



5. IDENTIFICATION OF HAZARDS OF CONCERN

To provide a strong foundation for mitigation actions in this plan, Passaic County considered a full range of hazards that could impact the area and then identified and ranked those that present the greatest concern. These hazards of concern were identified based on the following:

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

Natural Hazards are hazards created by a meteorological, environmental, or geological event.

- Input from all Planning Partners
- Review of the 2024 State of New Jersey Hazard Mitigation Plan
- Review of the 2020 Passaic County HMP
- Research on the frequency, magnitude, and costs associated with hazards that have previously or could feasibly impact the region
- Qualitative information regarding natural (not human-caused) hazards and the perceived vulnerability of the study area's assets to them.

5.1.1 Hazard Review and Selection

Table 5-1 documents the process of identifying the hazards of concern for profiling and evaluation in this HMP through a review of all hazards listed as hazards of concern in the 2024 New Jersey State HMP. Based on the review of these hazards, eight hazards of concern were identified for Passaic County, to be addressed at the County level in this plan (shown here in alphabetical order):

- Dam failure
- Drought
- Extreme temperature
- Flood
- Geological hazards
- Severe weather
- Severe winter weather
- Wildfire

Other natural and human-caused hazards of concern have occurred within Passaic County, but have a low potential to occur, are addressed by other planning mechanisms, or do not result in significant impacts within the County. Therefore, these hazards are not addressed in this update. If deemed necessary by the County, these hazards may be considered in future plan updates.



Table 5-1. Review of Hazards Assessed in the 2024 New Jersey State HMP for Inclusion in the Passaic County HMP

Hazard	May Occur in the County?	Poses Significant Threat to the County?	Why was this determination made?	Sources
Animal Disease	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider animal disease to be a hazard of concern for this HMP update due to limited agriculture and livestock farming in the planning area. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Civil Unrest	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider civil unrest to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Coastal Erosion	Yes	Yes	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership identified coastal erosion as a hazard of concern for Passaic County, but do not consider it to be a high priority due to the limited presence of coastlines and tidally influenced waterways. Coastal erosion is included as a sub-type in the Flood profile. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Crop Failure	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider crop failure to be a hazard of concern for this HMP update due to limited agriculture in the planning area and instead consider it a cascading impact. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Cyber Attack	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider cyber-attack to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Dam and Levee Failure	Yes	Yes	<ul style="list-style-type: none"> According to the 2024 New Jersey State HMP, Passaic County has 50 high hazard classified dams and 22 dams with a significant hazard potential classification. The Steering Committee and Planning Partnership identified Dam Failure as a hazard of concern for Passaic County due to the presence of dams. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input USACE National Inventory of Dams
Drought	Yes	Yes	<ul style="list-style-type: none"> New Jersey has entered periods of drought and Passaic County has experienced droughts classified in the abnormally dry and moderate categories. According to the 2024 New Jersey State HMP, Passaic County experienced six USDA drought related declarations from 2012 to 2023. The Steering Committee and Planning Partnership identified drought as a hazard of concern for Passaic County based on historical records and impacts. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA NOAA NCEI USDA U.S. Drought Monitor NDMC Planning Partnership Input



Hazard	May Occur in the County?	Poses Significant Threat to the County?	Why was this determination made?	Sources
Earthquake	Yes	Yes	<ul style="list-style-type: none"> FEMA’s National Risk Index indicates that Passaic has a relatively low risk ranking in relation to the earthquake hazard. The Steering Committee and Planning Partnership identified earthquake as a hazard of concern for Passaic County due to its relatively higher risk to seismic activity compared to the rest of the state. Earthquake is included as a sub-type in the Geological Hazards profile. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA NJGWS USGS Planning Partnership Input
Economic Collapse	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider economic collapse to be a hazard of concern for this HMP update due to the plan update’s focus on natural hazard and the County’s limited ability to mitigate for this hazard. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Extreme Temperature	Yes	Yes	<ul style="list-style-type: none"> FEMA’s National Risk Index indicates that Passaic has a relatively high risk ranking in relation to extreme heat and a relatively low risk ranking in relation to extreme cold. The Steering Committee and Planning Partnership identified extreme temperature as a hazard of concern for Passaic County due to historical records and impacts. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA Planning Partnership Input
Fishing Failure	No	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider fishing failure to be a hazard of concern for this HMP update due to the planning area’s limited dependence on fishing for sustenance. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Flood	Yes	Yes	<ul style="list-style-type: none"> Passaic County was included in six flood related FEMA declarations. Passaic County has been included in numerous flood and flash flood events listed in the NOAA database since 2010 and has numerous critical facilities within the special flood hazard area. The Steering Committee and Planning Partnership identified flood as a hazard of concern for Passaic County due to the presence of floodplains and historical records and impacts. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA NOAA NCEI Planning Partnership Input
Geological Hazards	Yes	Yes	<ul style="list-style-type: none"> FEMA’s National Risk Index indicates Passaic has a moderate risk ranking in relation to the landslide hazard. Based on the 2024 New Jersey State HMP, Passaic County has experienced many rockslides and debris flows and has abandoned mines throughout the County. The Steering Committee and Planning Partnership identified Geological Hazards as a hazard of concern for Passaic County due to its relatively higher risk to seismic activity and landslides. Geological Hazards includes three sub-types—earthquakes, landslides, and subsidence—to streamline the risk assessment and mitigation strategy. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA USGS NJGWS Planning Partnership Input



