

Identify 2018-2023 Past Hazard Events or Severe Weather and Locations in Town

Epsom HAZARD MITIGATION

HAVE PHOTOS?



The Plan needs your personal, Dept, or agency photos of the past severe weather events in the Town to illustrate their impact. Email Stephanie your JPEGs or share a Dropbox or Google Drive link to the photos.

↳ Note who should receive the photo credit, ensure photo date is noted, and add event location (street, business, waterbody, etc) in file name or in separate file.

NEW

We need YOUR photos!

Past Hazards Completed.
Identify Intensity of Natural Haz on Pages 1-4

Work Session 1.3
8/2/2023
Email your file to Stephanie at
salexander@cnhrpc.org

- WHERE? Note location of the event in the Year column.
- WHAT? Describe what happened during the event in the Town.
- WHEN? Add the Month (or Season) of the event, add Date if known.

Natural Hazard Intensity Change in Next 10 Years

| | | | | | | | | |
|------------------|---------------|-------------------|-----------------|-----------|-----------------|-------------------|---------------|------------------|
| -100% | -75% | -50% | -25% | 0% | 25% | 50% | 75% | 100% |
| Extreme Decrease | High Decrease | Moderate Decrease | Slight Decrease | No Change | Slight Increase | Moderate Increase | High Increase | Extreme Increase |

| Natural Hazards | How Much will the Intensity of this Natural Hazard Change Over the Next 10 Years? From Scale of -100% (Extreme Decrease) to 0% (No Change) to 100% (Extreme Increase) | ANNUAL or SEASONAL Hazards? WHERE? | 2018 (Month) Events | 2019 (Month) Events | 2020 (Month) Events | 2021 (Month) Events | 2022 (Month) Events | 2023 (Month) Events | NOTES | NOTES |
|--|--|---|--|---------------------|--|---|--|--|---|---|
| DROUGHT | 0.0% | NEARLY ANNUAL: Water restrictions annually, wells for the last 3 years 2020-2023. | 2016-2020 Drought | May through October | 10 Jul - Moderate drought conditions 1 Sep - severe drought conditions 27 Oct - Severe to extreme drought conditions 1 Dec - Moderate to severe drought conditions | 4 May - Moderate drought conditions | Summer 2022: | Wells may be going dry but are not reported to the Town. Fire suppression is a big issue. Trucks are now tankers going to FD response. Dry hydrants long gone as are the ramp access. CAP area not fully identified. | No longer delivers water to farms for livestock - could be contaminated for human consumption. IN EOP for private companies. | |
| EARTHQUAKE | 0.0% | ANNUAL: Regional earthquakes impact the area, with no more than a large "boom" or shaking windows during a nearby earthquake. | | | | | | | | |
| LANDSLIDE Soil, Rockslide, Excavation Areas, etc. | 0.0% | NONE | | | | | | | | |
| PUBLIC HEALTH Infectious Diseases, Air & Water Quality, Biological, Addiction, Arboviral, Tick-borne, etc. | 0.0% | ANNUAL: Emerald Ash Borer or cyanobacteria? Lyme disease (tick) or West Nile (mosquito)? ANNUAL: Swimming hole on Suncook River at Webster Park. More | DAILY: Fire & Rescue assist addiction patients daily, exposed to contaminants. More Narcan used than in previous years. Town Report 2022 table has | | 2020- Emerald ash borer - impacted from utility companies, had to cut down ash trees down for 6 months. Taking proactive stem. | March 2020 - June 2022- Coronavirus pandemic. Oct 2020- One case of Jamestown Canyon Virus was reported by DHHS to Town Health Officer. | 2021-2022- Bedbugs brought in with a patient, closed off shared bathroom and wing. Isolated the problem to 4 rooms | 2023 Emerald Ash Borer- Asplundh tree company culled Ash trees, dead trees are a risk to roads and powerlines. Has not impacted Town Forests. | (Should be in prior HMP) Epsom Manor - few cases of Legionnaires several years ago. Have to test water regularly, a vacant building is tied to water system. 100-104 | Epsom Manor - can look back in their files for Legionnaires, other communicable. |
| SOLAR STORMS AND SPACE WEATHER Solar Winds, Geomagnetic Storms (Aurora Borealis), Solar Radiation, Radio Blackout, etc. | 0.0% | PERIODIC: Communications equipment has been subject to geomagnetic radiation and solar storms in the past. | | | | 2022- Fort Mountain has a significant antenna, went out during one of the last solar events. Geomagnetic storm, other emergency communications and microwave were | 2022 Apr 4 - Capital Area Fire & EMS Simulcast dispatch microwave system dropped connection from solar storms. Several towns offline until Lakes Region backup engaged. Multiple | | | |
| WILDFIRE Brushfire, Outdoor Fires, Accidental, etc. | 0.0% | ANNUAL: Numerous wildfires at ___ State Forest, between xx-xx acres each event. Regular wildfires to respond to. | | | | 06-28-21- Dry conditions, mulch caught on fire at Beaumac. Fire burned siding of Beaumac building and the landscaping. | | 2023- Oak tree coverage was frozen in May 2023, and became extra dry with less vegetation. In mid-June 2023, finally rained and downgraded the risk (about 2 months | The # of FD calls are in the annual Town Reports, only a few notable fires in the last couple of years. FD is in process of replacing forestry equipment. A | Town Forest, McCoy and Fort Mountain would be the worst place/most vulnerable to have a wildfire. Southeast corner of Town. |
| EXTREME TEMPERATURES COLD WAVE Wind Chill, Freezing | 0.0% | ANNUAL: Nearly every year, extreme heat event records are broken or the Town encounters very cold temperatures. The Elks opened for warming shelter during cold spell, was added to the state's list, on 211. | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | |
| | | | | | 13 Feb - Extreme cold temperatures 15-25 degrees below zero | | 2023--Feb 3-4 Cold Snap: Most communities in Central NH including Epsom experienced negative temperatures (-10 to -19 degrees F) plus windchill, ranging as low as -45 degrees for a 36-hour period. | Feb 2023- Was -30 in Epsom. Nursing home had problem with cold, had to evacuate 20 patients for sever cold. Sprinkler system, water pipes were broken. All plumbers were occupied in Feb 2023 with broken pipes and could not respond. Had been talk | Epsom Home Health care on its own water system, may want to monitor water capacity (has 2 tanks). Trying to get municipal water across the street, working with EDC, need grants and revolving loans. | See Warm. Lots of crops damaged with freeze. May 16 frost - Apples, cherries, pears, peaches, oak trees, strawberries. Food crop was devastated locally, impacts economics. |

