and rivers with some river gauges reaching moderate flood levels, including the Missisquoi River. Several roads were damaged and were closed briefly. A few home basements were flooded in Montgomery and the surrounding area including Enosburgh Town, Enosburg Falls Village, Fairfax and East Berkshire.

July 7, 2024: This event was a federal disaster declaration from flooding damages caused by Tropical Storm Beryl but it did not include Franklin County. Steady rain fell during the evening hours of July 7th into early morning of July 8th. There were no issues locally from flooding or winds other than branches falling in roads. Other areas of the state, notably St. Johnsbury, Lyndonville and Morgan, received catastrophic damages to public and private properties.

Ice Jam Flooding

In addition to free-flowing flood events, there is very limited history of documented ice jams.

March 6, 1979: An ice jam event resulted in a flood elevation that was 3 feet above the November 3, 1927 flood. Ice jams impact VT118 in the form of flooding. The Agency of Transportation has jurisdiction over VT118 and state highway crews monitor any flood risks in the area. Impacts are

limited as traffic is simply rerouted briefly on secondary roads. Ice Jams are considered a low risk to Montgomery

February 25, 2017: Vermont experienced flooding due to a combination of factors. Warmer temperatures and rain earlier in the week led to snow melt and significant river rises. This, along with ice breakup, caused ice jams to form. Additionally, a strong cold front brought heavy rain (1/2 to 1 inch) and thunderstorms to parts of the state. Several road closures went into effect in Montgomery. Route 118 was closed briefly from ice jam related flooding along Hill West and West Hill Roads. While the initial warm temperatures brought record highs, the subsequent cold front's heavy rain and thunderstorms caused the most significant flooding issues with road washouts and road closures.

January 13, 2018: Warm, moist air settled across Vermont on January 12th which caused rapid snow melt throughout the day. The temperatures were 25 to 30 degrees above normal. An inch or more of rain fell during the evening which led to rivers reaching bankfull. On January 13th, temperatures fell rapidly, changing the rain to freezing rain, sleet, then snow. Snowfall amounts in northern Vermont ranged from 4 to 8 inches. The combination of earlier thawing and sub-zero temperatures allowed for freeze-up jams to develop and exasperate on-going problems along the Trout River.

July 21, 2023: Scattered showers and thunderstorms with heavy rainfall affected portions of Vermont during the afternoon on July 21. Storms trained across northern Franklin County leading to scattered flash flooding. Radar estimates and ground observations showed that between two and four inches of rain fell, leading to scattered reports of flash flooding, most notably in the Montgomery area where Route 118 was closed due to high water and road damage. Culverts along the state routes were overwhelmed.

According to FEMA's National Flood Insurance Program as of March 31, 2014, the Town of Montgomery has 31 policies in force with $4,867,900 in insurance in-force and $37,639 written premium in force.

Strong Winds (Windstorm, Thunderstorm, Tornado, Hurricane/ Tropical storm) – *Moderate Risk*

Description:

FEMA's National Risk Index defines severe winds as damaging winds that exceed 58 mph. Locally, wind caused damages have occurred with sustained winds greater than 30 mph with gusts greater than 40 mph. Strong winds pose a threat to lives, property, and vital utilities primarily because of flying debris or downed trees and power lines.

Strong wind can be the result of the following:

- **Wind Storm:** high wind event without precipitation.
- **Thunderstorm:** high wind event with the potential for compounding impacts due to precipitation (i.e. flood inundation, fluvial erosion, lightning, and/or hail.
- **Tornado**: a violent rotating column of air extending from a thunderstorm, not common in Vermont.
- **Hurricane/Tropical Storm:** the most significant impacts from hurricanes/tropical storms in Vermont are inundation flooding and fluvial erosion. Wind implications of hurricanes/tropical storms are addressed below.

Wind Storm: The National Weather Service (NWS) issues a Wind Advisory when winds are sustained at 31 to 39 mph for at least one hour or any gusts from 46 to 57 mph. The NWS will issue a High Wind Warning for wind speeds that are 58 mph or higher. Additionally, the NWS also has classifications for Tropical Storm Wind Warning and Hurricane.

Thunderstorm: Thunderstorms vary in size and type, each posing unique hazards. They can produce powerful downburst winds known as microbursts and macrobursts, which radiate outward from the base of a storm and can exceed 80 mph, with microbursts being particularly dangerous to aircraft due to their concentrated impact area. Ordinary cell thunderstorms consist of a single updraft and downdraft, bringing strong winds, rain, lightning, and hail. In contrast, multicell cluster thunderstorms contain multiple ordinary cells and are especially prone to flash flooding. Squall line thunderstorms form long, narrow bands—sometimes over 100 miles—with their strongest winds and rains concentrated at the leading edge. The most intense and destructive type is the supercell thunderstorm, which can last the longest and is responsible for nearly all tornado formation, along with producing lightning, hail, and flash flooding. (see: Hail and Flooding & Fluvial Erosion).

In Montgomery, high winds typically occur alongside severe thunderstorms, with straight-line winds often causing the majority of thunderstorm-related wind damage. These winds can be mistaken for tornadoes due to the comparable wind speeds and damage patterns, but unlike tornadoes, they do not involve rotating air. While thunderstorms and their associated hazards can happen at any time of year, they are most common during the spring and summer months.

Tornado: A tornado is a rapidly rotating column of air that extends from a thunderstorm to the ground, capable of causing extreme destruction. The most intense tornadoes can produce wind speeds exceeding 250 mph, leaving damage paths that may span over a mile in width and stretch up to 50 miles in length. Tornado intensity is measured using the Enhanced Fujita Scale, which rates wind speeds on a scale from EF0 to EF5.

Hurricane/Tropical Storm: A hurricane is a tropical cyclone with sustained winds that have reached speeds of 74 mph or higher. A storm reaches hurricane status only after strengthening over a period of days or even weeks. A tropical storm has a maximum sustained wind speed of 39 to 73 mph, and typically forms over warm ocean waters. As a hurricane moves to coastal areas, wind speeds decrease, and the hurricane may be downgraded to a tropical storm. This is the case in many of the tropical storms that have reached Vermont.

Hurricanes and tropical storms are hazard events that often result in high winds, inundation flooding, and fluvial erosion impacts. The topography and landscape in Montgomery contribute to the risk associated with these three hazard impacts as Montgomery Village and Montgomery Center are in or proximate to the floodplain of the Trout River and roads that run parallel to the river and its tributaries (see: Inundation Flooding & Fluvial Erosion).

The Atlantic Ocean hurricane season occurs approximately from June 1 through November 30, with most of the hurricane activity occurring between mid-August through October.

Figure 5.5: *Beaufort Wind Scale*

Force	Wind (Knots)	WMO Classification	On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, Smoke rises vertically.
1	1-3	Light air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh breeze	Moderate waves 4-8 ft taking longer form, may whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-19 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (18-25 ft) waves of greater length, edges of crests beginning to break into spindrift, foam blown in streaks	Twigs breaking off trees, generally impedes progress
9	41-47	Strong Gale	High waves (23-32 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs.
10	48-55	Storm	Very high waves (29-41 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, “considerable structural damage”
11	56-63	Violent Storm	Exceptionally high (37-52 ft) waves, foam patches cover sea, visibility reduced	Widespread structural damage.
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	Widespread structural damage.

(*Source: NOAA*)

Figure 5. 6: *Enhanced Fujita Scale*

Scale	Wind Speed		Types of Damages Due to Hurricane Winds
	mph	km/h	
EF0	65-85	105-137	*Minor or no damage.* Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e., those that remain in open fields) are always rated EF0.
EF1	86-110	138-177	*Moderate damage.* Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	178-217	*Considerable damage.* Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136-165	218-266	*Severe damage.* Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations are badly damaged.
EF4	166-200	267-322	*Devastating damage.* Well-constructed and whole frame houses completely leveled; cars and other large objects thrown and small missiles generated.
EF5	>200	>322	*Extreme damage.* Strong-framed, well-built houses leveled off foundations are swept away; steel-reinforced concrete structures are critically damaged; tall buildings collapse or have severe structural deformations; some cars, trucks, and train cars can be thrown approximately 1 mile (1.6 km).

(*Source NOAA)*

The Saffir-Simpson Hurricane Wind Scale is a 1 to 5 rating based only on a hurricane's maximum sustained wind speed. *This scale does not take into account other potentially deadly hazards such as flooding, and tornadoes.*

Figure 5.7: *Saffir-Simpson Hurricane Wind Scale*

Tropical Depression: ≤ 38 mph, ≤ 33 knots, ≤ 62 km/h		**Tropical Storm: 39-73 mph, 34-63 knots, 63-118 km/h**
Category	**Sustained Winds**	**Types of Damage Due to Hurricane Winds**
1	74-95 mph 64-82 kt 119-153 km/h	**Very dangerous winds will produce some damage:** Well-constructed frame homes could have damage to roof, shingles, vinyl siding and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.
2	96-110 mph 83-95 kt 154-177 km/h	**Extremely dangerous winds will cause extensive damage:** Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
3 (Major	111-129 mph 96-112 kt 178-208 km/h	**Devastating damage will occur:** Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
4 (major)	130-156 mph 113-136 kt 209-251 km/h	**Catastrophic damage will occur:** Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power

		outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
5 (major)	157 mph or higher 137 kt or higher 252 km/h or higher	**Catastrophic damage will occur:** A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Source: (NOAA)

Geographic Area and Impact

Strong winds, windstorms and thunderstorms are most common and can occur anytime during the year. They can affect the entire town as pressure gradients move through the area. The town has experienced a variety of high winds, windstorms and thunderstorms from storm systems that track from eastern New York and Ontario, and across Lake Champlain as well as Quebec from the north. There are no recorded tornado events that have occurred in Montgomery. The town is far inland and is unlikely to receive a direct hit from a hurricane, however the remnants of tropical storms with accompanying thunderstorms, rain and less often, hail as an accompanying hazard.

The impact of strong winds in Montgomery is considered *minor to major* by the committee depending on wind type, strength, duration and local conditions.

Mobile homes can be vulnerable to wind events due to their lightweight structures and unstable foundations. Older mobile homes, built before 1994, may be especially susceptible to more severe winds according to data from the Urban Institute. There are thirty-seven mobile homes located in the Town with a greater density along Main St in the Town and along Black Falls Brook Road. Higher exposed elevations along Gibou Road, Hill West Road and Mountain Road are more likely vulnerable to strong winds.

Vermont Electric Co-operative utility lines and infrastructure are in process of being reinforced due to damaging winds and are vulnerable to toppling trees. A right-of-way vegetation management plan is in place for the utility corridors to help mitigate damages. Strong wind events with associated power outages can have a short-term impact on the local economy due to business closures.

Vulnerabilities include commercial and residential structures, seasonal homes, public buildings (Town Office, Public Safety Building, Public Works, Historic Society, Montgomery Elementary School, State Garage), barns, livestock, churches, and utilities.

Probability and Extent

The probability of a strong wind event in Montgomery is considered *high likely* based on history. There have been 45 strong wind, and severe thunderstorm events in the region since January 1, 1998, according to the National Climatic Data Center. All are classified as severe thunderstorms with wind speeds of 50 kts. or greater.

Strong winds can cause power outages, property damage, transportation interruptions, affect businesses and can cause personal injury and loss of life. Microbursts with high wind speeds and high precipitation accumulations over brief periods often down trees and branches and power lines and can overwhelm local drainage networks for brief periods. Microbursts have occurred almost annually in the past 10 years.

Strong wind events often accompany thunderstorms. Lightning strikes in Franklin County average between 4-6 strikes per square mile each year based on data collected by NASA 's Earth information System. Within Montgomery, the low estimate is 227 strikes per year, and the high estimate is 340 strikes per year. NOAA's severe weather data inventory lists 156 strikes in Montgomery and the immediate area from 2019-2024. There is very little data on lightning strikes in Town. There are rare instances where lightning has caused barn fires and grass fires during dry periods. Damages from lightning could come in the form of destroyed electrical appliances, transformers, capacitors, structure fires, or tree strikes that could cause wildland fires. Private properties in Montgomery have experienced lightning strikes. High elevations in foothills of the Green Mountain Range, Cold Hollow Mountains and areas around bodies of water such as rivers and ponds are more susceptible.

According to the state Hazard Mitigation Plan, Vermont has experienced 49 tornadoes, 14 of which were magnitude F2 (significant) and 19 magnitude F1 (moderate) on the Enhanced Fujita Scale. F2 tornadoes have maximum wind speeds of 111 to 135 mph, while F1 tornadoes range from 86 to 110 mph. Damage from tornadoes has ranged from a few downed trees to seven injuries during a 1970 tornado in Franklin County. No tornados have been recorded in or near Montgomery Town. Tornadoes can occur any time of the year under the right conditions but occur typically between March and August.

Hurricanes have never occurred in Vermont due to the state's location far from the Atlantic coastline. In general, severe hurricanes are not considered likely, nor do they pose a recurring threat for Montgomery or the state in general. Montgomery has experienced five tropical storms and their remnant since 2004, with varying degrees of impact with the worst being in 2017 where multiple broken poles and downed lines that caused power disruptions for several days.

National Climatic Data Center records indicate that the Franklin County region has experienced 29 High Wind events over the past 25 years resulting in over $700,000 in cumulative property damage. No official information was found specifically for the Town of Montgomery.

Figure 5.8: *Franklin Co. Wind Events*

Date	Location	Magnitude (mph)	Deaths	Injuries	Property Damage
6/19/2024	Franklin Co.	57	0	0	$-
3/4/2024	Franklin Co.	60	0	0	$-
1/9/2024	Franklin Co.	55	0	0	$50,000
12/23/2022	Eastern Franklin Co	56	0	0	$150,000
12/12/2021	Franklin Co	50	0	0	$-
7/8/2020	Franklin Co.	57	0	0	$-
7/30/2019	Franklin Co.	63	0	0	$-
6/30/2018	Eastern Franklin Co	n/a	0	0	$50,000
5/4/2018	Franklin County	60	0	0	$50,000
10/30/2017	Eastern Franklin Co.	52	0	0	$200,000
7/18/2016	Franklin Co.	57	0	0	$-
5/29/2016	Franklin Co.	57	0	0	$-
10/29/2012	Eastern Franklin Co.	50	0	0	$10,000
9/8/2012	Eastern Franklin Co.	69	0	0	$-

4/16/2011	Eastern Franklin Co.	55	0	0	$25,000
12/1/2010	Eastern Franklin Co.	61	0	0	$250,000
2/26/2010	Eastern Franklin Co.	50	0	0	$10,000
1/25/2010	Eastern Franklin Co.	50	0	0	$10,000
12/9/2009	Eastern Franklin Co.	55	0	0	$10,000
12/23/2007	Eastern Franklin Co.	50	0	0	$5,000
10/28/2006	Eastern Franklin Co.	60	0	0	$70,000
2/17/2006	Eastern Franklin Co.	37	0	0	$50,000
10/16/2005	Eastern Franklin Co.	40	0	0	$10,000
9/29/2005	Eastern Franklin Co.	35	0	0	$50,000
8/30/2005	Franklin Co.	30	0	0	$0
7/8/2005	Franklin Co.	30	0	0	$0
8/12/2004	Franklin Co.	40	0	0	$0
11/13/2003	Eastern Franklin Co.	35	0	0	$5,000
9/19/2003	Eastern Franklin Co.	40	0	0	$10,000
9/27/2002	Franklin Co.	35	0	0	$0
9/14/2002	Franklin Co.	40	0	0	$0
3/10/2002	Franklin Co.	54	0	0	$5,000
2/10/2001	Franklin Co.	64	0	0	$1,000
12/12/2000	Franklin Co.	n/a	0	0	$10,000
9/21/2000	Franklin Co	65	0	0	$-
3/28/2000	Franklin Co.	n/a	0	0	$10,000
11/2/1999	Franklin Co.	n/a	0	0	$5,000
9/17/1999	Franklin Co.	n/a	0	0	$10,000
11/10/1998	Franklin Co.	n/a	0	0	$10,000

(*Source: NOAA*)

Tornado Vulnerability: Agriculture based businesses could experience crop damages. Vermont Electric Co-operative infrastructure could be damaged (poles, transformers, above ground power lines), residential home damage from flying debris or damage roofs or siding.

Hailstorms usually occur in Vermont during the summer months and accompany thunderstorms. There have been 33 recorded hail events in Franklin County between 1998 and 2024. Hail is considered an infrequent occurrence. Those hail events that do occur tend to be highly localized and limited to a small area. Hail is profiled later in this section.

***Figure 5.9**: Tornado and Storm Research Organization Hailstorm Intensity Scale*

TORRO Scale	Intensity Category	Typical Hail Diameter (mm.)	Probable Kinectic Energy, J-m^2	Typical Damage Impacts
H0	Hard Hail	5	0-20	No damage
H1	Potentially Damaging	5-15	>20	Slight general damage to plants, crops
H2	Significant	10-20	>100	Significant damage to fruit and crops, damage to glass and plastic structures, pain and wood scored

H3	Severe	20-30	>300	Widespread glass damage, vehicle bodywork damage
H4	Severe	25-40	>500	Widespread glass damage, vehicle bodywork damage
H5	Destructive	30-50	>800	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
H6	Destructive	40-60	-	Bodywork of grounded aircraft dented; brick walls pitted
H7	Destructive	50-75	-	Severe roof damage, risk of serious injuries
H8	Destructive	60-90	-	Severe damage to aircraft bodywork
H9	Super Hailstorms	75-100	-	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
H10	Super Hailstorms	>100	-	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Strong wind events can cause widespread power outages that disrupt businesses and threaten public safety. Communication systems are also vulnerable, as the loss of phone service poses challenges for residents—particularly vulnerable populations. With landline networks now relying on fiber lines that share poles with electrical service, phone access depends on short-lived battery backups during outages. Cell service is commonly used but often unreliable in certain areas, complicating efforts to reach emergency services. The extent of damage from strong winds is difficult to predict and may include downed power lines and trees, damaged roofs, blocked roads, and harm to structures such as barns and silos. Flying debris and falling trees also present serious risks of injury or death.

There is power surge equipment installed for electronic equipment at the Montgomery Public Safety Building, Town Office, Library and Public Works building. The Public Works Department is equipped with associated debris removal equipment. Emergency generators are located at the Public Safety Building, Public Works Building, and the Montgomery Elementary School which serves as the community's primary shelter.

Potential Future Impacts

Climate Change: With predicted increase in severity of wind speeds due to warming temperatures, future impacts of wind events are varied. According to NOAA, winds can damage roofs, windows, and siding, and can cause structural damage to roofs at 55–63 mph. Homes with siding are particularly vulnerable to wind damage, and stucco can also be damaged by water. For mobile homes winds can cause serious damage to anchored mobile homes at speeds over 80 mph, and can destroy poorly constructed or unsecured mobile homes at speeds of 60–73 mph.
Changes in Land Use/Development: No changes to asset impacts due to strong wind events because of development or land use changes could be identified.
Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History

August 31, 1993: A straight-line storm system destroyed one mobile home and tore the roofs off several homes. There was an estimated $500,000 in property damages state-wide from the storm.

November 10, 1998: Northern Vermont experienced a significant windstorm that caused widespread damage and power outages. The storm's strong east to southeast winds, combined with heavy wet snow from earlier in the day, downed numerous trees and power lines, particularly along the western foothills of the Green Mountains.

September 17, 1999: Impacts of Hurricane Floyd, which had weakened to a tropical storm by the time it reached the state. Despite its diminished strength, Floyd produced high winds and heavy rain across Vermont, including Montgomery, leading to widespread downed trees and power lines. Wind gusts reached up to 60 mph, and rainfall totals of 3 to 6 inches were common, with some areas reporting higher amounts. The heavy rainfall contributed to localized flooding, and the downed trees caused structural damage, blocked roadways, and affected hiking trails.

November 2, 1999: In northern Vermont, a significant windstorm caused widespread damage and power outages. The storm's strong east to southeast winds, combined with heavy wet snow from earlier in the day, downed numerous trees and power lines, particularly along the western foothills of the Green Mountains.

September 21, 2000: A strong cold front moved across the north country during the early morning. A thunderstorm with high winds accompanied the front. Winds were measured at 65 mph.

September 14, 2002: Heavy rain and high winds from Tropical Storm Hannah affected all of Vermont. Some light hail fell. Montgomery was spared from any wind damages.

September 27, 2002: Remnants from Tropical Storm Isadore affected all of Vermont. Heavy rain and high winds reached northern Vermont during the day. The wind was particularly strong along the foothills of the Green Mountain Range. Fortunately, no damage was recorded.

September 19, 2003: The remnants of Hurricane Isabel moved across western New York the afternoon of Friday, September 19th and into Canada by evening. Strong winds accompanied this system. Trees and power lines were blown down across the Montgomery region, but the overall impact was minor.

September 27, 2002: The remnants of Tropical Storm Isidore produced high winds and heavy rain throughout Franklin County. There was minor damage reported from falling trees and limbs

September 14-15, 2002: Remnants of Tropical Storms Hannah produced high winds and heavy rain throughout Franklin County. There was minor damage reported from falling trees and limbs

August 12th, 2004 (FEMA-1715-DR): Tropical Storm Francis generated high winds and heavy rain throughout most of the state. Several culverts and ditches in the Town were damaged due to flooding.

July 8, 2005: Tropical Storm Cindy produced heavy rain and high winds across much of the state including Montgomery. Rain amounts were estimated between 1 and 3 inches with no reported damage.

August 30-31, 2005: Tropical moisture and high winds from Katrina reached Montgomery on August 30th. The rain was initially steady then became heavy on the 31st. Winds were steady but non-threatening. Rainfall totals across Franklin County were between 2.5 and 4 inches. A few local roads had minor flooding. The Town was largely spared.

October 28, 2006: A moderately unstable airmass across northern New York and northern Vermont on the afternoon of the 7th. The result was scattered thunderstorms and strong winds up to 60 mph across northern New York and Vermont.

December 9, 2007: Very strong east to southeast winds swept across the peaks of the White Mountains in New Hampshire and the Green Mountains of Vermont, carrying heavy wet snow from earlier hours. These winds caused scattered tree and limb damage, particularly along the western foothills, leading to widespread but intermittent power outages in Franklin County including Montgomery.

January 25, 2010: A relatively strong southeast gradient accounted for downslope winds approaching 50 mph to occur along some of the western slope communities of Vermont's Green Mountains. There was some isolated to scattered minor tree damage and power outages.

February 26, 2010: High winds from a winter storm caused minor damage throughout Franklin Co. In Montgomery, a few trees and branches were cleared along roads.

