



Department
of Health

Climate Change and Health – Health Impacts, Recent Events, and Future Directions

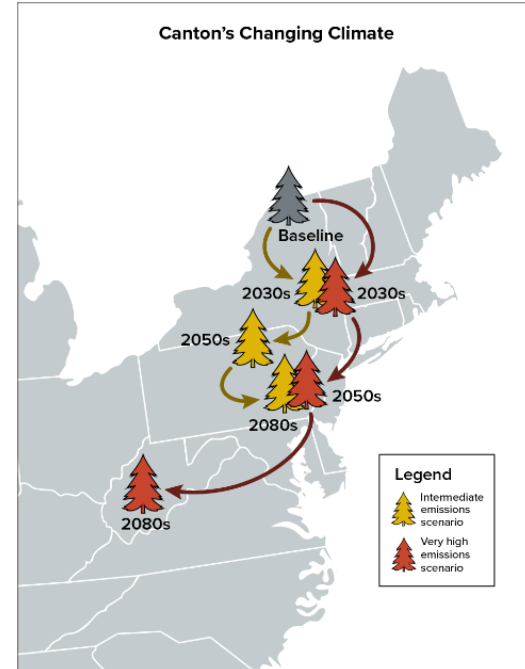
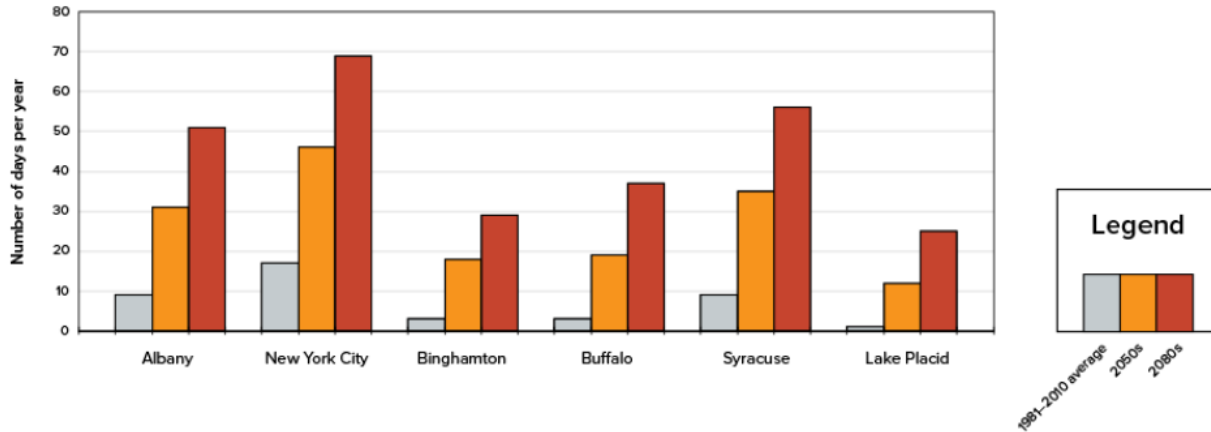
Neil Muscatiello
10/23/24

NYS Climate Impacts Assessment

- Since 1901, average temperatures in NYS have increased by almost 2.6°F.
 - New York is warming more quickly than the U.S. average
 - Temperatures in New York State since 2000 have been higher than in any period in recorded history.
- From 1901 to 2022, total annual precipitation in NYS increased by 10% to 20%.
 - Precipitation varies more widely from year to year.
- Hurricanes and tropical storms in the Atlantic Ocean generally more intense since the mid-1990s. Coastal storms becoming more destructive as sea level rise worsens flooding from storm surge.
 - Heavy rainstorms projected to happen more often and become more intense as climate warming continues
 - While the number of hurricanes and tropical storms might not increase, storms that do form are projected to be stronger and shift farther north.
- Climate change will lead to more frequent and intense wildfires in many states, but NYS is not expected to experience a large change.
 - Wildfires from other states can send smoke into NYS, as experienced June/July 2023.
 - Risk of air quality impacts will increase as fires happen more often elsewhere in the US and Canada.