Hazard	May Occur in the County?	Poses Significant Threat to the County?	Why was this determination made?	Sources
Harmful Algal Blooms	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider harmful algal blooms to be a hazard of concern for this HMP update due to limited ability to mitigate this hazard. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Hazardous Substances	Yes	Yes	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider hazardous substances to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Hurricane/ Tropical Cyclones	Yes	Yes	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership identified hurricanes as a hazard of concern for Passaic County and included them as a sub-type under the Severe Weather profile. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Nuclear Hazards	Yes	Yes	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider nuclear hazards to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Pandemic	Yes	Yes	<ul style="list-style-type: none"> Passaic County State has been identified in three FEMA declarations for COVID-19, including two for COVID-19 and one for West Nile Virus. The Steering Committee and Planning Partnership do not consider pandemic to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans and programs. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA Passaic County Department of Health Planning Partnership Input
Severe Weather	Yes	Yes	<ul style="list-style-type: none"> Passaic County was included in 15 FEMA declarations between 1999 and 2024 in relation to severe storms. The Steering Committee and Planning Partnership identified severe weather as a hazard of concern for Passaic County due to historical records and impacts and anticipated occurrences. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA NOAA NCEI Planning Partnership Input
Severe Winter Weather	Yes	Yes	<ul style="list-style-type: none"> Passaic County was included in four FEMA disaster declarations for winter weather between 1993 and 2024. The Steering Committee and Planning Partnership identified severe winter weather as a hazard of concern for Passaic County due to historical records and impacts and anticipated occurrences. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA NOAA NCEI Planning Partnership Input



Hazard	May Occur in the County?	Poses Significant Threat to the County?	Why was this determination made?	Sources
Terrorism	Yes	No	<ul style="list-style-type: none"> The Steering Committee and Planning Partnership do not consider terrorism to be a hazard of concern for this HMP update as this hazard is addressed in other preparedness plans. 	<ul style="list-style-type: none"> New Jersey State HMP Planning Partnership Input
Wildfire	Yes	Yes	<ul style="list-style-type: none"> Passaic County has numerous critical facilities located within the moderate to high-risk wildfire area. There have been many occurrences of wildfires of varying severity in Passaic County. The Steering Committee and Planning Partnership identified wildfire as a hazard of concern for Passaic County due to the presence of wildfire fuels in the planning area and the potential vulnerability of community lifelines. 	<ul style="list-style-type: none"> New Jersey State HMP FEMA New Jersey Forest Fire Service Planning Partnership Input

Note: CRREL = Cold Regions Research and Engineering Laboratory; DR = Presidential Disaster Declaration Number; EM = Presidential Disaster Emergency Number; FEMA = Federal Emergency Management Agency; NCEI = National Centers for Environmental Information; NDMC = National Drought Mitigation Center; NJGWS = New Jersey Geological and Water Survey; NOAA = National Oceanic and Atmospheric Administration; USACE = U.S. Army Corps of Engineers; USDA = U.S. Department of Agriculture; USGS = U.S. Geologic Survey



5.1.2 Hazard Descriptions

The selected hazards of concern for this HMP are generally defined as follows:

- **Dam Failure**—A dam is a structure built across a river or stream to hold back water. Dam failures occur when the dam is damaged, destroyed or otherwise overtopped, releasing water or other liquid stored behind the dam.
- **Drought**—A drought is a period characterized by long durations below normal precipitation. Drought is a temporary irregularity that can affect agriculture, water supply, aquatic ecology, wildlife, and plant life.
- **Extreme Temperatures**—The extreme temperature hazard includes both heat and cold events, which can have significant impacts on human health, businesses, and infrastructure. What constitutes “extreme cold” or “extreme heat” is based on what the population is accustomed to. Extreme cold events are when the ambient air temperature drops to approximately 0 °F; extreme heat events are characterized as temperatures that hover 10 °F or more above the average high temperature for the area.
- **Flood**—A flood is rainfall or an overflow of water from a water body that submerges areas that are usually dry. Floods include riverine floods, flash floods, storm surge, stormwater/urban floods, and ice jam floods.
- **Geological Hazards**—Geological hazards include earthquakes, landslides, and subsidence. An earthquake is the sudden movement of the Earth’s surface caused by the release of stress accumulated in the Earth’s tectonic plates. A landslide is the downslope movement of earthen materials. Subsidence is the sudden sinking or gradual downward settling of the Earth’s surface with little or no horizontal motion, owing to the subsurface movement of earth materials.
- **Severe Weather**—The severe weather hazard includes windstorms, thunderstorms, hail, and tornadoes. Tropical disturbances (hurricanes, tropical storms, and tropical depressions) are often identified as a type of severe storm. For this HMP update, the hazard of concern includes thunderstorms, high winds, hailstorms, tornadoes, and hurricanes.
- **Severe Winter Weather**—A winter storm is a weather event in which the main types of precipitation are any combination of snow, sleet, or freezing rain, typically accompanied by low temperatures. The severe winter weather hazard includes heavy snow, blizzards, sleet, ice storms, and nor’easters.
- **Wildfire**—A wildfire is any non-structural fire that occurs in the wildland. Wildfires include naturally occurring wildfire, human-caused wildfire, and prescribed fire. Wildfires result in the disturbance of forest and brush and destruction of real estate and personal property.