

## **The Maine Floods of 1987**

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Some disasters strike without warning, while others creep up on unsuspecting and unprepared communities. In late March and early April of 1987, the worst flood in Maine's modern history was one of those events that crept up on the people of Maine. While some public safety and emergency preparedness managers watched with concern during the Spring of 1987, most people of Maine, known as Mainers, were oblivious to the danger as the floodwaters started to rise. However, they received a wakeup call, as the waters started to flow over the embankments of numerous rivers in the State.

Maine is located in the most northeastern section of the United States and shares an international boundary with the Canadian provinces of Quebec and New Brunswick. The climate of Maine is dominated by three primary air masses. "These are the polar continental, which are cold, dry air masses originating in Canada and Arctic areas; tropical maritime, which are warm, moist air masses originating in the Gulf of Mexico and adjacent subtropical water of the Atlantic Ocean; and polar maritime, which are cool, damp air masses from the North Atlantic. Land-recycled moisture is also an important source of moisture because it supplements the major sources of moisture with evaporation from lakes and reservoirs and from the land surface." ([USGS Kansas](#)). These air masses contribute heavily to the primary natural disasters for Maine – winter storms and flooding.

The State of Maine has a good average amount of rainfall each year, which has given Maine an abundance of lakes and rivers and forestland. The rainfall is fairly well balanced throughout the year; period droughts are rare in Maine. "Mean annual precipitation in the northeast is 34 in.

and 55 in. in the southeast. The statewide mean annual precipitation is about 42 in.” ([USGS Kansas](#)). However, at times, frontal weather systems stall over sections of the State. These can cause enormous rainfalls of over ten inches of precipitation in a 24 hour period. During the summer, this can cause significant localized flooding. However, should a frontal system stall over Maine during the early spring of a heavy snow fall year, the results can be catastrophic. This is what occurred in 1987.

In reviewing historical data of past natural disasters in Maine, the Maine Bureau of Civil Emergency Preparedness (now known as the Maine Emergency Management Agency) identified the “April Fools Day Floods of 1987” as the most devastating flood in Maine history. This distinction stands to this day. “Flood damage in the Penobscot and Kennebec River basins in 1987 was the greatest for any flood (including March 1936) for which data are available.” ([JoAnne Mooney](#)).

While Mainers were stunned by the flooding, the Bureau of Civil Emergency Preparedness was taken aback by the severity of the flooding. “Hydrometeorologic conditions before the April 1987 flood gave no clear indication of the severity of the flooding that was to come. From December 1986 through March 1987, precipitation was below normal. In early March, the snow pack was below normal in northern Maine, normal in southern interior sections and above normal in coastal areas.” ([USGS Kansas](#)). However, in late March, temperatures rose quickly causing the snow pack to melt fast. Rivers started to swell from the runoff. Then “from March 20 through April 2, an area of low pressure moved slowly northeast toward Maine, bringing two storms that unleashed heavy rains.” ([USGS Kansas](#)). Four to seven inches of rain was dumped on Maine. ([State Climate](#)). With the ground surface already saturated and rivers at capacity, the heavy rains added large volumes of water to the swollen rivers quickly.

Five major rivers in Maine overflowed their banks sufficiently to cause large scale flooding in Western and Central Maine. Other rivers and other sections of Maine received localized flooding. Sixteen Maine communities received major flooding of their business, residential and public service areas, including the State Capitol and the second largest city in Maine. These rivers and communities are listed below: [\(JoAnne Mooney\)](#)

Androscoggin River	Livermore Falls, Jay, Lewiston, and Topsham
Kennebec River	Skowhegan, Waterville, Fairfield, Winslow, Augusta, Hallowell, Gardner, Randolph
Piscataquis River	Dover-Foxcroft, Guilford
Sabastacook River	Pittsfield
Sandy River	Farmington

The downtown areas of the cities of Hallowell and Gardiner and the towns of Pittsfield and Farmington were completely underwater. The Small Business Administration (SBA) estimated that 400 businesses sustained losses totaling approximately \$36,000,000. [\(JoAnne Mooney\)](#). In downtown Gardiner, televised images of a major supermarket, underwater except for its roof, gave a demonstration of the tremendous losses.

The damages to residential properties were even greater. “At least 2,300 homes were damaged in that flooding with 215 totally destroyed.” [\(State Climate\)](#). Another dramatic televised report showed a home floating down the Piscataquis River and then smashing against rocks and ice as onlookers watched. “The Agricultural Stabilization and Conservation Service reported \$300,000 worth of equipment and \$100,000 in livestock losses.” [\(JoAnne Mooney\)](#). Several oil tanks were ripped from their mounts and spilled into the flood waters. Along with other pollutants, the clam beds at the mouth of several rivers became contaminated and were required to be shut down; effectively closing several clam digging businesses. “That alone necessitated Disaster Unemployment Assistance funding of over \$300,000.” [\(JoAnne Mooney\)](#).

In the flooded communities, damages occurred to a large number of public facilities, including town halls, fire stations, libraries and recreational parks. Once municipal governments had completed their preliminary damage assessments, it was determined that public damages amounted to \$14,605,501. This equates to nearly \$26,000,000 in 2006 dollars. ([Publius](#)). From these figures, the Governor of Maine, John R. McKernan, Jr. declared a State of Emergency and requested a formal disaster declaration from President Ronald Reagan. The April Fools Day Floods of 1987 received a Presidential Declaration of Disaster on April 9<sup>th</sup> and was designated as Major Disaster # 788. ([FEMA – Maine Disaster](#)). “According to MEMA accounting records, the April Fool’s Flood of 1987 was a \$100,000,000 event.” ([JoAnne Mooney](#)).

As with most disaster events, lessons were learned by those impacted by the disaster. Floodplain maps in most of the communities were vague and outdated. In fifteen of the sixteen communities most effected by the 1987 floods, the floodplain maps were updated following the disaster. Seven of the communities did not have floodplain ordinances in effect before the floods. In all seven communities, floodplain ordinances have since been enacted. ([FEMA NFIP](#)) The State Planning Office’s Maine Floodplain Management Program was strengthened and staff increased following the floods. Additionally, the Maine Bureau of Civil Emergency Preparedness was reorganized, enlarged and renamed the Maine Emergency Management Agency.

In 1997, the State Legislature created the River Flow Advisory Commission to collect, coordinate and analyze hydrologic information and to advise MEMA on recommended actions. Numerous river gages and web cams have been installed to monitor river flows and conditions. Mainers have learned that they do not have to be taken by surprise from river flooding in the future. ([MEMA](#))

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