



MULTI-JURISDICTIONAL MULTI-HAZARD MITIGATION **PLAN** VILLAGE OF GOSHEN JURISDICTIONAL ANNEX



2025
ORANGE COUNTY

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Table of Contents

Village of Goshen Annex	1
Contact Information	1
Jurisdictional Profile	1
Population	1
Location	1
Brief History	2
Governing Body	2
Growth and Development Trends	2
Public Involvement	3
Public Involvement Process for Annual Reviews	4
Public Involvement in Five-Year Updates	4
Previous Plan Integration	5
Integration into Local Planning Mechanisms	5
Critical Facilities Information	6
Jurisdiction/Public Identified Vulnerabilities	8
Hazard Identification Specific to Jurisdiction	9
Hazard Risk Assessment	10
Probability of Future Events	11
Consequence	11
Maximum Probable Extent	12
Hazard Impact	13
Hazard Event History	16
Dam Failure	16
Drought	17
Earthquake	17
Extreme Temperatures	18
Floods	19
Ice Jams	22
Severe Thunderstorms	23
Severe Winter Storms	25

Wildfires	26
National Flood Insurance Program (NFIP) Summary.....	28
Capability Assessment	32
Planning and Regulatory Capability	32
Administrative and Technical	34
Financial	36
Education and Outreach.....	38
Opportunities to Expand and/or Improve Capabilities	39
Mitigation Strategy.....	39
Mitigation Goals	39
Prioritization of Mitigation Activities.....	40
Previous Mitigation Activities.....	41
2025 Proposed Mitigation Activities	42

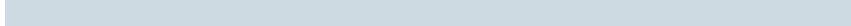
List of Figures

Figure 1: New York State Heat Projections by CIA Region	19
Figure 2: Rising Temperatures in the United States	27
Figure 3: Changing Precipitation in the United States Due to Climate Change.....	27
Figure 4: Mapped Flood Zones for the Village of Goshen.....	29

List of Tables

Table 1: Jurisdiction’s Points of Contact.....	1
Table 2: Previous Plan Integration for the Village of Goshen	5
Table 3: Future Types of Plans the Village of Goshen Can Use for Mitigation Actions.....	5
Table 4: Critical and Essential Facilities Located in the Village of Goshen.....	6
Table 5: Village of Goshen Identified Vulnerabilities	8
Table 6: Village of Goshen Hazards	10
Table 7: Hazard Rankings for the Village of Goshen.....	10
Table 8: Hazard Extent for the Village of Goshen.....	12
Table 9: Hazard Impacts for the Village of Goshen	13
Table 10: NFIP Floodplain Management Capabilities and Compliance.....	29
Table 11: Assessment of the Village of Goshen’s Planning Capabilities	33
Table 12: Assessment of the Village of Goshen’s Regulations and Ordinances Capabilities.....	33
Table 13: Assessment of the Village of Goshen’s Administrative Capabilities.....	34

Table 14: Assessment of the Village of Goshen’s Technical Capabilities 35
Table 15: Assessment of the Village of Goshen’s Financial Capabilities 36
Table 16: Assessment of the Village of Goshen’s Education and Outreach Capabilities 38
Table 17: Capabilities to Expand or Improve in the Village of Goshen..... 39
Table 18: Previous Mitigation Activities for the Village of Goshen 41
Table 19: 2025 Proposed Mitigation Activities for the Village of Goshen 42



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Village of Goshen Annex

This section presents the jurisdictional annex for the Village of Goshen. The jurisdiction’s governing body passed a formal resolution to participate in this multijurisdictional hazard mitigation plan (MJHMP) update. A copy of their resolution is maintained at the local government offices and the Orange County Emergency Services Center.

Contact Information

Table 1 provides contact information for the jurisdiction’s points of contact for this plan.

Table 1: Jurisdiction’s Points of Contact

Name	Title	Jurisdiction
Maria Darby	Village Clerk	Village of Goshen
Chief Ryan Rich	Police Chief	Village of Goshen
Sgt. Greg Kelemen	Police Sergeant	Village of Goshen
Bryan Morgiewicz	Interim Department of Public Works Superintendent	Village of Goshen
Kristen O’Donnell	Planner	Village of Goshen

Jurisdictional Profile

Population

The 2023 U.S. Census reported a population of 5,733 people or approximately 1,727 people per square mile. The population at the 2020 census was 5,777, indicating a decrease of 0.5%.¹

Location

The Village of Goshen is located in Orange County, approximately seventy (70) miles north of New York City. The village lies within the Town of Goshen, which is surrounded by the Town of Wallkill to the west, the Town of Chester to the southeast, and the Town of Hamptonburgh to the northeast. The village occupies 3.3 square miles located roughly in the center of the Town of Goshen. The village is, in many ways, the economic center of the town.

¹ United States Census Bureau. “QuickFacts: Goshen Village, New York.” <https://www.census.gov/quickfacts/fact/table/goshenvillagenewyork/PST045223>

Brief History

The Village of Goshen in the Town of Goshen, in Orange County, New York, lies in New York's scenic Hudson Valley. The village was settled in 1714 and incorporated in 1809. The Village of Goshen is renowned for its rich history, beautiful architecture, farmland, parks, and its robust downtown area's unique shops, restaurants, and businesses.

The Village (or the town, which are indistinguishable in old records) was the site of the hanging of the famous outlaw Claudius Smith, a British Loyalist who along with the Mohawk Indian Chief Joseph Brant raided the countryside surrounding Goshen during the American Revolutionary War. In the mid-1700s the Village was important in the development of harness racing. As early as the 1750s, residents used to race their horses along what is now Main Street in the village's downtown. In 1838, a circular track was built around a nearby circus ground; this track was the first incarnation of the Goshen Historic Track, where races are still held annually, making it the oldest harness horse racing facility still in use in the United States. The track was designated a historic landmark in 1966. Adjacent to the track is the Harness Racing Museum and Hall of Fame of the Trotter which collects and preserves the history of harness racing and serves as a hall of fame for the American Standardbred horse. These facilities, along with Goshen First Presbyterian Church anchor Goshen's Church Park National Historic District consisting of over 100 properties and objects dating as far back as 1750. The downtown business district is dotted with historic markers that allow visitors to take a step back in time and learn about the Village's robust history and appreciate its well-preserved cultural resources.

Governing Body

The Village of Goshen operates under the authority of a Board of Trustees. The Board of Trustees comprises the Mayor and four Trustees who manage village property and finances.

Growth and Development Trends

In terms of growth, the Village of Goshen has undergone several initiatives to improve its infrastructure and housing options. The Village Planning Board oversees subdivision, site plan, and permit approvals to ensure that development aligns with the community's needs and does not harm the surrounding areas.²

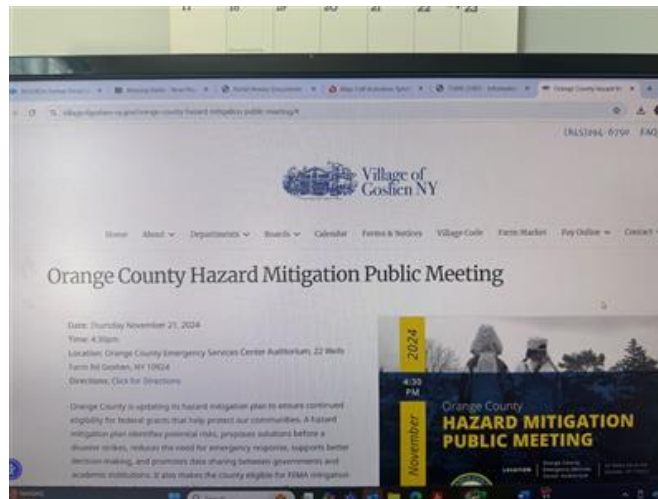
Recent notable developments include additional mixed use developments which will add both apartments and small-scale commercial uses within the downtown, and commercial and industrial projects on the village's periphery including the Kedem Winery bottling and distribution facility located off Route 17M. Overall, the Village of Goshen continues to experience gradual growth and development, focusing on maintaining its historical charm while accommodating new residential and commercial projects.

² Village of Goshen NY. "About Goshen." <https://www.villageofgoshen-ny.gov/>

Public Involvement

Continued public involvement is imperative for the overall implementation of the plan. The update process provides an opportunity to solicit participation from new and existing stakeholders, publicize mitigation success stories, and seek additional public comment. The maintenance and update process for the plan will include continued public and stakeholder involvement and input via attendance at designated committee meetings, web postings, press releases to local media, and public hearings.

Figure 1 shows how the public was encouraged to attend the public meeting at the Orange County Emergency Services Center on November 21, 2024, at 4:30 p.m., as well as the survey used to gather information from the community members within the Village of Goshen. The draft plan was posted on the jurisdiction's website for 30 days to allow the village to solicit feedback from the public through a user-friendly form or survey.