Number of Days with Temperatures Above 90°F in New York State

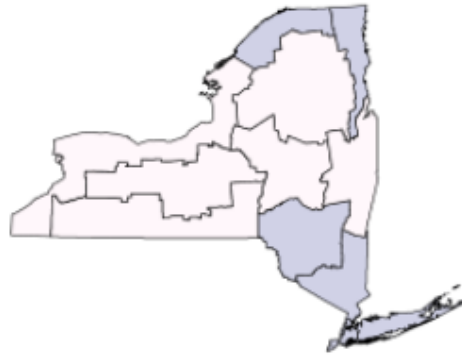
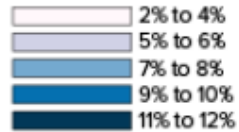


Source: NYS Climate Impacts Assessment

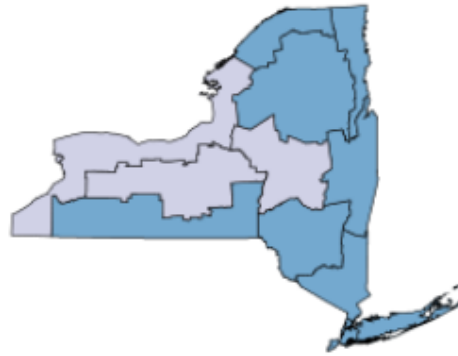
<https://nysclimateimpacts.org/explore-the-assessment/new-york-states-changing-climate/nysc-temperature/>

Projected Annual Precipitation in New York State During the 21st Century

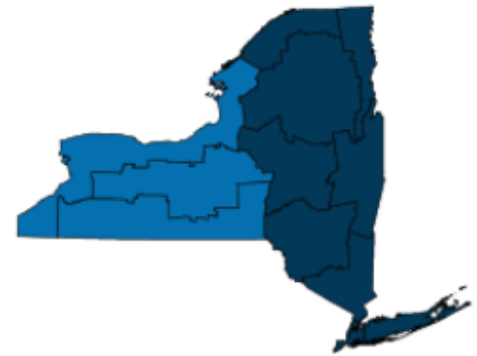
Change in precipitation since
baseline (1981–2010), percent