December 1, 2010: A high wind event occurred from 5 am to 5 pm that brought significant damages to the Town. Local accounts reported damaging straight-line winds with estimated sustained wind speeds of 70 mph. Residents were without power for several days due to trees and branches toppling power lines.

August 28, 2011: Tropical Storm Irene (DR-4022) devastated parts of Southern and Central Vermont, however the northern part of the state was largely spared. Heavy rain fell in Montgomery throughout the day and evening. Some local roads experienced minor flooding from culverts being overtopped but damage was minor compared to other areas of the state.

October 29-30, 2012: A strong windstorm affected northern Vermont during the afternoon and evening causing several outages that were brief.

May 29, 2016 -Widespread gust downed tree limbs and damaged power lines across communities in northern Vermont. While most outages were brief, they disrupted electrical and telecommunication services for many residents and businesses. Emergency crews and utility workers responded quickly to clear debris and restore power.

October 29-31, 2017 (DR 4356): A strong thunderstorm fueled by an ex-tropical storm brought damaging winds to Vermont, causing power outages and knocking trees down throughout the state. Winds reached over 70 mph at times and rain caused flooding. Electric companies had multiple broken poles and many primary and service lines down. All power was restored to customers in two days. The total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $5,296,752.57.

May 4, 2018: Winds up to 60-80 mph occurred across the five affected counties. Strong winds and microbursts created power outages throughout the state. Several trees were knocked down in eastern

Franklin County. Hail showers were also reported among several counties. $44,096.31 was distributed to communities after the storm for damage.

June 30, 2018 (DR4380): An atmospheric heat ridge with accompanying thunderstorm clusters moved into northern Vermont and southern Quebec during the late evening. The high winds generated by the thunderstorms downed many trees and caused some power disruptions. The total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $3,246,787.21.

November 12, 2021: A powerful fall storm tracked from Great Lakes to New York and Vermont. Numerous surface wind gusts in excess of 40 mph were observed with several wind gusts approaching or exceeding 50 mph in the higher terrain of the Green Mountains that led to more than 10,000 power outages. In Franklin County, several wind gusts were recorded by spot forecaster at 40-45 mph, including 52 mph in East Berkshire. This led to scattered power outages due to downed trees on powerlines.

August 22, 2021 (3567 EM): Tropical Storm Henri brought some rain and gusty winds to the region but there were no local impacts in Montgomery.

December 11-12, 2021: The NWS reported a very powerful cold front with winds in excess of 100 knots at 5,000 feet moved across the eastern Great Lakes, northern NY and eventually VT.
The associated cold front produced strong surface winds in excess of 40-50 mph around mid-evening and gradually decreased into the 30-40 mph range during the early morning hours of the 12th. The strongest winds were in northern sections and along the eastern slopes of the Green Mountains. Statewide approximately 15,000 customer power outages. In Montgomery, Scattered tree limbs and small trees downed by strong winds, measured in the mid-upper 40s but some local estimates were in excess of 50 mph.

February 1, 2022: Strong winds battered the Champlain Valley due to a pressure difference between New England and the Great Lakes. Measured wind gusts of 45 to 55 mph were common across Franklin County. Several branches and small, weak trees downed by winds were the main impacts as well as isolated power outages. A few weak, old barn or shed structures suffered damage as well.

December 22-24, 2022 (DR 4695): A powerful winter storm centered in the eastern Great Lakes and Ontario slammed Vermont with strong winds. Southeast winds reached speeds of 25-35 mph, with frequent gusts exceeding 50 mph and even reaching 60 mph or higher in some areas. These high winds caused widespread damage, knocking down trees and power lines, and leaving over 100,000 people without power at the peak.

Later in the day, a powerful arctic front associated with the storm swept across the state. Temperatures plummeted from the 40s and 50s down to the 20s, accompanied by strong west winds of 20-35 mph. As temperatures dropped rapidly, a widespread snowfall of 2-5 inches occurred. Combined with the sub-freezing air, this snowfall created a flash freeze, making travel extremely dangerous. While wind gusts of 45-55 mph were recorded including one station at Burton Island on Lake Champlain where gusts reached 60-65 mph. Total FEMA Public Assistance grants dollars obligated for this declaration for the affected Counties was $1,495,613.14.

January 9-13, 2024 (DR-4770): A powerful winter storm tracked from the Pacific Northwest to the Great Lakes, intensifying as it moved. A sharp pressure difference between the Great Lakes and eastern Canada created extremely strong winds across New York and Vermont. These winds caused widespread damage, including downed trees, power outages affecting 80,000 people, and over $1 million in losses. In Franklin County, there were several reports of 50-55 mph winds and NWS estimated wind gusts in excess of 60 mph. Numerous power outages occurred as well. Several inches of wet snow accompanied the storm, with higher elevations seeing more accumulation. There was an estimated $50,000 in property damages in Eastern Franklin County.

March 4-5, 2024: A late winter storm brought windy conditions across VT during the afternoon hours of April 3rd and continued into the early morning hours of April 4th. In some places in southern Vermont, wind speeds were between 50-60 mph. Impacts were significant across the state with hundreds of motor vehicle accidents, numerous school closing and more than 35,000 power outages at its peak due to snow weighted trees on powerlines.

Severe Winter Storm (Ice Storm) – *Moderate Risk*

Description:

Severe winter storms with snow, ice and freezing temperatures in various combinations are commonplace in Montgomery. Such storms are accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill. Strong winds with these intense storms and cold fronts can knock down trees, utility poles, and power lines. Winter storms can cause roofs to collapse and limit access to areas and buildings. Extreme cold often accompanies a severe winter storm or is left in its' wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening.

Geographic Area and Impact

The impact of severe winter storm (ice storm) is considered *limited to catastrophic* by the committee based on past history. In northwestern Vermont where Montgomery is situated, a severe winter storm can last for several days and can be accompanied by strong winds creating blizzard conditions with blinding wind-driven snow, severe drifting, and dangerous wind chill.

Figure 5. 10: *Top 10 Winter Snowfalls Dec-Feb*

Burlington, Vermont Top 10 Winter Snowfall Totals Dec-Feb					
Highest			Lowest		
Rank	Snowfall	Year(s)	Rank	Snowfall	Year(s)
1	103.4”	2007-08	1	18.4”	1912-13
2	97.9”	2010-11	2	20.4”	1979-80
3	96.9”	1970-71	3	21.9”	1928-29
4	90.1”	2009-10	4	23.6”	1936-37
5	81.7”	1965-66	5	24.0”	1898-99
6	80.7”	2003-04	6	25.0”	1904-05
7	80.0”	1957-58	7	25.6”	1940-41
8	79.4”	2008-09	8	26.3”	2011-12
9	78.6”	1946-47	9	27.0”	1900-01
10	75.7”	1969-70	10	27.4”	1960-61
Source: National Oceanic and Atmospheric Administration					

Strong winds, accumulations of ice and heavy snow can knock down trees, utility poles, communication towers and power lines. Communications and power can be disrupted for days while utility companies work to repair the extensive damage. People have been trapped at home for up to two weeks, without utilities or other services.

Winter storms affect the entire Town and generally cause disruptions to public and private services. The primary impacts of a storm typically include the disruption to transportation networks, school closings and occasionally telecommunications and power outages. Vulnerable populations such as the elderly, those dependent on medical equipment and specialized health or physical care are at risk to winter storms. Also at risk are farms and associated structures and livestock. Barns can collapse due to heavy snow loads. Dairy cattle are susceptible to mastitis if they are unable to be milked. With the almost annual occurrence of a significant snow or ice storm, the Town feels an impact most on the infrastructure and agricultural segment of the community. The Town is able to keep the roads open and treated for most storms and any loss of power is usually limited to hours, except during the Ice Storm of 1998 when parts of the Town were without power for three to four days.

<u>Probability and Extent</u>

The probability of a severe winter storm (ice storm) is considered *highly likely* by the committee. The National Weather service defines a blizzard as “a storm which contains large amounts of snow or blowing snow, with winds in excess of 35 mph and visibilities of less than 1/4 mile for an extended period of at least 3 hours).

Winter Storms occur annually in the Town of Montgomery, typically in the form of a Nor’easter. Nor’easters occur most often in the winter and early spring, but also sometimes during the fall. These storms can leave inches of rain or several feet of snow in the region, and sometimes last for several days.

Extreme cold often accompanies a severe winter storm or is left in its wake. Prolonged exposure to the cold can cause frostbite or hypothermia and become life-threatening. Infants and elderly people are most susceptible. Even small accumulations of ice may cause extreme hazards along roadways. Heavy snowfall and blizzards can trap motorists in their cars. Attempting to walk for help in a blizzard can be a deadly decision.

Figure 5.11: *Top 10 Winter Snowfalls Mar-May*

Burlington, Vermont Top 10 Spring Snowfall Totals Mar-May					
Highest			Lowest		
Rank	Snowfall	Year(s)	Rank	Snowfall	Year(
1	52.7”	1933	1	0.1”	1945
2	47.8”	2001	2	1.0”	1903
3	45.7”	1971	3	2.0”	1910
4	37.7”	1974	4	2.7”	1927
5	36.4”	1916	5	3.1”	1934
6	36.1”	1997	6	3.2”	1991
7	34.4”	1994	7	3.9”	1946
8	33.9”	1983	8	4.0”	1905
9	31.0”	2007/1972	9	4.1”	1915
10	30.1”	2011	10	4.2”	1921

Source: National Oceanic and Atmospheric Administration

Some of the worst historical storms in Montgomery have left snow depths of 14” (March 2001), wind speeds up to 40 mph (January 1998), and ice accumulations of 2-4” (January 1998 and December 2013).

Enosburg Fall’s recent history has not recorded any loss of life due to the extreme winter weather. These random events are difficult to set a cost to repair or replace any of the structures or utilities affected. There are no standard loss estimation models or methodologies for severe winter storms (ice stroms). Potential losses from winter storms are, in most cases, indirect and therefore difficult to quantify.

Potential Future Impacts

Climate Change: Winter in Vermont has been reported to be warming 2.5 times faster than the global average annual temperatures since 1960[5]. Typical winter weather conditions will be impacted including river ice reductio and shifting agricultural production times. Warmer winters will also mean that ground freezing will likely be impacted, and rain precipitation could saturate soils causing more flooding. Warmer winters will affect crucial Vermont industries like maple sugaring. Maple sugaring relies on a specific temperature range for sap to flow, typically occurring when nighttime temperatures drop below freezing (0°C / 32°F) and daytime temperatures rise above freezing. Warming winters will also impact the tourist industry for those traveling through town to Jay Peak Resort and for local business that receive winter snowmobile users on the Missisquoi Valley Rail Trail.

Changes in Land Use/Development: Increased recreational use or development in forest reserve districts can lead to habitat modification, fragmentation of natural habitats, altered disturbance regimes, changes in hydrology and drainage and loss of native biodiversity.

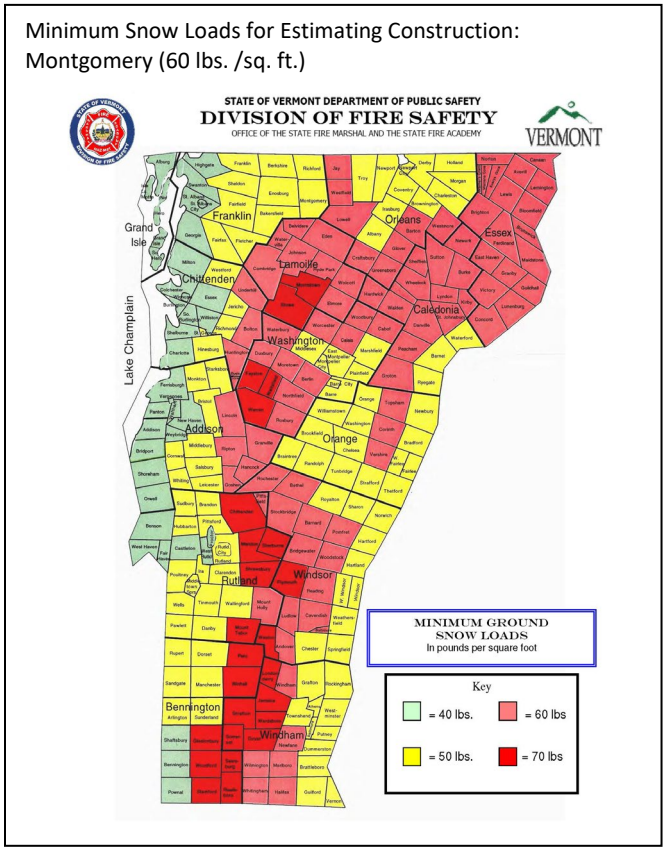
Changes in Demographics: Montgomery’s population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

[5] Vermont Climate Assessment, (2021) University of Vermont, Gund Institute for Environment.

The following is a review of the history of severe winter storms that have impacted the Town and surrounding area.

Figure 5. 12: *Minimum Ground Snow Loads*



January 19, 1996 (FEMA 1101-DR-VT) : A FEMA declared disaster for the county was made following a winter storm. A warming trend produced heavy rains causing rapid snow melt that led to flooding.

January 6, 1998 (FEMA-1201-DR): A winter storm affected the Town and produced some flooding along streams. Snow turned to freezing rain and produced power outages into the area. This storm is referred to as the Ice Strom of 1998, but the weather was more akin to a traditional winter storm than an ice storm.

March 5-6, 2001: A major snowstorm occurred resulting in 16" of snow in Enosburgh. The storm began early Monday morning with a brief burst of snow then transitioned during the midday hours to intermittent light snow, sleet, freezing rain and rain. The storm developed into a nor'easter during the afternoon and continued through the evening. Damage estimates for cleanup are unknown.

December 22, 2010 (DR 1951): Vermont received a Presidential disaster declaration to supplement state and local recovery efforts in the areas struck by severe storms during the period of December 1-5, 2010. FEMA's public assistance funds were made available to affected counties including Franklin County.

December 20-26, 2013 (DR-4163) : A wide-spread low-pressure system that brought snow and freezing rain through Ontario, Quebec, and Northern New England. These areas experienced an ice storm that brought widespread power outages. Many Towns throughout Franklin County, Vermont were affected by the ice storm. Vermont Electric Cooperative responded to over 60,000 customer outages during the week and estimated costs of restoring power at $7,400,000. In Montgomery the Public Works Department was active keeping roads removing ice damaged trees and limbs from local roads. Hundreds of residents were without power for several days. Storm cleanup continued through the spring. The Town estimated $725,000 in damages from the event.

October 25, 2015: A rare autumn Nor'easter that was fed by the remnants of Hurricane Wilma struck Franklin County. There were reported snowfall amounts in the County varied from 6 to 14 inches. Trees still laden with fall foliage were downed due to the heavy, wet snow. There were many reports of snapped power lines from downed trees and branches. Many homes serviced by Vermont Electric Cooperative were without power for several days.

February 12, 2017: Two areas of low pressure from the Great Lakes and Ohio River Valley traveled east across NY and New England. Snow began across Vermont between 10 and 1 pm and fell steadily through the evening hours before slowly tapering during the overnight hours. Although a second wave of snow showers fell across the western slopes of the Green Mountains and portions of Northeast Vermont during the 13th. A widespread 6 to 12 inches of snow fell with some localized higher amounts fell across Vermont. Impacts were largely travel related and nearly all school districts cancelled classes for February 13th.

March 14 -15, 2017: A major nor'easter developed off the North Carolina/Virginia coast during the early morning hours of and intensified as it moved north-northeast across southeast New England during the night into central Maine by the morning of March 15th. Snowfall totals across Franklin County generally ranged from 20 to 36 inches including 27 inches in nearby Enosburg Falls, Brisk winds of 20 to 30 mph contributed to white-out conditions at times with considerable blowing and drifting snow. Numerous schools, businesses and local government offices closed with numerous vehicle accidents and stranded vehicles. No significant damages were reported.

February 7, 2018: A quick moving low-pressure system brought snowfall rates of an inch or more per hour for several hours. Locally, 8 to 10 inches of snowfall were observed in Franklin County which made for a dangerous evening commute.

March 13, 2018: A nor'easter delivered 8 to 18 inches across Franklin County, with the heaviest snow occurring during the night of March 13th into the following morning. Some specific snowfall amounts include 18 inches in St. Albans and 15 inches in Swanton.

November 26, 2018: Light rain changed to pasty, heavy wet snow that resulted in downed tree limbs and power outages across VT. In Franklin County, snow accumulated from 4 to 8 inches.

January 8, 2019: A long duration snow event with a wide range of snowfall amounts with the lowest in the valleys and highest totals along northwest faced higher terrain. Snowfall totals ranged from 6 to 20 inches with 20 inches in Fletcher, 10 inches in nearby Enosburg Falls and 6 inches in Swanton.

January 19, 2019: A widespread snowfall of 10 to 16 inches occurred across Franklin County, some specifics include 16 inches in nearby Enosburg Falls, and 13 inches in Swanton.

March 22-23, 2019: A heavy wet snow fell across Franklin County with snowfall totals of 5 to 15 inches with higher totals in the higher elevations, especially along the western slopes of the Green Mountains. Some specific totals include 14 inches in eastern St. Albans, 12 inches in Bakersfield, 9 inches in Georgia and 6 inches in Swanton.

These wet snow conditions and eventual brisk winds of 15 to 25 mph with higher gusts later Friday and Friday night combined with the snow weighted trees and power lines to caused power disruptions to approximately 10,000-15,000 customers statewide.

February 6-7, 2020: A winter storm brought significant snowfall and icy conditions to Vermont between February 6th and 7th. The storm started with light snow and freezing rain. Heavier snowfall arrived on the 7th, with accumulations ranging from 2 to 5 inches in the south to over a foot in the northwestern part of the state. Additionally, ice accumulation up to 4/10 of an inch was reported in the southern part of the

state leading to hazardous travel conditions. The storm caused widespread travel disruptions, school and business closures, and power outages for around 10,000 to 20,000 people.

January 17, 2022: A powerful winter storm hit Vermont on January 17th, bringing snowfalls from 4 to 8 inches across the state. Snowfall rates were highest in the morning, reaching 1-2 inches per hour at times. The storm's complexity resulted in uneven snowfall distribution, with higher amounts on the eastern slopes of the Green Mountains and less on the western side. Strong winds caused scattered power outages in some areas, particularly in the foothills and higher elevations.

February 3- 4, 2022: An arctic front produced a winter storm from February 3rd to 4th. It started with light rain or snow in northern Vermont and southern Quebec. As the cold front moved south, snowfall intensified, reaching moderate to heavy rates at times (>1 inch per hour) across most of the state. Southern areas experienced freezing rain and sleet, leading to ice accumulation and power outages. Total snowfall ranged from 4-8 inches in the south to 12-16 inches in central and northern Vermont including Montgomery.

February 25, 2022: A winter storm traveled from the Ohio River Valley to southern New England bringing snowfall to Vermont. Snow began in the early morning and stopped by mid to late afternoon. Snow accumulations ranged from 6 to 12 inches across the state including Montgomery.

December 16-17, 2022: A powerful storm system brought heavy snowfall on December 16th. Snow started during the early morning and continued into the night. Snow mixed with rain in some valleys. The heavy, wet snow caused power outages, impacting over 100,000 customers at its peak. Snowfall amounts ranged from 4 to 8 inches in the valleys, 8 to 14 inches in the north central mountains, and up to 20+ inches in the southern Green Mountains. Specific areas in Franklin County received 6 to 11 inches of snow including 11 inches in Montgomery, 8 inches in St. Albans and 6 inches in Swanton.

March 3, 2023: A winter storm impacted the entire state bringing snow and mixed precipitation. Most areas received 7 to 12 inches of snow, while the central and northern Champlain Valley saw lower amounts of 3 to 6 inches. Overall, the region received widespread snowfall of 7 to 10 inches.

March 14-15, 2023: A strong winter storm brought heavy snowfall, strong winds, and caused widespread disruptions. Snowfall amounts ranged 6 to 12 inches across most of the state, with some areas in southern and central mountains exceeding 2 feet. Strong north winds gusting up to 45 mph created hazardous travel conditions. The wet, heavy snow caused numerous power outages, impacting nearly 90,000 customers, especially in central and southern Vermont. Dozens of roads were closed due to vehicle accidents, downed trees, and downed utility lines. Many schools, especially in southern areas, were also closed due to the storm.

December 11, 2023: A mild, wet December 10th slowly turned snowy from northwest to southeast and higher elevations to lower elevations during the overnight hours and into the morning of December 11th before ending by early afternoon. A heavy wet snow accumulated 3 to 6 inches in the valleys with 6 to 10 inches in elevations above 1,200 feet. These accumulations led to scattered power outages in the County and created hazardous travel conditions.

January 9-13, 2024 (DR-4770): A powerful winter storm tracked from the Pacific Northwest to the Great Lakes, intensifying as it moved. A sharp pressure difference between the Great Lakes and eastern Canada

created extremely strong winds across New York and Vermont. These winds caused widespread damage, including downed trees, power outages affecting 80,000 people, and over $1 million in losses. In Franklin County, there were several reports of 50-55 mph winds and NWS estimated wind gusts more than 60 mph. Numerous power outages occurred as well. Several inches of wet snow accompanied the storm, with higher elevations seeing more accumulation. There was an estimated $50,000 in property damages in Eastern Franklin County.

March 9-11, 2024: Heavy wet snow accumulated on the night of March 9th that led to isolated power outages, but the main storm was the wraparound, northwest upslope, powdery snowfall during the night of March 10th through midday March 11th. Storm total snowfall was 8-12+ inches. Some specific snowfall totals include 13 inches in Montgomery.

April 3-5, 2024: Mixed rain, wind, sleet and snow developed in the afternoon and evening hours of April 3rd and then transitioned to heavy wet snow overnight through midday on April 4th. Heavy, wet snowfall totals of 8 to 15+ inches were common. Some specific snowfall totals include 18 inches in Enosburg Center, 14 inches in St. Albans and Franklin and 11 inches in Swanton. Impacts were significant across the state with hundreds of motor vehicle accidents, numerous school closing and more than 35.000 power outages at its peak due to snow weighted trees on powerlines.

Extreme Heat and Drought – *Moderate Risk*

Description

Extreme heat refers to prolonged periods of excessively hot weather, often accompanied by high humidity, which can pose serious health, safety, and infrastructure risks. In Montgomery, extreme heat typically occurs during the summer months when daytime temperatures rise well above average—often exceeding 90°F (32°C)—and nighttime temperatures remain elevated, preventing cooling. These events can strain power systems, damage crops, worsen air quality, and increase the risk of heat-related illnesses, particularly among vulnerable populations such as the elderly, children, and individuals with preexisting health conditions.

