

FLOODING DANGERS

PROPERTY DAMAGE

Water can infiltrate structures leading to structural damage, mold growth, and the destruction of personal property and possessions.

INFRASTRUCTURE DAMAGE

Floodwaters can erode roads, bridges, and utilities, making transportation difficult or impossible.

PUBLIC HEALTH RISKS

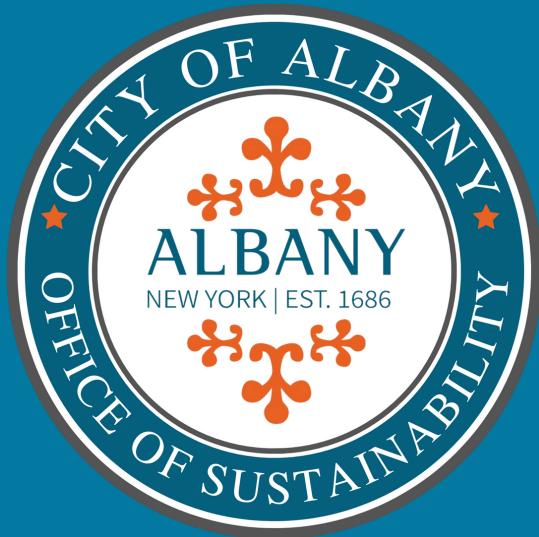
Flooding can lead to public health risks including waterborne diseases, as floodwaters often carry contaminants such as sewage and chemicals.

LOSS OF LIFE

The most common flood deaths occur when vehicles are driven into hazardous flood waters.

OTHER IMPACTS

Economic losses, environmental damages, rising insurance rates, utility interruptions, etc.



Climate Impacts STORMS AND FLOODING

✓ sustainability@albanyny.gov

✓ 24 Eagle St., Albany NY 12207

✓ 518.434.2026



albany.gov/sustainability

MORE INTENSE STORMS

Climate change is directly linked to an increase in the intensity and frequency of storms. More heat means that there is more energy in the atmosphere for storms to draw on - the warmer the surface is, the more energy can be transferred to the storm, increasing the strength and intensity of the wind.

With increased temperatures, more water evaporates from both the land and the ocean's surface, adding water vapor to the air. In addition, warmer air can hold more of the water vapor that evaporated. During a storm, this increase in water vapor in the air means more precipitation.

Global Stilling is a phenomenon that refers to the decrease in global wind. Scientists agree that winds can slow as the planet warms. This stilling means storms can move more slowly and deposit more rain in a single location.

As climate change progresses, these slower, extreme storms with stronger winds and increased rainfall will happen more frequently than storms do today.

South Pearl Street during the Flood of 1913.



FUTURE RAIN AND SNOWFALL PROJECTIONS

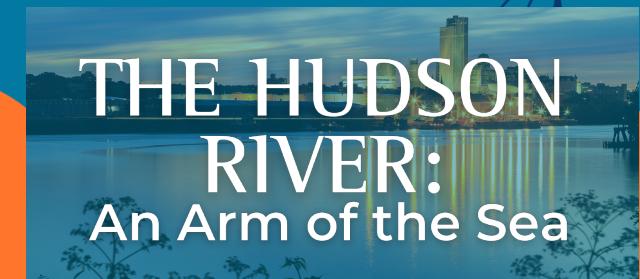
The northeastern U.S. experienced an increase in heavy precipitation of more than 70% from 1958 to 2010 - a bigger increase than any other region of the country.

Precipitation is expected to rise even more in coming years, with longer and more frequent rain/snow coming in heavier downpours. In New York, we can expect more and heavier rain while getting less snow.

PRECIPITATION PROJECTIONS

Over the course of this century, Albany will see more and more rainfall. How much depends on how quickly the world stops using fossil fuels. On our current high-emissions path, we could see up to:

- an 11% increase in the 2030's
- a 14% increase by the 2050's
- a 22% increase by 2080, and
- a 30% increase by the year 2100



The Hudson River is a dynamic, vibrant ecosystem fed by hundreds of streams, creeks and other tributaries. The river is home to saltwater and freshwater species, and species that live in both.

The Hudson starts deep in the Adirondacks at Lake Tear of the Clouds and ends in New York Harbor, where it joins the Atlantic Ocean. That connection to the ocean means that as sea levels rise, so does the level of the Hudson River - up to the dam at Troy.

Sea level rise is caused by several things. As the planet warms, most of that heat is absorbed by the oceans and as water warms it expands, taking up more room. There is also enormous amounts of water trapped in glaciers, mostly in Antarctica. As temperatures rise, that ice melts and flows into the ocean, raising sea levels as well.

As the coastal Hudson rises with the sea, storm surges will surge higher, floodplains will push inland and extreme flooding will become more common. NYC has already seen just over a foot of sea level rise since 1900.

Over the course of this century, we can expect the river level to keep rising if we stay on a high-emissions path:

- in the 2030's, the Hudson may rise up to 14 inches.
- by the 2050's, up to 25 inches
- by the 2080's up to 48 inches
- by the year 2100 up to 69 inches
- by the year 2150, NYS projects the Hudson may be 185 inches higher than today - 15 and a half feet!