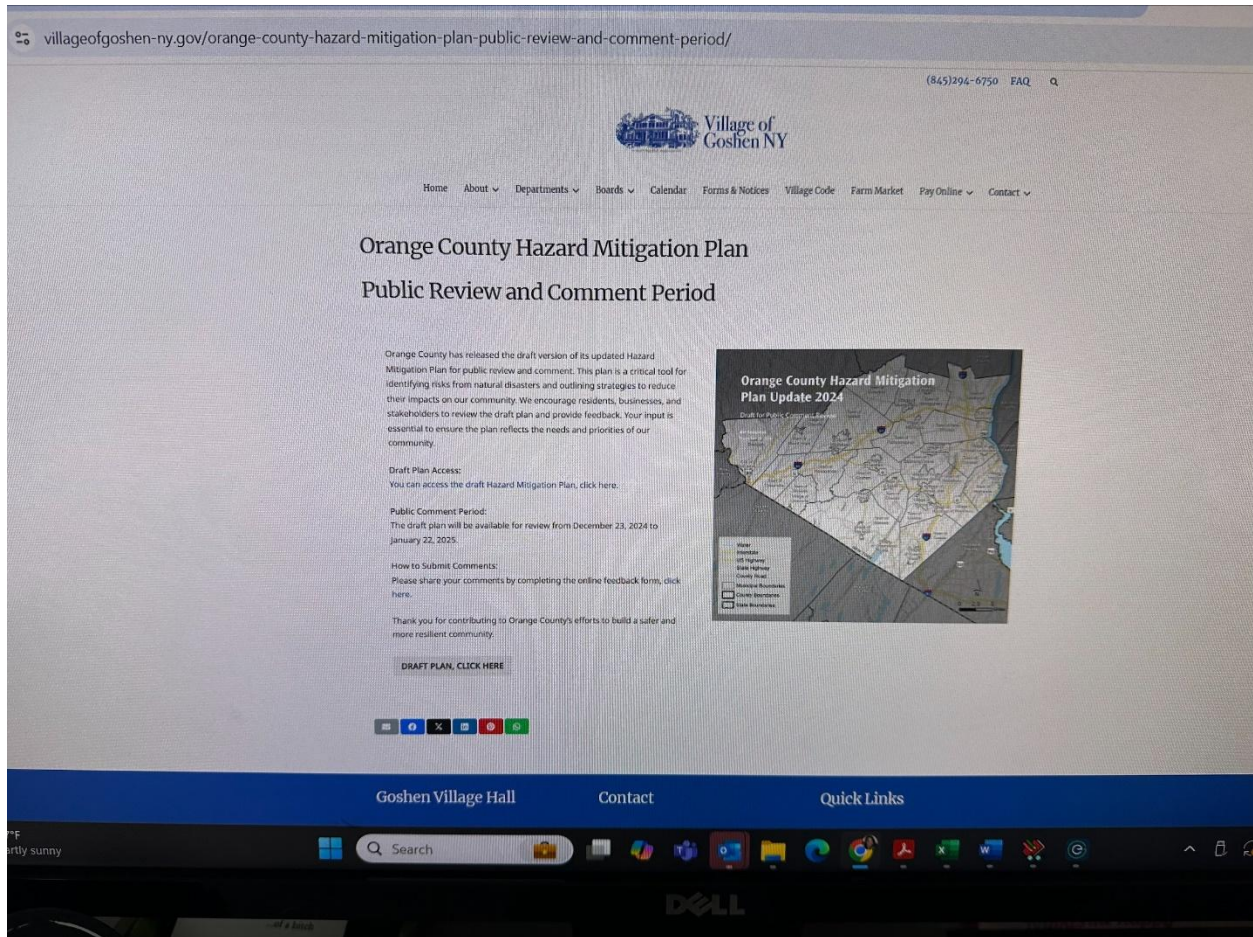


Figure 1: Village of Goshen Public Invitation Outreach

Public Involvement Process for Annual Reviews

The public will be notified via the village’s website or any other publicly accessible social platform (e.g., local newspaper, Facebook, Twitter) well before any public meetings or comment periods.

Public Involvement in Five-Year Updates

When the plan is due for a five-year update, the jurisdictions will coordinate with all stakeholders who are participating in the planning process. The jurisdiction will develop a plan for public involvement and will be responsible for disseminating information through various media channels to detail the plan update process. As part of this effort, public meetings will be held, and public comments will be solicited on the plan update draft.

Previous Plan Integration

Integration into Local Planning Mechanisms

Incorporating the underlying principles of the MJHMP and its recommendations into other plans is a highly effective and low-cost way to expand their influence. All plan participants will implement hazard mitigation actions through existing methods and programs, where possible. Mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and public service. This plan builds on the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through these existing program mechanisms, which include regulatory capabilities, administrative and technical capabilities, financial capabilities, and education and outreach capabilities.

Implementation and incorporation into existing planning mechanisms will be conducted by the respective planning stakeholders through routine actions, i.e., monitoring other planning/program agendas, attending other planning/program meetings, participating in other planning processes, and monitoring community budget meetings for other community program opportunities.

Successfully implementing this plan will require constant, vigilant review of the existing plans and programs to coordinate multi-objective opportunities that promote a safe, sustainable community. Regular efforts should be made to monitor mitigation action progress through other planning mechanisms. Where appropriate, priority actions should be incorporated into planning updates. The existing planning mechanisms in which the MJHMP has been integrated are listed in Table 2.

Table 2: Previous Plan Integration for the Village of Goshen

Type of Plan/Resource	Description
Comprehensive Plan	Comprehensive plan vision and goals, implementation actions, and potential zoning map changes.

The plan must also identify the local planning mechanisms where updated hazard mitigation information/actions may be integrated. The plan must describe each participant’s process for integrating information from the mitigation strategy into the identified planning mechanisms.

Table 3: Future Types of Plans the Village of Goshen Can Use for Mitigation Actions

Type of Plan	Integration Method
Comprehensive Plan	Comprehensive plan vision and goals, implementation actions, and potential zoning map changes.

Critical Facilities Information

Table 4 provides information on critical village facilities located within the floodplain. Identifying critical facilities in flood-prone areas is crucial for effective emergency planning and risk management.

Understanding the potential impact of flooding on these facilities allows local authorities to develop proactive strategies to mitigate risks and ensure these important assets' safety and functionality during flood events. This information is valuable for decision-making and resource prioritization for emergency response and preparedness efforts.

Table 4: Critical and Essential Facilities Located in the Village of Goshen

Facility Name	Facility Type	Address	Located in 1% or 0.2% Flood Event Chance Area?	Protected to a 0.2% chance flood event?	Associated Mitigation Action
Blaser Swisslube	Plant	31 Hatfield Ln, Goshen, NY 10924.	Yes	Yes	N/A
Bruen Park	Park	Green St, Goshen, NY 10924	Yes	No	Open Space
Church Park	Park	16 Main St, Goshen, NY 10924	No	N/A	N/A
Erie Street Park	Park	7 Erie St, Goshen, NY 10924	Yes	No	Open Space
Center for Stress Reduction	Medical clinic	3 Coates Dr, Goshen, NY 10924	Yes	No	VG-16 or VG 17
Planned Parenthood	Medical clinic	7 Coates Dr, Suite 4, Goshen, NY 10924	Yes	No	VG-16
Cataract Fire Co.	Emergency services	40 Green St, Goshen, NY 10924	Yes	No	VG-16 or VG 17
Dikeman Fire Co.	Emergency services	10 Dikeman Dr, Goshen, NY 10924	Yes	No	VG-16 or VG 17
Goshen Ambulance	Emergency services	15 New St, Goshen, NY 10924	Yes	No	VG-16 or VG 17

Facility Name	Facility Type	Address	Located in 1% or 0.2% Flood Event Chance Area?	Protected to a 0.2% chance flood event?	Associated Mitigation Action
Goshen Library	Public library	366 Main St, Goshen, NY 10924	No	N/A	N/A
Goshen Department of Public Works	Government building	70 N Church St, Goshen, NY 10924	Yes	No	VG-17
Goshen Post Office	Government building	20 Grand St, Goshen, NY 10924	Yes	No	VG-16 (Federal)
Goshen School Administration Building	Educational institution	227 Main St, Goshen, NY 10924	No	N/A	N/A
Goshen Town Hall	Government building	41 Webster Ave, Goshen, NY 10924	No	N/A	N/A
Minisink Fire Co.	Emergency services	99 N Church St, Goshen, NY 10924	No	N/A	N/A
Orange County Board of Elections	Government building	75 Webster Ave, Goshen, NY 10924	No	N/A	N/A
Orange County Department of Health**	Government building	124 Main St, Goshen, NY 10924	No	N/A	N/A
Orange County Historian	Government building	101 Main St, Goshen, NY 10924	No	N/A	N/A
Orange County Government Center	Government building	255 Main St, Goshen, NY 10924	Yes	No	VG-16 (County)
Orange County Legal Aid Society	Nonprofit organization	14 Scotchtown Ave, Goshen, NY 10924	Yes	No	VG-16
Orange County Water Authority	Utility service	124 W Main St, 3rd Floor,	No	N/A	N/A

Facility Name	Facility Type	Address	Located in 1% or 0.2% Flood Event Chance Area?	Protected to a 0.2% chance flood event?	Associated Mitigation Action
		Goshen, NY 10924			
Village Wastewater Treatment Plant	Wastewater Treatment Facility	Cypress Road Goshen, NY	Yes	No	VG-17
Surrogate Court	Government building	30 Park Pl, Goshen, NY 10924	No	N/A	N/A

Jurisdiction/Public Identified Vulnerabilities

Table 5: Village of Goshen Identified Vulnerabilities

Vulnerable Assets	What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?
People	
Aging population	<ul style="list-style-type: none"> In the Village of Goshen, 24.6% of the population is 65 or older, which makes them more vulnerable during extreme hazard events.
People with health issues	<ul style="list-style-type: none"> Extreme heat conditions, including stagnant atmospheric conditions and poor air quality, can induce heat-related illnesses. The higher the temperature and the more direct sunlight is present, the more ozone is produced. Ozone forms from other pollutants, such as volatile organic compounds (VOCs) and nitrogen oxides (NOx).
People with disabilities	<ul style="list-style-type: none"> In the Village of Goshen, 13.2% of the population under 65 years of age has some type of disability; ambulatory, independent living, and cognitive disabilities are the most common.
Non-English-speaking people	<ul style="list-style-type: none"> In the Village of Goshen, 17.9% of people speak a language other than English, presenting a possible communication barrier during evacuations and disasters.
Structures	
Residential structures	<ul style="list-style-type: none"> People walking below building ornamentation and chimneys may be struck by elements that fall due to earthquake damage. A structure located within a 100-year floodplain has a 26% chance of suffering flood damage during a 30-year mortgage term. Residential buildings account for a majority of the at-risk building stock and also comprise the majority of the total building inventory. Because

Vulnerable Assets	What makes this group/asset vulnerable during hazards? Have there ever been issues with recovery after an event?
	of differences in construction, residential structures are generally more susceptible to wind damage than commercial and industrial structures.
Critical facilities	<ul style="list-style-type: none"> • Critical facilities located in the floodway could be damaged during a major flood event, causing disruption and entailing recovery work. • Utility structures could be damaged by falling tree limbs or other debris.
Economic Assets	
Available housing	<ul style="list-style-type: none"> • The Village of Goshen has 203 vacant housing units. This is a limited amount of vacant housing, which can impede emergency relocation.
Financial vulnerabilities	<ul style="list-style-type: none"> • The high cost of fuel to heat residential homes can financially strain populations with low or fixed incomes (including the elderly population). Residents with low incomes may lack access to housing or their housing may be less able to withstand cold temperatures (e.g., by being poorly insulated or having insufficient heating).
Natural, Historic, and Cultural Resources	
Historical homes	<ul style="list-style-type: none"> • Multiple homes and buildings represent significant community assets.
Land use	<ul style="list-style-type: none"> • In total, 18% of the village is located in a high flood-risk area, and 1% is in a moderate flood-risk area.
Critical Facilities and Infrastructure	
Flood-prone assets	<ul style="list-style-type: none"> • Some identified critical infrastructure assets could affect the community greatly if an extreme flooding event damaged them.
Water consumption	<ul style="list-style-type: none"> • Drought conditions can cause water shortages for human consumption and reduce local firefighting capabilities.
Community Activities	
Village-sponsored recreational activities	<ul style="list-style-type: none"> • Multiple events reinforce community cohesion, including farmers markets, senior center activities, and summer camps. If a large disaster were to affect the community, these events could be canceled.
Are there any other assets that you can think to include?	
None	

Hazard Identification Specific to Jurisdiction

Orange County has a history of natural hazard events that have impacted the county. During the 2025 hazard mitigation plan (HMP) planning process, Orange County selected natural hazards that have impacted the county or could potentially impact the Village of Goshen. During this planning process, the Village of Goshen also identified 13 natural hazards that affect the municipality (see Table 6).