Drought is a prolonged period of abnormally dry weather characterized by a deficiency in precipitation, resulting in water scarcity and environmental stress. Droughts can have significant impacts on agriculture, water resources, ecosystems, and socio-economic systems. Droughts manifest gradually and can vary in duration, intensity, and spatial extent. They may be triggered by natural climate variability, such as atmospheric circulation patterns, or exacerbated by human activities, such as land use changes and water management practices.

Geographic Area and Impact

All areas of Montgomery are susceptible to drought and extreme heat events.

The impacts of extreme heat and drought in Montgomery were determined by the committee to be minor to moderate. Prolonged high temperatures can lead to heat-related illnesses such as heat exhaustion and heat stroke, especially among at-risk populations. Healthcare services may see increased demand, and public safety services may be strained. Extreme heat can also cause infrastructure stress, including power outages due to high energy demand for cooling systems. Agricultural impacts may include crop damage, heat stress in livestock, and reduced productivity. Additionally, local events and outdoor activities may be canceled or scaled back, and economic losses may occur in sectors like farming, recreation, and tourism.

Figure 5.13: *Heat Index for Burlington, VT*

Top 10 Daily Max HI* (1947-)		
Rank	**Temperature**	**Date(s)**
1	111.4	8/26/1948
2	110.4	7/2/2002
3	108.6	6/23/2025, 7/27/1949
4	107.4	6/19/1995
5	107.3	8/1/2006
6	106.9	7/21/1994, 8/25/1948
7	106.5	7/20/1977
8	106.0	8/1/1975, 7/29/1947
9	105.8	8/1/2006
10	105.7	7/28/1949

Source: NOAA

Probability and Extent

The probability of drought and extreme heat events in Montgomery is considered likely by the committee. While historically rare in northern Vermont, climate change is contributing to more frequent and intense heat waves in the region. The number of days with temperatures exceeding 90°F (32°C) is projected to rise over the coming decades. These events are becoming more common during the summer months, particularly in July and August, and may also begin occurring earlier and later in the season.

The Vermont Department of Health's Heat Vulnerability Index (HVI) references Montgomery Town. The Town's HVI is average (-0.5 to 0.5) compared to the rest of the state with an average of 5 days per year with maximum temperatures of at least 87°F.

Figure 5.14: *High Temperature Records*

June 23rd High Temperature Records				
Location	**Temp**	**Old Daily Record**	**June Ranking**	**All Time Ranking**
Burlington	99	96 (2020)	2nd	Tied 5th
Plattsburgh	101	95 (1983)	1st	Tied 1st
Saranac Lake	90	89 (1907)	Tied 25th	X
Massena, NY	92	92 (1975)	Tied 17th	X
Montpelier	93	90 (1975)	Tied 6th	Tied 16th
June 24th High Temperature Records				
Location	**Temp**	**Old Daily Record**	**June Ranking**	**All Time Ranking**
Burlington	97	96 (2003)	Tied 3rd	Tied 20th
Plattsburgh	99	95 (1975)	2nd	Tied 5th
Saranac Lake	90	89 (2003)	Tied 25th	X
Massena, NY	93	92 (1957)	Tied 9th	X
Montpelier	93	90 (1995)	Tied 6th	Tied 16th

Extreme heat events typically last several days up to a week, with daytime temperatures exceeding 90°F and limited overnight cooling. The severity of these events can vary based on humidity levels, wind conditions, and the persistence of high-pressure systems. During more intense heat waves, the heat index—a measure that combines temperature and humidity—can reach dangerous levels, significantly increasing health risks and stressing energy and public health systems. Heat advisories, watches, and warnings are issued by the National Weather Service and local authorities to alert residents to the risks of impending heatwaves. Montgomery may experience a heat advisory, watch of warning, or heat advisory. Places with limited tree cover and ventilation may experience more intense local effects, known as the urban heat island effect, though this is less pronounced in rural communities like Montgomery.

Droughts can affect large geographic regions, including urban and rural areas, agricultural lands, forests, and waterways. Drought severity is often categorized based on indicators such as precipitation deficits, soil moisture levels, streamflow, and water storage reservoir levels. Severe droughts can lead to significant water shortages, ecological disturbances, and socio-economic impacts. Severe droughts can result in reduced water availability for drinking, irrigation, and industrial uses, leading to economic losses, environmental degradation, and social disruption.

Potential Future Impacts

Climate Change: Climate change has the potential to increase extreme heat occurrences, therefore there is an increased likelihood of future drought events, both in frequency and magnitude. Refer to the State Hazard Mitigation Plan (pp 107-109) for discussion on impacts to the economy and the environment.

Changes in Land Use/Development: No changes to asset impacts due to extreme heat / drought evetns because of development or land use changes could be identified. There are no planned developments in the town to create impacts.

Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

According to the State Hazard Mitigation Plan, "The droughts in the mid-1960s were the most severe in Vermont. Every county in the state experienced Exceptional Drought (D4) conditions in May of 1965. Since the 1960s Vermont has experienced several less severe periods of drought. There were two declared statewide droughts in June and July 1995. The drought persisted through the summer of 1995, and a third, more severe drought affected Southern Vermont in August of that year. In 2001-2002, Vermont was affected by a Severe Drought (D2), which peaked at over 14% of the State at the D2 level between November and December of 2001 and nearly 100% of the State in at least Moderate Drought (D1). Portions of Vermont were in Severe Drought (D2) from October 2016 through April 2017, peaking at 29.15% of Vermont in October and November 2016 and 80% of the State was in at least Moderate Drought (D1). Moderate Drought conditions returned in October of 2017 and again in June 2018. From September to November of 2018 the State experienced another Severe Drought. Then from June 2020 to October 2021 much of the State was under Moderate Drought to Abnormally Dry conditions. From September to October of 2020, 29.4% of the State was under Severe Drought conditions."

At the time of this writing in summer of 2025, the state is experiencing moderate to severe drought impacts. Currently Severe Drought (D2) is occurring across southern and central Vermont. Northwestern Vermont is in Moderate Drought (D1). The Vermont Drought Task Force has been activated to monitor conditions statewide and the Agency of Natural Resources has created on-line reporting tools and resources for the public.

According to the State Hazard Mitigation Plan, the following extreme heat events have occurred:

August 1-2, 2006: A heat ridge moved into Vermont during the early morning of August 1. Temperatures soared into the 90s but significantly more important were dewpoints that reached the middle to upper 70s to produce excessive heat index values of 100°F to 105°F which were some of the highest values in nearly a decade.

July 21, 2011: Temperatures across most of southern Vermont warmed into the 90s with dew points in the 70s, combined with the hot temperatures and resulted in heat indices of 100°F to 104°F. This was the 2nd day of a 3 to 4-day heat wave across a large portion of Vermont with heat index values of 100°F to 108°F across the Champlain and Connecticut valleys as well as some interior valleys. One death is attributed to this event in Windsor County.

March 17, 2012: The winter of 2011-12 had temperatures that averaged 4-5°F above normal and snowfall 40-60% of normal. This combination accounted for snowpack across the region to be below normal or

even non-existent by mid-March. In Vermont, temperatures climbed into the 70s on March 18 and low-80s on March 19-22. Record heat was recorded across all of Vermont with maximum temperatures 30-40°F above normal and some daily records being broken by 10°F or more. This event caused an estimated reduction of 30% of maple sugar production, resulting in an estimated impact of nearly $10 million. In addition, there was a significant loss of ski industry revenue due to a 25-50% reduction in snow loading.

July 1, 2018: High temperatures affected zones in all 14 of Vermont's counties through Independence Day. Temperatures reached the mid-90s, and heat indices were recorded within the range of 95 -110 degrees. The heat wave continued for 6 consecutive days, and Burlington, VT saw the warmest 5 day stretch since 1892. It is important to note that the all-time minimum temperature also broke a previous record of 78 degrees, on July 2nd, 2018, at 80 degrees. Four deaths were attributed to this event, one recorded in Washington County and three in Chittenden County, all related to excessive indoor residential temperatures. Nearly 100 heat-related emergency department visits occurred state-wide during this heat wave, and more than 10 percent of Emergency Medical Service calls on July 1st were heat related.

June 18, 2020: Areas of Vermont and New York experienced the 2nd longest heatwave duration with temperatures in the 90s for six days straight in northwestern Vermont. Burlington recorded the highest temperature in its history on June 22nd and 23rd with a reading of 96 degrees. Zones in 8 of Vermont's counties recorded high temperatures during this period. One death in Orleans County was associated with this heat wave.

July 7 - 10, 2020: Excessive heat in the Champlain Valley on what has already been a very warm early summer. High temperatures surpassed the upper 80s from July 7-10th with a daily high of 95 degrees on July 9th and 10th. These temperatures combined with high dewpoints in the upper 60s to lower 70s created heat index values in the mid 90s to around 100 degrees on July 9th and 10th. High temperatures in the upper 80s to lower 90s with dew points in the 60s to lower 70s created heat index values in the mid 90s to around 100 degrees.

June 17-19, 2024: Areas of Vermont and other states in New England experienced a heatwave with temperatures in the 90s for three days.

June 23 – 24, 2025: A short period of extreme heat developed across Vermont and northern New York as an upper level high built across the eastern half of the United States. Dry air aloft suppressed thunderstorm activity, especially on June 23rd, which provided an opportunity for very efficient heating while high dewpoints produced heat indices over 110 °F.

Extreme Cold– Moderate Risk

Description

In Montgomery, the summers are comfortable, wet, and partly cloudy and the winters are freezing, snowy, and mostly cloudy. Over the course of the year, the temperature typically varies from 7°F to 76°F and is rarely below -11°F or above 83°F.

Extreme cold events commonly occur during the winter months and may be intensified by wind chill, which increases the rate of heat loss from the human body and can lead to frostbite or hypothermia within minutes.

Figure 5. 15 *Average Monthly Temperatures for Montgomery, VT*

Average	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High	24 F	27°F	37°F	51°F	63°F	72°F	76°F	73°F	66°F	54°F	41°F	30°F
Temp	16 F	19°F	28°F	41°F	54°F	62°F	67°F	65°F	57°F	45°F	35°	23°F
Low	9 F	11°F	21°F	33°F	44°F	54°F	58°F	56°F	49°F	38°F	28°F	16°F

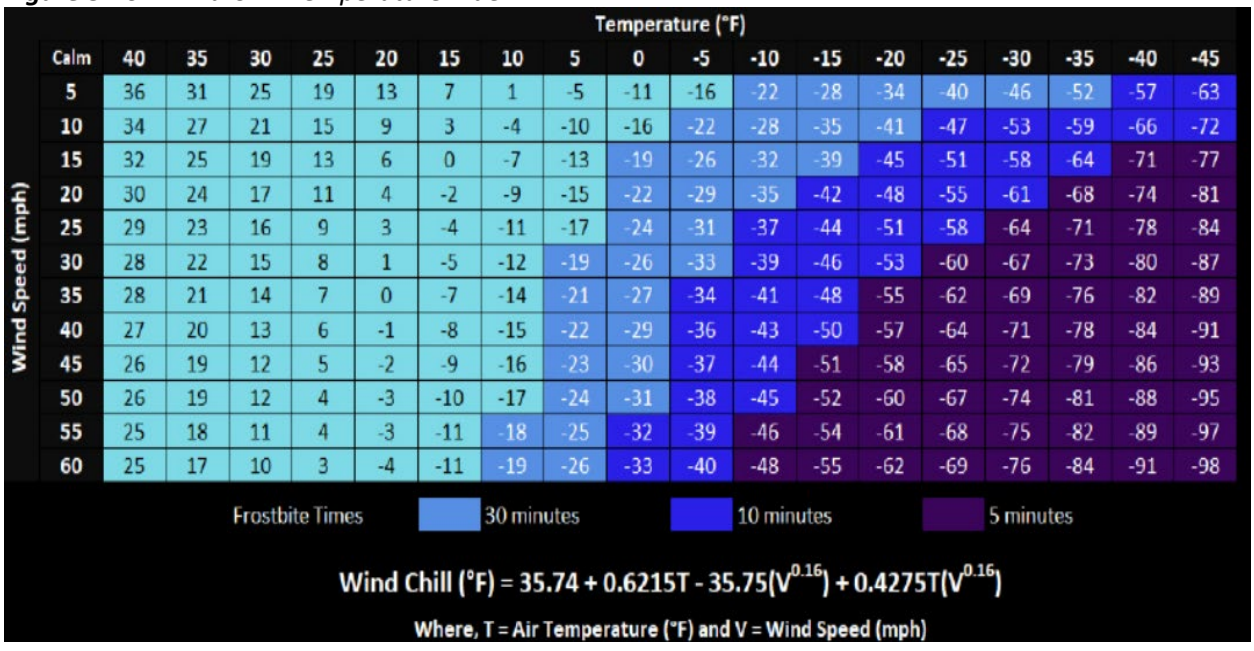
Extent

In recent years, Montgomery has been experiencing large fluctuations in temperatures during the winter months for brief periods of time. The impacts and extreme heat and extreme cold in Montgomery were determined by the committee to be *minor* to *major.*

The National Weather Service typically defines extreme cold conditions through wind chill advisories and warnings. In the context of hazard mitigation, extreme cold is considered a recurring natural hazard with the potential for widespread impacts.[6]

- **Wind Chill Warning:** Dangerously cold wind chill values are expected or occurring.
- **Wind Chill Watch:** Dangerously cold wind chill values are possible.
- **Wind Chill Advisory:** Seasonably cold wind chill values but not extremely cold values are expected or occurring.
- **Hard Freeze Warning:** Temperatures are expected to drop below 28°F for an extended period of time, killing most types of commercial crops and residential plants.
- **Freeze Warning:** Temperatures are forecasted to go below 32°F for a long period of time, killing some types of commercial crops and residential plants.
- **Freeze Watch:** Potential for significant, widespread freezing temperatures within the next 24-36 hours.

Figure 5.16: *Wind Chill Temperature Index*



[6] https://www.weather.gov/safety/cold-wind-chill-warning

The committee agreed that the probability of extreme cold events are *likely* to occur but duration varies from less than 12 hours to several days. Montgomery sits in a northern location and inland setting making it prone to Arctic air masses, which regularly bring extreme cold. According to NOAA, extreme cold temperatures are a recurring winter hazard in northern Vermont. The region typically experiences multiple periods of subzero temperatures each winter.

The extent of extreme cold in can be severe, with temperatures often dropping well below freezing and sometimes reaching as low as -20°F to -30°F during winter months. This extreme cold, coupled with wind chills that can plunge even lower, poses significant risks to public health and infrastructure. The frigid temperatures can cause hypothermia and frostbite within minutes for exposed individuals, particularly affecting vulnerable populations such as the elderly, low-income residents, and those without proper heating or shelter.

Prolonged periods of subzero temperatures can lead to deep soil freezing, particularly during extended cold spells from late fall through early spring. Frozen soil can hinder agricultural activities by preventing the absorption of water and nutrients, which impacts crop growth and planting schedules.

It also complicates construction and infrastructure projects, as frozen ground makes it difficult to dig or lay foundations, repair utilities, or manage drainage systems. Frozen soil can lead to frost heaves, where the expansion and contraction of frozen ground causes damage to road infrastructure, driveways, and foundations. It can lead to frozen water mains, and frozen water lines. Water and heating systems are vulnerable to freezing during subzero events, especially in older homes or uninsulated areas. The cold also puts a strain on the local energy grid due to the increased demand for heating.

Mud Season

Mud Season in Vermont generally spans the 6-week period between snowmelt and Memorial Day. The start is typically in late March to mid-April according to the committee members. The worst hit areas are the secondary unpaved roads such as Black Falls Road, Route 58 and Hazen's Notch Road. The public works department addresses the situation every year through spot-treatment. Gravel is brought in to repair the worst areas. During some years, residents are unable to travel on roads, fuel deliveries and mail are delayed and first response vehicles are unable to travel to some areas. In April of 2022, the town sought to get an emergency declaration from the state due to the condition of approximately 30 miles of town roads from spring melt.

History

January 27-29, 2022: An arctic air mass from Ontario brought Bitterly cold wind chills ranging from -20°F to -30 °F occurred late Wednesday night into midday Saturday. Actual temperatures dropped to -15°F to -25°F on the morning of the 27th and -5°F to -10°F below on the morning of the 29th.

January 20-22, 2022: An Arctic air mass settled over the region Thursday night and remained through Saturday. In Franklin County, wind chills dropped to a bitterly cold -20°F to 30°F overnight Thursday into Friday morning. Actual temperatures fell to -10°F to -20°F below zero early Friday morning, and -15°F to -30°F, by Saturday morning.

January 11-15, 2022: On the morning of the 11th (Tuesday), low temperatures ranged from 0 to -10°F, with wind chills between -15°F and -25°F. Daytime highs only reached the single digits above zero, with wind chills remaining below zero. That night, temps briefly dropped below zero before rising, but south winds of 10–20 mph still produced wind chills of -10°F to -20°F. Numerous school districts closed school and after school activities due to the cold and COVID related complications according to local media.

January 5 -7, 2018: A surge of cold Arctic air brought an extended stretch of extreme cold. The most severe wind chills occurred on the mornings of January 6 and 7, when frigid temperatures combined with westerly wind gusts of 30 to 40 mph, producing widespread wind chills between -20°F and -40°F. In response to the dangerous cold, numerous warming shelters were opened throughout Vermont including Montgomery.

February 1 – 28, 2015: From late January to early March, a persistent deep cold trough dominated the Northeast, resulting in the coldest February on record for much of Vermont and nearby areas. Temperatures averaged 13–17°F below normal. Many locations stayed below freezing for 25–45 straight days. February saw 15–20+ days with temperatures below 0°F, and wind chills reaching -30°F or lower on several occasions. According to the National Weather Service, it was the coldest month since December 1989 or January 1994. Several communities set record cold temperatures.

March 17- 22, 2012: The winter of 2011-12 had temperatures that averaged 4-5°F above normal and snowfall 40-60% of normal. This combination accounted for snowpack across the region to be below normal or even non-existent by mid-March. In Vermont, temperatures climbed into the 70s on March 18 and low-80s on March 19-22. Record heat was recorded across all of Vermont with maximum temperatures 30-40°F above normal and some daily records being broken by 10°F or more. This event caused an estimated reduction of 30% of maple sugar production, resulting in an estimated impact of nearly $10 million. In addition, there was a significant loss of ski industry revenue due to a 25-50% reduction in snow loading.

December 8, 2008: An Arctic front swept across northern NY and New England, bringing the season's first Arctic air mass. By the morning of Dec. 8, temps ranged from 5°F above to -10°F, with NW winds at 10–20 mph and higher gusts. Wind chills reached -15°F to -25°F across northern Vermont during the early to mid-morning hours.

February 27, 2006: During the early morning hours of the 27th, an Arctic air mass settled over Vermont. A strong pressure gradient between high pressure in central Canada and low pressure over Labrador generated brisk winds. These winds, combined with frigid temperatures, resulted in wind chills ranging from -15°F to -30°F.

January 13-16, 2004: An arctic front moved through the area Tuesday, January 13th. Wind chills during Tuesday night, Jan 13th through noon on Wednesday, January 14th were generally -25°F and -45°F. Arctic high pressure then settled across the area on the 14th.

January 17-19, 1997: An outbreak of arctic air resulted in extreme wind chills across much of Vermont. These wind chills frequently ranged from -30°F to -60°F.

Invasive Species – *Moderate Risk*

Description: Invasive species are non-native plants, animals, or pathogens that spread rapidly in an ecosystem, causing harm to the environment, local economies, or public health. These species can outcompete native species, disrupt ecosystems, and cause significant ecological and economic damage. Invasive species can be plants, animals, fungi, or microorganisms. They often have high reproductive rates, few natural predators in their new environment, and the ability to thrive in a wide range of conditions.

Geographic Area and Impact: All ecosystems in Montgomery are susceptible to invasive species from the Trout River to the State Forests to Montgomery Center and Town whose streets tha lined with trees, neighborhood backyards that contain residential vegetable and flower gardens and properties along the riverbanks.

Japanese Knot Weed Infestation, Source: VT Invasives.org

The impact was ranked as *minor* to *major* in Montgomery according to the committee due to the type and locations of damage that would occur.

Probability and Extent: The probability of invasive species introduction and spread in Montgomery is considered *highly likely* by the committee. The Town and Center's locations near active agricultural lands, forests, and waterways increases the likelihood of exposure to new invasives. Climate change and increased human movement (e.g., transportation, trade, and recreation) further elevate the risk by creating more favorable conditions for species to establish and spread. Several invasive species are already present in the region, indicating a continued and persistent threat.

Emerald Ash Borer, Source, VT ANR

The extent of an invasive species hazard in Montgomery can range from localized infestations (e.g., roadside patches of wild parsnip) to widespread ecological disruption (e.g., emerald ash borer infestation across forested areas). The severity of impact depends on the species involved, the size of the infestation, and how quickly it is detected and managed. Invasives can affect forest health, agricultural production, recreational access to rivers and trails, and even public safety in the case of toxic plants. Invasive species may cause overgrowth or damage to various built environments, such as

powerlines and culverts. The damage can be minor to catastrophic. Over time, the cumulative effects can lead to long-term ecological changes and economic losses.

Potential Future Impacts:

Climate Change: According to the Department of Health, deep cold spells can play a crucial role in controlling insect pests by limiting overwinter survival, reducing the number of generations, and slowing the spread of invasive species and insect-borne plant diseases. A decline in extreme cold due to climate change may lead to increased pest resistance, greater risks to agriculture and forests, and a wider spread of harmful species like ticks with Lyme disease, which are typically limited by colder climates. As northern and high-elevation areas of Vermont warm, they may become more suitable habitats for ticks and their hosts, such as mice. Reduced snowpack from warming winters could still expose these hosts to freezing during sudden cold snaps.[7]

Changes in Land Use/Development: Increased urbanization, agriculture, or deforestation can disturb native ecosystems, making them more vulnerable to invasive species. Development often creates fragmented landscapes and edge habitats that favor fast-growing, opportunistic invaders over native species. Additionally, increased human activity and infrastructure (e.g., roads, landscaping, water management) can unintentionally introduce and spread invasive species into new areas.

Changes in Demographics: Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

According to the VT ANR's Invasive Pests Status Map, Japanese knot weed was found in the Jay Forest in 2019.

