

5.2 Identification of Hazards of Concern

To provide a strong foundation for the mitigation actions presented in Sections 6 and 9 of this Hazard Mitigation Plan (HMP), Allegany County focused on considering a full range of hazards that could impact the area, and then identified and ranked those hazards that presented the greatest concern. The hazard of concern identification process involved gathering input from the County and participating jurisdictions; reviewing the New York State Hazard Mitigation Plan (NYS HMP); researching and collecting local, state, and federal information on the frequency, magnitude, and costs associated with the various hazards that have previously, or could feasibly, impact the region; and assessing qualitative or anecdotal information regarding natural hazards and the perceived vulnerability of the region’s assets. Table 5.2-1 documents the process of identifying the hazards of concern for further profiling and evaluation.

Hazards of Concern are those hazards that are considered most likely to impact a community. These are identified using available data and local knowledge.

For the purposes of this planning effort, the Planning Partnership chose to group some hazards together based on the similarity of hazard events, their typical concurrence, and their impacts. The Planning Partnership also considered hazard groupings determined in Federal Emergency Management Agency (FEMA) guidance documents (FEMA 386-2, “Understanding Your Risks, Identifying Hazards and Estimating Losses;” FEMA’s “Multi-Hazard Identification and Risk Assessment – The Cornerstone of the National Mitigation Strategy;” and FEMA’s Local Mitigation Planning Handbook), and the NYS HMP.

The Severe Storm hazard includes windstorms that often entail a variety of other influencing weather conditions, including hailstorms, windstorms, lightning, thunderstorms, tornadoes, and hurricanes.

The Flood hazard includes riverine flooding, flash flooding, and ice jams. Inclusion of the various forms of flooding under a general flood hazard is consistent with that used in FEMA’s “Multi-Hazard Identification and Risk Assessment” guidance.

The Severe Winter Storm hazard includes heavy snow (snowstorms), blizzards, sleet, freezing rain, and ice storms. This grouping is consistent with that used in the NYS HMP.

The Hazardous Materials hazard includes releases of hazardous materials from fixed facilities and in-transit vehicles, including automotive/truck, rail, waterway, and pipeline.

Table 5.2-1. Identification of Hazards of Concern for Allegany County

| Hazard | Is this a hazard that may occur in Allegany County? | If yes, does this hazard pose a significant threat to the County? | Why was this determination made? | Source(s) |
|--|---|---|--|--|
| Avalanche | No | No | <ul style="list-style-type: none"> The topography and climate of Allegany County does not support the occurrence of an avalanche event. Avalanche was identified as a hazard in the NYS HMP; however, there have been no occurrences in Allegany County. | <ul style="list-style-type: none"> NYS DHSES Input from Planning Partnership |
| Coastal Erosion | No | No | <ul style="list-style-type: none"> Allegany County has no coastline. | |
| Coastal Storm (tropical and extra-tropical cyclones) | No | No | <ul style="list-style-type: none"> Allegany County has no coastline. | |
| Dam Failure | Yes | No | <ul style="list-style-type: none"> The NID reported 1,968 dams in the State of New York, 16 of which are located in Allegany County. NYSDEC, however, has identified 156 dams in Allegany County. Of these, 107 are low hazard, five (5) are intermediate hazard, two (2) are high hazard, and 37 are negligible/no hazard. | <ul style="list-style-type: none"> NID NYSDEC Input from Planning Partnership |
| Drought | Yes | Yes | <ul style="list-style-type: none"> The NYS HMP identifies drought as a hazard of concern for the State of New York. Allegany County has been impacted by many drought events that have occurred in New York State. Agriculture is a substantial industry in Allegany County. Drought conditions would severely impact the county's economy. | <ul style="list-style-type: none"> NYS DHSES Input from Planning Partnership U.S. Department of Agriculture Drought Monitor |
| Earthquake | Yes | Yes | <ul style="list-style-type: none"> The NYS HMP identified earthquakes as a hazard of concern for the State. USGS indicates that the 2014 PGA with a 10 percent probability of exceedance in 50 years for Allegany County is between 0.01g and 0.03g. The County preferred to profile the hazard due to the potential damage impact. According to the NYS HMP, between 1973 and 2012, the epicenters of 189 earthquakes have been in the State. Of those 189 events, none were reported in Allegany County. Two notable earthquakes were felt in the western part of the State on June 23, 2010, and then again in northern New York on May 17, 2013. | <ul style="list-style-type: none"> NYS DHSES Input from Planning Partnership NOAA – Review of NGDC Earthquake Database from 1800 to present USGS |
| Expansive Soils | No | No | <ul style="list-style-type: none"> USGS indicated that Allegany County does not have the type of soils (swelling clay) that would result in expansive or swelling soils; therefore, Allegany County has little to no swelling potential. Expansive soils are not identified as a hazard in the NYS HMP. | <ul style="list-style-type: none"> NYS DHSES Input from Planning Partnership Review of USGS 1989 Swelling Clays Map of the Conterminous United States |