Table 6: Village of Goshen Hazards

Hazards of Prime Concern
Drought
Earthquakes
Extreme Temperatures
Floods
Hurricanes
Ice Jams
Landslides
Severe Thunderstorms
Tornadoes
Wildfire*
Winter Storms

* The Village of Goshen is adding wildfire as a potential hazard in this update.

Hazard Risk Assessment

After the hazards of concern were identified for the Village of Goshen, they were reviewed to analyze the probability of future events, consequences, and the maximum probable extent of events. This risk assessment helps stakeholders systematically identify which hazards are of the most concern for each jurisdiction. For further information about these hazards, as well as other identified hazards, please refer to the hazard profiles in the Orange County Plan for an in-depth review.

Table 7: Hazard Rankings for the Village of Goshen

Rank of Risk	Probability of Future Events	Consequence	Maximum Probable Extent
Drought	Medium	Medium	Medium
Earthquakes	Low	Medium	Minor
Extreme Temperatures	High	Medium	Medium
Floods	Very Low	Medium	Minor
Hurricanes	High	Medium	Medium
Ice Jams	High	High	Major
Landslides	Low	Medium	Minor
Severe Thunderstorms	Medium	Medium	Medium

Rank of Risk	Probability of Future Events	Consequence	Maximum Probable Extent
Tornadoes	High	Medium	Major
Wildfires	High	High	Major
Winter Storms	High	Medium	Major

The following terms are used to describe the probability of future occurrence, the hazard consequences, and the maximum probable extent of events.

Probability of Future Events

The probability of future events is derived from the likelihood categories of the 2022 county emergency preparedness assessment (CEPA). All jurisdictions reviewed Orange County's results. If they disagreed with the likelihood of future events, those results are presented in Table 7.

- **Very Low:** This event is not expected to occur within this county.
- **Low:** This event could occur within this county, but it is very unlikely within 50 years.
- **Medium:** This event could occur within this county in the next 20 years, but it does not happen regularly (natural/accidental hazards), or current intelligence does not indicate an imminent threat (terrorism).
- **High:** This event is likely to occur in this county within the next 5 years, based on historical precedence (natural/accidental hazards) or current intelligence reporting (terrorism threats).
- **Very High:** This event is expected to occur within this county in the next year, without question, according to historical precedence (natural/accidental hazards) or current intelligence (terrorism).

Consequence

The hazard consequence is derived from the 2022 CEPA. All jurisdictions reviewed Orange County's results and, if they disagreed with the category, those results are presented in Table 7.

- **Very Low:** This event would have virtually no impact on the people, responders, property, and economy of this county.
- **Low:** This event would have a minimal impact on the people, responders, property, and economy of this county; response could generally be achieved without mutual aid.
- **Medium:** This event would have a noticeable impact on the people, responders, property, and economy of this county; mutual aid would likely be needed from other counties and/or the state.
- **High:** This event would have a very significant impact on the people, responders, property, and economy of this county; significant mutual aid resources would be required from surrounding counties, the state, and the federal government.

- **Very High:** This event would have a devastating or, potentially, catastrophic impact on the people, responders, property, and economy of this county; all mutual aid networks (local, state, and federal) would be utilized immediately, and government functions would be compromised severely or wholly.

Maximum Probable Extent

The magnitude or strength of hazards was assessed with the extent scale in Table 8.

- **Minor:** Limited classification on a scientific scale, slow speed of onset, or short duration.
- **Medium:** Moderate classification on a scientific scale, moderate speed of onset, or moderate duration.
- **Major:** Severe classification on a scientific scale, fast or immediate onset, or long duration.

Table 8: Hazard Extent for the Village of Goshen

Hazard	Minor	Medium	Major
Drought	Presence-sensing device initiation (PSDI) -1.99 to 1.99+	PSDI -2.00 to -2.99	PSDI -3.00 to -5.00
Earthquakes	Mercalli scale: I–V; Richter scale: 0–4.8	Mercalli scale: VI–VII; Richter scale: 4.9–6.1	Mercalli scale: VIII–XII; Richter scale: 6.2–8.1+
Extreme temperatures	Heat index: 80°F–105°F Cold temperature: 40°F to 35°F Wind chill: 36°F to 17°F	Heat index: 105°F–129°F Cold temperature: 30°F to 15°F Wind chill: 25°F to -4°F	Heat index: > 130°F Cold temperature: 15°F to -20°F Wind chill: -7°F to -98°F
Floods	Outside of 100-year and 500-year flood zones, Zones A, AE, X	100-year flood zone, Zone X	500-year flood zone, Zone AE
Hurricanes and tropical storms	Saffir-Simpson hurricane wind scale, Categories 1–2	Saffir-Simpson hurricane wind scale, Category 3	Saffir-Simpson hurricane wind scale, Categories 4–5
Ice jams	Small localized buildup, short in durations	Moderate ice accumulation, covering more extensive sections of the river	Extensive ice buildup, often involving a large section of the river
Landslides	Small, localized movement of soil, rock, or debris	Moderate volumes of material moving downhill, potentially involving deeper soil layers and more significant sections of slope	Large-scale movement involving substantial volumes of rock, soil, and debris

Hazard	Minor	Medium	Major
Severe thunderstorms	Hail: H0–H4, 5–40mm; Wind force: 0–3; Knots: <1–10; Lightning activity levels (LAL): 1–2	Hail: H5–H6, 30–60mm; Wind force: 4–6; Knots: 11–27; LAL: 3–4	Hail: H7–H10, 50–>100mm; Wind force: 7–12; Knots: 28–64+; LAL: 5–6
Severe winter storms	Temperature: 40°F to 35°F Wind chill: 36°F to 17°F	Temperature: 34°F to 15°F; Wind chill: 25°F to -4°F	Temperature: 15°F to -20°F; Wind chill: 7°F to -98°F
Tornadoes	EF0	EF1–EF2	EF3–EF5
Wildfires	Keetch-Byram drought index (KBDI): 0–200	KBDI: 200–500	KBDI: 500–800

Hazard Impact

Table 9 presents a list of possible impacts for the Village of Goshen; however, given the variety of magnitudes, intensities, and land uses possible, predicting the precise impact a hazard could have on a community is difficult.

Table 9: Hazard Impacts for the Village of Goshen

Hazard	Impact
Earthquakes	<ul style="list-style-type: none"> • Injury or death • Property and infrastructure damage • Water contamination or loss from broken pipes • Transportation and communication disruption or damage • Increased traffic accidents • Building collapses • Natural gas leaks • Resident displacement • Power outages • Damage to the natural environment, including protected species and critical habitats
Drought	<ul style="list-style-type: none"> • Property damage • Water supply loss • Increased grassfire potential and intensity • Restricted water use and limited or lacking drinkable water • Restricted car washes, parks, and pools
Extreme temperatures	<ul style="list-style-type: none"> • Risk of heatstroke or hypothermia and death • Property damage • Water supply loss

Hazard	Impact
	<ul style="list-style-type: none"> • Increased grassfire potential and intensity • Logistical challenges • Power outages • Transportation infrastructure disruption • Disruption of critical infrastructure operations • Vehicle engine failure
<p>Floods</p>	<ul style="list-style-type: none"> • Electrical grid damage or loss • Water supply contamination or loss • Property losses • Structure and infrastructure damage due to flooding and erosion • Resident displacement • Fauna relocation and insect population increase • Fire due to the loss of water supply • Transportation disruption • Emergency response delays • Economic disruption • Damage to the natural environment, including protected species and critical habitats
<p>Hurricanes and tropical storms</p>	<ul style="list-style-type: none"> • Coastal flooding • Wind damage • Inland flooding • Power outages • Transportation disruption • Economic losses • Resident displacement • Water contamination • Erosion • Emergency response strain
<p>Ice jams</p>	<ul style="list-style-type: none"> • River flooding • Infrastructure damage • Transportation disruption and delays • Power outages • Erosion • Water contamination • Emergency response strain • Property damage • Economic losses
<p>Landslides</p>	<ul style="list-style-type: none"> • Property and infrastructure damage • Utility disruption • Transportation disruption and delays

Hazard	Impact
	<ul style="list-style-type: none"> • Economic losses • Soil erosion • Water contamination • Resident displacement • Emergency response strain
Severe thunderstorms	<ul style="list-style-type: none"> • Property damage to fences, vehicles, equipment, and roofs • Transportation delays • Injuries and deaths • Debris from trees and damaged property • Electrical grid disruption • Communication disruption due to downed phone and internet lines • Damage to the natural environment, including protected species and critical habitats
Severe winter storms	<ul style="list-style-type: none"> • Structural damage • Injury or death • Power outages • Transportation delays • Increased traffic accidents and traffic disruption • Heating loss • Stranded travelers and limited accommodation • Tree debris creates fuel load for fire hazard • Emergency response delays • Frozen or burst pipes resulting in water loss • Economic losses • Communication disruption
Tornadoes	<ul style="list-style-type: none"> • Injury or death • Power outages • Transportation disruption due to downed trees and power lines • Traffic redirection • Property and infrastructure damaged or loss • Natural gas pipeline breaks leading to fire, injury, or death • Transportation disruption • Resident displacement • Damage to the natural environment, including protected species and critical habitats
Wildfire	<ul style="list-style-type: none"> • Injury or death • Property and infrastructure damage or losses • Road closures • Traffic accidents • Electrical grid disruption or loss

Hazard	Impact
	<ul style="list-style-type: none"> Resident displacement Resource loss Damage to the natural environment, including protected species and critical habitats

Hazard Event History

The following information from the National Centers for Environmental Information records natural hazard events that occurred in the Village of Goshen between 2019 and 2024. The material is organized by location and date.

Table 11: Historical Events in the Village of Goshen since 2019

Location	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
Village of Goshen	7/22/2019	Thunderstorm wind	0	0	\$1,000	\$0
Village of Goshen	6/8/2021	Thunderstorm wind	0	0	\$1,000	\$0
Village of Goshen	9/1/2021	Flash flood	0	0	\$0	\$0
Village of Goshen	5/16/2022	Thunderstorm wind	0	0	\$2,000	\$0
Village of Goshen	7/3/2023	Thunderstorm wind	0	0	\$3,000	\$0
Village of Goshen	7/3/2023	Thunderstorm wind	0	0	\$3,000	\$0
Village of Goshen	7/3/2023	Thunderstorm wind	0	0	\$3,000	\$0

Dam Failure

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of dam failure that has explicitly impacted the Village of Goshen.