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| HEAT WAVE Excessive Heat | 0.0% | ANNUAL: Nearly every year, extreme heat event records are broken or the Town encounters very warm temperatures. No current warming or cooling facility. Elks Lodge opens as an informal cooling shelter for all. Town has | Epsom Bible Church could open for a W/C facility. May be able to provide same serve as the Elks. The Epsom Central School is the formal Town shelter. | 19 Jul - High heat and humidity 90-100 deg F | | | 29 Jun - Extreme heat and humidity 90-100 degrees F | 2022- many welfare calls to check on elderly, 3 heat waves of 3 days 90+. One heat wave may have continued to management of the call to respond to 1 elderly fatality during the heat wave, was in a mobile home for many days. Confirmed heat exhaustion cases. | Jun 2023- Significant elderly population, high electric demands may cause brownout, a detrimental result for elderly. Holding brownout planning meeting with Unilit & Eversource planning to discuss multiple areas of Epsom to be concerned | ACTION: Official W/C shelter | |
| FLOODING | | Annual | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | | |
| DAM FAILURE Water Overtop, Breach, Beaver, etc. | 0.0% | ANNUAL- Regular beaver dam failures at: There is a list - not a specific time or season. Beaver dependent. Highway Dept. Relocations are attempted when possible. | 8/6/Dam Break at Highway Department wetland- Stewart Y has photos. | 2019 Dam Flooding Assessment Short Falls and Millhouse. Conducted by Fire Dept to evaluate impact to determine what needs to occur, Highway for roads impacted. | | | | | | Since the floods of 2005-2009, most of the infrastructure has been rebuilt to last. | Buck Street Dam removal has made a difference in flooding reduction. Northwood Lake's dam at Bixby Pond is the problem now. Homeless encampments are now in the area and may result in loss of life during a flood. Epsom does not have water rescue ability, but must rely on regional resources which only serve certain locations, not necessarily where the damage is. |
| INLAND FLOODING Rainstorms, Snow Melt, Flash Floods, Ditch Erosion, Washouts, Pond Overtop, etc | 0.0% | SEASONAL: Minor flooding from snow melt and rainstorms impacts roadways, brooks and ponds, and the Suncook River. | Jan 2018 - Snow and melt events 2-8 Mar - Severe storm rain, heavy wind and flooding many power outages 8/8 Rain minor flooding 11/3 minor flooding | 19-22 Apr - Heavy rain, warmer weather, and snowmelt caused spring flooding 11-12 Jul - Repeated thunder storms caused flash flooding. | 12/16/19 Suncook Dam assessment includes an ice jam. | 1 Aug - Heavy rain and flooding 30 Jul - torrential rain 18 Jul - Severe rain storm and flooding. | Oct 23 - minor flooding 12/22 4" rain, flooding | End of December 2022 - Fixed in 2023 at End of North Road, regularly washed out, Webster Mills Road spots washed out. Bridge just over the Pittsfield Town line, Epsom fixed it. | | | |
| RIVER HAZARDS Ice Jams, Scouring, Erosion, Channel Movement, Debris, etc | 0.0% | ANNUAL/SPRING: Suncook River can flood or erode banks. Suncook River downstream tree debris found at NH28 bridge in Allenstown, past where Buck Street dam had been formerly located. | | 12/16/19 Ice Jam | Image on the FB page of some kind of culvert failure (?) and replacement dated 08-17-20 | July 30, 2021 - Suncook Valley Highway assessment for flooding. Kingstown homes flooding in location further from regular Suncook River floodplain flooding. | Inconsistent high and lows, trees falling in. Drought and heavy rains keep changing the height and volume of water. No large changes. Leighton Brook culvert project finished in 2020. Lower risk today. | | Still concerned with ice jams in the Suncook River. Steve Landry of NHDES maintains watch, concerned with debris movement and ice jams. The state is keeping up with repair work. Much of the localized debris was removed with the US 4 bridge redo, now with freer flowing water. Will study as the result to see how the Suncook River has changed. | | |
| WARM WEATHER STORMS | | Annual | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | | |
| HAIL | 0.0% | | | | | | | May 2 Hail event. June 17, 2023- Bad local hail storm, about a quarter-sized hail. Black Hall Rd and NH 28 windshields broke from hail. Tractor trailers off the road south of the traffic circle with lots of potential dangers. Three trees across wires. Many other hail events going back though to 2018. | | | |