2030s



2050s



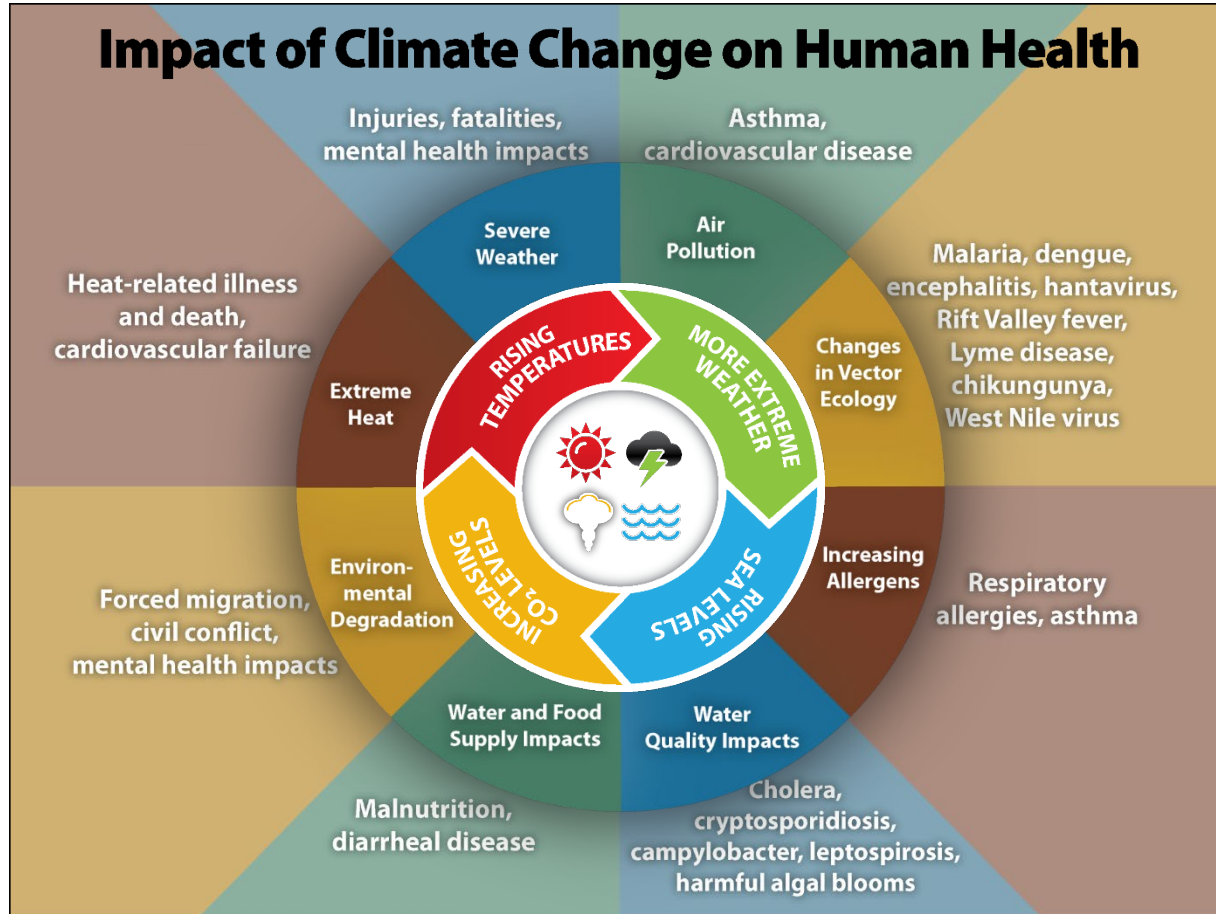
2080s

Source: NYS Climate Impacts Assessment

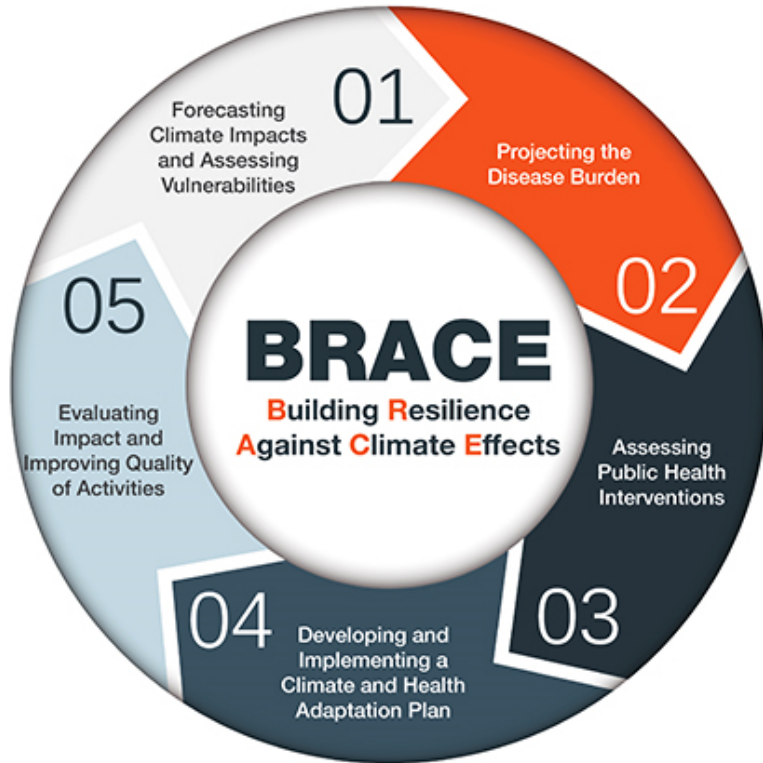
<https://nysclimateimpacts.org/explore-the-assessment/new-york-states-changing-climate/nysc-precipitation/>