IMPACT OF CLIMATE CHANGE

Climate change could significantly increase the risk of dam failure in Orange County, New York, by intensifying weather patterns and stressing dam infrastructure. Increasing temperatures and altered

precipitation patterns contribute to more frequent and severe storms, heavy rainfall, and rapid snowmelt, which increase water flow and pressure on dams. This heightened stress can overwhelm dams that are not designed to manage such high volumes, potentially resulting in overtopping or structural damage. Furthermore, prolonged droughts followed by sudden, intense rainfall can weaken the soil and surrounding land, destabilizing dam foundations and increasing the likelihood of erosion and seepage.

Drought

Drought could significantly impact the production of agricultural areas within the Village of Goshen. To a lesser extent, an extended lack of precipitation would affect surface reservoir and groundwater well recharge; such assets provide the majority of the village's water supply. Within the Village of Goshen, the main surface water sources are the Prospect and Green Hill Reservoirs, which supply most of the village's water needs. The village supplements its water supply with groundwater wells. Drought would entail water restrictions, which could impact manufacturing output.

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of drought that has explicitly impacted the Village of Goshen; however, occurrences have been recorded in Orange County. This information can be found in the main body of this document.

IMPACT OF CLIMATE CHANGE

Climate change is anticipated to increase the frequency and intensity of droughts in New York State. Warmer temperatures will increase evaporation and reduce surface water levels, producing drier soil. In addition, precipitation variability may increase, resulting in more periods of extreme precipitation and more periods of little-to-no precipitation; the latter may spur a drought. Some studies project that late-summer, short-duration droughts will become more common due to climate change, although it has yet to meaningfully affect drought frequency in New York. Drought frequency in the Northeast overall has stayed relatively constant, decreasing only slightly. Models have shown that increasing temperatures have been counteracted by increasing humidity, resulting in negligible impacts on drought trends in the Northeast between 1980 and 2020. The extent to which increases in humidity are caused by global climate change versus more localized environmental effects is unclear.³

Earthquake

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of earthquakes that have explicitly impacted the Village of Goshen; however, occurrences have been recorded in Orange County. This information can be found in the main body of this document.

³ Mitigate NY. "New York State Hazard Mitigation Plan." 2023. <https://mitigateny.org/>

The Village of Goshen encompasses various soil types. A significant portion of the area belongs to the renowned Black Dirt Region. In addition to the Black Dirt areas, Goshen includes other soil classes, including loams and sandy loams.

IMPACT OF CLIMATE CHANGE

Earthquakes are unlikely to be affected by climate change. Their causes are largely unaffected by the atmospheric changes that climate change engenders. There are some indications that earthquakes became more frequent as glaciers melted thousands of years ago, and the increased frequency of earthquakes in Greenland may be tied to warming temperatures, but the links between these phenomena and anthropogenic climate change are uncertain at best and have not affected New York. Earthquakes are not discussed in local, regional, or national climate impact assessments, emphasizing that climate change is not expected to impact their frequency or intensity in the U.S.

Extreme Temperatures

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of extreme temperatures that have explicitly impacted the Village of Goshen; however, occurrences have been recorded in Orange County. This information can be found in the main body of the document.

IMPACT OF CLIMATE CHANGE

The Northeast is warming faster than many other U.S. regions. Extreme cold events will likely become less frequent because of this; they have already become milder. In much of North America, including the Northeast, extreme cold events have become less severe over time due to atmospheric warming. High-profile severe cold events have still occurred in recent years, but this is likely due to natural variability. Between 1900 and 2017, New York City has seen a distinct decline in cold days, which are defined as days when the minimum temperature is equal to or less than the 10th percentile of the daily minimum temperature of a given year. The climate change effects on the duration of individual cold waves are uncertain at this time.

Climate change will significantly increase the frequency, severity, and duration of extreme heat events, including multi-day events, in every region of the state, with an expected corresponding increase in impacts if the state does not adapt sufficiently. Statewide, New York is expected to see a five-fold increase in heat wave days by 2050. By that same year, various regions of New York State are projected to experience between 11 and 30 additional days above 90°F per year, compared to the 1981–2010 baseline. The number of extreme heat events (periods of three or more days above 90°F) per year in different regions is expected to increase from a baseline of zero to two per year (1981–2010) by an additional one to four extreme heat events per year by the 2050s.

In areas where heat events occur less frequently now, extreme heat impacts will occur more frequently and broadly by mid-century. For example, the Saint Lawrence Valley historically experiences one to two

extreme heat events per decade, but it is expected to observe two to three events per year by 2050. Due to this relatively rapid change in the frequency, severity, and duration of extreme heat events, New York State will experience new impacts, and existing impacts may be significantly exacerbated if no adaptive measures are taken. The New York State Energy Research and Development Authority's (NYSERDA) Climate Impacts Assessment (CIA) projects changes in heat-related extremes across 12 regions, described in Figure 2. The CIA provides projections for days over 90°F, days over 95°F, number of heat waves, average length of heat waves, maximum heat index, days the heat index is over 85°F, and days the heat index is over 95°F. For this hazard profile, days over 95°F, number of heat waves, and average length of heat waves were included as they align best with State Hazard Mitigation Plan (SHMP) data and definitions. For more information on the CIA's projections, including projections for every decade through the 2080s, see the NYS CIA. By the 2050s, various regions of New York State are projected to experience an additional five to 46 days above 90°F per year above their 1981–2010 baselines.

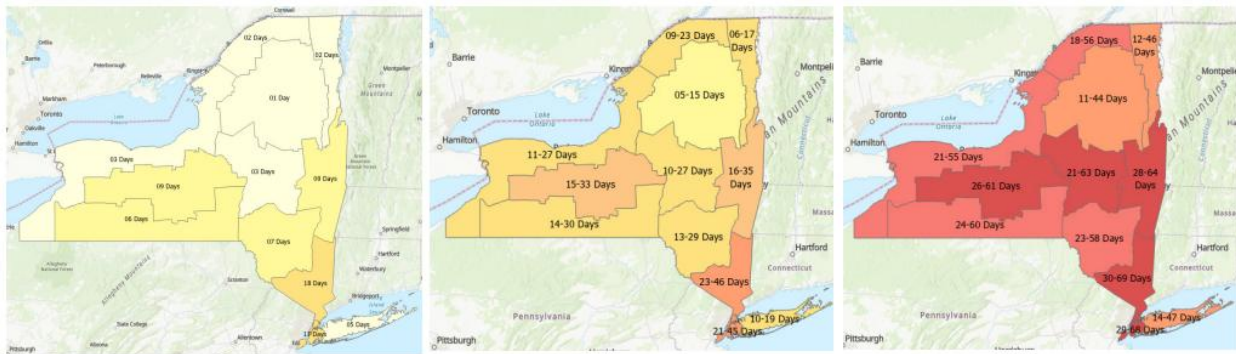


Figure 1: New York State Heat Projections by CIA Region

Left: The number of days above 90°F during the baseline period (1981–2010).

Middle: The additional days above 90°F by the 2050s, showing mid-range (25th–75th percentile) 30-year mean values from model-based outcomes.

Right: The additional days above 90°F by the 2080s, showing mid-range values.⁴

Floods

HISTORICAL OCCURRENCES

Orange County is ranked as the 5th most flood-vulnerable county in New York State due to its flooding history and based on potential flood exposure and vulnerability to loss. Since the last plan update, the Village of Goshen has experienced several significant severe weather events. Notable incidents include:

- July 9, 2023: A stalled frontal boundary remained over the area, producing multiple rounds of torrential rainfall from heavy thunderstorms from July 9 through July 10. Convective available

⁴ New York State Climate Impacts Assessment. "New York State Climate Impacts Assessment: Understanding and Preparing for Our Changing Climate." <https://nysclimateimpacts.org/>

potential energy values of 2500 to 3500 J/kg and precipitable water values of nearly 1.8 allowed heavy thunderstorm development to produce rainfall at rates of up to 2–3 inches per hour. Parts of the area received 3–5 inches of rain in a several-hour period, and some saw upwards of 8 inches in total. This allowed for the issuance of a localized Flash Flood Emergency for some of the Lower Hudson Valley.

- August 1, 2021: Extremely heavy rainfall associated with the remnants of Hurricane Ida overspread southeast New York on the evening of September 1 and continued through the early morning of September 2. Rainfall totals ranged from 5–8 inches across much of the region, with much of that falling in a few hours. The automated surface observing systems at Central Park recorded 7.19 inches of rain, including 3.15 inches in a single hour between approximately 9 and 10 pm. This resulted in widespread catastrophic flash flooding across New York City that necessitated extensive road and subway closures and numerous water rescues. Ultimately, 17 people died as a result of the flash flooding, including 13 in New York City and four in the Lower Hudson Valley.

IMPACT OF CLIMATE CHANGE

Climate change will increase the probability of extreme flood events. Given that projected climate change will affect the frequency and intensity of flood events, its impacts will likely change recurrence intervals as well. In one study focused on New York City, modeling showed that a 0.2% annual chance of flood in preindustrial times has a return period of roughly five years by 2045 due to climate change. Flood event magnitude is projected to change as well; for example, the study projected that a 0.2% annual chance of flood, which resulted in 11 feet of flooding above the mean tide level in 1970–2005, would cause 13–16.7 feet of flooding above the mean tide level by 2080–2100. Climate change will not only make extreme flooding events more common, but it will also make them more severe.

Climate change will primarily affect flooding in New York through changing precipitation patterns and sea-level rise. Climate change directly affects precipitation and, with it, flooding. Extreme precipitation events have become more common as temperatures increase due to warm air's increased capacity to hold water. Precipitation has increased across the Northeast in all seasons, and the heaviest precipitation events have increased by 60% since 1958, causing more frequent flood events. Precipitation is generally expected to become more frequent, intense, and longer in duration, and extreme precipitation events will also become more common. This will result in more flooding across New York. Meanwhile, sea levels are rising faster along New York's coast than the global mean in a phenomenon linked directly to climate change. Sea-level rise has significant implications for storm surge, high-tide flooding, and other coastal flood-related hazards.

The Intergovernmental Panel on Climate Change (IPCC) projects that short-duration, high-intensity rainfall, which causes flash flooding, is likely to increase in the northeastern U.S. due to climate change. However, localized increases in short-duration extreme rainfall may increase beyond what would be expected from temperature increases alone, possibly due to convective cloud feedback, which has uncertain links to climate change. The "flashiness" of flash floods, a metric for flooding speed and volume, may also increase due to climate change. In the Northeast, it is unclear whether the duration of flash flood events will change significantly, but both the volume and peak rates of rainfall are likely to increase. This means that flash flood events could drop more water in a shorter or unchanged amount of time—which

has potentially grave impacts on affected communities. More frequent and intense extreme rainfall events will increase the likelihood of urban flooding as already overburdened or insufficient drainage and infiltration systems are overwhelmed.