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| HIGH WINDS Wind Gusts, Storms (Causes Tree Debris, Electric Outage) | 0.0% | ANNUAL: Trees and tree limbs fall on powerlines, all of which can fall onto local and state roads during high wind events. All of Epsom is susceptible. MAIN TREEFALL New Rye, Mount Delight, New Orchard, North Pembroke Road, outskirts, secondary roads - regular issues. Until seems a better cut back policy, other utilities less diligent. | 4/16/18 - Rain/wind storm. 5/4 T-storm/wind June 2018 - Windstorm 7/17 T-storm/wind 7/28 T-storm/wind 8/3 T-storm/wind 8/8 T-storm/wind 10/27/18 - Windstorm. 12/18/18- Windstorm. | 2/25/19- High winds. 7/23 T-storm/wind 10/17/19 - Wind/Rain storm. 2019 large tree blowdown in Webster Park. Later windstorms took out more trees. | 2020 New Orchard Road trees down pic on Unifil Facebook page. 25 Dec - Heavy rain 1.5-2.5" and Strong wind 45-55 mph. Extreme. | 3/2/21- Windstorm. 3/29/21- Windstorm. 5/26 T-storm/wind 7/21 T-storm/wind 7/23 T-storm/wind | Apr 18 & 19- Heavy rainstorm and winds caused treefall. Nov 29- Heavy winds caused treefall on utility lines. Dec 26- Pembroke Plausawa tower came down in the last wind event, day after Christmas. CAMAFAC equipment on the ground, diverted to another tower for simulcast and microwave system. Pembroke has rehabilitation cost on their most recent FEMA claim. 7/12 T-storm/wind | 2023- The lack of the Plausawa emergency communications antenna, destroyed after Dec 2022 windstorm and not allowed to place new emergency antennas on tower, has resulted in a lawsuit (overcharged/priced out by tower owners). Need to put a new tower up for the benefit of Epsom. The town cannot receive some emergency calls. Still waiting for parts to fix the antenna, need a tower to place them on. Leaves falling impact the technology. April - Webster park microburst. Tree fell onto a concession building and took out the corner of the building, only exterior damage. | | |
| DOWNBURSTS | 0.0% | | | | | | | | | |
| LIGHTNING | 0.0% | ANNUAL: Lightning regularly strikes buildings in Epsom and rural areas like Fort Mountain. Multiple strikes to people and property in Epsom over the last few years. Lots of ballfields where spectators and kids can be hit- children are not taught to leave the field during storms. FD gets the kids off the fields. Homes have been destroyed and damaged from lightning. | July 18- Town Library struck by lightning, caught fire. Burned out the computer and alarm systems. Otherwise, the building was mostly damaged from sprinklers and smoke, not the fire. \$700,000 to repair. Still may not have lightning rod now. | | | May 26, 2021 Webster Park lightning. Struck a tree, just the tree was hit (photo to be uploaded). | 2022- lighting storm. | May 2 - hail storm, dime to nickel size (photo to be uploaded). Webster Park building struck by a downed tree during wind storm. Around June 2, other trees down. June 14, house was struck by lightning on Lords Mill Road. | | |
| THUNDERSTORMS | 0.0% | ANNUAL: Common culvert fail locations: No washouts in the last 5 years. | | March 15, 2019 - Hill Road snow melt damaged the whole road. Most culvert upgrades are very large. | 08-17 2020 - North Road culvert failure and replacement, but just gravel and soil in the road. | | | | | |
| TORNADOES | 0.0% | NONE | | | | | | | Three tornados have struck Epsom in Chief's lifetime, about 1 time every 10 years+ for 30 years. Short Falls Road, Lane Road 1970s, small straight line windshear later on. Tornado 2008 - loss of life, million dollar properties destroyed, clean up over five-10 years. | |