| Hazard | Is this a hazard that may occur in Allegany County? | If yes, does this hazard pose a significant threat to the County? | Why was this determination made? | Source(s) |
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| Extreme Temperature | Yes | No | <ul style="list-style-type: none"> The NYS HMP identified extreme temperatures as a hazard of concern for New York State. The Planning Partnership did not identify extreme temperatures as a significant hazard impacting the County. | <ul style="list-style-type: none"> NYS DHSES Input from Planning Partnership |
| Flood (riverine, flash, coastal, and ice jams) | Yes | Yes | <ul style="list-style-type: none"> Allegany County has experienced multiple flood events; however, all of these have been riverine, flash, or stormwater (no coastal flood events). Since 1954, Allegany County was included in multiple Presidential Disaster Declarations for flood events; three of these have occurred since 2010. According to the National Flood Insurance Program statistics, over 580 flood-related claims have been made between 1978 and 2016 in Allegany County, with over \$2 million in flood-related losses paid to the towns and villages of the County. The NYS HMP includes ice jams in the flood hazard profile and identifies ice jams as a hazard of concern for the State. Historically, 11 ice jams have been reported in Allegany County. | <ul style="list-style-type: none"> Input from Planning Partnership NYS HMP Update FEMA NOAA-NCDC USACE CRREL Ice Jam Database |
| Groundwater Contamination (Natural) | No | No | <ul style="list-style-type: none"> The Planning Partnership did not identify groundwater contamination to be a concern in the County. | <ul style="list-style-type: none"> Input from Planning Partnership |
| Hailstorm | Yes | Yes | <ul style="list-style-type: none"> The effects of hailstorms are discussed in the Severe Storm profile. | |
| Hazardous Materials (including fixed facilities and in-transit vehicles) | Yes | Yes | <ul style="list-style-type: none"> Allegany County has many roadways, railways, and pipelines that may carry hazardous materials through the County. The NYSDEC Spill Incidents Database lists 1,209 spill incidents throughout the County from March 1, 1984, through April 8, 2016, with an average of 30 to 40 incidents per year. Allegany County is home to 57 fixed facilities that store or use hazardous materials and that fall under Tier II reporting requirements. | <ul style="list-style-type: none"> Input from Planning Partnership Allegany County OEM |
| Hurricane (tropical cyclones, including tropical storms and tropical depressions) | Yes | Yes | <ul style="list-style-type: none"> The effects of hurricanes are discussed in the Severe Storm profile. Hurricane Irene and Tropical Storm Lee required Allegany County to deploy responders to other counties, per mutual aid agreements; however, there were no direct damages or impacts to the County. | |
| Ice Jams | Yes | No | <ul style="list-style-type: none"> The effects of ice jams are discussed in the Flood profile. The Planning Partnership determined this hazard to be not significant due to a lack of impact on County residents and assets. | |
| Ice Storm | Yes | Yes | <ul style="list-style-type: none"> The effects of ice storms are discussed in the Severe Winter Storm profile. | |
| Infestation | Yes | No | <ul style="list-style-type: none"> The Planning Partnership did not identify infestation to be a concern in the County. | <ul style="list-style-type: none"> Input from Planning Partnership |

| Hazard | Is this a hazard that may occur in Allegany County? | If yes, does this hazard pose a significant threat to the County? | Why was this determination made? | Source(s) |
|---|---|---|--|---|
| Land Subsidence | No | No | <ul style="list-style-type: none"> • NYS HMP indicates New York State is vulnerable to land subsidence; however, this hazard is “extremely localized” and poses a “very low risk to population and property.” • NYS HMP does not identify Allegany County as a community that has experienced land subsidence in the past. In general, moderate to low land subsidence susceptibility exists for New York State; however, the NYS HMP states that this hazard presents very low risk to population or property. • The Planning Partnership did not identify land subsidence as a hazard of concern for Allegany County. | <ul style="list-style-type: none"> • NYS DHSES • Input from Planning Partnership • USGS Fact Sheet 165-00 |
| Landslide | Yes | Yes | <ul style="list-style-type: none"> • USGS indicates within the National Atlas Map Maker program that Allegany County is identified as having some areas with moderate and high landslide potential. • The NYS HMP identifies landslide as a hazard of concern. • Landslides have occurred in several areas of Allegany County, with the largest percentage being in the Towns of Caneadea, Hume, Belfast, and New Hudson | <ul style="list-style-type: none"> • NYS DHSES • Input from Planning Partnership • USGS |
| Levee Failure | Yes | Yes | <ul style="list-style-type: none"> • According to the USACE NLD, there are three levees in Allegany County, all of which are sponsored, monitored, or maintained by NYSDEC. • NYSDEC also reports on the Bolivar Flood Damage Reduction project, which includes a levee constructed in 1982, currently operated and maintained by the Village of Bolivar. | <ul style="list-style-type: none"> • NLD • Input from Planning Partnership |
| Nor’easters (extra-tropical cyclones, including severe winter low-pressure systems) | No | No | <ul style="list-style-type: none"> • Allegany County is located in the western part of New York State, and is therefore not highly susceptible to Nor’easter systems that come up the eastern seaboard. • This hazard is briefly mentioned in the Severe Storms profile. | <ul style="list-style-type: none"> • FEMA • NYS DHSES • NOAA-NCDC • Input from Planning Partnership |
| Pandemic Disease | Yes | Yes | <ul style="list-style-type: none"> • The Planning Partnership identified influenza, the Zika virus, and Ebola virus as potential diseases that could expand into pandemics. | <ul style="list-style-type: none"> • Input from Planning Partnership |
| Severe Storm (windstorms, thunderstorms, lightning, hail, hurricanes, and tornados) | Yes | Yes | <ul style="list-style-type: none"> • NOAA’s NCDC storm events database indicates that Allegany County was impacted by approximately 183 severe storm events between 1973 and 2016. • The NYS HMP indicated that Allegany County has experienced 32 hailstorm events between 1960 and 2012. • NYS HMP indicates hurricanes and tornadoes are significant hazards that impact New York State. • A total of four tornadoes have impacted Allegany County from 1950 to 2016. • The Planning Partnership identified severe storms as a significant hazard affecting the County. | <ul style="list-style-type: none"> • NOAA-NCDC • FEMA • NYS DHSES • Input from Planning Partnership |