NYSDERDA's CIA projects changes in extreme precipitation events across 12 regions. The CIA provides projections for days with over 1 inch of precipitation, days with over 2 inches of precipitation, and days with over 4 inches of precipitation. The CIA also records data on changes in annual precipitation that are not included in this profile. For more information on the CIA's projections, including projections for every decade through the 2080s, see <https://nysclimateimpacts.org>.

Hurricanes/Tropical Storms

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of hurricane events that have explicitly impacted the Village of Goshen; however, occurrences have been recorded in Orange County. This information can be found in the main body of this document.

IMPACT OF CLIMATE CHANGE

Climate change will make hurricanes intensify more rapidly, cause heavier rainfall, and result in more severe storm surges. Hurricane intensity decay is also anticipated to continue slowing. Models suggest that although hurricane frequency will decrease, the proportion of Category 4 and 5 hurricanes will increase. However, this finding has mixed to low certainty. Some studies have suggested that, as the world warms, a greater percentage of tropical storms in the Atlantic will form closer to the coast than they have historically, resulting in more that make landfall, particularly along the East Coast. A more granular study reported similar findings and asserted that tropical cyclones may travel closer to Boston and Norfolk than to New York City. However, no scientific consensus on this finding has yet been reached, and most papers on potential climate-induced geographic shifts in tropical cyclones include significant caveats and low-confidence findings.

Hurricane intensity typically decays as the storm moves inland. This is because hurricanes gain intensity from ocean moisture. However, studies have shown that the decay in intensity has lessened proportionally with increased sea surface temperatures, meaning that hurricanes are maintaining more destructiveness as they move further inland compared to historic levels. Hurricanes have also slowed, resulting in more rainfall, wind damage, and other impacts, and trends since 1979 suggest that hurricane season in the North Atlantic is starting increasingly earlier in the year.⁵

⁵ Mitigate NY. "New York State Hazard Mitigation Plan." 2023. <https://mitigateny.org/>

Ice Jams

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of ice jams that have explicitly impacted the Village of Goshen; however, occurrences have been recorded within Orange County. This information can be found in the main body of this document.

IMPACT OF CLIMATE CHANGE

Ice jam impacts are more common in the vicinity of the Village of Goshen than in other portions of the county due to the major riverine systems that traverse the city's boundaries. Information about losses associated with reported ice jams was unavailable or limited. Future ice jams are likely to impact the Village of Goshen, given the village's location at the confluence of two large riverine systems.

Ice jam flooding may be uniquely affected by climate change compared to other flood types. Research on the impacts of climate change on ice jams is very limited and largely based outside of the U.S.; however, findings from these studies may be used to make broad inferences about climate effects on ice jams in New York State. Studies have shown that the duration of ice cover season is decreasing in the Northern Hemisphere, which includes New York, as temperatures rise. This trend is expected to continue, causing later freeze-ups and earlier breakups and further reducing ice cover season duration. In snowy regions, ice jam flooding is often closely preceded by snowmelt. Given that warmer temperatures are likely to cause earlier snowmelt, the timing of ice jam flooding may shift as well. Southeastern Canada, part of which borders New York, has already experienced ice jam flooding earlier in the year than is typical. However, anecdotal evidence from the northeastern U.S. indicates that ice jam flood frequency is declining as temperatures rise, cold snaps become less severe, and more frequent precipitation prevents ice formation. However, the resulting impacts on the severity of ice jam flooding are unclear. One study of Canadian ice jams hypothesized that, as winter snowmelt increases and ice thickness decreases due to warmer temperatures, mid-winter ice breakups could become more common, resulting in ice jam flooding. Mid-winter breakups often produce more damaging ice jam floods because they occur with little to no warning. Several other complex processes, both direct and indirect, affect ice jams and may be influenced by climate change.⁶

Landslides

HISTORICAL OCCURRENCES

Since the last plan update, there has been no record of landslides that have explicitly impacted the Village of Goshen.

⁶ Mitigate NY. "New York State Hazard Mitigation Plan." 2023. <https://mitigateny.org/>

IMPACT OF CLIMATE CHANGE

As of spring 2023, no research has shown a direct link between climate change and current or historic landslide events in New York State. However, the underlying conditions and causes of landslides, such as bedrock stability and heavy rain events, are influenced by climate-related trends such as temperature increases, sea level rise, and extreme precipitation events, and landslides may be affected by climate change in the future. Unseasonably warm days that cause rapid snowmelt or extreme precipitation events can overly saturate the ground. This, in turn, creates instability on steep slopes, which can cause landslides. Warming trends and increasingly frequent and intense extreme precipitation events will only continue to become more common due to climate change. As climate change continues, the equilibrium between landscape development and climate that New York has experienced since the end of the last Ice Age will change. Increased precipitation amounts and more frequent extreme precipitation events will produce a new equilibrium. This equilibrium adjustment will likely increase the incidence of landslide events. The locations of climate-influenced landslide events remain difficult to model. However, modern, detailed geological mapping at the quadrangle or county scales over a LiDAR terrain base map may be the best predictive tool to identify areas susceptible to landslide hazards.⁷

Severe Thunderstorms

HISTORICAL OCCURRENCES

Since the last plan update, the Village of Goshen has experienced several significant severe weather events, particularly in the summer of 2023. Notable incidents include:

- June 26, 2024: Showers and thunderstorms formed west of the area along a cold front and then moved east toward Goshen. The storms became severe and continued in a warm and moist environment, producing damaging winds across southeast NY.
- July 3, 2023: A severe thunderstorm swept through Goshen, prompting a state of emergency. The storm caused extensive damage, including downed trees and power lines, causing widespread power outages⁸.
- July 3, 2023: A slow-moving front and shortwave trough aloft approached from the west. Surface heating caused moderate instability and a severe thunderstorm developed and produced damaging wind gusts and large hail as it moved through southeastern NY.
- July 9–10, 2023: Devastating flooding occurred across southeastern New York, impacting areas including the Lower Hudson Valley and Orange County. This event caused significant disruptions and damage in the region.⁹

⁷ Mitigate NY. "New York State Hazard Mitigation Plan." 2023. <https://mitigateny.org/>

⁸ Welber, Bobby. "State of Emergency Declared after Storm Rips Roof Off Hudson Valley School." 3 Jul 2023. *Hudson Valley Post*. <https://hudsonvalleypost.com/chester-goshen-orange-countystate-of-emergency-declared-after-storm-rips-roof-off-hudson-valley-school/>

⁹ National Weather Service. "July-10, 2023 Devastating Flooding across Southeastern NY." <https://storymaps.arcgis.com/stories/821dddf2db7847ecad6b2424f206f0cd>

- June 30, 2023: A weather anomaly, possibly a tornado, struck Goshen during a heavy rainstorm. The event resulted in downed power lines, tree damage, and property damage.¹⁰
- May 16, 2022: In the upper levels, a negatively tilted trough approached from the west as associated surface low pressure formed and deepened as it passed to the north and west of the CWA. A strong cold front extending down from the surface low moved through the area, allowing severe thunderstorms to develop.
- June 8, 2021: A surface trough in a warm, humid air mass triggered severe thunderstorms across southeastern New York.
- July 22, 2019: A cold front stalled as a stationary boundary, triggering severe thunderstorms that impacted southeastern New York.

IMPACT OF CLIMATE CHANGE

Due to the strong possibility of tornado formation during severe thunderstorms, the New York State Hazard Mitigation Plan only considered the impact that climate change has on tornadoes, lightning, and hail.

CLIMATE CHANGE AND TORNADOES

Due to the strong possibility of tornadoes being formed during severe thunderstorms, the New York State Hazard Mitigation Plan only considered the potential climate change impact on tornadoes, hail, and lightning. The connection between climate change and tornadoes is unclear. Because tornadoes are short-term events, reliable historical data are lacking, and tornadoes are localized by nature, they are difficult to integrate into climate models to project the effects of climate change on them. However, a recent study used models to project that supercells—thunderstorms from which most tornadoes are produced—will become more frequent and intense, more common in late winter and early spring, potentially more likely to produce tornadoes, and somewhat more common in New York. The researchers hypothesized that this would make tornadoes increasingly frequent and intense. Changes in tornado duration due to climate change, if any, remain uncertain.

CLIMATE CHANGE AND LIGHTNING

Research on how climate change may affect lightning is limited. One model projected that the number of lightning strikes in the U.S. will increase by 12% for every degree increase in global average air temperatures. A more recent study in Europe projected that climate change would have location-specific impacts on lightning, with some areas experiencing more lightning strikes and some experiencing less, largely based on latitude. While projections of lightning intensity and duration changes remain limited, one study suggested that long-continuing-current lightning flashes—intense lightning flashes that are longer in duration and more likely to spark fires than other types of lightning—may become more common, although not significantly so in the Northeast. Ultimately, while specific impacts on lightning

¹⁰ Maple Avenue School. "Goshen. Tornado may have touched down in town." 5 Jul 2023. *The Chronicle*. <https://www.chroniclenewspaper.com/home/goshen-tornado-may-have-touched-down-in-town-FE2611205>

remain uncertain, lightning occurs more frequently at warmer temperatures, so some level of increased lightning with the projected climate change is reasonable to expect. As of early 2023, no evident change in lightning frequency or intensity in the U.S. has occurred. While there are increasing numbers of lightning-caused fires in the West, this is largely due to dry conditions, rather than changes in the frequency or intensity of lightning itself.

CLIMATE CHANGE AND HAIL

Climate change may make hailstones bigger and hailstorms more intense but less frequent in North America. This holds in the Northeast, where the overall number of hail days is projected to decrease, along with the number of small- and medium-sized hail events. Meanwhile, in the Northeast, models show that very large hailstones will become more common. Ultimately, although hail is projected to become less frequent but more severe, these models remain uncertain. The effects of climate change on the duration of hail events, if any, are also uncertain at this time.

Severe Winter Storms

HISTORICAL OCCURRENCES

Since the last plan update, there is no NOAA record of winter storms that have explicitly impacted the Village of Goshen; however, occurrences in the area have been recorded; these are highlighted below.

- In January 2022, a major snowstorm impacted the region, contributing to above-normal snowfall for the month. This event was part of a series of storms that dropped increased snowfall across various parts of New York State.
- On December 23, 2022, a powerful winter storm affected much of New York, including Goshen. The storm brought heavy snowfall and strong winds, resulting in hazardous travel conditions and significant snow accumulation.
- In February 2024, Goshen experienced a winter storm that produced a mix of snow and sleet, resulting in notable snow accumulation and challenging travel conditions.