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|---|--|--|-------------------------------------|--|--|--|---|---|--|--|
| TROPICAL AND POST-TROPICAL CYCLONES Hurricanes, Tropical Storms, Tree Debris | 0.0% | PERIODIC: Trees and tree limbs fall on powerlines, all of which can fall onto local and state roads during tropical and post-tropical cyclone events. All of Epsom is susceptible. Partially protected by the Fort Mountain, in its own microclimate. | | | Aug 3-6 - Tropical Storm Isaiah - 8/4/2020 Windstorm assessment around entire town by Fire Dept. Likely all Depts participated. | July-Aug Flood Assessment. Aug 19-27 - Tropical Storm Henri | | | One egress roads? | Damage can include water, flooding, trees down, drinking water infrastructure. |
| COLD WEATHER STORMS | | Annual | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | |
| WINTER STORMS, BLIZZARDS (winds >35 mph, visibility <0.25 mile, >3 hours), NOR'EASTERS (tropical pattern, low pressure, follows East Coast) | 0.0% | ANNUAL: Snowstorms impact the entire Town. Car accidents during storm events- everywhere, US 4, NH 28, North Road, New Orchard, North Pembroke Road. Intersection NH 28 repaving, will place lights at Traffic Circle, will leave dark until completed. Select Board trying to get lights for years on the inside of the Memorial Traffic Circle for safety. | Jan 4 " Mar 13 - Severe snowstorm " | 20 Jan - snowstorm 4-12" throughout the state 12-13 Feb - Snow and wintery mix storm 6-12" 2 Dec - Snowstorm 1-12" throughout the state 29 Dec - Snowstorm 6-10" throughout the state | 17 Dec - Snowstorm 5-25" throughout the state. | 1-2 Feb - Severe snowstorm 3-16" of snow throughout the state. | Feb 16- Snow Dec 23-25- Rain, wind, flood. Downed lines, trees, schools closed. Power outages for days. | Jan 22 "? March 14 2023 storm, trees fallen. Lots of snow - 20". Spotter in Town counts WMUR accumulation (can be found there) | On March 14, 2017, a powerful nor'easter brought heavy snow, strong winds, and coastal flooding to much of New Hampshire. The storm caused widespread power outages, downed trees and wires, and travel disruptions. The snowfall amounts in Epsom ranged from 12 to 18 inches | See certifiedsnowfalltotals.com - zip code for all the storms back to 2021 |
| ICE STORM | 0.0% | | | | 7-8 Feb - Heavy snow, freezing rain, sleet, and rain causing many power outages. | | | | | |
| NOT APPLICABLE TO TOWN & REGION | | Annual | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | | |
| AVALANCHE | | | | | | | | | | |
| COASTAL FLOODING | | | | | | | | | | |
| TSUNAMI | | | | | | | | | | |
| VOLCANIC ACTIVITY | | | | | | | | | | |
| Technological and Human Hazards, Impacts from Natural Hazards | | ANNUAL or SEASONAL Hazards? WHERE? | 2018 (Month) Events | 2019 (Month) Events | 2020 (Month) Events | 2021 (Month) Events | 2022 (Month) Events | 2023 (Month) Events | NOTES | NOTES |
| AGING INFRASTRUCTURE Bridges, Culverts, Roads, Pipes, Underground Lines, Debris, etc | | Public Works Dept check log - # of events/year or note 1 significant event per year | | | | | | | | |
| LONG TERM UTILITY OUTAGE Power, Water, Sewer, Gas, Internet, Communications, Live Wire Danger, etc | | Public Works Dept check log - # of events/year or note a significant event per year | | | | | 3/2/21- Windstorm | | Electric Coverage: | Gas: Internet: Phone: |