| Hazard | Is this a hazard that may occur in Allegany County? | If yes, does this hazard pose a significant threat to the County? | Why was this determination made? | Source(s) |
|--|---|---|---|---|
| Severe Winter Storm (heavy snow, blizzards, sleet, freezing rain, and ice storms) | Yes | Yes | <ul style="list-style-type: none"> Allegany County experienced 68 major winter storm events since 1960, with several smaller storms each year. The Planning Partnership identified severe winter storms as a significant hazard affecting the County. | <ul style="list-style-type: none"> FEMA NYS HMP NOAA-NCDC Input from Planning Partnership |
| Shallow (elevated) Groundwater Flooding | No | No | <ul style="list-style-type: none"> Shallow groundwater flooding was not identified as a hazard in the NYS HMP. Shallow groundwater conditions are not typically found within the County. | <ul style="list-style-type: none"> Input from Planning Partnership NYS HMP |
| Terrorism | Yes | Yes | <ul style="list-style-type: none"> The Planning Partnership identified terrorism as a hazard of concern. | <ul style="list-style-type: none"> Input from Planning Partnership Allegany County OEM |
| Tornado | Yes | Yes | <ul style="list-style-type: none"> The effects of tornados are discussed in the Severe Storm profile. | |
| Tsunami | No | No | <ul style="list-style-type: none"> Allegany County has no ocean coastline. | |
| Utility Failure | Yes | Yes | <ul style="list-style-type: none"> Allegany County experiences utility failures (generally power outages) several times each year. These failures are usually due to severe storms or severe winter storms that affect the County. | <ul style="list-style-type: none"> Input from Planning Partnership Allegany County OEM NOAA-NCDC |
| Volcano | No | No | <ul style="list-style-type: none"> There are no volcanoes located in New York State. | <ul style="list-style-type: none"> NYS HMP Input from Planning Partnership |
| Wildfire | Yes | Yes | <ul style="list-style-type: none"> Wildfires have occurred within Allegany County. The County's agriculture industry could be severely impacted by a large wildfire. | <ul style="list-style-type: none"> NYS HMP Input from Planning Partnership FEMA NYSDEC |
| Windstorm | Yes | Yes | <ul style="list-style-type: none"> The effects of windstorms are discussed in the Severe Storm profile. | |

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| Notes: | | NYS DHSES | New York State Division of Homeland Security and Emergency Services |
| CRREL | Cold Regions Research and Engineering Laboratory | NYS HMP | New York State Hazard Mitigation Plan |
| FEMA | Federal Emergency Management Agency | NYSDEC | New York State Department of Environmental Conservation |
| NCDC | National Climatic Data Center | OEM | Office of Emergency Management and Fire |
| NGDC | National Geophysical Data Center | PGA | Peak Ground Acceleration |
| NID | National Inventory of Dams | USACE | U.S. Army Corps of Engineers |
| NLD | National Levee Database | USGS | U.S. Geologic Survey |
| NOAA | National Oceanic and Atmospheric Administration | | |

Based on the hazard of concern identification process described above, a total of eight natural and five man-made/technological hazards of concern were identified as significant hazards affecting the entire County. Section 5.4 of this HMP includes hazard profiles for each of 13 identified hazards. The 13 hazards of concern addressed in this HMP are listed below in alphabetical order:

- Dam Failure
- Drought
- Earthquake
- Flood
- Hazardous Materials
- Landslide
- Levee Failure
- Pandemic Disease
- Severe Storm
- Severe Winter Storm
- Terrorism
- Utility Failure
- Wildfire