Emerald Ash Borer was first detected in Vermont in 2018 and in Montgomery in 2023.

In 2020, the Missisquoi River Basin Association mapped knotweed locations in the basin which included the banks of the Trout River from Longley Bridge into Enosburgh Town.

According to Japanese knotweed is an invasive species that is commonly found along riverbanks and along disturbed land like roadsides or old agricultural fields. Japanese knotweed covers miles of river front property in Vermont, throughout the Missisquoi River Basin and beyond.

Structure Fire – *Moderate Risk*

Description: A structure fire is any fire that occurs within or involves a building or other constructed property, including residential, commercial, agricultural, or public structures. These incidents typically involve burning of the building's structural components or contents and may pose significant risks to life safety, property, and the environment. Structure fires in Montgomery are responded to by the local volunteer fire department and mutual aid partners, with efforts focused on fire suppression, rescue operations, and prevention of fire spread to adjacent structures or wildland areas.

Geographic Area and Impact: Structure fires can occur anywhere within the Town of Montgomery, including Montgomery Center and Montgomery Town, rural residential areas, agricultural properties,

and seasonal camps located in more remote parts of town. The dispersed nature of housing and limited access along rural roads can increase response times for the Montgomery Fire Department.

Impacts of structure fires may include loss of homes, barns, or businesses; displacement of residents; injury or loss of life; and economic hardship for property owners. Secondary impacts can include damage to neighboring properties, release of hazardous materials, and strain on local emergency response resources. In rural areas without nearby hydrants, water supply limitations can further challenge firefighting efforts and increase the potential for fire spread.

Dry Hydrant, Courtesy Montgomery Fire and First Response

Probability and Extent: The probability of a structure fire occurring in Montgomery is considered *highly likely* by the committee, as residential heating systems, wood stoves, and chimneys are common sources of ignition in this rural community. The risk increases during the winter months when heating equipment is in frequent use, especially electrical space heaters, kerosene heaters and wood stoves. Additional causes may include electrical malfunctions, cooking accidents, and lightning strikes.

The extent of a structure fire can range from minor smoke or localized damage to the total loss of a building, depending on detection time, proximity to fire department, hydrants and other available water supplies. In remote areas with longer response times or limited access, fires are more likely to result in extensive structural damage or complete destruction. The risk of multi-structure fires is higher in Montgomery Vilalge and Montgomery Center where structures are closer together. Older buildings without modern fire alarms/sprinklers are especially vulnerable.

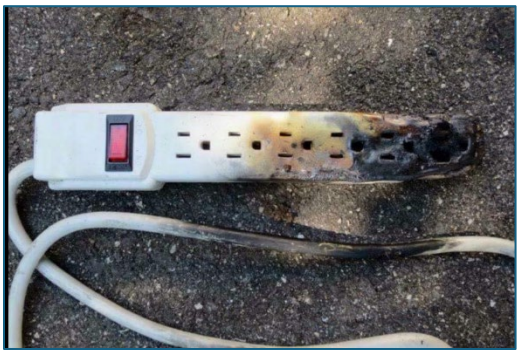
National Fire Incident Reports and State Fire Marshal Annual Reports lack consistent data specific to Montgomery on a year-by-year basis. State reports tend to give aggregate data at the statewide level (number of fires, causes, losses, etc.), but do not generally provide data on every Town (unless the town is large or data is called out specifically). There is no consistent data on injuries or fatalities from structure fires in Montgomery over the past 20 years.

However, an interview with fire department members found that Montgomery has likely had 5 fires on average per year. One can infer that the Town has had approximately 100 structure fires over the past 20 years. The typical annual property loss from buildings (not counting contents) may have averaged around $450,000/year in earlier years, though this likely changed with inflation, changing building values, and number/severity of fires.

Potential Future Impacts:

Climate Change: Climate change is likely to increase the risk and severity of structure fires in Montgomery. Rising temperatures and more frequent heat waves can stress electrical and mechanical systems, while prolonged droughts and low humidity make surrounding vegetation

more flammable, increasing the risk of wildfire spreading to buildings. Severe storms, high winds, and ice events may damage structures and power lines, potentially igniting fires, while increased energy demand during extreme weather can overload circuits. Warmer, drier conditions may also extend the fire season and shifts in development patterns could place more structures in vulnerable locations, overall heightening the probability, potential extent, and complexity of fire incidents.



Overloaded Surge Suppressor, Courtesy Montgomery Fire and First Response

Changes in Land Use/Development: There are no planned large developments for Montgomery in the immediate future. Expansion of residential or commercial areas without sufficient fire protection infrastructure, such as hydrants, could strain local fire response and increase property losses. Development in or near forested areas may add fuel loads, raising the risk of fire spread. New construction previously undeveloped areas must follow updated Vermont Fire and Building Codes, including fire-resistant materials, sprinklers, and defensible space, to reduce vulnerability. Ensuring that land use planning aligns with these safety standards will be essential for protecting lives and limiting property damage.

Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population. An aging population or an increase in residents with mobility or health challenges may require more targeted evacuation planning and emergency assistance during fire events.

History

An interview with fire department members found that Montgomery has 5 structure fires on average per year. The fires have been primarily residential structure fires. One can infer that the Town has had approximately 100 structure fires over the past 20 years.

Infectious Disease Outbreak – *Moderate Risk*

Description: An infectious disease outbreak is the occurrence of cases of a disease caused by bacteria, viruses, parasites, or fungi that exceed normal expectations within a specific area or population. These outbreaks can spread quickly and unpredictably, posing significant threats to public health, healthcare systems, and local economies.

Geographic Area and Impact: An infectious disease outbreak can affect the entire geographic area of Montgomery, including residential neighborhoods, schools, healthcare facilities, public buildings, and workplaces. Due to the Town's small size and interconnected nature, diseases can spread rapidly through person-to-person contact in shared spaces such as the Town center, grocery stores, and community events. Regional travel, commuting patterns, and school attendance can also contribute to the introduction and transmission of disease from surrounding towns and counties.

The committee categorized the impact as *negligible to moderate*, however, they agreed an outbreak has the potential to be widespread and disruptive. Public health may be significantly affected, especially among vulnerable populations like seniors, children, and individuals with preexisting conditions. Healthcare facilities and services may become overwhelmed, and essential services such as education,

emergency response, and municipal operations may be interrupted. Prolonged outbreaks or pandemics can result in business closures, economic losses, mental health challenges, and long-term community strain. Quarantine measures, supply chain disruptions, and public health mandates may further impact daily life and local resilience.

Probability and Extent: The probability of future infectious disease outbreaks in Montgomery is considered *likely* by the committee. Seasonal illnesses like influenza and tick-borne diseases such as Lyme disease are regularly reported according to Northern Tier Center for Health. The risk of larger outbreaks—such as COVID-19 or other emerging infectious diseases—remains elevated due to factors like proximity to Canada, travel, climate change, and population movement. Public health trends and past events suggest that the community will continue to face infectious disease threats in the foreseeable future.

Outbreaks may persist from a few days to several years, depending on factors such as the type of pathogen, the effectiveness of the public health response, and the level of immunity within the population. Certain diseases also follow seasonal trends, such as influenza peaking in winter and vector-borne illnesses becoming more prevalent in warmer months.

People with disabilities and those with access and functional needs may be especially vulnerable during a disease outbreak, although anyone can be affected. Outbreaks can strain local healthcare facilities, sometimes requiring temporary modifications to public spaces, such as converting schools into triage centers. The natural environment may also play a role in the origin or spread of disease, necessitating measures like water treatment to prevent further transmission. Economically, outbreaks can disrupt or shut down businesses and lead to additional costs for public health responses, such as running immunization clinics.

Potential Future Impacts

Climate Change: Climate change has the potential to increase the frequency and intensity of disease outbreak events through various mechanisms. Temperature changes may increase vector-borne disease and pathogen survival. Extreme weather events (e.g., hurricanes) can disrupt infrastructure, leading to breakdowns in sanitation, clean water supply, and healthcare services. Climate-induced displacement and migration can lead to overcrowded living conditions, which can facilitate the spread of infectious diseases.

Changes in Land Use/Development: No asset impacts related to infectious disease outbreak events were identified as being affected by changes in development or land use.

Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

According to the State Hazard Mitigation Plan, the following Per the State Hazard Mitigation Plan, the following disease outbreak events have occurred in Vermont:

- 1918, 1957, 1968 – Pandemic Influenza
- 2009 – H1N1 strain
- 2015 – Sika virus
- 2020 – COVID-19

Hail – *Low Risk*

Definition

Hail is a form of solid precipitation consisting of spheres or irregular lumps of ice, known as hailstones, that form within strong thunderstorms. It develops when updrafts in a storm carry raindrops into extremely cold areas of the atmosphere, where they freeze and accumulate layers of ice before falling to the ground. Hailstones can range in size from small peas to golf balls or larger, and they can cause damage to property, crops, and vehicles.

Geographic Area and Impact

Hail can occur anywhere in Vermont. See hail history below for details on locations of hail occurrences in Montgomery.

The committee rated the impact of hail as *negligible*. Hailstones can damage crops, vehicles, roofs, and siding. Even small hailstones can harm sensitive crops such as corn and hay, leading to financial losses for farmers.

Figure 5.17: *NWS guide for determining hail sizes*

less than 0.50" Pea
0.50" - Marble/Mothball
0.75" - Dime/Penny
0.88" - Nickel
1.00" - Quarter
1.25" - Half Dollar
1.50" - Walnut/Ping Pong
1.75" - Golf Ball
2.00" - Hen Egg
2.50" - Tennis Ball
2.75" - Baseball
3.00" - Tea Cup
4.00" - Grapefruit

Probability and Extent

The committee considered hail event probability to occur *occasionally* based on history. There are no major hail events that have occurred in Montgomery

Hailstorms typically accompany thunderstorms between June and September. Hailstorms can be significant to area farmers, who can lose entire fields of crops in a single hailstorm. Large hail is also capable of property damage, including both structures and vehicles, and can injure people.

See Figure 5.9 above for TORRO Hailstorm Intensity Scale.

Potential Future Impacts

Climate Change: Climate change can influence hailstorms in complex ways. Warmer temperatures increase atmospheric moisture and energy, which can lead to more intense thunderstorms—potentially making hailstorms more severe. However, higher temperatures near the surface may also melt smaller hailstones before they reach the ground, possibly reducing the frequency of smaller hail events.

Changes in Land Use/Development: No changes to impacts from hail events because the scale or type of development (e.g., residential infill or small-scale growth) does not introduce new significantly increased surface areas vulnerable to hail damage.

Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

June 26, 2009: Widespread thunderstorms affected the region and produced hail and brief strong winds. In the Montgomery area, quarter-sized hail was reported.

May 29, 2012: A cold front from New York brough numerous thunderstorms, high winds and hail to the state. Quarter size hail was reported by a weather spotter in the area.

May 21, 2024: Scattered thunderstorms delivered isolated damaging winds and hail up to one inch in diameter in northern Vermont. Quarter size hail was reported by a weather spotter in the area.

Landslide – *Low Risk*

Definition: Landslides are the movement of rock, soil, and debris down a slope, often triggered by factors such as heavy rainfall, rapid snowmelt, earthquakes, and human activities. Landslides can pose significant risks to infrastructure, property, ecosystems, and human lives. Landslides can occur suddenly or develop gradually, with varying types and mechanisms, including rockfalls, debris flows, and slope failures.

Geographic Area and Impact: Landslides can affect localized areas or larger regions, depending on the size and scale of the landslide event. According to the Vermont Agency of Natural Resources, there are four known historic landslides that have been mapped along Wade Brook, a tributary of the Trout River. The slides varied in length from 30' to 100' and width from 20' to 40'. There are no structures that are threatened by the slides and the committee noted the slides are not of concern.

Residents living on or near steep slopes face heightened risks of property damage and loss of life due to landslides. These events can also endanger hikers and others participating in outdoor recreation. Transportation systems, utilities, buildings, and other critical infrastructure in landslide-prone areas are vulnerable to damage and service disruptions. Ecologically, landslides can lead to habitat destruction, increased soil erosion, sedimentation of waterways, and a decline in biodiversity. The destruction of roads, bridges, buildings, and utility networks can result in significant economic losses and long-term service interruptions.

Probability and Extent: The committee categorized the probability of a landslide event is low based. Increased recreational use, intensive deforestation or development in landslide or fluvial erosion prone areas may lead to increased impacts of landslides.

Montgomery appears to be more at risk from fluvial erosion and streambank failures tied to large storms and rapid runoff than from landslides. Flood events (1997 and others) have produced local slope failures, gullies, and bank slides that damage roads and infrastructure. Landslides can affect localized areas or larger regions, depending on the size and scale of the landslide event.

Potential Future Impacts:

Climate Change: Climate change may lead to increased frequency and intensity of flooding events, fluvial erosion, rain/snow events and changes to material's strength through weathering, resulting in a higher probability of future landslides.

Changes in Land Use/Development: Increased recreational use and development in agricultural and rural residential and low-density residential zones along the West Hill Road or Hill West Road may lead to increased impacts of landslides in areas where fluvial erosion and flooding occur.

Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:
There is no specific record of large landslide events in Montgomery, however, the town *does experience* erosion, bank failures, and fluvial erosion, especially following flood events which are related phenomena.

Earthquake – *Low Risk*

Definition
An earthquake is a sudden and violent shaking of the ground, sometimes causing great destruction, because of movements within the earth's crust or volcanic action.

Geographic Area and Impact
While earthquakes occur on fault lines, the entire Town of Montgomery is susceptible to an earthquake. Montgomery, as well as all of Vermont, is classified as an area with a low to moderate seismic activity. This can be compared to the west coast of the U.S., which is classified as "very high" and the north-central states classified as "very low." Earthquakes have been felt in Montgomery and remain a geologic possibility.

The committee rated earthquake impacts as l*imited to catastrophic*. Earthquakes can vary in size and intensity, and they may cause ground shaking, surface rupture, and secondary effects like landslides, tsunamis, or structural damage.

Probability and Extent
The committee considered Earthquakes as a *rare* event for the town and region based on history.

HAZUS model results from the Vermont Geologic Survey for the region are summarized below. A 6.8 magnitude earthquake in Montreal and a 5.7 magnitude earthquake in Swanton—both considered once-in-500-year events—could result in moderate damage. In contrast, a 6.6 magnitude event in Goodnow, NY may produce minimal shaking near the threshold for building damage, while a 6.2 magnitude earthquake in Tamworth, NH is unlikely to cause any damage in the area. Only the Swanton and Montreal scenarios include detailed loss data.

Swanton Scenario
Building damage – In both Franklin and Grand Isle Counties, HAZUS estimates:

- 2,773 buildings will receive at least moderate damage. This is a little more than 14% of the total number of buildings in the region.
- 40 building in the region will be destroyed.
- All essential facilities (hospital, schools, police stations and fire stations will likely be functional on day one of the earthquake.
- 266 household are predicted to be displaced. Of these 63 people will need temporary shelter.

Transportation & utility systems - HAZUS estimates minimal disruption of the transportation and utility systems with >50% functionality returning after day 1. However, over 6,000 households in the region are expected to be without electrical power for up to three days.

Casualties - Minimal casualties are also expected with less than sixty requiring medical attention and less than 15 needing hospitalizations with non-life-threatening injuries.

Economic loss – The total regional economic loss for the earthquake is $3294.19 million which includes $222.46 million in building related losses; 8% of the estimated losses were related to the business interruption of the region. By far the largest loss would be sustained by the residential occupancies which make up over 73% of the total loss. HAZUS estimates that although there would be minimal damage to the transportation system the economic loss would still be close to $16 million. Approximately $0.07 million would be needed to repair damaged communications systems.

Montreal Scenario:
Building damage – In both Franklin and Grand Isle Counties, HAZUS estimates:

- 1,154 buildings will receive at least moderate damage. This is a little more than 6% of the total number of buildings in the region.
- 10 building in the region will be destroyed.
- All essential facilities will likely be functional on day one of the earthquake.
- 44 households are predicted to be displaced.

Transportation & utility systems - HAZUS estimates minimal disruption of the transportation and utility systems with >50% functionality returning after day 1. No households are expected to lose electric power and water service in the region.

Casualties - Minimal casualties are also expected with less than twenty requiring medical attention.

Economic loss – The total regional economic loss for the earthquake is $74.26 million which includes $50.63 million in building related losses; 12% of the estimated losses were related to the business interruption of the region. By far the largest loss would be sustained by the residential occupancies which make up over 70% of the total loss. HAZUS estimates that although there would be minimal damage to the transportation system the economic loss would still be close to $5 million.

Potential Future Impacts

Climate Change: Climate change primarily affects atmospheric and oceanic processes, but there is emerging evidence suggesting that it can indirectly influence seismic activity, including earthquakes. It is not currently possible to predict when or where an earthquake may occur.
Changes in Land Use/Development: No changes to asset impacts due to earthquakes because of development or land use changes could be identified.
Changes in Demographics: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:
According to the VT Geologic Survey, the two strongest recorded quakes measured in Vermont were of a magnitude 4.1 on the Richter scale. One was centered in Swanton and occurred in 1943, and the second occurred in 1962 at Middlebury. The Swanton quake caused little damage, but the Middlebury quake did result in broken windows, cracked masonry and falling objects around the Middlebury area.

Earthquakes centered outside of the state have also affected Vermont. Two quakes of magnitude 5.5 occurred in New Hampshire in 1940. In 1988, an earthquake with a magnitude 6.2 was centered in Saguenay, Quebec and caused shaking in the northern two thirds of Vermont. On June 23, 2010, a magnitude 5.2 earthquake in Ottawa was felt in the area. No damage was reported.

Wildfire – *Low Risk*

Definition

Wildfire is an uncontrolled fire that burns in forests, grasslands, brush, or other natural areas, often fueled by dry vegetation, wind, and weather conditions. Wildfires can spread rapidly and pose serious threats to public safety, property, infrastructure, and natural resources. According to the US Forest Service wildfires can be caused by a variety of natural and human-related factors:

1. Lightning Strikes – One of the most common natural causes, especially during dry conditions, lightning can ignite trees or brush and lead to rapidly spreading fires.
2. Campfires and Outdoor Burning – Unattended or improperly extinguished campfires, burn piles, or fire pits can easily ignite nearby vegetation.
3. Discarded Cigarettes – Lit cigarettes thrown from vehicles or dropped on dry ground can start fires, especially during hot, windy weather.
4. Equipment Use and Malfunctions – Sparks from chainsaws, lawnmowers, or power lines can ignite fires in dry conditions.
5. Arson – Intentionally set fires remain a leading cause of wildfires in some regions and are particularly dangerous due to their unpredictability.
6. Agricultural and Debris Burning – Improperly managed burns on farmland or residential properties can escape control and ignite wildfires.
7. Drought and Climate Conditions – While not direct ignition sources, prolonged drought and warmer temperatures create extremely dry vegetation, increasing the likelihood and severity of wildfires when ignition does occur.

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Geographic Area and Impact

In Montgomery, wildfire risk is generally concentrated in southern and eastern areas of the Town adjacent to forests, fields, and undeveloped land, particularly along the edges of Montgomery Center and Town areas where residential properties border wooded or brush-filled zones. The Town has nearby forested areas that could be susceptible to fire under dry or windy conditions. Although Montgomery Center and Town are at lower risk, wildfires can still threaten structures, utilities, and transportation routes, especially where development meets natural vegetation—commonly referred to as the wildland-urban interface (WUI).

The committee rated the impact of wildfire as *negligibl*e to *mino*r. There have been no wildfires in Montgomery, but if a wildfire were to occur, it could pose significant risks to public safety, property, and the environment especially in the wooded foothills of the Green and Cold Hold Mountains. Impacts may include the destruction of homes, barns, and other structures; loss of livestock or crops; interruption of utilities and services; and damage to critical infrastructure such as power lines or roads. Smoke from wildfires can also pose health risks, especially for individuals with respiratory conditions. In more severe cases, wildfires can lead to evacuations, economic losses, environmental degradation, and long-term recovery challenges. The psychological and social impacts on residents, especially those who lose property or face evacuation, can also be substantial.

Probability and Extent

The probability of wildfire in Montgomery is considered *unlikely* by the committee. While large-scale wildfires are uncommon in Vermont, small brush fires and grass fires do occur, particularly during dry spring and summer conditions. Human activities such as outdoor burning, equipment use, or accidental

ignition increase the likelihood of wildfire events. Changing climate conditions, including longer dry periods and higher temperatures, may gradually increase the future probability of wildfires in the region.

Wildfires in Vermont can spread quickly through dense forests, particularly in dry conditions. Wildfires can last from several hours to several days depending on conditions and response efforts. There is a higher risk of wildfires during late spring, summer, and early fall when vegetation is driest. The National Weather Service (NWS) issues a "Red Flag Warning" when conditions are conducive for wildfires. A Red Flag Warning means warm temperatures, very low humidities, and stronger winds are expected to combine to produce an increased risk of fire danger. Wildfires in Montgomery are likely to be limited in size and are likely small brush fires under one acre. The Vermont Department of Forests, Parks and Recreation and local fire departments have historically been able to contain wildfires quickly. However, in extreme conditions—such as extended drought or high winds—fires could spread rapidly and become more difficult to control, particularly in areas with dense vegetation or poor access.

Potential Future Impacts

Climate Change: Climate change has the potential to increase the frequency and intensity of wildfires due to rising temperatures and changing precipitation patterns.

Changes in Land Use/Development: Expanding residential areas closer to conservation zones with forested areas can increase the risk of wildfires by introducing more ignition sources and reducing natural firebreaks. Fragmentation of forests and the buildup of combustible materials (e.g., brush, leaf litter) in unmanaged or developed areas can create conditions for more intense and harder-to-control fires.

Changes in Demographic: Montgomery's population demographics are not expected to change significantly in the next five years, though an increase in the average age of the population may increase the vulnerabilities of the population.

History:

According to the National Fire Incident Reporting System and interviews with the fire department Chief, there have not been any major wildfires that have occurred in Montgomery Town.

June 5 – 8, 2023: A Wildfire Air Quality Alert was issued. The entire state experienced poor air quality, especially in the northwestern corner of the state from wildfires in Canada.

July 5 – 7, 2002: Smoke from forest fires in the Nemiscau region of northern Quebec drifted south into Vermont, including Montgomery. Atmospheric conditions trapped and funneled the smoke southward. The fires were ignited by hot, dry conditions followed by intense thunderstorm activity that produced widespread lightning. The smoke obscured skies and reduced visibility to as low as one mile, particularly on the morning of July 7, prompting health advisories for people with respiratory issues and general warnings to limit outdoor activity. No major incidents were reported.