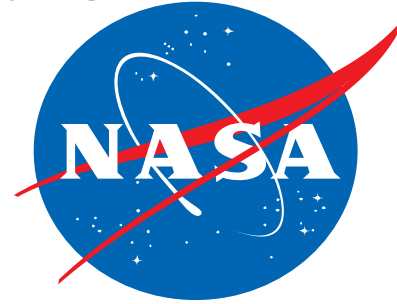
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Climate and Health

Building Resilience Against Climate Effects

Other CDC
programs:



Other CDC
programs:



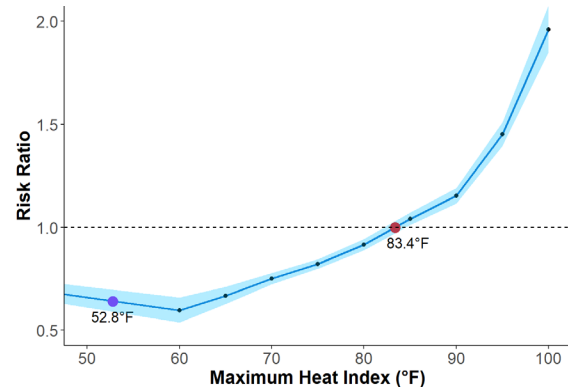
Other funders:

