

# CLIMATE CHANGE IN THE HUDSON VALLEY



Hudson River Estuary Program

## A summary for the public

This document provides the latest on climate changes in the Hudson Valley area and how you can get involved. Although these changes create new challenges for humans, they also present great opportunity for our communities to live better with nature. We hope that you will get involved to help us create a prosperous climate future!

### How is our climate changing and how will it affect us?



#### Temperatures are increasing

Since 1970, temperature increases in New York have surpassed national and global averages:

- Global annual average temperature up nearly **1°F**
- U.S. annual average temperature up **1.8°F**
- New York annual average temperature up nearly **2°F**
- New York winter temperatures up almost **5°F**

Scientists project that we will see another 2 to 3°F by the 2020s as much as 6°F by mid-century. This increasing temperature will lead to more frequent and severe heat wave and droughts.

➔ **Risk: *Heat waves*** are becoming more frequent and lasting longer. By 2020, the number of days exceeding 90 degrees F is expected to double, by 2050 it could quadruple to 50 annually.



#### Precipitation is becoming more extreme

Precipitation is becoming more variable and extreme, meaning there are more heavy rainfall events intermixed with drier periods. In fact, major rainfall events (over 1" in 24 hours) have increased 74% between the periods of 1950-1979 and 1980-2009.

➔ **Risk: *Short-term drought*** is occurring more frequently and severely in the summer months. This trend is expected to continue, presenting a risk to drinking water, agriculture, and more.



#### Rising Sea Level

Global sea level is rising due to warmer air temperatures. The Hudson River is connected to the sea, which is why it experiences tides and contains saltwater in its lower reaches. It is also the reason why the Hudson River's water level is rising with global sea level. Since 1900, sea level in the lower Hudson has risen 15 inches. Scientists project another four to 10 inches of rise by the 2020s and nine to 27 inches by mid-century. A higher sea level will exacerbate flooding and put coastal communities at risk.

➔ **Risk: *Flooding*** is becoming more frequent and flood zones are increasing in size. Today's 1% probability ("100-year") flood will become 50% more likely by 2020 and two to three times as likely by mid-century.

## What can you do?

The changing climate represents both a great challenge and a great opportunity in your lifetime. You have the opportunity to make climate smart decisions in your everyday actions. You can also participate in local government and incorporate climate into your future career. We will need many more scientists, policymakers and teachers who can help us learn to live well with our changing climate, and prevent the climate from becoming more extreme in the future. Talk to your teacher, local politician, or community group to find out how you can help. You can also learn more online, starting at the links below.

Sign up for our Climate Resilience Newsletter to receive occasional updates on funding, jobs, events and other opportunities in the Hudson River Estuary:

[https://public.govdelivery.com/accounts/NYSDEC/subscriber/new?topic\\_id=NYSDEC\\_147](https://public.govdelivery.com/accounts/NYSDEC/subscriber/new?topic_id=NYSDEC_147)

Visit our page for more information on climate change:

<http://www.dec.ny.gov/energy/50399.html>

Visit the YardWork's website on design strategies for making your property more resilient:

<https://yardworksproject.org/kingston-design-strategies.html>

Visit Scenic Hudson's Sea Level Rise Mapper:

<http://www.scenichudson.org/slr/mapper>

Download our one-page fact sheet on climate projections for the Hudson Valley:

[http://www.dec.ny.gov/docs/remediation\\_hudson\\_pdf/cphv.pdf](http://www.dec.ny.gov/docs/remediation_hudson_pdf/cphv.pdf)

Download our climate summary for communities, which provides more detailed information on climate projections and risks to humans and what we can do about it:

[http://www.dec.ny.gov/docs/remediation\\_hudson\\_pdf/csfc2.pdf](http://www.dec.ny.gov/docs/remediation_hudson_pdf/csfc2.pdf)

Visit our page celebrating climate resilience case studies in Hudson River communities:

<http://www.dec.ny.gov/energy/93950.html>

Visit our page for more on why our climate is changing:

<http://www.dec.ny.gov/energy/63848.html>

Visit the EPA's website for "What You Can Do" to help:

<http://www.epa.gov/climatechange/wycd/>

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