6. COMMUNITY CAPABILITIES

Community Capabilities

A hazard mitigation capabilities assessment evaluates a community's ability to reduce and manage risks associated with natural hazards. This assessment involves analyzing existing policies, programs, and resources to identify strengths and areas for improvement in mitigating hazards. The four key types of mitigation capabilities include planning and regulatory, administrative, and technical, financial and education and outreach. Below are the definitions of each key type:

- **Planning and regulatory:** Planning and regulatory capabilities are the codes, ordinances, policies, laws, plans and programs that guide growth and development.
- **Administrative and Technical:** Administrative and technical capabilities are the participant's staff, skills, and tools. These capabilities can be used for mitigation planning and to carry out specific mitigation actions.
- **Financial:** Financial capabilities are the resources to fund mitigation actions.
- **Education and Outreach:** Education and outreach capabilities are programs and methods that can communicate about and encourage risk reduction.

How this Plan Will Improve Existing Capabilities

Montgomery mitigation capabilities that reduce hazard impacts or that could be used to implement hazard mitigation activities.

As Montgomery goes through the update process for the planning mechanisms outlined in Table 7, the Town will look to the Town's Hazard Mitigation Plan to help guide land use district decisions, and guide goals and policies for those districts. The Local Emergency Management Plan is updated after Town Meeting each year, including updates to vulnerable geographic locations, as well as locations of residents and businesses who may be in harm's way. Updates to each of the planning mechanisms outlined in Table 7 are handled by the responsible party identified. There is no timeframe for updating the below referenced plans and regulations to better incorporate hazard mitigation, however, as each document is updated the hazard mitigation plan will be reviewed for incorporation. The goals of this Hazard Mitigation Plan will be incorporated in the upcoming municipal plan update to ensure that emergency preparedness and mitigation planning efforts are included in the Municipal Plan, with particular attention to projects in the Mitigation Actions Table. This will help ensure that this plan is utilized and project follow-through occurs. Additionally, the Hazard Mitigation Plan will be used to help prioritize high risk areas and target priority projects through Vermont's Municipal Roads General Permit Program and related funding. This will ensure this plan is utilized and project follow-through occurs.

Table 7: Planning and Regulatory Capabilities

Existing Protection	Description / Responsible Party	Effectiveness/Enforcement/ Hazard that is addressed	Gaps in Existing Protection/ Improvements Needed

Municipal Plan	Policies and vision for future land use. Adopted March 18, 2024. Planning Committee Chair	Policies that provide protection and limited development in wellhead protection areas, wetlands, steep slopes, and shallow soils. All hazards.	The plan would benefit from listing *specific infrastructure projects* (e.g. culvert upgrades, river corridor setbacks, relocation of vulnerable roads) with prioritization, estimated costs, funding sources, and schedule.
Zoning Bylaws	Land Use Regulation. Adopted November 2018. Zoning Administrator	Restrictions on development in potentially hazardous areas such as steep slopes, floodplains, and waters source areas. All hazards.	Will need updating once new FEMA flood mapping is finalized. Incorporate vegetated buffers into bylaws to better protect water quality.
Building Codes	Restrictions on development in potentially hazardous areas such as steep slopes, floodplains, and waters source areas. Zoning Administrator	The Town does not currently have a building code and does not currently plan to adopt one, however new construction is expected to meet state energy requirements. All - hazards	The Town may consider adopting building codes in the future.
Local Emergency Management Plan	Summary of response and notification procedures. Adopted 2025. EMD	Updated annually. All-hazards.	Does not include continuity of operations annex.
Fire Mutual Aid	Franklin County Mutual Aid Agreement. Amended and adopted 2017. Orleans County Mutual Aid Agreement. 2025. Fire Chief	Assistance from County fire, rescue, municipal and public works departments. All hazards.	County Mutual Aid equipment resource lists that includes NIMS typing.

Bridge and Culvert Inventory	Municipal transportation infrastructure inventory following AOT criteria. DPW Director	On-going update. Utilizes AOT criteria and identifies overall condition of infrastructure which guides priority decisions on public projects. Flood/fluvial erosion, severe wind, winter storm (ice storm)	Updates are on-going. State sponsored on-line database currently being updated (State moving to new platform). QA/QC for town recommended.
Road and Bridge Standards	Provide minimum codes of and standards for construction, repair, and maintenance of town roads and bridges. DPW Director	Standards include management practices and are designed to ensure travel safety, minimize damage to road infrastructure during flood events and enhance water quality protections. Flood/fluvial erosion, severe wind, winter storm (ice storm), wildfire, extreme cold	Adopt the most up-to-date Vermont Road and Bridge Standards.
Road Erosion Inventory	Identifying location of and severity of road erosion on roads segments that are within 1,000 feet of surface waters. DPW Director	Road Erosion Inventory completed in 2022. Town applies for funding annually to address road erosion issues. Highly effective in addressing Flooding/fluvial erosion, severe wind, winter storm (ice storm)	Does not include private roads.
Administrative and Technical Capabilities			
Existing Protection	**Description**	**Staffing**	**Improvements Needed**
Selectboard	Locally elected governing body responsible for decision making.	5 Members	Provide additional hazard mitigation and emergency preparedness training to elected officials.
Town Clerk / Treasurer / Administration	Manages records and funding.	2 full-time 1 part-time	Implement continuity of operations planning (COOP) and cross-training for backup capacity.

Zoning Administrator	Enforces zoning bylaws and supports land use planning	1 part-time	Increase coordination with emergency management and attend substantial damage determination training.
Public Works Director	Manages public works and roads	1 full-time	Consider staff in FEMA preliminary damage assessments and documentation coordination.
Financial Capabilities			
Existing Protection	**Description / Responsible Party**	**Effectiveness/Enforcement/ Hazard that is addressed**	**Gaps in Existing Protection/ Improvements Needed**
Annual Town Budget	Montgomery's annual budget is approved by residents at Town Meeting and is primarily funded through property taxes, with additional support from state aid, grants, and other local revenue sources. The budget supports essential municipal services, including road maintenance, emergency services, municipal office operations, solid waste management, and the maintenance of public facilities and infrastructure.	Ensures services are funded to meet the public safety needs of the community. All-hazards	Consider creating a specific line item for hazard mitigation planning and implementation.
Capital Plan	Annual budget for long term hazard mitigation project. Selectboard Chair	Updated annually for Town Meeting. All-hazards	None identified.

In Kind Services	Donations and volunteer support from residents. EMD	Volunteers can assist with everything from event planning, municipal governance and emergency response support by increasing community capacity. Volunteers leverage local skills, labor, and resources without adding financial strain. All-hazards	Need system for tracking donations and volunteer time for in-kind match.
Emergency Relief and Assistance Fund (ERAF)	The Emergency Relief Assistance Fund (ERAF) provides State funding to match Federal Public Assistance after federally declared disasters. Selectboard Chair	Ensures communities have planned for emergencies and incentivizes additional resiliency measures (stream corridor protections) for additional match reduction. All-hazards	Ensure highest possible protection. Missing FEMA approved mitigation plan.
Education & Outreach Capabilities			
Existing Protection	**Description / Responsible Party**	**Effectiveness/Enforcement/ Hazard that is addressed**	**Gaps in Existing Protection/ Improvements Needed**
Social Media Emergency Preparedness Messages	Educational campaigns. EMD	Assist residents in understanding risks and take preventative actions before they occur. Improves awareness and encourages personal preparedness.	Include updated information and best practices.

Administrative and Technical: The Town is governed by a volunteer Selectboard. Paid staff includes a a Town Clerk, a Treasurer, Assistant Clerk/Treasurer, a part-time Zoning Administrator, one full-time public works director, one full-time road foreman, and one full-time road crew member. The department staff cover 49 miles of town owned local roads. They are constantly treating roadways in winter months, so they are strained to do other things that come up. The full-time staff size is similar to other rural Towns in northern Vermont of similar size.

The Town has a volunteer Planning Commission, a volunteer Development Review Board a volunteer Recreation Department and a volunteer water commission. There is no local police department.

Vermont State Police and the Franklin County Sheriffs' Department cover all areas of law enforcement.

Montgomery has a volunteer Fire Department and Rescue Department staffed by approximately 17 well-trained and devoted volunteers. The Department responds to fire and rescue calls in Montgomery and offers mutual aid to neighboring towns' fire departments as needed as well as Jay Peak Ski Resort. The

main funding of the operations of these organizations is through public contributions. The fire department and ambulance service are housed in the public safety building off VT242 which also houses the community library.

Technical support is available through NRPC in the areas of land use planning, transportation, emergency management, GIS services and grant writing. Technical support is also available through the Franklin County Natural Resources Conservation District for water quality restoration and mitigation projects, the Vermont Agency of Natural Resources for floodplain and NFIP programs and regulations as well as Vermont Agency of Transportation for tech services pertaining to road structures and maintenance.

A strength of the Town is a family first and outdoor recreational atmosphere. There are a few committed volunteers who are involved in municipal committees and civic and recreational groups. There is strong cooperation between departments and great communication between staff and volunteers.

One of the strains on the community is a limited volunteer base for committees and volunteer first response services. Often this leads to the same people volunteering on multiple committees which can lead to fatigue. There are few younger citizens serving on committees partially due to modern day demands on work/life balance.

Additionally, the only ambulance service in the area is Enosburgh Ambulance Service. Weekend winter traffic through Montgomery increases greatly during the winter season from December to March due to the proximity of Jay Peak Ski Resort and in the fall during September and October for visitors drawn to the world class fall foliage. The capabilities are limited for such an increase in traffic. During peak winter season, emergency resources could be tied up dealing with motor vehicle accidents. Even one house fire could tie up local resources enough that a mutual aid request would be needed at times.

The Selectboard Chair analyzed these programs for their effectiveness and noted improvements needed. Montgomery uses all the plans listed below to help plan for current and future activities. For example, the Local Emergency Management Plan has a contact list that is used for response activities in case of a hazard event. The Plan is updated every year after Town Meeting. The Municipal Plan directs visions and goals that include Natural Resources and Land-Use decisions. In the development of this plan, the latest Municipal Plan (November 2024) was used. Municipal Road and Bridge Standards are followed by the Town Public Works Department. The Public Works Department conducts semi-annual culvert and bridge inventory that is uploaded to the Vermont Agency of Transportation's on-line culvert and bridge AGOL portal with assistance from NRPC. The town is compliant with the NFIP.

Municipal Funds

The Town has a general fund that has line items for funding school crisis programs, public safety education, and hot and cold weather shelter planning. This funding is itemized with the town's fire department. These funds are budgeted and voted on yearly by Town residents. The Town's public works department has line items for a general highway budget. These funds include a highway account that is for emergency storm road repair, as well as ditching and graveling roads for prevented maintenance.

Capital projects are reviewed yearly and budgeted on a as needed bases. Along with capital planning the Town applies regularly for grants for town road infrastructure upgrades, municipal water projects, recreation and energy efficiency projects. Capital projects are usually financed and/or grants are written

to help fund the capital projects. The same is done for the water department. The budget is set and approved for routine maintenance of assets and bank financing covers capital projects.

Grand List

The grand list in Vermont is a list of all real property in a municipality, including the property owner's name, address, location, size, and assessed value. The assessed value is the basis for property taxes, and the grand list is used to calculate municipal taxes. The Town Selectboard uses the grand list to determine the tax rate for the year's budget. Each municipality in Vermont is required to maintain a grand list, which is set every year as of April 1. Elected listers in each town are responsible for preparing and maintaining the grand list. Table 6.2 is a summary of the Grand List for Montgomery.

Table 8: Grand List Summary

Grand List Summary for Montgomery, VT (2025)		
Type	**Number**	**Value Including Land**
Residential Homes	62	$136,346,700
Seasonal Homes	83	$19,090,800
Mobile Homes – Unlanded	7	$243,000
Mobile Home - Landed	20	$1,968,000
Farms	9	$5,317,600
Commercial	31	$5,785,400
Commercial Apt	3	$653,200
Industrial	0	$0
Utilities	3	$2,985,900
Woodland	97	$10,173,500
Misc.	56	$6,232,400
Cable	1	$79,684

National Flood Insurance Program (NFIP)

The National Flood Insurance Program (NFIP) is a voluntary program organized by the Federal Emergency Management Agency (FEMA) that includes participation from 20,000 communities nationwide and 247 Vermont towns and cities. Combined with floodplain mapping and floodplain management at the municipal level, the NFIP participation makes affordable flood insurance available to all homeowners, renters, and businesses, regardless of whether they are located in a floodplain.

NFIP Participation and Adoption of NFIP Standards

FEMA originally published a flood hazard study and Flood Insurance Rate Maps for Montgomery in 1980. These were updated by FEMA in 2021. Montgomery (CID 500056).has been enrolled in the NFIP since January 1980 and is currently in compliance. The adopted 2018 Montgomery Zoning Bylaws regulate development in the NFIP floodplain according to the Flood Insurance Rate Maps. The Town is committed to enforcing floodplain regulations and ordinances to be eligible to participate in the NFIP program and protect the people and property of Montgomery by restricting development in flood prone areas.

At the time of this writing, FEMA is in process of updating the FIRMs for the region which are due to be released in 2027.

Staffing, Enforcement and Continued Compliance in the NFIP

The Zoning Administrator enforces existing flood plain regulations and reviews future development proposals. If the Zoning Administrator is unavailable, the Selectboard may designate an alternate official to perform these duties to ensure regulatory continuity. Appeals of decisions made by the Zoning Administrator are handled by the Development Review Board (DRB), the community's designated Appropriate Municipal Panel under 24 V.S.A. § 4461. The Town works with the elected officials, the Northwest Regional Commission, VT Agency of Natural Resources and FEMA to correct and prevent any compliance issues.

River Corridor Bylaws

Montgomery has a River Corridor Bylaw that protects areas along rivers and streams that are prone to erosion and flooding. It limits new development within these mapped corridors to help rivers move naturally and reduce damage to property and infrastructure. The bylaw encourages maintaining natural vegetation along waterways and allows adjustments to corridor maps if on-site conditions differ from state data. The Zoning Administrator is responsible for monitoring compliance.

Substantial Damage and Substantial Improvement

A permit and conditional use approval is required for substantial improvement of existing buildings. It is issued by the zoning administrator following review by the development review board. Prior to issuing a permit, a copy of the application and supporting documentation shall be submitted by the administrative officer to the State National Floodplain Insurance Program Coordinator at the Vermont Agency of Natural Resources, Department of Environmental Conservation, River Management Section. Substantial improvement includes any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the start of the construction of the improvement. This term includes structures which have incurred substantial damage. Substantial damage includes damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged conditions would equal or exceed 50% of the mark value of the structure before the damage occurred.

Repetitive Loss

According to FEMA repetitive losses / BCX claims that there are 5 active NFIP policies in Montgomery. There have been 23 NFIP claims filed in since 1978 totaling $274,092. Due to FEMA Region I concerns related to personally identifiable information (PII), NFIP repetitive loss and severe repetitive loss information is unavailable for this plan update. However, according to the NFIP Multiple Loss Properties table (2018) found on FEMA's website there are 5 structures within FEMA-designated Special Flood Hazard Areas (SFHAs), that have a mortgage and are required to purchase flood insurance.

Structures in the Special Flood Hazard Areas and River Corridor Hazard Area

There are approximately 48 structures with FEMA designated Special Flood Hazard Areas (SFHA). The map below shows structures (purple circles) located within the SFHA in Montgomery Center: 21 are in

Montgomery Center; 14 are single family dwellings; 1 is a multi-family dwelling; 2 are lodging facilities; 1 is a restaurant; 2are commercial buildings; and 1 is a commercial farm.

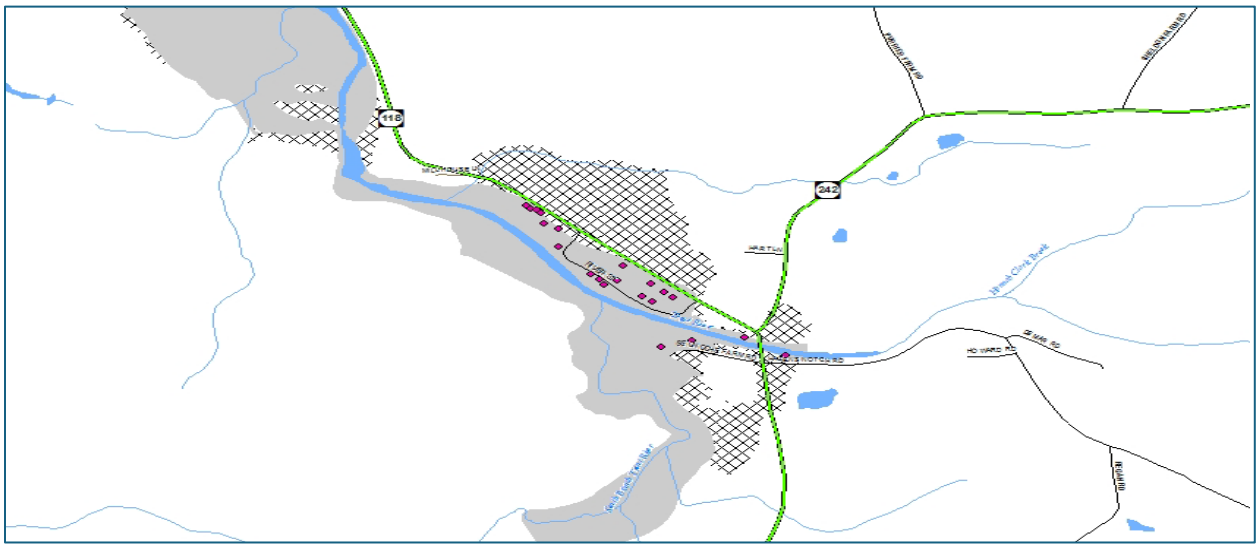


Figure 6.1: *Montgomery Center Structures in the SFHA*

The map below shows structures (purple circles) located within the SFHA in Montgomery Village near the confluence of Black Falls Brook and the Trout River: 25 in Montgomery Village are in the SFHA; 14 are single family dwellings; 6 are mobile homes; 3 are commercial sites; 1 is utility-owned; 1 is the US Post Office.

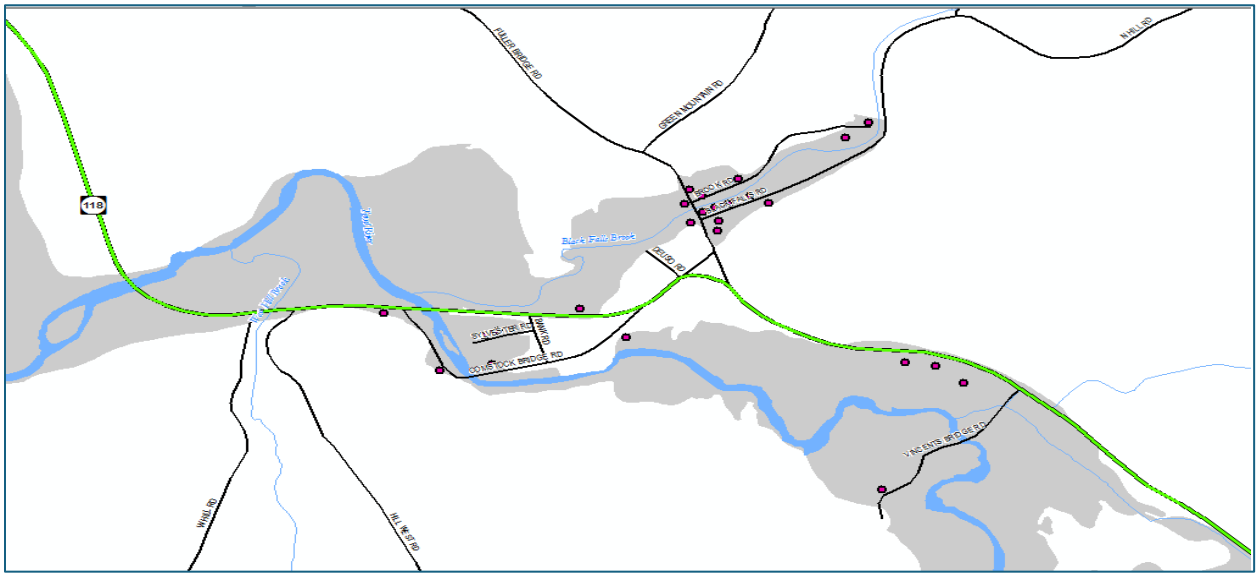


Figure 6.2: *Montgomery Village Structures in SFHA*

Critical Facilities

A critical facility is defined as a facility in either the public or private sector that provides essential products and services to the general public, is otherwise necessary to preserve the welfare and quality

of life in the appropriate jurisdictions, or fulfills important public safety, emergency response, and/or disaster recovery functions.

Vermont's Emergency Relief Fund (ERAF)

ERAF provides state funding to match FEMA Public Assistance after federally declared disasters. Eligible public costs are generally reimbursed by FEMA at 75% with a 7.5% State match. The state will increase its match to 12.5% or 17.5% if communities take steps to reduce flood risk as described below:

To receive the 12.5% state match rate, communities must have the following:

1) NFIP Participation
2) Municipal Road and Bridge Standards
3) Local Emergency Management Plan
4) FEMA approved Local Hazard Mitigation Plan

To receive the 17.5% state match rate, communities participate in FEMA's Community Rating System or adopt fluvial erosion hazard or adopt river corridor protection bylaw that meets or exceeds the Vermont Agency of Natural Resources regulations.

Montgomery's ERAF rate currently is 7.5%. Upon adoption of the 2025 Montgomery Mitigation Plan, the ERAF rate will increase to 17.5%.

7. MITIGATION STRATEGY

The Hazard Mitigation Goals were developed by the Committee.

General Goals

- Prevent / reduce the loss of life and injury resulting from all-hazards events.
- Prevent / reduce the financial losses and infrastructure damage incurred by municipal, residential, agricultural and commercial establishments due to disasters.
- Include hazard mitigation planning in the municipal planning process including the Town Plan.
- Capital Improvement Plan and Local Emergency Operations Plan.
- Increase hazard mitigation public education and outreach
- Ensure the general public is part of the hazard mitigation planning process.

Town Plan (Adopted 2024) Goals & Policies that support Hazard Mitigation

Goals

- Encourage and foster a flood resilient community.
- Mitigate the risk to loss that results from flood events.
- Reduce damages to public infrastructure resulting from flood events through hazard mitigation planning and project implementation.

