

# CLIMATE PROJECTIONS IN THE HUDSON RIVER ESTUARY

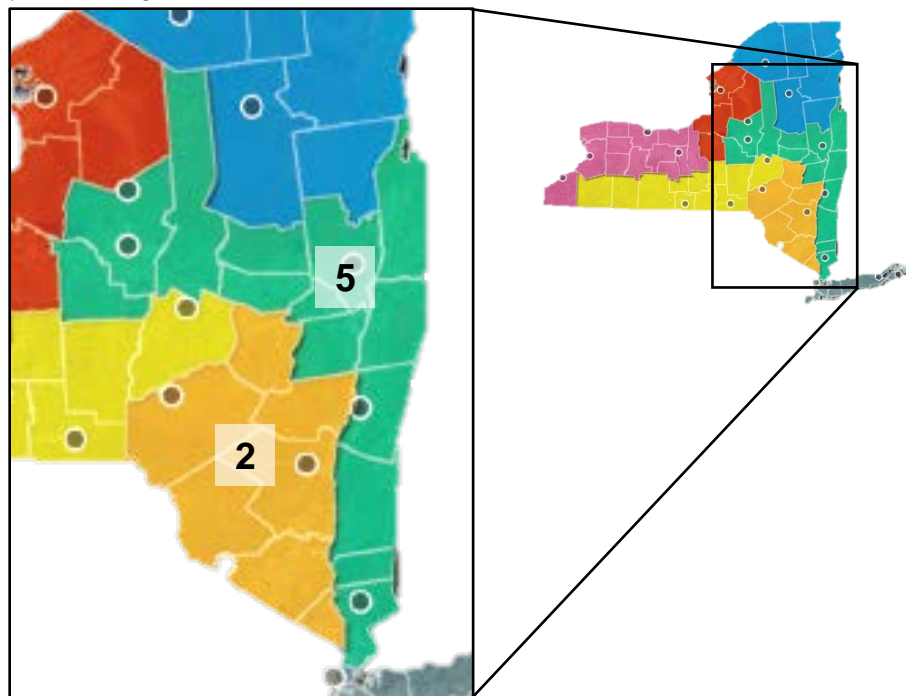


Hudson River Estuary Program

## A fact sheet for the public

This fact sheet provides a one-page summary table of the climate projections for the Hudson River Estuary region. The projections include air temperature, precipitation, heat wave, sea level rise and flood projections from now through year 2100. The projections are taken from *Responding to Climate Change in New York State CimAID Report* written in 2011 and updated in 2014. The State of New York officially adopted the sea-level rise projections in 2017 for consideration in funding and permitting decisions.

The report delineates climate projections by region. This fact sheet includes the two Hudson Valley regions: Region 2 (west of the Hudson River) and Region 5 (east of the Hudson River and the Mohawk River region). Region 2 covers Delaware, Greene, Orange, Schoharie, Sullivan, Rockland, and Ulster counties, and Region 5 covers Albany, Columbia, Dutchess, Fulton, Herkimer, Madison, Montgomery, Oneida, Putnam, Rensselaer, Saratoga, Schenectady, Washington, and Westchester counties.



ClimAID climate regions 2 and 5, circles represent meteorological stations (NYSERDA).

## CLIMATE PROJECTIONS FOR THE HUDSON VALLEY REGION

### AIR TEMPERATURE PROJECTIONS FOR REGION 2

	Baseline 1971-2000	2020s	2050s	2080s	2100
Annual average air temperature	48°F	52.2 - 53.1°F	54.2 - 56.1°F	55.4 - 59.6°F	56.2 - 61.2°F
Increase in annual average	-	2.2 - 3.1°F	4.2 - 6.1°F	5.4 - 9.6°F	6.2 - 11.2°F

### AIR TEMPERATURE PROJECTIONS FOR REGION 5

	Baseline 1971-2000	2020s	2050s	2080s	2100
Annual average air temperature	50°F	52.3 - 53.2°F	54.5 - 56.2°F	55.6 - 59.7°F	56.1 - 61.4°F
Increase in annual average	-	2.3 - 3.2°F	4.5 - 6.2°F	5.6 - 9.7°F	6.1 - 11.4°F

## PRECIPITATION PROJECTIONS FOR REGION 2

	Baseline 1971-2000	2020s	2050s	2080s	2100
Total annual precipitation	48"	48.5" - 52"	49.5" - 53.5"	51" - 54.5"	48.5" - 56.5"
% Increase in annual precipitation	-	1 - 8%	3 - 11%	6 - 14%	1 - 18%
# Days with precipitation > 1"	12	12 - 13	13 - 14	13 - 15	*
# Days with precipitation > 2"	2	2	2 - 3	2 - 3	*

## PRECIPITATION PROJECTIONS FOR REGION 5

	Baseline 1971-2000	2020s	2050s	2080s	2100
Total annual precipitation	51"	52" - 54.5"	53" - 57"	53.5" - 58.5"	53.5" to 61.5"
% Increase in annual precipitation	-	2 - 7%	4 - 12%	5 - 15%	5 - 21%
# Days with precipitation > 1"	10	14 - 15	14 - 16	15 - 17	*
# Days with precipitation > 2"	1	3 - 4	4	4 - 5	*

## HEAT WAVE PROJECTIONS FOR REGION 2

	Baseline 1971-2000	2020s	2050s	2080s	2100
# Days per year above 90°F	12	19 - 25	31 - 47	38 - 77	*
# Days per year above 95°F	2	2 - 5	5 - 12	7 - 28	*
# Heat waves per year	2	3	4 - 6	5 - 9	*
Average # days of each heat wave	4	5	5 - 6	5 - 7	*
# Days per year ≤ 32°F	138	108 - 116	86 - 100	65 - 89	*

## HEAT WAVE PROJECTIONS FOR REGION 5

	Baseline 1971-2000	2020s	2050s	2080s	2100
# Days per year above 90°F	10	26 - 31	39 - 52	44 - 76	*
# Days per year above 95°F	1	2 - 4	3 - 10	6 - 25	*
# Heat waves per year	1	3 - 4	5 - 7	6 - 9	*
Average # days of each heat wave	4	5	5 - 6	5 - 7	*
# Days per year ≤ 32°F	155	127 - 136	104 - 119	84 - 109	*

## SEA LEVEL RISE PROJECTIONS FOR THE HUDSON

	Baseline 1971-2000	2020s	2050s	2080s	2100
Mid-Hudson region	-	1 - 9"	5 - 27"	10 - 54"	11 - 71"
NYC/Lower Hudson region	-	2 - 10"	8 - 30"	13 - 58"	15 - 75"

## FLOOD PROJECTIONS FOR COASTAL NY

	Baseline 1971-2000	2020s	2050s	2080s	2100
Increase in probability of 100-year flood	0%	20 - 50%	70 - 190%	140 - 610%	*
Flood height of 100-year flood	15'	15.3 - 15.7'	15.9 - 16.8'	16.5 - 18.3'	*

### CONTACT INFORMATION

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