IMPACT OF CLIMATE CHANGE

In the Northeast, while snow events may become less common and snow seasons may be shorter due to higher average temperatures, extreme snowstorms (including lake-effect snowstorms) may increase in frequency relative to historical levels. However, this trend may diminish toward the end of the century as warming continues. One study suggested that, while snowstorms will likely become less common due to atmospheric warming, when temperatures are low enough, they will produce more snow than they have historically. Climate-linked changes to snowstorm duration are unclear at this time. Many areas in the Northeast have seen record snowstorm events in recent years, and the relative increase in extreme snowstorm events over the past decades has been linked to climate change.

Tornadoes

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of tornadoes that have explicitly impacted the Village of Goshen; however, on June 30, 2023, a severe storm, potentially a tornado, struck Goshen, causing significant damage. The storm uprooted trees, downed power lines, and damaged property, including removing part of the roof of the old Chester High School on Maple Avenue. In response, the town declared a state of emergency.¹¹

IMPACT OF CLIMATE CHANGE

The connection between climate change and tornadoes is unclear. Because tornadoes are short-term events, reliable historical data are lacking, and tornadoes are localized by nature, it is difficult to integrate them into climate models to project the effects of climate change on them. However, a recent study used models to project that supercells—thunderstorms from which most tornadoes are produced—will become more frequent and intense, more common in the late winter and early spring, potentially more likely to produce tornadoes, and somewhat more common in New York. The researchers hypothesized that, because of this, tornadoes would become increasingly frequent and intense. Changes in tornado duration due to climate change, if any, remain uncertain.¹²

Wildfires

HISTORICAL OCCURRENCES

Since the last plan update, there is no record of wildfires that have explicitly impacted the Village of Goshen; however, occurrences have been recorded within Orange County. This information can be found in the main body of this document.

IMPACT OF CLIMATE CHANGE

Wildfires are directly impacted by climate change. Climate change will result in warmer temperatures and drought conditions, which create an environment that is ripe for fires, particularly in the western U.S.

¹¹ Maple Avenue School. "Goshen. Tornado may have touched down in town." 5 Jul 2023. *The Chronicle*. <https://www.chroniclenewspaper.com/home/goshen-tornado-may-have-touched-down-in-town-FE2611205>

¹² Mitigate NY. "New York State Hazard Mitigation Plan." 2024. https://mitigateny.org/hazards_of_concern/tornado/tornado_risk_profile

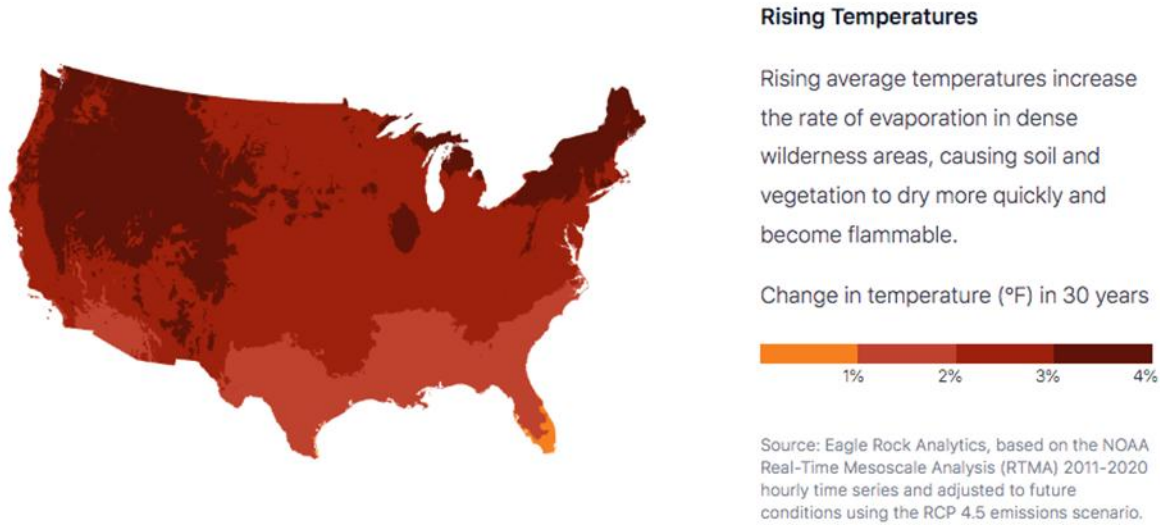


Figure 2: Rising Temperatures in the United States

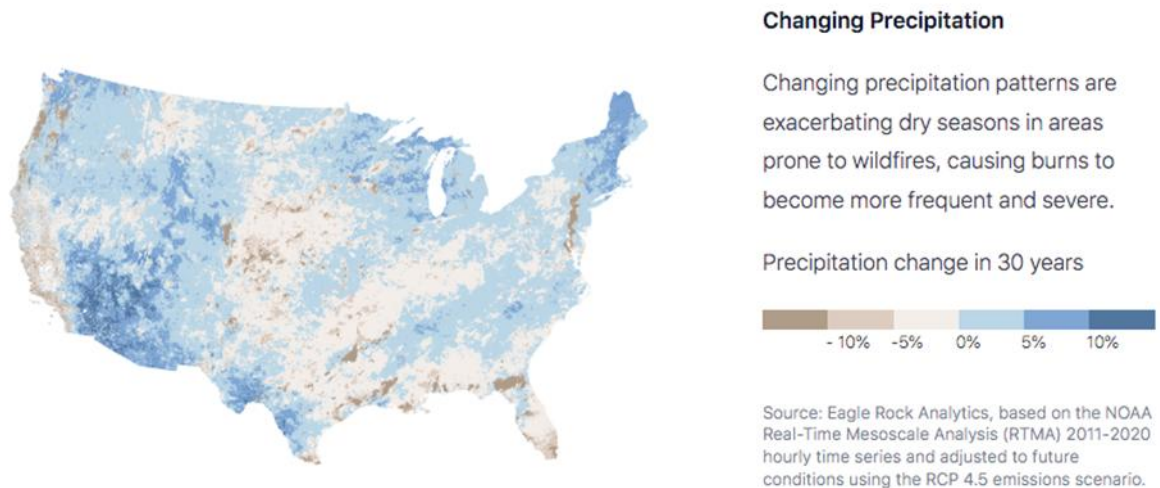


Figure 3: Changing Precipitation in the United States Due to Climate Change

Information on climate change impacts on wildfire frequency, intensity, duration, and location in New York State is currently limited. Generally, climate change is not expected to make wildfires a significant hazard of concern in New York. Although wildfire occurrence is projected to increase in New York, baseline occurrence levels are so low that this increase is not expected to have a meaningful effect. Changes in the duration and intensity of wildfires in New York due to climate change are currently unclear, although the start and peak of wildfire season may occur earlier in the year.¹³

¹³ Mitigate NY. "New York State Hazard Mitigation Plan." 2023. <https://mitigateny.org/>

National Flood Insurance Program (NFIP) Summary

The Village of Goshen has participated in the NFIP since 1977.¹⁴ Details of the NFIP policies within the Village of Goshen are presented in Table 10. The Village of Goshen has forty-four (44) current NFIP policies and has had fifty (50) flood insurance claims between 1978 and 2017.¹⁵ The total flood insurance in force is \$12,165,600. The village is in good standing with the NFIP and there are no outstanding compliance issues. Administration is provided through the Village Planning Board and Building Department. The mapped flood zones are illustrated in

Figure 4.

¹⁴ FEMA. "Community Status Book Report." <https://www.fema.gov/cis/NY.html>

¹⁵ Orange County Government. "National Flood Insurance Program." <https://www.orangecountygov.com/DocumentCenter/View/21890/OCHMP---Section-8-0>

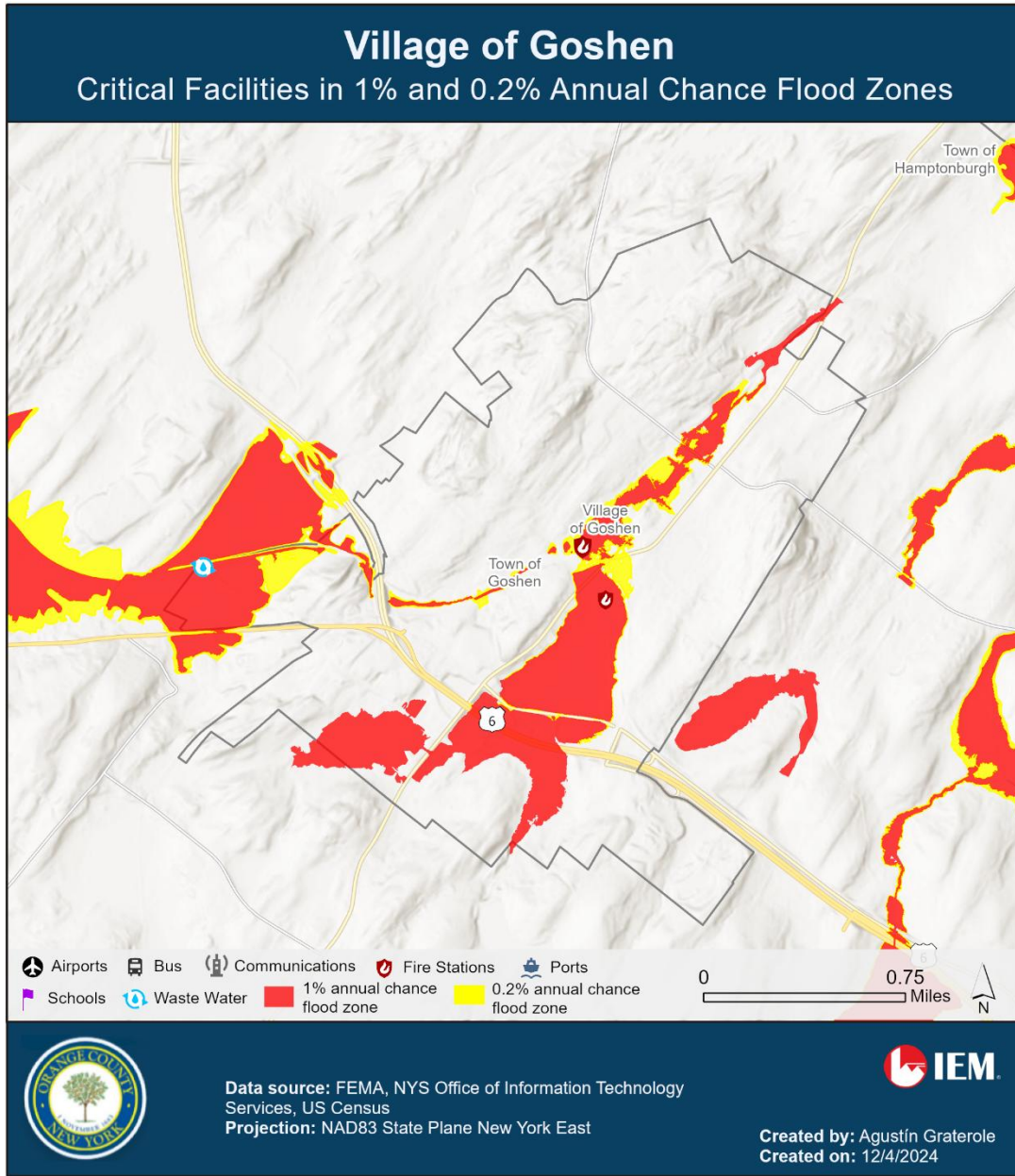


Figure 4: Mapped Flood Zones for the Village of Goshen

The Village of Goshen answered the NFIP questions in Table 10 to the best of their abilities.