Policies

- Provide emergency services to protect the health, safety, and property of residents.

- Limit development in areas where soils have limited capacity to support structures or filter wastes; also restrict on steep slopes (>15%), and ridgelines above 1000' elevation. This helps avoid building in unstable or vulnerable areas
- Maintain natural vegetative cover as much as possible, especially in Conservation Districts. Vegetation helps reduce erosion, runoff, flood impacts.
- Protect water quality of the Trout River and tributaries by preventing erosion along banks and reducing stormwater & agricultural runoff. This helps with flood mitigation and reduces hazard potential.
- Incorporate vegetated buffers from streams, rivers and ponds into Montgomery's zoning bylaws in order to better protect water quality.
- Encourage flood emergency preparedness and response planning.
- Where development already exists in vulnerable areas, measures shall be taken to protect people, buildings, and facilities to reduce future flooding risk.
- New development shall be planned for and encouraged in areas that are less vulnerable to future flooding events.
- Discourage new development in the Special Flood Hazard Area and River Corridors; in areas where new development is allowed, it should not exacerbate flooding and fluvial erosion.
- Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion; where feasible, floodplain restoration and conserved land in vulnerable areas should be encouraged.
- Protect the health, safety, and welfare of the traveling public.
- Maintain good quality, safe local roads and streets, sidewalks, bridges, and equipment needed for their maintenance
- Conserve Montgomery's recreational resources, discourage incompatible land uses, and protect the scenic qualities that contribute to recreation.
- Protect the public water supply by restricting inappropriate development in the Source Protection Area.
- Steer development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high-water table.
- Protect public health, welfare, and safety by limiting development in the flood plain.
- Protect water quality by limiting development in Wellhead Protection Areas, wetlands, and along stream banks.
- Recognizing the community's susceptibility to flooding, new development shall conform strictly to floodplain regulations.
- Existing housing in the floodplain should be flood-proofed for the safety of the residents and the community as a whole
- Broaden access to educational and vocational training opportunities for all ages
- Encourage coordination and cooperation among municipal boards

Identified Hazard Mitigation Actions, Programs and Activities

A mitigation action is a measure, project, plan or activity proposed to reduce or eliminate current and future vulnerabilities described in the risk assessment. Mitigation actions help achieve the plan's mission and goals. The actions to reduce vulnerability to threats and hazards form the core of the plan and are a key outcome of the planning process

FEMA's mitigation action handbook identified actions within the following four categories that need to be considered:

Local Planning and Regulations - These actions include government authorities, policies or codes that influence the way land and buildings are developed and built.

Structure and Infrastructure Projects - These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure.

Natural Systems Protections - This type of action can include green infrastructure and low impact development, nature-based solutions, and bioengineering to incorporate natural features or processes into the built environment.

Education and Awareness Programs - These types of actions keep residents informed about potential natural disasters. Educational outreach can help minimize these risks. Many of these types of actions are eligible for funding through the FEMA HMA program.

Prioritizing Mitigation Actions

Mitigation actions are listed in terms of mitigating threat or risk to public health and safety, reduction of hazard to community assets, adherence to the Town plan and local ordinances, cost, and feasibility. Actions are classified as either short - term or long - term activities. Short –term action items are activities which the municipality may be capable of implementing within one to two years. Long-term action items may require new or additional resources, funding or authorities. On-going action items occur at least once per year. Mitigation actions and their associated scores are listed in priority order, in table 11 below.

Criteria for Analysis

The following criteria were used establishing an order of project priorities. Each of the following criteria was rated according to a numeric score of "1" (indicating Poor), "2" (indicating Average) and "3" (indicating Good). The highest possible score is 36. The full scoring matrix used is in Table 12.

1) Does the action reduce damage?
2) Does the action contribute to community objectives?
3) Does the action meet existing regulations?
4) Does the action protect historic structures or structures critical to municipal operations?
5) Can the action be implemented quickly?
6) Is the action socially acceptable?
7) Is the action technically feasible?
8) Is the action administratively possible?
9) Is the action politically acceptable?
10) Is the action legal?
11) Does the action offer reasonable benefits compared to its cost of implementation?
12) Is the action environmentally sound?

Projects are classified as either short – term, medium–term or long - term activities.

- Short –term action items are activities which the municipality may be capable of implementing within six months to one year.
- Medium-term action items may be capable of being implemented in one to five years.

- Long-term action items may require 5 to 10 years, new or additional resources, funding, or authorities.

Cost-Benefit Review

Each project will incorporate a full benefit-cost analysis (BCA) following FEMA's BCA methodology and latest software to ensure cost effectiveness and maximize savings. There was a rough cost/benefit analysis performed using criteria in Table 9 with results listed in the Mitigation Actions Table.

Table 9: Cost / Benefit

Cost Estimates	
High	More than $100,000
Medium	Equals $50,000 – 100,000
Low	Less than $50,000
Benefit Estimates	
High	Public Safety
Medium	Infrastructure/Functionality
Low	Aesthetics/General Maintenance

Note: At the time of applying for FEMA's mitigation grant programs, each project listed above will undergo the full benefit-cost analysis methodology (BCA version 4.8 and higher) to maximize savings.

2017 Mitigation Action Updates

Table 10: Mitigation Action Update

Hazard Mitigation Action	Hazard Addressed	Responsible Party	Priority	Status
Hazen's Notch Road Culvert Replacement	Flooding/Fluvial Erosion	Selectboard Chair and Public Works Director	High	Competed in 2024
Deep Gibou Road Culvert Replacement	Flooding / Fluvial Erosion	Selectboard Chair and Public Works Director	High	Completed in 2024
Town-wide Bridge and Culvert Inventory Update	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	High	Completed in 2022
Culvert Replacement on Hannah Clark Brook Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	High	Carryover / To be done. Other infrastructure priorities took precedent.
Culvert Replacement on Amidon Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	Medium	Carryover / To be done. Other infrastructure priorities took precedent.

Longley Bridge Road Retrofit	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	High	Completed in 2024.
West Hill Road Culvert Replacement	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	Medium	Carryover / To be done Other infrastructure priorities took precedent
Replace damaged culvert on Brady Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	Low	Other infrastructure priorities took precedent
Replace Bridge on Cote Drive	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	Low	Carryover / To be done Temp bridge in place but needs to be replaced.
Culvert upgrade Hill West Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair and Public Works Director	Medium	Carryover / To be done
Flood Buyout for Residences Along Black Falls Brook	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm	Selectboard Chair	High	Carryover / To be done. Pandemic, lack of housing.
Enhance Public Awareness of the Dangers of Severe Winter Weather	Severe Winter Storm (Ice Storm), Extreme Cold, Structure fire, Hail, Earthquake	EMD and Fire Chief	High	On-going. Social media, every store, all the public places.
Support Power Utility Efforts to Protect Utility Corridors from Ice	Severe Winter Storm (Ice Storm), Extreme Cold, Structure fire, Hail, Earthquake	Selectboard Chair and Selectboard	High	On-going.
Protect Critical Facilities and Infrastructure from Lightning Damages	Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Extreme Heat and Drought, Extreme Cold, Structure Fire, Hail, Wildfire, Earthquake	Public Work Director and Fire Chief	Hight	On-going.

2025 Mitigation Actions

Table 11: 2025 Mitigation Actions

Hazard Mitigatio Action	Hazard Addressed	Hazard Mitigation Action Category	Responsible Party (bolded text = primary POC)	Estimated Timeline for Completion	Funding Source	Action Prioritization and Cost / Benefit

Hannah Clark Brook Road Culvert Upgrade	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado)	Structure and Infrastructure Projects	**Selectboard Chair** PW Director	May 2026 – Oct 2029	VTRANS Structures Grant, Town Operating Budget	36 High / High
West Hill Road Culvert Upgrade	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Structure and Infrastructure Projects	**Selectboard Chair** PW Director	May 2026 – Oct 2029	HMGP, VTRANS Structures Grant, Town Operating Budget	36 High / High
Procure Stationary Generator for Public Safety Building (15kw)	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Extreme Cold, Extreme Heat and Drought, Structure Fire, Infectious Disease Outbreak, Hail, Landslide, Earthquake, Wildfire	Structure and Infrastructure Projects	**Selectboard Chair** Fire Chief	May 2026 – Sept. 2030	HMGP, Town Operating Budget	36 Low / High
Enhance Public Awareness of home fire risks (smoke alarms,	Severe Winter Storm (Ice Storm), Extreme Cold, Structure Fire, Wildfire	Education and Awareness Programs	**Fire Chief** EMD	Annually (Beginning Fall 2025).	Town Operating Budget	36 Low / High

carbon monoxide, fire extinguishers)						
Floodplain and Wetland Restoration at 251 Fuller Bridge Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Natural System Protections	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High
Sediment Management at West Hill Brook Bridge on VT118	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Natural Systems Protections	**Selectboard Chair** VTRANS ANR PW Director FCNRCD	May 2026 – Oct 2029	VEM Grants (HMGP), EDA, Town Operating Budget	35 Medium / High
Fuller Covered Bridge at Black Falls Brook, Overflow Capacity / Regain Channel Capacity	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Structure and Infrastructure Projects	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	VEM Grants (HMGP), CWSP, Town Operating Budget	35 High / High
Upper Black Falls Floodplain Restoration	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm,	Natural Systems Protection	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High

	tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake					
Trout River below Montgomery Center: Remove gravel deposits around / boulder valley constriction	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Natural System Protections	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High
Trout River in Montgomery Center, Floodplain Reconnection on Trout River	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Natural Systems Protection	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High
Trout River in Montgomery Center Bridge, Bridge Replacement and Restore Floodplain	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Landslide, Earthquake	Structure and Infrastructure Projects	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High
Flood Buyout for Residences Along Black Falls Brook	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado),	Structure and Infrastructure Projects	**Selectboard Chair** PW Director FCNRCD	May 2026 – Oct 2029	HMGP CWSP Town Operating Budget	35 High / High

	Landslide, Earthquake					
Amidon Road Culvert Upgrade	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado)	Structure and Infrastructure Projects	**Selectboard Chair** PW Director	May 2026 – Oct 2029	HMGP, VTRANS Structures Grant, Town Operating Budget	35 High / High
Replace Temporary Bridge on Cote Drive	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Landslide, Earthquake	Structure and Infrastructure Projects	**Selectboard Chair** PW Director	May 2026 – Sept. 2029		35 High / High
Upgrade damaged culvert on Brady Road	Flooding / Fluvial Erosion, Strong Winds (windstorm, thunderstorm, tornado)	Structure and Infrastructure Projects	**Selectboard Chair** PW Director	May 2026 – Sept. 2029	Town Operating Budget, VTrans Structures Grant	35 High / Medium
Update Flood Bylaws to reflect changes in FEMA FIRMS	Flooding / Fluvial Erosion	Local Planning and Regulations	**Zoning Administrator** Development Review Board.	Short term (Begin Jan. 2027 end September 2028	Operating Budget	35 Low / High
Enhance Public Awareness of the Dangers of Severe Winter Weather	Strong Winds (windstorm, thunderstorm, tornado), Severe Winter Storm (Ice Storm), Extreme Cold,	Education and Awareness Programs	**Fire Chief** EMD	Annually (Beginning Fall 2025).	Town Operating Budget	35 Low / High
Hot and Cold Weather Shelter Planning	Drought and Extreme Heat, Extreme Cold, Drought	Education and Awareness Programs	**EMD** Health Officer	General Fund	Town Operating Budget	35 Low / High

Disease Vector Control Training	Infectious Disease Outbreak	Education and Awareness Programs	**Health Officer** EMD	September 2025 to September 2030.	Town Operating Budget	35 Low / High
Support Power Utility Efforts to Protect Utility Corridors from Ice	Severe Winter Storm (Ice Storm), Extreme Cold, Wildfire, Hail	Local Planning and Regulations	**Selectboard Chair** PW Director	Annually (Beginning Fall 2025	Town Operating Budget	34 Low / High
Infectious Disease and/or Invasive Species Awareness	Infectious Disease Outbreak, Invasive Species	Education and Awareness Programs	**EMD** Health Officer	Annually (Beginning Fall 2025).	Town Operating Budget	34 Low / High

Table 12: Mitigation Action Scoring 2025

Mitigation Action	Criteria												Total Score
	1	2	3	4	5	6	7	8	9	10	11	12	
West Hill Road Culvert Upgrade	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Procure Stationary Generator for Public Safety Building (15kw) ($40K)	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Enhance Public Awareness of Residential Fire Risks (smoke alarms, carbon monoxide, fire extinguishers)	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Hannah Clark Brook Road Culvert Upgrade	3	3	3	3	3	3	3	3	3	3	3	3	**36**
Floodplain and Wetland Restoration at 251 Fuller Bridge Road	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Sediment Management at West Hill Brook Bridge on VT118	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Fuller Covered Bridge at Black Falls Brook, Overflow Capacity / Regain Channel Capacity	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Upper Black Falls Floodplain Restoration	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Trout River below Montgomery Center: Remove gravel deposits around / boulder valley constriction	3	3	3	3	2	3	3	3	3	3	3	3	**35**

Trout River in Montgomery Center, Floodplain Reconnection on Trout River	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Trout River in Montgomery Center Bridge, Bridge Replacement and Restore Floodplain	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Flood Buyout for Residences Along Black Falls Brook	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Amidon Road Culvert Upgrade	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Replace Temporary Bridge on Cote Drive	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Upgrade damaged culvert on Brady Road	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Update Flood Bylaws to reflect changes in FEMA FIRMS	3	3	3	3	2	3	3	3	3	3	3	3	**35**
Enhance Public Awareness of the Dangers of Severe Winter Weather	3	3	2	3	3	3	3	3	3	3	3	3	**35**
Hot and Cold Weather Shelter Planning for Local Officials and Volunteers	3	3	2	3	3	3	3	3	3	3	3	3	**35**
Disease Vector Control Training for Municipal Officials	3	3	2	3	3	3	3	3	3	3	3	3	**35**
Support Power Utility Efforts to Protect Utility Corridors	3	3	2	2	3	3	3	3	3	3	3	3	**34**
Infectious Disease and/or Invasive Species Education and Awareness for Public	3	3	2	2	3	3	3	3	3	3	3	3	**34**

Mitigation Action Changes in Priorities

Mitigation actions changed priorities for several reasons, reflecting the evolving nature of risks, community needs and resource availability. Key factors that drove changes in mitigation actions and priorities may include:

- **Evolving Risk Landscape:**
  - Climate Change: As the impacts of climate change become more pronounced, priorities may shift towards addressing related risks like sea-level rise, increased frequency of extreme weather events, and changing precipitation patterns
- **Updated Hazard Data**:
  - Improved Understanding: Advances in science and technology provide better data and modeling, leading to new insights about hazard risks and vulnerabilities.
  - Recent Disasters: Experiences from recent disasters can highlight previously underestimated risks and lead to a re-evaluation of priorities.

- **Community and Stakeholder Input**:
  - Public Concerns: Community feedback and concerns can bring attention to specific vulnerabilities or areas in need of mitigation.
  - Stakeholder Engagement: Involvement of local businesses, non-profits, and other stakeholders can influence which mitigation actions are prioritized based on their expertise and needs.
- **Changes in Resources:**
  - Funding Availability: New funding opportunities or changes in budget allocations can shift which projects are feasible and prioritized.
  - Technological Advances: New technologies can provide more effective or cost-efficient mitigation solutions, altering priority actions.
- **Policy and Regulatory Changes:**
  - New Legislation: Changes in local, state, or federal regulations can necessitate updates to mitigation priorities to ensure compliance.
  - Policy Shifts: Shifts in government policy focus, such as increased emphasis on sustainability or climate resilience, can change priorities.
- **Demographic and Economic Changes**:
  - Population Growth: Increased population density in certain areas can raise the priority of mitigating risks in those regions.
  - Economic Development: As areas develop economically, there may be a higher priority placed on protecting new infrastructure and investments.
- **Critical Infrastructure Needs:**
  - Infrastructure Vulnerabilities: Identification of weaknesses in critical infrastructure (e.g., utilities, transportation networks) can lead to a prioritization of actions to fortify these systems.
  - Lifeline Services: Ensuring the resilience of essential services like water, power, and healthcare can become a higher priority in mitigation planning.
- **Previous Hazard Mitigation Projects:**
  - Project Completion: The completion of previous hazard mitigation projects may have resolved a hazard in a particular area that was of previous concern.

Integration Into Existing Plans and Procedures

For Montgomery to succeed in reducing long-term risk, information from this Plan should be integrated throughout town operations. Integration actions include:

- The mitigation goals and risk assessment information can be incorporated into the next Town Plan update and into future flood hazard area regulations and river corridor bylaws
- Funding mitigation actions can be prioritized in the annual budget process
- Funding mitigation actions can be prioritized in grant research
- The risk assessment information can be incorporated into future training plans and budgets
- The hazard mitigation risk assessment and actions can be embedded into the LEMP

The following hazard mitigation information was captured in the 2024 Town Plan and should be captured in the Town Plan rewrite:

- Provide emergency services to protect the health, safety, and property of residents.
- Limit development in areas where soils have limited capacity to support structures or filter wastes; also restrict on steep slopes (>15%), and ridgelines above 1000' elevation. This helps avoid building in unstable or vulnerable areas
- Maintain natural vegetative cover as much as possible, especially in Conservation Districts. Vegetation helps reduce erosion, runoff, flood impacts.
- Protect water quality of the Trout River and tributaries by preventing erosion along banks and reducing stormwater & agricultural runoff. This helps with flood mitigation and reduces hazard potential.
- Incorporate vegetated buffers from streams, rivers and ponds into Montgomery's zoning bylaws in order to better protect water quality.
- Encourage flood emergency preparedness and response planning.
- Where development already exists in vulnerable areas, measures shall be taken to protect people, buildings, and facilities to reduce future flooding risk.
- New development shall be planned for and encouraged in areas that are less vulnerable to future flooding events.
- Discourage new development in the Special Flood Hazard Area and River Corridors; in areas where new development is allowed, it should not exacerbate flooding and fluvial erosion.
- Encourage the protection and restoration of floodplains and upland forested areas that attenuate and moderate flooding and fluvial erosion; where feasible, floodplain restoration and conserved land in vulnerable areas should be encouraged.
- Maintain good quality, safe local roads and streets, sidewalks, bridges, and equipment needed for their maintenance
- Conserve Montgomery's recreational resources, discourage incompatible land uses, and protect the scenic qualities that contribute to recreation.
- Protect the public water supply by restricting inappropriate development in the Source Protection Area.
- Steer development away from areas where soils will not support it due to shallow depth to bedrock, instability, or high-water table.
- Protect public health, welfare, and safety by limiting development in the flood plain.
- Protect water quality by limiting development in Wellhead Protection Areas, wetlands, and along stream banks.

- Recognizing the community's susceptibility to flooding, new development shall conform strictly to floodplain regulations.
- Existing housing in the floodplain should be flood-proofed for the safety of the residents and the community as a whole
- Broaden access to educational and vocational training opportunities for all ages

8. PLAN MAINTENANCE

This Plan is dynamic. To ensure it remains current and relevant, it will be evaluated, monitored and updated every five years in accordance with FEMA guidelines in effect at the time.

Annual Monitoring and Evaluation

Within 12 months of FEMA Final Approval, the Plan will be annually evaluated and monitored as follows:

1. Three months prior to the anniversary of the FEMA Final Approval date, the Selectboard Chair and Selectboard will evaluate the effectiveness of the Plan in meeting the stated goals. Items to be considered during this evaluation:
    - What disasters has the town or region experienced?
    - Should the list of highest risk natural hazard impacts be modified?
    - Are new data sources, maps, plans, or reports available? If so, what have they revealed, and should the information be incorporated into the plan?
    - Has development in the town or region occurred and could it create or reduce risk?
    - Has the town adopted new policies or regulations that could be incorporated into this plan?
    - Have elements of the plan been incorporated into new plans, reports, policies or regulations?
    - Are there different or additional community capabilities available for mitigation implementation?

2. Next, the Selectboard Chair and Selectboard will monitor mitigation action progress. Items to consider:
    - Is the mitigation strategy being implemented or anticipated?
    - Were the cost and timeline estimate accurate?
    - Should new mitigation actions be added?
    - Should proposed actions be revised or removed?
    - Are there new funding sources to consider?

    The status (e.g. in progress, complete) of each action should be recorded in Table 8.1. If the status is "in progress" note whether the action is on schedule. If not, describe any problems, delays, or adverse conditions that will impair the ability to complete the action.

3. The public will have an opportunity to review the plan and provide updates a month prior to the Selectboard meeting during the month of the annual anniversary date of FEMA Final Approval. The Selectboard Chair will post hard copies at the Town office and post materials on the Town website and Facebook page for the public. Items to consider for public engagement:

- Are there any new stakeholders to include?
- Were there changes in population patterns (migration, density or makeup of socially vulnerable populations?
- Were there any changes in land use and development?
- What public outreach activities have occurred? At minimum, the town will publicly post notice of meeting when the plan is being evaluated.
- How can the public involvement be improved?

4. Based on input received, the mitigation strategy and/or actions will be modified, if needed. The plan status and public input will be reviewed at Trustees meeting during the month of the annual anniversary date of FEMA Final Approval. A report (or public record in the form of meeting minutes) of the annual evaluation and monitoring will be made available to the public on the Town website and captured in the plan.

Table 13: Mitigation Action Status

Mitigation Action Status					
Mitigation Action	**2025**	**2026**	**2027**	**2028**	**2029**
Local Plans & Regulations					
Update Flood Bylaws to reflect changes in FEMA FIRMS					
Update Road Right of Way (ROW) Vegetation Management Plan					
Structure & Infrastructure Projects					
West Hill Road Culvert Upgrade					
Procure Stationary Generator for Public Safety Building (15kw)					
Hannah Clark Brook Road Culvert Upgrade					
Floodplain and Wetland Restoration at 251 Fuller Bridge Road					
Fuller Covered Bridge at Black Falls Brook, Overflow Capacity / Regain Channel Capacity					
Trout River in Montgomery Center, Floodplain Reconnection on Trout River					
Trout River in Montgomery Center Bridge, Bridge Replacement and Restore Floodplain					
Flood Buyout for Residences Along Black Falls Brook					
Amidon Road Culvert Upgrade					
Replace Temporary Bridge on Cote Drive					
Upgrade damaged culvert on Brady Road					
Natural Systems Protection					

Sediment Management at West Hill Brook Bridge on VT118					
Upper Black Falls Floodplain Restoration					
Trout River below Montgomery Center: Remove gravel deposits around / boulder valley constriction					
Outreach & Education Programs					
Enhance Public Awareness of home fire risks (smoke alarms, carbon monoxide, fire extinguishers)					
Enhance Public Awareness of the Dangers of Severe Winter Weather					
Hot and Cold Weather Shelter Planning for Local Officials and Volunteers					
Infectious Disease and/or Invasive Species Awareness					
Disease Vector Control Training for Municipal Officials					
Support Power Utility Efforts to Protect Utility Corridors					
Infectious Disease and/or Invasive Species Education and Awareness for Public					

Plan Updating

This plan will be updated at a minimum every five (5) years as follows:

1. Initiate Plan Update – The Selectboard Chair should contact Vermont Emergency Management (VEM) to apply for funding approximately 2 years prior to the plan expiration date. It is assumed that the Selectboard Chair will serve as the primary point of contact for the Plan update.