NYSERDA

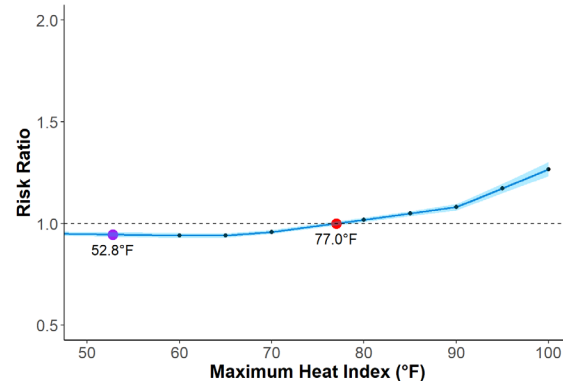


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Heat Stress

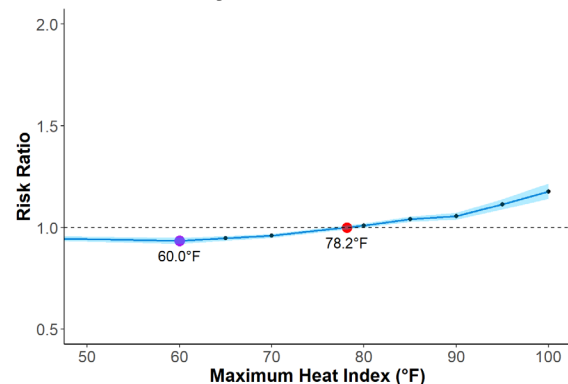


Dehydration

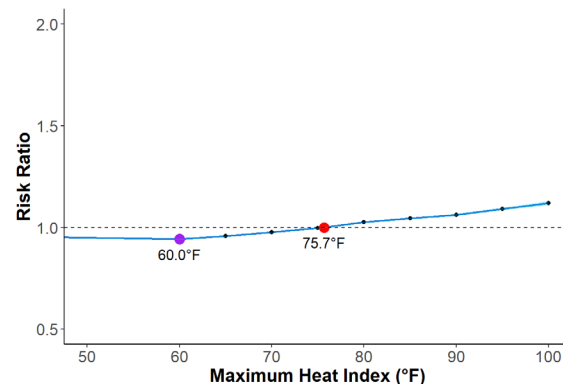


Heat-Health Risks

Acute Kidney Failure



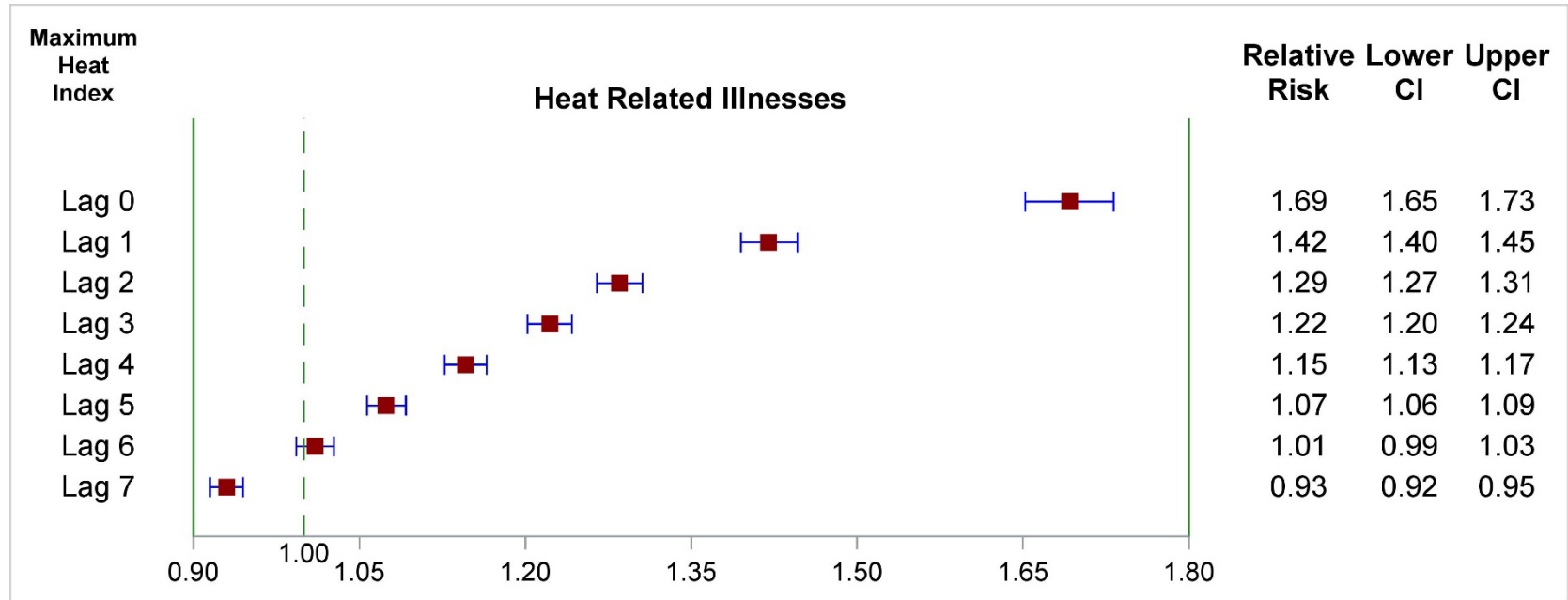
Cardiovascular Disease



For every 5F change in temperature; Adjusted for ozone & PM2.5.

Adeyeye T, Insaf TZ**, Al-Hamdan M, Nayak S, Stuart N, Dirienzo S, Crosson W. Estimating policy relevant health effects of ambient heat exposures using spatially contiguous remote sensing reanalysis data. *Environmental Health*. 2019 18:35. (<https://doi.org/10.1186/s12940-019-0467-5>)