Table 10: NFIP Floodplain Management Capabilities and Compliance

Floodplain Management	
Who is the floodplain manager? Is this their primary or secondary role?	Building Inspector, secondary

Floodplain Management	
Does the floodplain manager have adequate training and capacity for their role? If not, what else is needed?	No
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	Permitting
When was the community's most recent community assistance visit (CAV)?	Unknown
Were any violations noted on the community's most recent CAV?	Unknown
Is there an upcoming CAV? If not, is one needed?	Unknown
When was the most recent floodplain management ordinance adopted?	2009
Does your community participate in the community rating system (CRS)? If so, describe the steps the community has taken to achieve the CRS goals.	No
Does the community's floodplain management ordinance include any higher standards? If so, please list.	No
Who is responsible for permitting?	Building Inspector
How does the community issue development permits in the special flood hazard area?	Permitting
Does the community maintain elevation certificates?	Yes
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	No
How many repetitive loss (RL) structures does the community have? (List number and type of structure.)	4 residential
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure.)	0
Have any RL/SRL properties been mitigated since the last plan update?	0

Floodplain Management	
Who is responsible for making substantial damage/substantial improvement determinations?	Building Inspector
How does the substantial damage/substantial improvement process work in your community?	Damage is reported by residents; the village responds by sending Department of Public Works (DPW), Fire, Police, and Building Department staff to assess and resolve issues.
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	No
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	No
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	No
How will the community remain in compliance with the NFIP moving forward? (Simply stating "the community will continue to comply with the NFIP" will not meet FEMA's planning requirements.)	In addition to responding to updates in federal and state regulations regarding flooding, the village will monitor conditions such as the climate changes, update zoning accordingly, and increase community outreach to affected areas.

Floodplain Mapping	
How does the community support map change requests? This could be requested during the Risk MAP process or through letters of map amendment or revision.	Letters of map amendment
When did the latest flood insurance rate map (FIRM) become effective?	8/3/2009
When was the latest FIRM adopted?	2009
Is the FIRM and flood insurance study (FIS) report in an accessible location? How would the public get access to their flood map information?	On the FEMA website
Does the community use any Risk MAP products? If so, describe.	No
Does the community collect updated floodplain data or modeling? Is this shared with partners and with FEMA?	No

Floodplain Mapping	
Other comments?	No

Flood Insurance and Outreach	
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	The Building Department will speak with residents who come into the office to inquire about a property.
How does the community engage with insurance agents on flood insurance?	Individually
Does the community (or state) have flood hazard disclosure laws?	State has laws in place
How familiar is the public with their flood insurance options?	Unknown
How many properties have flood insurance in the community?	44
Are there any areas where flood insurance is lacking?	Unknown
Other comments?	No

Capability Assessment

Local mitigation capabilities are essential for reducing hazards’ impact on communities. Local authorities can mitigate hazards by leveraging existing authorities, policies, programs, and resources. These capabilities encompass various strategies, such as land-use planning, building codes and enforcement, public education and outreach, infrastructure protection, and natural resource protection. Through collaboration with various stakeholders, including emergency management agencies, public works departments, and environmental organizations, communities can implement comprehensive mitigation to minimize the impact of disasters. The Village of Goshen’s capabilities are presented in this section.

Planning and Regulatory Capability

The community was provided with a series of jurisdiction capability assessment forms to identify existing local mitigation capabilities in the Village of Goshen. These policies, programs, and resources can reduce hazard impacts and be used to implement hazard mitigation activities. Table 11 and Table 17 present the Village of Goshen’s planning and regulatory capabilities, such as the plans, policies, codes, and ordinances that prevent and reduce the impacts of hazards.

Table 11: Assessment of the Village of Goshen’s Planning Capabilities

Plans	Does the plan address hazards? (Y/N)	How can the plan be used to implement mitigation actions?	When was it last updated? When will it next be updated?
General plan	No	N/A	N/A
Capital improvement plan	N/A	N/A	N/A
Climate change adaptation plan	N/A	N/A	N/A
Community wildfire protection plan	N/A	N/A	N/A
Economic development plan	No	N/A	N/A
Land-use plan	No	N/A	N/A
Local emergency operations plan	N/A	N/A	N/A
Stormwater management plan	No, this plan addresses the requirements of the DEC MS4 program.	Proper review and implementation can be used to mitigate potential flooding.	Annually, next update in December 2024
Transportation plan	N/A	N/A	N/A
Substantial damage plan	No	N/A	N/A
Other? (describe)	No	N/A	N/A

Table 12: Assessment of the Village of Goshen’s Regulations and Ordinances Capabilities

Regulation/ Ordinance	Does this regulation/ordinance effectively reduce hazard impacts?	Is it adequately administered and enforced?	When was it last updated? When will it next be updated?
Building code	Yes	Yes	Per NYS Building Code.
Flood insurance rate maps	Yes	Yes	Per FEMA
Floodplain ordinance	Yes	Yes	Unknown
Subdivision ordinance	Yes	Yes	Unknown
Zoning ordinance	Yes	Yes	Unknown

Regulation/ Ordinance	Does this regulation/ordinance effectively reduce hazard impacts?	Is it adequately administered and enforced?	When was it last updated? When will it next be updated?
Natural hazard-specific ordinance (stormwater, steep slope, wildfire)	Yes, the village has regulations pertaining to both slopes and stormwater.	Yes	
Acquisition of land for open space and public recreation use	No	N/A	N/A
Prohibition of building in at-risk areas	Yes	Yes	N/A
Other? (describe)	No	N/A	N/A

Administrative and Technical

Administrative and technical capabilities include staff and their skills. They also include tools that can aid in performing mitigation actions.

Table 13: Assessment of the Village of Goshen’s Administrative Capabilities

Administrative Capability	In place? (Y/N)	Is staffing adequate?	Is staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Chief Building Official	Yes	Yes	Yes	Yes
Civil Engineer	Yes	Yes	Yes	Yes
Community Planner	Yes	Yes	Yes	Yes
Emergency Manager	No	N/A	N/A	N/A
Floodplain Administrator	Yes, Building Inspector	Yes	Yes	Yes
Geographic Information System (GIS) Coordinator	Through the Village Engineer	Yes	Yes	Yes
Planning Commission	Planning Board	Yes	No	Yes
Fire Safe Council	No	N/A	N/A	N/A

Administrative Capability	In place? (Y/N)	Is staffing adequate?	Is staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Community emergency response team (CERT)	No	N/A	N/A	N/A
Active voluntary agencies active in disasters (VOADs)	No	N/A	N/A	N/A
Other?	No	N/A	N/A	N/A

Table 14: Assessment of the Village of Goshen’s Technical Capabilities

Technical Capability	In place? (Y/N)	How has the capability been used to assess/mitigate risk in the past? (Answer or N/A)	How can the capability be used to assess/mitigate risk in the future?
Mitigation grant writing	Yes	Funding sources	Ongoing funding opportunities
Hazard data and information	No	N/A	N/A
GIS	Yes, through Village Engineer	Yes	Mapping and evaluation of potential at-risk properties during development plan review and Village infrastructure planning.
Mutual aid agreements	Yes	Mutual aid for firefighting and 911 dispatch with the county and surrounding municipalities.	Mutual aid for firefighting and 911 dispatch with the county and surrounding municipalities.
Other? (Please describe)	No	N/A	N/A

Financial

Financial capabilities include the resources to fund mitigation actions. Discussing funding and financial capabilities is important to determine which projects are financially feasible. Mitigation actions such as outreach programs have lower costs and often use staff time and existing budgets compared to actions such as earthquake retrofits, which could require substantial funding from local, state, and federal partners. Partnerships, including donations of land, supplies, cash, or in-kind matches, can be included.

Table 15: Assessment of the Village of Goshen’s Financial Capabilities

Funding Resource	In place? (Y/N)	Has this funding resource been used in the past and for what types of activities?	Could this resource be used to fund future mitigation actions?	Can this be used as the local cost match for a federal grant?
Capital improvement project funding	No	N/A	N/A	N/A
General funds	Yes	General funds are used to prepare plan documents.	Yes	Yes
Hazard mitigation grant program (HMGP/404)	No	N/A	N/A	N/A
Building resilient infrastructure & communities (BRIC)	No	N/A	N/A	N/A
Flood mitigation assistance (FMA)	No	N/A	N/A	N/A
Public assistance mitigation (PA mitigation/406)	No	N/A	N/A	N/A
Community development block grant (CDBG)	Yes	Water line replacement	Yes	Yes
Natural Resources Conservation Service (NRCS) programs	No	N/A	N/A	N/A
U.S. Army Corps of Engineers (USACE) programs	No	N/A	Yes	No

Funding Resource	In place? (Y/N)	Has this funding resource been used in the past and for what types of activities?	Could this resource be used to fund future mitigation actions?	Can this be used as the local cost match for a federal grant?
Property, sales, income, or special-purpose taxes	Yes	Property taxes make up the majority of the Village's General Fund.	Yes	Yes
Stormwater utility fee	No	No	Yes	Yes
Fees for water, sewer, gas, or electric services	Yes	Water and sewer usage fees are used for infrastructure maintenance and improvements.	Funds could be used to relocate village-owned utility infrastructure within potential hazard areas.	Yes
Impact fees from new development and redevelopment	Yes	Park land improvements	Could be used to mitigate village-owned park land within flood-prone areas.	Yes
General obligation or special-purpose bonds	No	No	Yes	Yes
Federal-funded programs	No	No	Yes	N/A
State-funded programs	SAM grants Electric Vehicle Charging Station Grant from DEC	PD improvements, EV Charging Station installation and downtown revitalization.	Yes	Yes
Private sector or nonprofit programs	No	N/A	N/A	N/A
Other?	No	N/A	N/A	N/A

Education and Outreach

Education and outreach capabilities are programs and methods that foster communication about risk reduction and encourage mitigation action. These programs may be run by a participant or community-based partner. Partners, especially those who work with underserved communities, can help identify additional education and outreach capabilities.