   Once funding is secured and the grant agreement between the Town and State is in place, the Selectboard Chair can issue a request for proposals (RFP) to procure planning services in accordance with the grant agreement. The RFP should be issued approximately 14 months before the plan expires.

   Once a consultant is procured, the Plan update process can begin with a kick-off meeting including the consultant and local hazard mitigation planning team. The kick-off meeting should be scheduled approximately 12 months before the plan expires. The Town should allot approximately 8 months for the plan update process.

2. The Stakeholder Public Outreach Plan for LHMP should be reviewed and updated. Opportunities for whole community involvement throughout the Plan update process must be factored into the schedule. Whole community involvement must include the effects of climate change, changes in population patterns (migration, density, or the makeup of socially vulnerable populations), and changes in land use and development. These opportunities may include a community survey, planning workshop, and public meetings at critical milestones agreed to at the project kick-off meeting.

3. Once the local hazard mitigation planning team has prepared a final draft following a public comment period, they can seek authorization from the Trustees to submit the Plan for VEM/FEMA approval. Plan approval is accomplished in two steps. The first step is receiving "Approval Pending Adoption" from the VEM/FEMA review. The Town should submit for "Approval Pending Adoption" approximately 4 months before the plan expires to allow for time to respond to any review comments received by VEM/FEMA. The second step is adopting the plan. Once the Town receives "Approval Pending Adoption", the Town Selectboard should adopt the plan by signing the resolution as soon as their next regular meeting.

4. Once adopted, the Town can submit the Plan and the signed resolution to VEM/FEMA. FEMA will issue the Town a letter with the date of "Final Approval". That date starts the clock on the 5-year cycle.

Appendix A
Resolution for Adopting the Town of Montgomery LHMP 2025

RESOLUTION
A RESOLUTION OF THE TOWN OF MONTGOMERY SELECTBOAR ADOPTING THE TOWN OF MONTGOMERY, VERMONT HAZARD MITIGATION PLAN 2025.

WHEREAS the Town of Montgomery recognize the threat that natural hazards pose to people and property within The Town of Montgomery; and

WHEREAS The Town of Montgomery has prepared a multi-hazard plan, hereby known as the Montgomery, Vermont Hazard Mitigation Plan 2025 in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS the Town of Montgomery, Vermont Hazard Mitigation Plan 2025 identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in The Town of Montgomery from the impacts of future hazards and disasters; and

WHEREAS adoption by The Town of Montgomery Selectboard demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Town of Montgomery, Vermont Hazard Mitigation Plan 2025.

NOW THEREFORE, BE IT RESOLVED BY THE TOWN OF MONTGOMERY SELECTBOARD, IN THE STATE OF VERMONT, THAT:

Section 1. In accordance with 24 VSA §872, The Town of Montgomery Selectboard adopts the Town of Montgomery, Vermont Hazard Mitigation Plan 2025. While content related to The Town of Montgomery may require revisions to meet the plan approval requirements, changes occurring after adoption will not require The Town of Montgomery Selectboard to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of ____ in favor and ____ against, and ____ abstaining, this _____ day of _____, 2025.

By: _____ (Signature)

_____ (print name)

APPENDIX B
Existing Conditions Modeling Summary
Source: Montgomery Flood Study 2024, FCNRCS and SLR Consulting, (pp16-17)

"Existing conditions results for all modeled events were examined to determine extent of flooding around buildings, roads, and bridges. Results were evaluated for the 50-year, 100-year, and 500-year flood events. Discussion of results focused on Montgomery Center, Montgomery Village, and other known problem areas.

For the 50-year flood, existing conditions modeling shows that floodwaters remain in the channel of the Trout River until the western half of River Street in Montgomery Center. The model shows 0.5 to 2 feet of water around houses along River Street and 0.5 to 3 feet around houses on North Main Street just west of River Street. In the Village, the model results show 0.5 feet of flood water around homes and businesses on the south side of Black Falls Brook for the 50-year flood, with 0.5 feet to 1 foot at the base of Brook Road to the north of Black Falls Brook. The lower portion of the Village sees overtopping of Comstock Bridge Road and Route 118 with 0.5 feet to 1 foot of water at the eastern intersection of the two roads, as shown on the 50-year.

The modeled 50-year flood also shows overtopping of Comstock Bridge Road just east of the covered bridge with 0.5 feet to 1 foot of water over the road and 0.5 feet to 3 feet of water around homes. In the vicinity of the Route 118 bridge over West Hill Brook, less than 0.5 feet of water is shown overtopping Route 118 over a 500-foot length of roadway with 0.5 to 2 feet of water around homes on West Hill Road. At Longley Bridge Road, 0.5 to 1.5 feet of floodwaters are shown overtopping the road west of the covered bridge. For the 100-year flood, existing conditions modeling shows that floodwaters remain mostly In the channel of the Trout River until River Street in Montgomery Center, with 0.5 to 2.5 feet of water around houses along River Street and 1 to 4 feet around houses on North Main Street just west of River Street. In the Village, less than 0.5 feet of water is shown around many homes and businesses on the south side of Black Falls Brook with 0.5 feet to 2 feet at the base of Brook Road to the north of Black Falls Brook.

In the lower Village, overtopping of Comstock Bridge Road and Route 118 with 0.5 feet to 2 feet of water at the eastern intersection of the two roads is shown in the 100-year flood model results. Overtopping is also seen at Comstock Bridge Road just east of the covered bridge with 0.5 feet to 1.5 feet of water over the road and 0.5 feet to 4 feet of water around homes. In the vicinity of the Route 118 bridge over West Hill Brook, 0.5 feet to 1 foot of water is shown overtopping Route 118 over a 450-foot length of roadway with 0.5 to 2 feet of water around homes on West Hill Road. At Longley Bridge Road, 0.5 to 2 feet of floodwaters are shown overtopping the road west of the covered bridge.

For the 500-year flood, existing conditions modeling shows that floodwaters remain in the channel of the Trout River until just upstream of the Montgomery Center for the Arts in Montgomery Center. Floodwaters exit the channel on both banks in this location and flow down North Main Street around homes and businesses, inundating most of the Center. Depth mapping from the model shows 1 to 3 feet around homes and businesses east of Mountain Road, 0.5 to 2 feet around businesses and homes in the eastern portion of the Center, with locally deeper water up to 4 feet around the houses closest to the river on River Street. The western portion of the Center has greater 100-year flood water depths of 1 to 6 feet around homes and businesses. The entire length of North Main Street within the Center is

overtopped by 0.5 to 4 feet of water. Homes and businesses on the southern side of the Trout River in the Center are also shown to be surrounded by 0.5 to 4 feet of water.

For the 500-year flood in the Village, the model results show 0.5 to 2 feet of floodwaters flow down Black Falls Road, Brook Road, Fuller Bridge Road, and On the Common. Homes and businesses throughout the Village are surrounded by 0.5 to 3 feet of water. At the eastern intersection of Comstock Bridge Road and Route 118, 0.5 to 3.5 feet of water overtop both roads. Route 118 is overtopped from the eastern intersection of Comstock Bridge Road for over half a mile to the western Route 118 bridge with a very short section at the base of Hill West Road being shown as dry. Comstock Bridge Road in vicinity of the covered bridge is shown to be overtopped by 1 to 2 feet of water, with 1 to 3 feet of water around homes, and locally higher up to 7 feet closest to the Route 118 bridge. Route 118 is overtopped in the vicinity of West Hill Brook with the entire stretch of Route 118 between bridges under 1 to 4 feet of water. Water is 1 to 3 feet deep around homes along West Hill Brook. Longley Bridge Road is overtopped by 1 to 3 feet of water west of the covered bridge."

APPENDIX C
Major Disaster Declarations (Source: FEMA.gov)

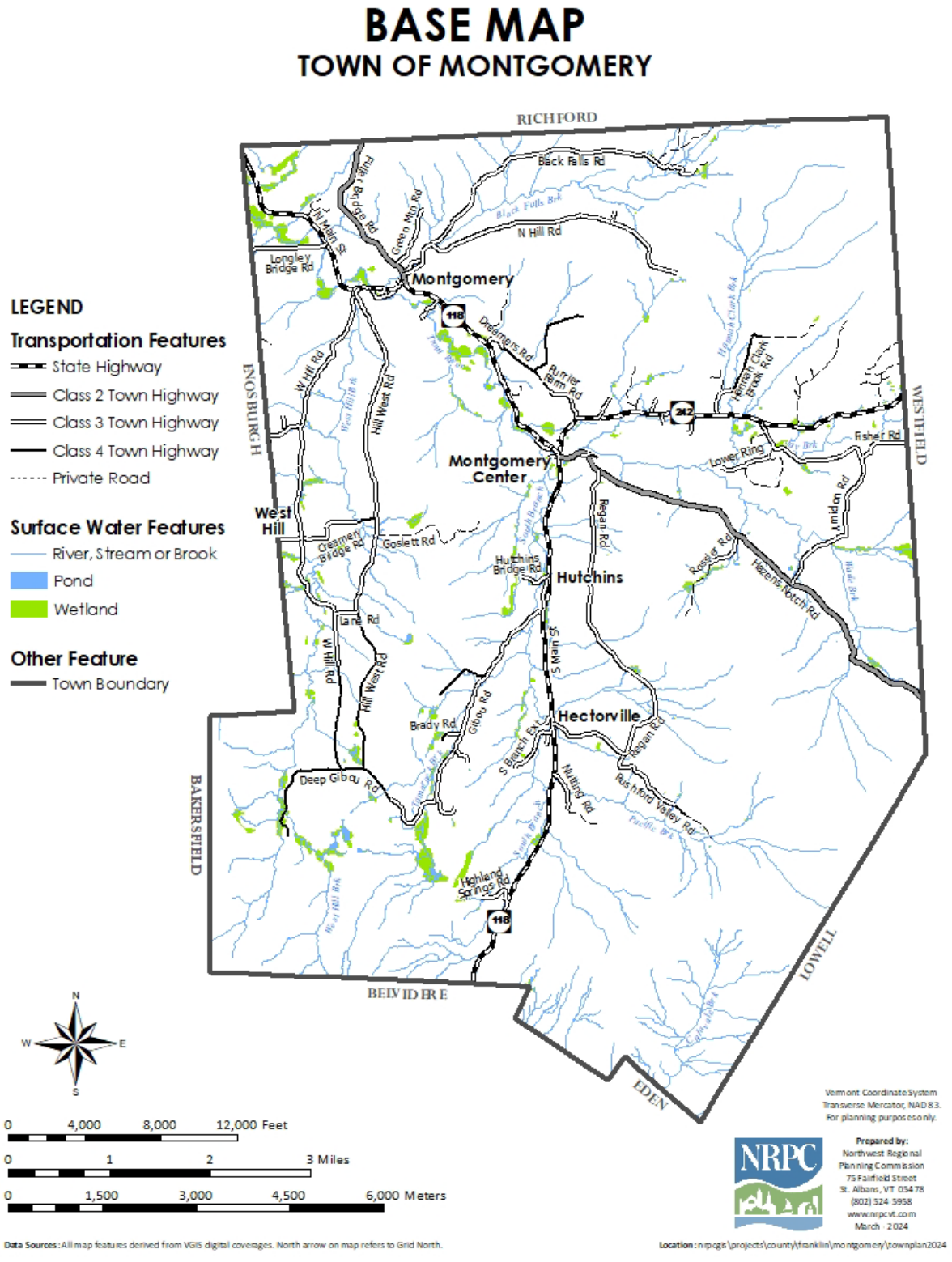
Disaster Date(s)	Declaration Date	Hazard (Disaster Declaration)	Franklin County Declaration? (Yes/No)
Aug 11 – 24, 2024	September 11, 2024	Severe Storms and Flooding (DR-4816)	No
Jul 29-31, 2024	September 26, 2024	Severe Storms, Flooding, Landslides and Mudslides (DR-4826)	No
July 9 – 11, 2024	August 20, 2025	Severe Storms, Flooding, Landslides, Mudslides (DR-3609, DR-4810)	No
Jan 9 – 13, 2024	April 19, 2024	Severe Winter Storm (DR-4770)	Yes
Dec 18 - 19, 2023	March 2, 2024	Severe Storms and Flooding (DR-4762)	No
Aug 3 – 5, 2023	October 6, 2023	Severe Storms and Flooding (DR-4744)	No
July 10 - 14. 2023	July 14, 2023	Severe Storms, Flooding Landslides, and Mudslides (4720)	Yes
July 10 - 14, 2023	July 10, 2023	Severe Storm and Flooding (DR-3595)	Yes
Dec 22-24, 2022	March 20, 2023	Severe Storms (Wind) and Flooding (DR-4695)	Yes
Jul 29-30. 2021	September 29, 2021	Severe Storm and Flooding (DR-4621)	No
January 20 – May 11, 2023	April 8, 2020	COVID-19 (DR-4532)	Yes
October 31 – November 1, 2019	January 17, 2020	Severe Storm (Wind) and Flooding (DR-4474)	Yes
April 15, 2019	April 15, 2019	Severe Storms and Flooding (DR-4445)	No
May 4 – 5, 2018	July 30, 2018	Severe Storm and Flooding (DR-4380)	Yes
October 29 - 30, 2017	January 2, 2018	Severe Storm and Flooding (DR-4356)	Yes
June 29 – July 1, 2017	August 16, 2017	Severe Storms and Flooding (DR-4330)	No
June 9, 2015	July 29, 2015	Severe Storm and Flooding (DR-4232)	No
December 9 – 12, 2014	February 3, 2015	Severe Winter Storm (DR-4207)	No
April 15 - 18, 2014	June 11, 2014	Severe Storm and Flooding (DR-4178)	Yes
December 20 - 26, 2013	January 29, 2014	Severe Winter Storm (DR-4163)	Yes
June 25 – July 11, 2013	August 2, 2013	Severe Storms and Flooding (DR-4140)	No
May 22 – 26, 2013	June 13, 2013	Severe Storms and Flooding (DR-4120)	No

May 29, 2012	June 22, 2012	Severe Storm, Tornado, and Flooding (DR-4066)	No
August 8, 2011	August 29, 2011	Tropical Storm Irene (DR-4022)	No
April 2011	June 15, 2011	Severe Storms and Flooding (DR-1995)	Yes
May 2011	November 8, 2011	Severe Storms and Flooding (DR-4043)	Yes
December 1, 2010	December 22, 2010	Severe Storms (Wind) (DR-1951)	Yes
December 11 – 18, 2008	January 14, 2009	Severe Winter Storm (DR-1816)	No
July 21 – August 12, 2008	September 12, 2008	Severe Storms and Flooding (DR-1790)	No
July 18, 2008	August 15, 2008	Severe Storms, a Tornado and Flooding (DR-1784)	Yes
June 14 - 17, 2008	June 14, 2008	Severe Storms and Flooding (DR-1778)	Yes
September 23, 2004	September 3, 2004	Severe Storms and Flooding (DR-1559)	Yes
June 5, 2002	June 15, 2002	Severe Storms and Flooding, Severe Wind (DR-1428)	No
June 17 – August 17, 1998	June 30, 1998	Severe Storms and Flooding, Rainfall (DR-1228)	Yes
January 6 - 16, 1998	January 15, 1998	Ice Storms (DR-1201)	Yes
July 14 - 17, 1997	July 25, 1997	Excessive Rainfall, High Winds and Flooding (DR-1184)	Yes
June 12 – 14, 1996	June 27, 1996	Flooding (DR-1124)	No
January 19 – February 2, 1996	February 13, 1996	Storms and Flooding (DR-1101)	Yes
August 4 – 6, 1995	August 16, 1995	Heavy Rain, Flooding (DR-1063)	No
April 24 - May 26, 1993	May 12, 1993	Heavy Rain, Snowmelt & Flooding (DR-990)	Yes
March 11, 1992	March 18, 1992	Flooding, Heavy Rain, Ice Jams (DR-938)	No
July 4 – 23, 1990	July 25, 1990	Flooding, Severe Storm (DR-875)	Yes
August 4 – 5, 1989	September 11, 1989	Severe Storms, Flooding (DR-840)	No
June 6 – 8, 1984	June 18, 1984	Severe Storms, Flooding (DR-712)	Yes
August 5, 1976	August 5, 1976	Severe Storms, High Winds & Flooding (DR-518)	Yes
June 28 - 30, 1973	July 6, 1973	Severe Storm, Flooding, & Landslides (DR-397)	Yes

APPENDIX D
Critical Facilities

Facility Name or Designation	Facility Owner	Function	Street or Location
Public Safety Building	Town of Montgomery	Emergency operations center	86 Mountain Road
Montgomery Water Reservoir	Town of Montgomery	Water system facility	S. Richford Road/Fuller Bridge Road
Montgomery Water Treatment Plant	Town of Montgomery	Water system facility	S. Richford Road/Fuller Bridge Road
Montgomery Water Pumping Station	Town of Montgomery	Water system facility	Route 58
Montgomery Water Pumping Station	Town of Montgomery	Water system facility	Montgomery Elementary School
Montgomery Water Reservoir	Town of Montgomery	Water system facility	Regan Road and Route 242
Montgomery Elementary School	Town of Montgomery	School/Library, Emergency Shelter, and Hazardous materials facility	249 School Drive
St. Isidore Church	Catholic	Religious facility/Emergency Shelter	Jay Mountain Road
State Garage	Vermont Agency of Transportation	Public works facility and Hazardous materials facility	Route 118
Sylvester's Grocery	Family owned	Community Supplier and Hazardous materials facility	Main St
Public Works Building / Garage	Town of Montgomery	Public works facility and Hazardous materials facility	1800 North Main St
Town Hall	Town of Montgomery	Government facility	Main St
Town Office Building	Town of Montgomery	Government offices	Route 118
United Methodist Church	Methodist	Religious facility	Route 118
US Postal Station	US Postal Service	Government office	18 Black Falls Road
US Post Office (Town Office)	US Postal Service	Government office	98 Main St. (Route 118)

Appendix E
Maps



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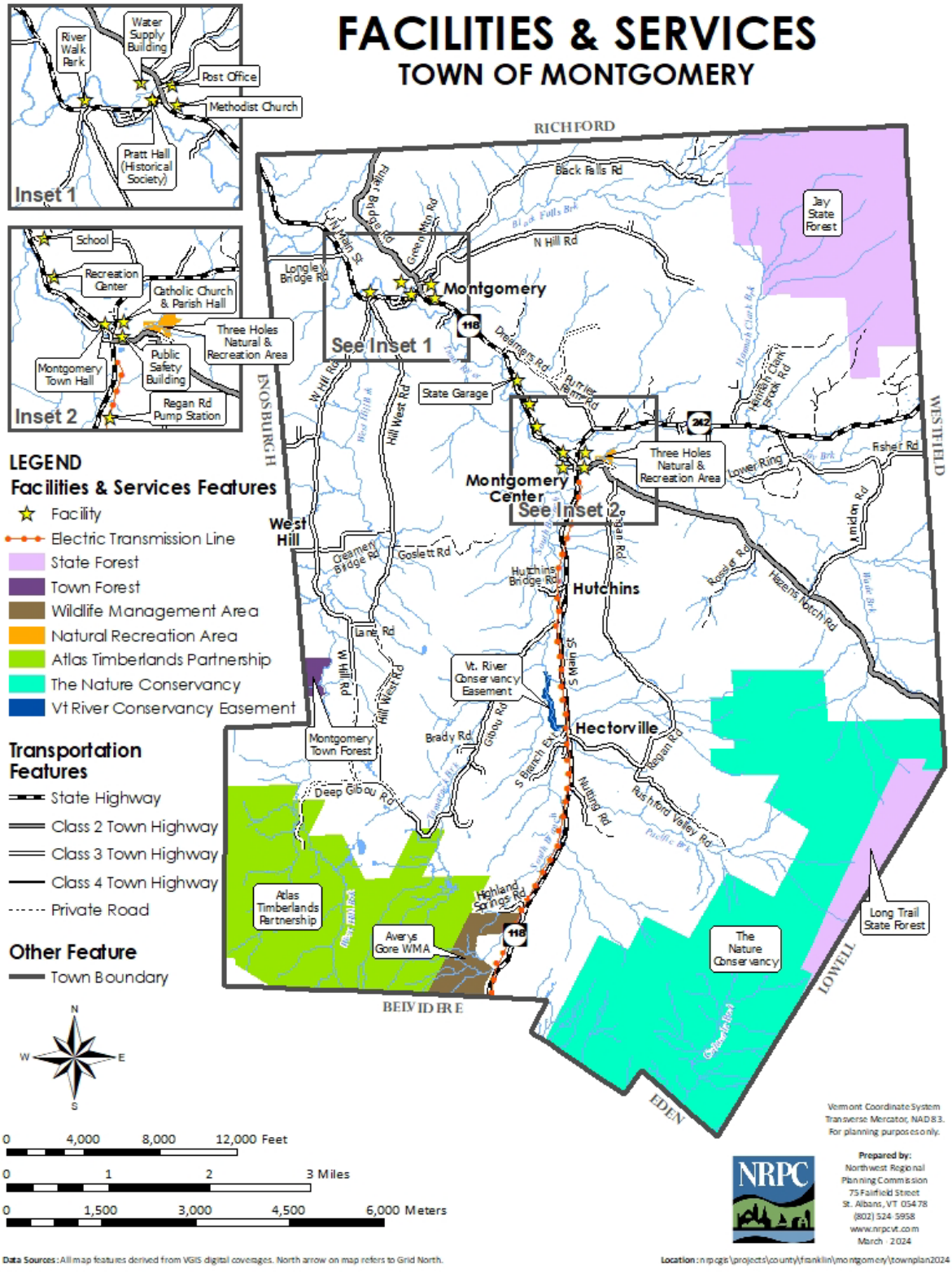