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|--|--|---|---|---------------------|---------------------|---|--|--|---|-------|
| CONFLAGRATION (FIRE) | | Fire Dept check log - # of events/year or note a significant event per year, how many acres burned? | | | | | | | How many non-natural fires per year? Any pattern? | |
| HAZARDOUS MATERIALS Haz Mat Spills, Brownfields, Trucking, Known and Emerging Contaminants, etc | | Fire Dept check log - # of events/year or note 1 significant event per year | Only one Tier 1 facility in Epsom. Oxy Gon uses chemicals. The Fire Dept gets a list of what hazards are on site from Capital Area Fire Mutual Aid. | | | 5-26-21- On Dover Road, Kingston's Karts of Epsom employe dropped smoking materials into cardboard which set golf cart building on fire, with golf carts (tires and batteries), building's propane tank exploded. | 12-9-22 - fuel tanker Cumberland tanks was a 2 car accident, truck was hit. Driver was able to correct bad situation | 5-12-23 propane tank leak by test car. June 26- Unknown Haz Mat cylinder in the traffic circle (was an argon tank). Have had many issues with leaks at Eastern Propane, but not large incidents. | 11-28-22- School had a broken fitting on propane tank, had to evacuate the entire school on site to church. | |
| TRANSPORTATION CRASH Vehicle, Airplane, Helicopter, Rail, Interstate, Pedestrian, | | ANNUAL: List State Routes, intersections with regular crashes | | | | | | | | |
| MASS CASUALTY INCIDENT As a result of any hazard event | | Fire Dept check log - # of events/year or note a significant event per year | | | | | | | | |
| TERRORISM/ VIOLENCE Active Shooter, Hostage, Public Harm, Civil Disturbance/ Unrest, Politically Motivated Attacks, Incendiary | | Police Dept check log - # of events/year or note a significant event per year | | | | | | | | |
| CYBER EVENT Municipal Computer Systems Attack, Website Overtake, Cloud Data Breach, Telephone Rerouting, Identity Theft, Phishing, Ransomware, Virus, Phone Scams, etc. | | Police Dept check log - # of events/year or note a significant event per year | | | | | | | | |