Table 16: Assessment of the Village of Goshen’s Education and Outreach Capabilities

Education and Outreach Capability	In place? (Y/N)	Does this resource currently incorporate hazard mitigation?	Notes
Community newsletter(s)	No	N/A	N/A
Hazard awareness campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, school programs)	No	N/A	N/A
Public meetings/events (please describe)	Yes	Yes	None
Emergency management listserv	Yes	Yes	None
Local news	Yes	Yes	None
Distributing hard copies of notices (e.g., public libraries, door-to-door outreach)	No	N/A	None
Insurance disclosures/outreach	No	N/A	None
Organizations that represent, advocate for, or interact with underserved and vulnerable communities (please describe)	Yes, Catholic Charities Goshen Food Pantry Access Support for Living.	No	None
Social media (please describe)	Yes, the village has a website, Facebook, and the GO Goshen app.	Yes	None
Other? (please describe)	No	N/A	None

Opportunities to Expand and/or Improve Capabilities

Actions that can expand and improve existing authorities, plans, policies, and resources for mitigation include budgeting and passing policies and procedures for mitigation actions, adopting and implementing stricter mitigation regulations, approving mitigation updates, and adding to existing plans as new needs are recognized.

Table 17: Capabilities to Expand or Improve in the Village of Goshen

Capability	Opportunity to Expand and/or Improve
Planning and regulatory	<ul style="list-style-type: none"> A potential project for one of the village’s parks would expand its recreational use. A flood mitigation plan would be included with those upgrades.
Administrative and technical	<ul style="list-style-type: none"> The village needs to hire a full-time Building Inspector. The village currently utilizes an engineering company for those services. Great effort has been applied to hire for this position.
Financial	<ul style="list-style-type: none"> The village will continue to pursue grant opportunities. The village has applied for FEMA grants in the past.
Education and outreach	<ul style="list-style-type: none"> The Village of Goshen is working to incorporate a tool that would alert residents through a phone call and/or voicemail message. The village currently has an app that can be downloaded through the Apple and Android stores.

Mitigation Strategy

Mitigation Goals

All jurisdictions in Orange County have elected to adopt the same goals.

- Promote disaster-resistant development.
- Build and support the local capacity to enable the public to prepare for, respond to, and recover from disasters.
- Reduce the possibility of damage and losses of government-owned assets, including buildings, infrastructure, and protected land.
- Reduce the possibility of damage and losses from all hazards of concern.
- Increase public safety and reduce flood risks by addressing vulnerabilities associated with high hazard potential dams.
- Target vulnerable populations with outreach strategies and inclusive communication methods.

Prioritization of Mitigation Activities

The social, technical, administrative, political, legal, economic, and environmental (STAPLEE) method is vital for hazard mitigation planning because it provides a structured, comprehensive approach to prioritizing actions based on feasibility, impact, and alignment with community goals. Examining social, technical, administrative, political, legal, economic, and environmental criteria via STAPLEE ensures that the chosen actions not only reduce hazard risks but are also practical to implement and sustain. This method emphasizes balancing costs and benefits to ensure that resources are allocated to the most impactful actions. Furthermore, STAPLEE promotes community support and stakeholder buy-in by prioritizing actions that reflect local values and have political backing. This holistic approach fosters more resilient communities as mitigation actions chosen through STAPLEE are better integrated into local frameworks and supported long-term. The STAPLEE method is a tool for prioritizing hazard mitigation actions based on seven key criteria to ensure that the selected actions maximize benefits relative to costs and align with community goals.

1. **Social:** Assesses public support and potential community impacts. Consider whether an action aligns with community values or disproportionately affects any one group.
2. **Technical:** Evaluates whether an action is technically feasible and effectively reduces future losses without creating new issues. This ensures that solutions address root causes rather than symptoms.
3. **Administrative:** Reviews available resources, staffing, and maintenance needs to determine whether the jurisdiction has the capacity to implement and sustain the action.
4. **Political:** Considers political and stakeholder support, including commitment from local leaders and champions, to ensure the action has a stable foundation for success.
5. **Legal:** Confirms the legal authority to act by checking whether current laws and regulations support it or if changes are necessary.
6. **Economic:** Weighs the action's costs against its financial benefits and impact on the local economy, favoring cost-effective solutions that fit within budget constraints.
7. **Environmental:** Considers the environmental impact of the action, ensuring that it aligns with sustainability goals and complies with federal laws, like the National Environmental Policy Act, especially when federal funding is involved.

Previous Mitigation Activities

Table 18: Previous Mitigation Activities for the Village of Goshen

#	Project Title	Responsible Agency	Potential Funding Source	Progress Since 2018
1	Culverts	Village Department of Public Works (DPW)	The New York State Department of Environmental Conservation (NYS DEC), community development block grant (CDBG), and the hazard mitigation grant program (HMGP)	Carry forward
2	Generator replacement 1 (Police Department)	Village DPW	CDBG, HMGP, and the Governor's Office of Storm Recovery (GOSR)	Carry forward and consolidate
3	Generator replacement 2 (DPW)	Village DPW	CDBG, HMGP, and the GOSR	Carry forward and consolidate
4	Generator replacement 3 (Senior Center)	Village DPW	CDBG, HMGP, and the GOSR	Carry forward and consolidate
5	Acquisition	Village Board	HMGP	Carry forward

2025 Proposed Mitigation Activities

Table 19: 2025 Proposed Mitigation Activities for the Village of Goshen

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
VG-1	Generator replacement	Install new emergency generators at Goshen Police Headquarters; the Goshen Department of Public Works (DPW) garage, where the generator is currently located within the flood zone; and Goshen Senior Center. The senior center is identified as an emergency shelter. <u>The addition of a generator is critical to not only to ensure emergency operations provided by police and public works are maintained during loss</u>	<u>All-Hazards Extreme temperature, floods, hurricane/tropical storms, severe thunderstorm, severe winter storms and tornados</u>	Village DPW	Community development block grant (CDBG)	\$200,000	2–5 Years	High

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
		<u>of power during a severe storm, winter or ice storm, extreme temperature, but would also allow the Senior Center to serve as an Emergency Shelter and Warming/Cooling Center and prevent any unnecessary transportation of emergency personnel and their equipment away during weather related emergencies such as a damaging tornado, hurricane, or flood.</u>						
VG-2	Culvert clean-out, culvert sizing correction, and/or culvert replacement	Streams within the village run underground through a series of culverts. The culverts and all stormwater infrastructure will be cleared of debris each spring to ensure the free flow of stormwater. The	Flooding	Village DPW	The New York State Department of Environmental Conservation (NYS DEC) and CDBG via the Orange County FEMA Hazard Mitigation	\$500,000	3-5 Years	Moderate

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
		village could evaluate the system to determine culverts that could be replaced with larger structures to handle a larger volume of stormwater and reduce overflows.			Grant (HMG) program			
VG-3	Acquire properties	Offer to purchase properties within the flood zone. This alternative is not being pursued as flooding, particularly which leads to property damage, occurs infrequently in the village, and many properties are within the village’s central business and/or historic district, comprising the village’s primary tax base and cultural center.	Flooding	Village Board	Flood Mitigation Assistance (FMA), building resilient infrastructure and communities (BRIC), and hazard mitigation assistance (HMA) grants	\$500,000	3–5 Years	Low
VG-4	Public awareness	Provide ongoing education to residents to mitigate against hazards that would	Drought, earthquakes, extreme temperatures,	Village Board	The FEMA HMG program	\$10,000	Annually	High

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
		<p>affect the community <u>such as (drought) permissible rainwater collection system information, (earthquakes) equipment and furniture mounting/ securing information, (extreme temperatures) home or business weatherization and locations of local cooling centers, (flooding) information on elevation of equipment/ infrastructure, (hurricane/ tropical storms) retrofitting for roofs, (landslides) erosion control for home and commercial properties and (wildfires) landscaping techniques intended to create defensible spaces.</u></p>	<p>floods, hurricanes/tropical storms, ice jams, landslides, severe thunderstorms, severe winter storms, tornadoes, wildfires</p>		<p>and local funds</p>			

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
VG-5	Dam Safety	Install and upgrade monitoring equipment for the dams located in the jurisdiction	Dam Failure	Village Board	HHPD FEMA, General Fund	\$150,000	1-3 years	High
VG-6	Water Conservation Ordinance	This ordinance would allow consumers to know when is best to conserve water during times of drought	Drought	Village Board	HMGP, General Funds	\$1,500	5-7 years	Medium
VG-7	Adopt new building codes to meet seismic standard	Adopting new codes to meet seismic standards allows for more robust infrastructure	Earthquake	Village Board	HMGP, General Funds	\$1,500	5-7 years	Medium
VG-8	Building Codes for Hurricane Standards	Adopting and implementing building codes for hurricanes and tropical storms during development of structures will ensure the safety of people and reduce the damages and losses due to hurricanes and tropical storms.	Hurricanes/Tropical Storms	Village Board	HMGP, General Funds	\$1,500	5-7 years	Medium
VG-9	Identify cooling and warming centers to have	During extreme heat and cold events, it is critical to identify	Extreme Temperatures	Village Board	HMGP, General Funds	\$40,000	5-7 years	Medium

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
	backup generation redundancy	location where residents can go to seek temporary housing. Having backup generation is critical.						
VG-10	Ice Jams Public Awareness Campaign	Raise awareness about ice jam dangers near rivers and streams by providing real-time alerts, historical risk mapping, and safety guidelines for residents living in affected areas	Ice Jams	Village Board	HMGP, General Funds	\$500	1-3 years	High
VG-11	Tornadoes Public Awareness Campaign	Increase public understanding of tornado warnings and shelter locations through drills, alert system promotion, and home safety guides	Tornadoes	Village Board	HMGP, General Funds	\$500	1-3 years	High
VG-12	Severe Thunderstorms Public Awareness Campaign	Deliver timely education on severe thunderstorm safety, including lightning precautions, sheltering tips, and awareness of	Severe Thunderstorms	Village Board	HMGP, General Funds	\$500	1-3 years	High

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
		related hazards like flash flooding and high winds.						
VG-13	Wildfire Public Awareness Campaign	Promote wildfire awareness and preparedness by educating residents on defensible space, evacuation procedures, and fire-safe landscaping practices.	Wildfire	Village Board	HMGP, General Funds	\$500	1-3 years	High
VG-14	Severe Winter Storms Public Awareness Campaign	Launch a seasonal outreach campaign highlighting winter storm readiness, including vehicle safety, home heating precautions, and maintaining emergency supplies.	Winter Weather	Village Board	HMGP, General Funds	\$500	1-3 years	High
VG-15	Slope Study and associated management and stabilization mitigations	Commission a study to evaluate locations of steep slopes and possible landslides with recommendations to enable the public to prepare for and	Landslide	Village Board	HMGP, General Funds	\$10,000	1-3 Years	Medium

#	Project Title	Description	Hazard Addressed	Responsible Agency	Potential Funding Source	Cost Estimate	Timeframe	Priority
		respond to this possible hazard.						