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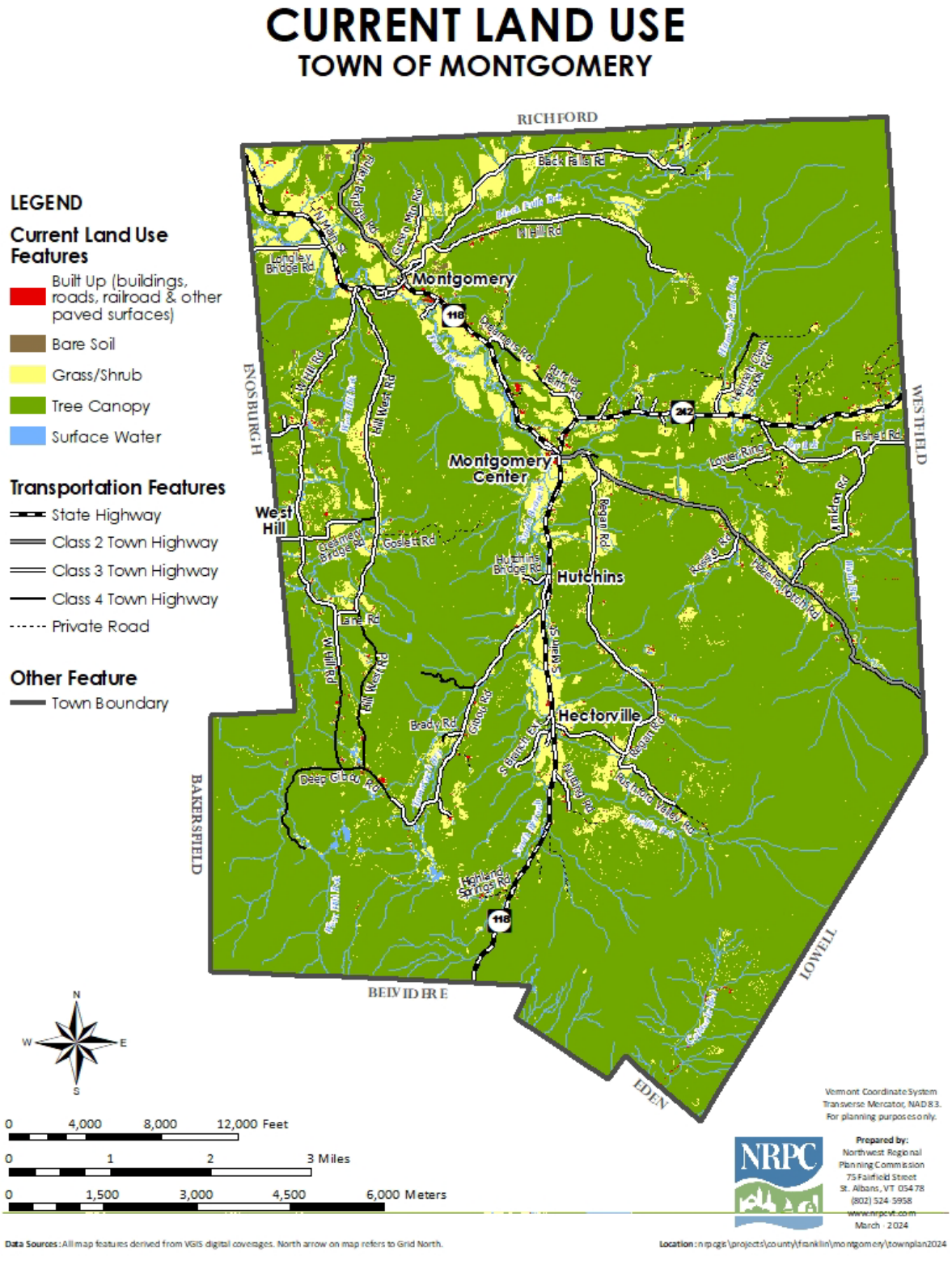

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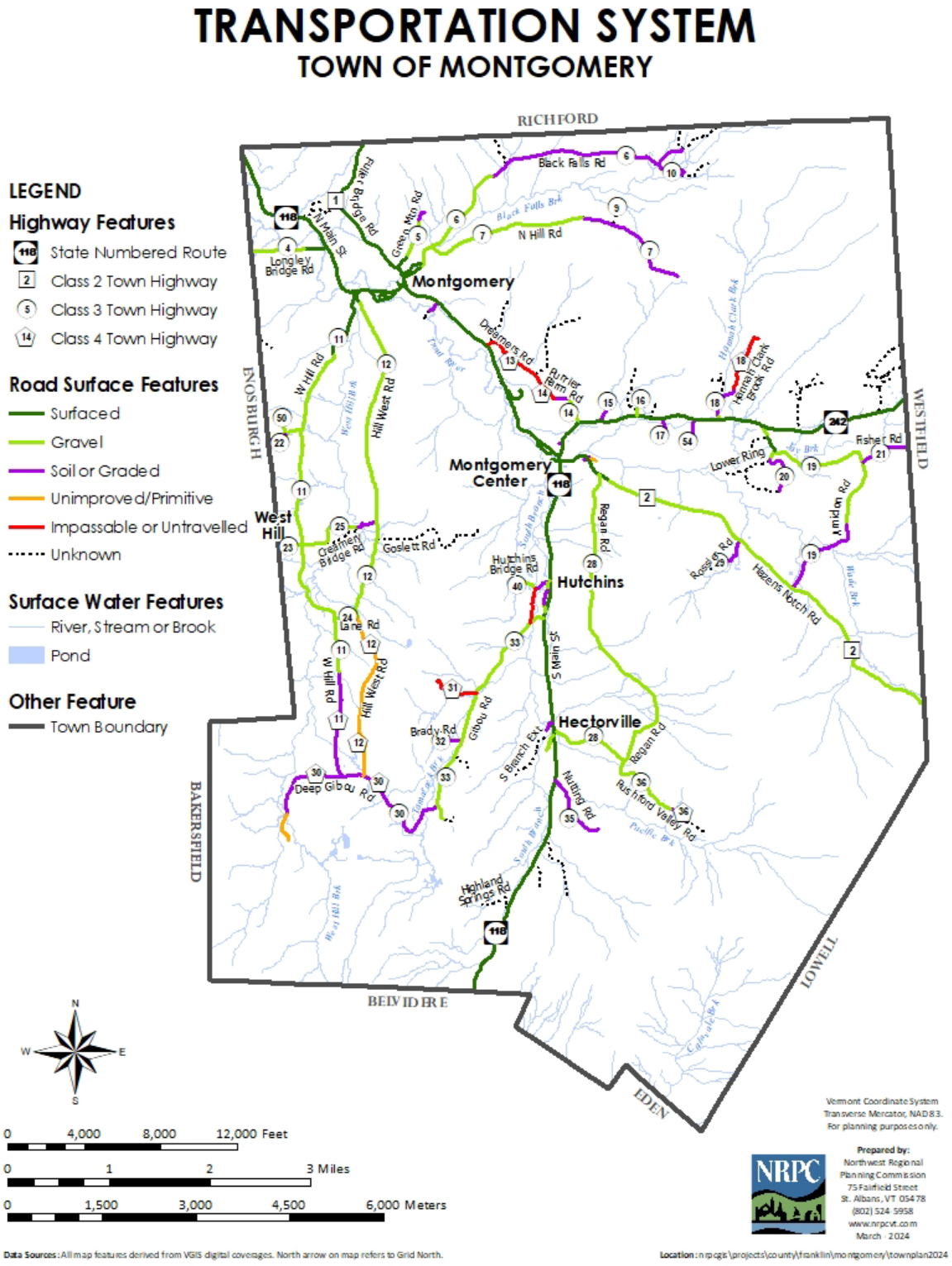
Maps



APPENDIX F
Stakeholder and Public Outreach Plan

LOCAL HAZARD MITIGATION PLAN – STAKEHOLDER AND PUBLIC OUTREACH PLAN

To meet FEMA requirements and to ensure public, neighboring community, local and regional agency input opportunities, the following communication methods are recommended.

Goals:

1. Inclusive Participation and collaboration – Ensure all relevant stakeholders and the public have opportunities to contribute including people with disabilities, access and functional needs. Foster collaboration among all stakeholders.
2. Informed Decision-Making – Provide necessary education and information regarding hazards and risks.
3. Community Buy-In – Foster community support and ownership by involving stakeholders and public from the start.
4. Transparency - Build trust through clear, transparent and consistent communication throughout the planning process
5. Effective Implementation = Gather input that is practical, sustainable and responsive to the needs of the community.
6. Compliance –Ensure federal, state and local requirements for public involvement in hazard mitigation planning are met.

Identifying Planning Team and Stakeholders

- Local Government Officials – Selectboard Chair, Selectboard members, public works director, first response agencies, health officer, finance, zoning administrator, planning, and regional planning commission, Health Department
- School representatives
- Local and regional entities that support people with disabilities, access, and functional needs (PDAFN) or vulnerable populations (vulnerability specific to hazard mitigation)
  - Hospital / medical care (Northwest Medical Center, Northern Tier Center for Community Health (NOTCH))
  - Visiting Nurses Association
  - Champlain Valley Office of Economic Opportunity
  - Mobile home properties
  - People living in flood zones
  - Turning Point of Franklin County
- Franklin County Natural Resource Conservation District
- Neighboring communities (Bakersfield, Belvidere, Eden, Enosburgh, Lowell, Richford, Westfield)

        - Public Safety Answering Point (PSAP) Dispatch Center (St. Albans City)
        - Fire Departments/Mutual Aid
        - EMS
        - Neighboring EMDs
        - Town Clerks
    - Businesses that support hazard mitigation / emergency response
        - ????Business and Community Association (EBCA)
        - Vermont Electric Co-operative
        - Northern Vermont Economic Development District
        - Franklin County Industrial Development
        - Franklin County Chamber of Commerce
    - Non-Profit organizations – Including community-based organizations that work directly with or provide support to people with disabilities or functional accesses needs or front-line communities – housing, health care, etc.
        - Food Shelf, Healthy Roots Collaborative, Champlain Valley Office of Economic Opportunity, Northern Tier Center for Health, Meals on Wheels)

Communication Methods and Implementation:

- Post meeting information (agenda, slides, zoom link, etc.) on municipal website
- Post meeting information (agenda, slides, zoom link, etc.) on municipal social media sites
- Post Online surveys / questionnaires on Montgomery Mitigation Project website
- Send email notifications (e.g., meeting dates, agenda, slides, etc.) to the entities listed below
- Post hard copies of meeting information (agenda, slides, etc.) in municipal buildings (town office, library, public safety building, general store)
- Post hard copy of meeting information (agenda, slides, etc.) including non-municipal buildings (e.g., post office, NOTCH, etc.)

Processing Feedback

Feedback opportunities included public meetings, public comment period, requests. online feedback via email link, phone, regular updates and follow-ups. Comments and feedback received were incorporated during the plan update.

Planning Team and Stakeholders		
Name	**Organization**	**Role**
Charlie Hancock	Selectboard Chair	Planning Team Lead (Community Lead POC)
Shaun Coleman	Northwest Regional Planning Commission	Planning Team Member (Project Leader)
Greg Lucas	Emergency Management Director	Planning Team Member (Community EMD)
Mark Brouillette	Public Works Director, Selectboard	Planning Team Member (Community PW Lead)
Doug Kopacz	Fire Chief	Planning Team Member (Fire Response Agency Chief)
Elizabeth Reighley	Town Clerk	Planning Team Member (Local official)

	Montgomery Business Association	Planning Team Member (Business community representative)
Scott Perry	Historical Society	Stakeholder (Historical and Cultural Resources)
	Vermont Electric Co-op	Planning Team Stakeholder (Electric Utility)
John Goss	Bakersfield Selectboard Chair	Stakeholder (Neighboring Community Official)
	Belvidere Town Clerk	Stakeholder (Neighboring Community Official)
Pierre LeTourneau	Enosburgh Town Selectboard Chair	Stakeholder (Neighboring Community Official, EMD)
Christy Pion	Lowell Town Clerk cpion@lowelltown.org/	Stakeholder (Neighboring Community Official)
Marissa Tessier	Richford Town Admin	Stakeholder (Neighboring Community Official, EMC)
Jacqueline Kelley	EP, Vermont Department of Health, St. Albans District	Stakeholder (Community Health Including Disabilities and Individuals with Functional Access Needs)
Reginald Beliveau, Jr.	Interim Chair, Franklin County Regional Emergency Management Committee	Stakeholder (County EM services and first responders)
Jess Graff	Director, Champlain Valley Office of Economic Opportunity	Stakeholder (People with Disabilities and Functional Access Needs)
Pastor John Gorton	Montgomery Food Shelf	Stakeholder (Food, Shelter)
Ashley Bartley	Visiting Nurses Association (*formerly Franklin County Home Health Agency)*	Stakeholder (Senior Healthcare, Hospice and Community Support Services)
Lauren Weston	Franklin County Natural Resources Conservation District	Stakeholder
Karen Heinlein-Grenier	Director Turning Point of Franklin County	Stakeholder (Recovery Support and Services)
Keith Ellery	Northwest Medical Center Emergency Ops Manager	Stakeholder (Regional Hospital)
Tim Snider	Montgomery Health Officer	Stakeholder

		(Community Health and Wellness)
Mary Niles	Montgomery Elementary School/N. Mtn. Valley School District	Stakeholder (Education)
Carl Watkins	Franklin County Regional Chamber of Commerce	Stakeholder (Local Businesses)
Tim Smith	Franklin County Industrial Development & Northern VT Economic Development District Office	Stakeholder (Economic Development and Industry)

Outreach Contacts	
Businesses	Franklin County Regional Chamber of Commerce Manager Carl Watkins 2 N Main St.#101 St. Albans, VT 05478 (802)524-2444
Community Action	Champlain Valley Office of Economic Opportunity (CVOEO) Director Jess Graff 5 Lemnah Dr., Suite 5 St. Albans, VT 05478 (802) 527-7392
Conservation District	Franklin County Natural Resources Conservation District USDA – NRCS Field Office Lauren Weston, District Manager 50 South Main St. Ste B-20 St. Albans, VT 05478 (802)489-8596
Daycare	Montgomery Elementary School Early Childhood Program 249 School Drive Montgomery Center, VT 05471 (802)326-4618
Economic Development and Industry	Franklin County Industrial Development Corp. Northern VT Economic Development District Tim Smith, Director, Board member 2 N Main Street St. Albans City, VT 05478 (802)524-2194
Food Shelf	Montgomery United Methodist Church Pastor John Gorton PO Box 184 20 Fuller Bridge Road Montgomery, VT 05470 (802)326-4651

Government Office Library Public Safety Bldg.	Montgomery Public Safety Building, Library PO Box 356 86 Mountain Road, Route 242 Montgomery Center, VT 05471 (802)326-4719
Government Office	Montgomery Town Hall (Grange) 57 Main St Montgomery Center, VT 05471 (802)326-4719
Government Offices	Montgomery Town Offices PO Box 356 86 Mountain Rd, Route 242 Montgomery Center, VT 05471 (802)326-4719
Government Office (neighboring)	Bakersfield Town Office 40 E Bakersfield Rd, Bakersfield, VT 05441 (802)827-4495
Government Office (neighboring)	Belvidere Town Office 3996 VT-109 Belvidere Center, VT 05442 (802)644-6621
Government Office (neighboring)	Eden Town Office 71 Old Schoolhouse Rd Eden, VT 05653 (802)635-2528
Government Office (neighboring)	Enosburgh Town Office 239 Main St. Enosburg Falls, VT 05450 (802)933-4421
Government Office (neighboring)	Lowell Town Office 2170 Vermont Rte 100 Lowell, VT 05847 (802)744-6559
Government Office (neighboring)	Richford Town Office 94 Main St. Richford, VT 05476 (802)848-7751
Historical	Montgomery Historical Society Pratt Hall 2044 N Main St. Montgomery, VT
Hospital	Northwest Medical Center Keith Ellery, Emergency Manager 133 Fairfield St. St. Albans, VT 05478

	(802)524-5911
Mobile Home Park	None
Municipal Public Works	Montgomery Town Garage 1800 N Main St (802)326-4418
Municipal Utility Department	Montgomery Center Water Treatment Facility PO Box 442 251 Fuller Bridge Rd Montgomery, VT 05470 (802)309-8574
Religious Facility	Montgomery United Methodist Church PO Box 184 20 Fuller Bridge Rd, Route 118 Montgomery, VT 05470 (802)893-3047
Religious Facility	St. Isidore Catholic Church 169 Mountain Road Montgomery Center, VT 05471 (802)848-7741
Residential Home Care	None
School	Montgomery Elementary School 249 School Drive Montgomery Center, VT 05471 w (802)326-4618
US Postal Service	US Post Office - Montgomery 1 Black Falls Rd Montgomery, VT 05470 (802)326-4433
US Postal Service	US Post Office – Montgomery Center 98 Main St Montgomery Center, VT 05471 (802)326-4246

Appendix G
Community Survey Flyer, Survey and Results

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Community Stakeholder Survey *
Town of Montgomery, Vermont
Local Hazard Mitigation Plan 2025

***Results in Red:** The Town of Montgomery utilized a survey to solicit public input on 1) potential natural hazard impacts and 2) mitigation strategies to reduce these impacts in the future. The survey was made available online as well as hard copy over the course of the planning process. The Town received 22 responses and a summary of the input received is provided below in red.

Hazard mitigation is an action that reduces the long-term impacts of Natural Hazards (e.g. ice, snow, wind, heat, cold, drought, flood inundation, fluvial erosion, earthquake, wildfire, invasive species, infectious disease outbreaks, and hail) on that community including people, buildings, environmental systems, and other infrastructure.

Your Name (optional):
Email address (if you would like to be contacted for follow-up information):

Town, Village or City of residence?:
Montgomery Center: 23%
Montgomery Village: 32%
Montgomery Town: 45%

Have you ever experienced a natural disaster? If so, what type and where?
Yes: 32% (Various locations and dates)
No: 1%
No answer: 67%

Is your home or business property located in a FEMA designated floodplain? (circle one)

- Yes: 14%
- No: 86%
- I don't know: 0%
- Yes, I have insurance through the National Flood Insurance Program: 14%

How concerned are you about the following hazard events?
(1=Most concerned 5=Least concerned. Write number next to hazard.)

Hazard	**Most Concerned**	**Very Concerned**	**Somewhat Concerned**	**A Little Concerned**	**Least Concerned**
Drought	0	0	4	9	9
Cold	0	5	0	10	7
Earthquake	0	0	1	3	18
Flood Inundation	3	5	12	2	0
Fluvial Erosion	2	4	10	3	3
Hail	0	0	1	0	21
Heat	0	0	2	15	5
Ice	0	1	8	11	2
Infectious Disease Outbreak	0	2	11	7	2
Invasive Species	0	2	6	14	0
Landslide	0	0	1	0	21
Snow	1	3	9	6	3
Wildfire	0	0	1	8	13
Wind	3	0	10	8	1

Is there another hazard not listed above that you think is a wide-scale threat to the community? If yes, please explain.
Please explain why you think these hazards pose the greatest risk to the community or you in particular? (i.e. wind due to power outages, winter storm because of road conditions, etc.)

- Extended electricity outages? Not sure if that is a hazard
- Crime - there is no community watch program - Law enforcement is minimal
- Drug addiction
- Climate Change

What do you think the community's disaster resiliency priorities are?
64% responded: Keep roads open and maintained and ensure power remains on are common themes.

Which types of mitigation projects do you believe local, state and federal government agencies should focus on to reduce disruptions of services and to strengthen the community?
(Circle all that apply)

- Retrofit and strengthen essential facilities such as the fire station, emergency medical services, schools, etc. (64%)
- Replace inadequate or vulnerable bridges and culverts (96%)

- Retrofit infrastructure by, for example, elevating roadways and improving drainage systems (77%)
- Work on improving the damage resistance of utilities (electricity, communications, water/wastewater facilities, etc.) (23%)
- Install or improve protective structures, such as floodwalls, levees or overflow facilities (5%)
- Buyout flood prone properties and maintain as open space (9%)
- Strengthen codes, ordinances and plans to require higher hazard risk management standards (0%)
- Inform property owners of ways they can mitigate damage to their property(s) (14%)
- Improve local emergency shelter facilities (10%)
- Other: Have the state fix the VT118 Bridge

How would you rate the importance of the following actions to protect yourself and your community:
(1= Most important 5= Least important)

% = Rated Most Important

Rating	Action
95%	Preventing Loss of Life
14%	Protecting private property
91%	Protecting Transportation Infrastructure
18%	Preventing business closure and loss
23%	Protecting natural environment
9%	Protecting historical/cultural landmarks
36%	Protecting and reducing damage to utility infrastructure (power/water/wastewater)
32%	Strengthening emergency services (police, fire, ambulance)

Where do you turn for information during an emergency? (circle all that apply)

- Cell phone: (82%)
- Front Porch Forum: (0%)
- Land Line Phone: (18%)
- Newspaper: (5%)
- Radio Station: (82%)
- Social Media (Instagram, Facebook/Meta, X (Twitter), other) (68%)
- Television (73%)
- VT Alert (5%)

VT-ALERT is used by the state and local responders to notify the public of emergency situations. Those include, but are not limited to, evacuation information; chemical spills; shelter-in-place alerts; severe weather advisories; boil water advisories, and roadway interruptions. Residents can tailor the alerts to specific locations, types of alerts and on which

devices they will be notified. For More Information on VT Alert, visit https://vem.vermont.gov/vtalert

What actions have you taken to reduce the risk to your residence of potential disasters?

(Circle all that apply)

- Developed a family plan: (9%)
- Have a 3-day supply kit: 46%
- Certified in First Aid and/or CPR: 27%
- Installed smoke detectors: 77%
- Installed carbon monoxide detectors: 59%
- Installed a generator and know the utility: 27%
- shutoff procedure
- Purchased fire extinguishers 68%
- Installed Floodproofing 5%
- Purchased flood insurance 5%
- Purchase homeowners/renter's insurance 82%
- Other: 0%

Thank You for your Input!

If you have questions or would like additional information, please contact **Shaun Coleman, Northwest Regional Planning Commission at** scoleman@nrpcvt.com or (802) 524-5958.