BLACKSTONE RIVER VALLEY

AT RISK

WHAT DO WE HAVE TO LOSE?

Winds and Floods in Rhode Island

1904 Storm

- Property damage: $1 million

Heavy Rains in 1927

- Property damage: $1 million+

The Great Northeast Hurricane of 1938

- Deaths: 311
- Property damage: $100 million
- Winds: 100 mph, gusts of 160 mph, ripped roofs from buildings statewide

Hurricane Carol 1954

- Deaths: 19
- Property damage: $200 million
- Numerous buildings destroyed
- Winds: 90 mph, gusts to 110 mph

Tropical Storm Diane 1955

- Deaths: 2
- Property damage: $175 million in uninsured property damage
- Flood waters to the level of street lights

Heavy Rains in 1979

- Property damage: $5.8 million

Hurricane Bob 1991

- Property damage: $115 million
- Winds: 105 mph

Floods of April 1994

- Property damage: $1 million

Downtown Providence during the Great Hurricane and Tidal Wave of 1938. - *Rhode Islander*, Providence Sunday Journal Magazine, September 17, 1978.

Wind and Riverine Flooding

Riverine flooding can be a result of storm surge from hurricanes, winter storms, or excessive rainfall overflowing river and stream banks. The Blackstone River basin, which encompasses nine communities in Rhode Island and several more in southwestern Massachusetts, has experienced flooding many times, with records dating back as far as 1818. When land in a floodplain is developed, cyclical floods can become costly and dangerous.

Natural Hazards In Rhode Island

- Today, high winds from a hurricane similar to the one in 1938 would cause over $20 million in damages statewide for single-family structures.
- Rhode Island's tornado risk is rated as an average of 1-5 per year.
- The Blackstone River basin is located in a high-activity storm track where intense local storms have caused damages averaging over $200,000 per flood. Today, 100-year storm damages could reach over $3.5 million. A 100-year storm is one that in a given year has a 1 percent chance of striking.
- All 39 communities in the state have been identified by the Federal Emergency Management Agency (FEMA) as "flood-prone."

Dams at Risk

- Seven dams along the Blackstone River in Rhode Island present a significant hazard. These dams are not necessarily in poor condition, but lives and property downstream are at risk. Providence County has a total of 14 high-hazard dams.

Insured Value of Property

- Providence County has 783 flood insurance policies worth over $83.5 million. There have been over 473 claims since 1978, including 51 repetitive loss properties. In order to qualify as repetitive loss, properties must have sustained a minimum of two events within the course of 10 years, with a combined damage expense equal to 25 percent of the market value of the property.

WHAT DOES PROVIDENCE HAVE TO LOSE?

Providence Statistics

Vulnerability in the Floodplain

- There are 241 flood insurance policies in Providence, valued at $34,171,100 - 168 in the V-zone and 73 in the A-zone.
- Unprotected areas that are especially at risk include India Point, Allens Avenue, the Port of Providence and Gano Street. A total of 64 businesses and 1435 jobs are at risk from a hurricane in these areas.
- 70 percent of structures in the high risk areas are wooden, thus susceptible to high winds; 30 percent are cement or brick, which are at higher risk during floods.
- City hall is at risk from riverine flooding. Historical record storage and computers could be damaged, affecting public safety.

Historical Record

- In 1815 a hurricane known simply as "The Great Gale" hit Providence, destroying 500 homes and 35 ships. Water in Market Square rose to more than 11 feet above the mean high water mark.
- The Great Hurricane and Tidal Wave of 1938 swept through downtown Providence at more than 13 feet above the mean high water mark and destroyed homes, businesses, wharves and yacht clubs. This event was responsible for 262 deaths.
- Hurricane Carol in 1954 caused record flooding in the Blackstone River basin and knocked out telephone and electric services.

Fox Point Hurricane Barrier

- The hurricane barrier was completed by the Army Corps of Engineers in 1966 and is designed to protect downtown Providence from the flooding it experienced in previous storms.
- The barrier is 25 feet high and 700 feet long and is located near the tip of Narragansett Bay.
- The barrier is designed to protect over 40,000 people and over 10,000 jobs

MULTI HAZARD RISKS

The City of Providence has a low mean sea level elevation of +6.20 feet. The Providence River has a mean sea level of +3.50 feet. This makes Providence very susceptible to riverine flooding. Providence is also located at the head of Narragansett Bay, which can act as a funnel during storm surge events. Local and interstate bridges are prone to wind and ice damage.

Although earthquakes are low probability, they are high risk, and they do pose a threat. The most recent and notable earthquake in Rhode Island occurred in 1976 and was strong enough to sway trees and move furniture. Most of downtown Providence is built on filled land which can be unstable in the event of an earthquake.

Funding Opportunities

- **Flood Mitigation Assistance Program.** These funds are available to communities with a FEMA-approved local flood mitigation plan. A 25 percent match is required.
- **Hurricanes and Earthquakes.** States receive FEMA funds annually, based on risk formulas. No match is required. Cities and towns with mitigation policies already in place receive funding priority.
- **Post-Disaster FEMA Mitigation Funds.** The Hazard Mitigation Grant Program (HMGP) is funded following a presidentially declared disaster. It represents an additional 15 percent of all the infrastructure and individual assistance funds that are provided to the Rhode Island Emergency Management Agency (RIEMA) to repair damages and recover from losses. The funds are administered by the state in partnership with FEMA.

Providence also is investigating the National Flood Insurance Program (NFIP) Community Rating System (CRS), available if the city exceeds the minimum standards for flood protection set out by the NFIP. CRS is an optional way for flood insurance policy holders in the community to reduce their premiums by 5 to 45 percent.

For further information on risks from natural hazards and on what you can do to protect your home or business, contact:

Rhode Island Emergency Management Agency: Raymond LaBelle, executive director, (401) 946-9996.

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