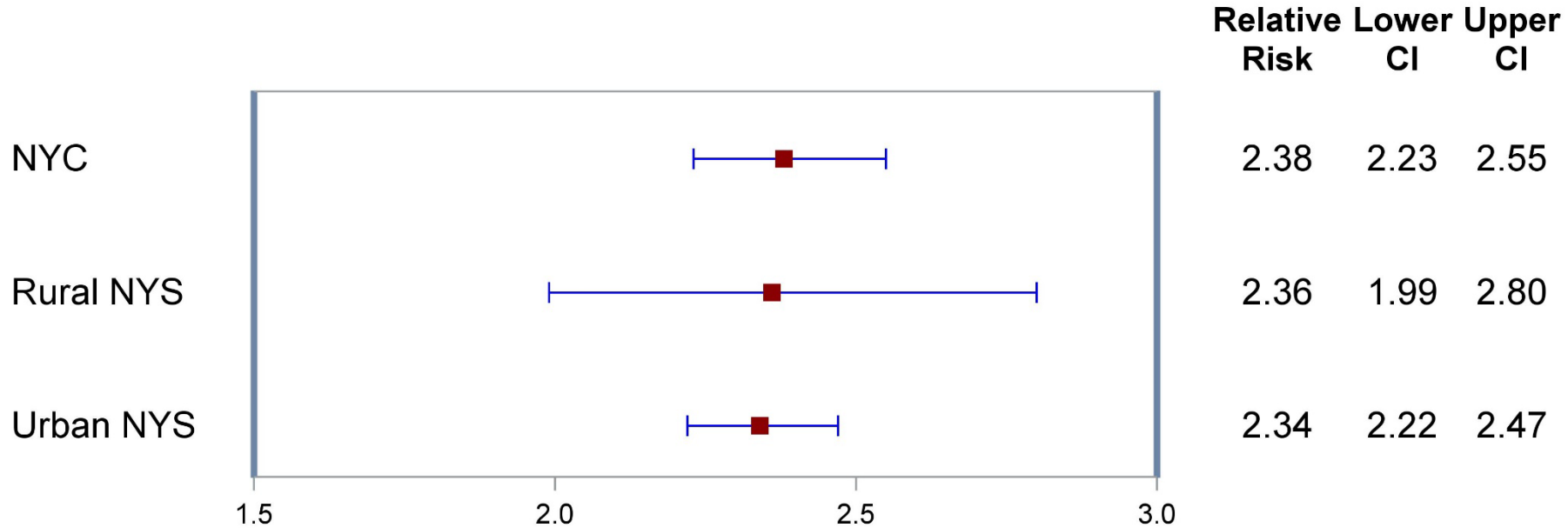
Extreme Heat Lag Effects

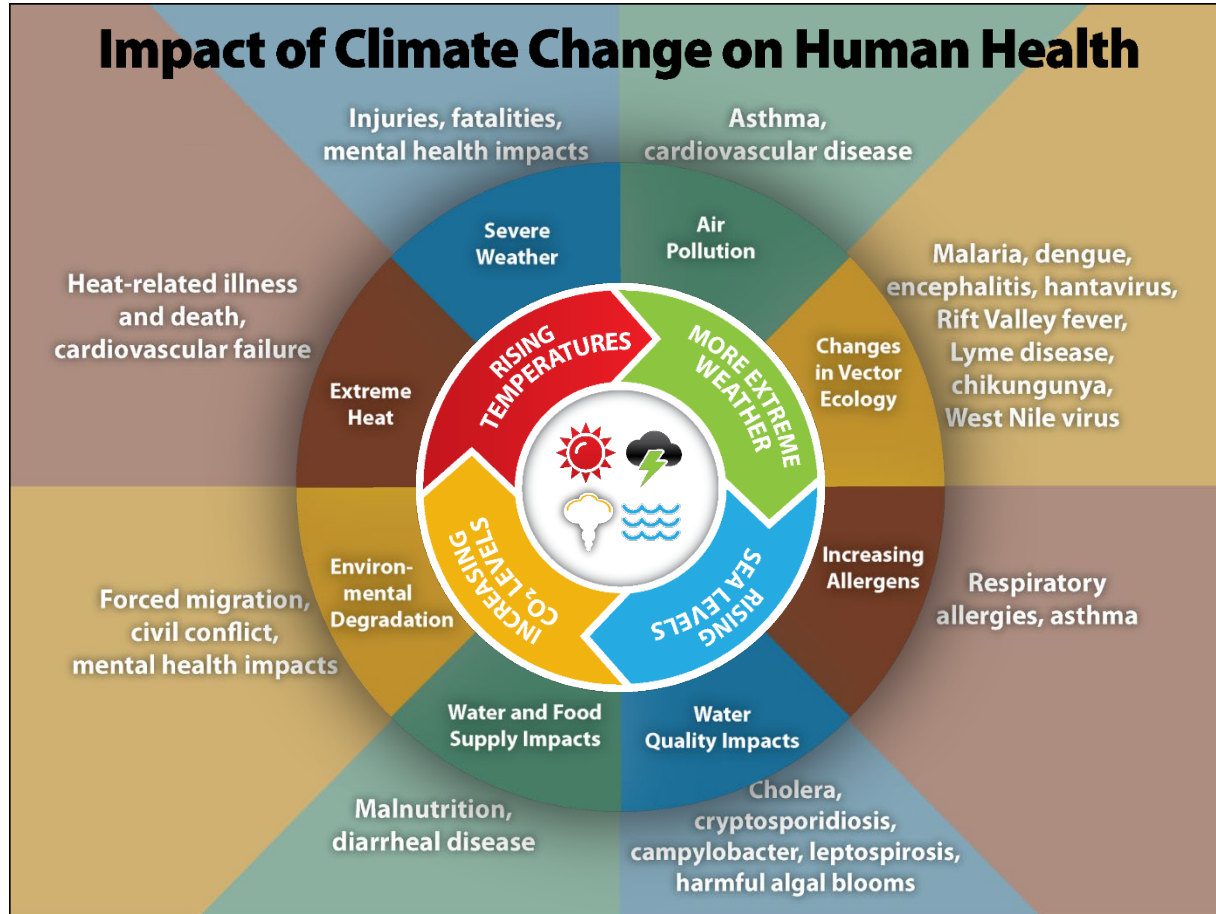


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Adeyeye T, Insaf TZ**, Al-Hamdan M, Nayak S, Stuart N, Dirienzo S, Crosson W. Estimating policy relevant health effects of ambient heat exposures using spatially contiguous remote sensing reanalysis data. *Environmental Health*. 2019 18:35. (<https://doi.org/10.1186/s12940-019-0467-5>)

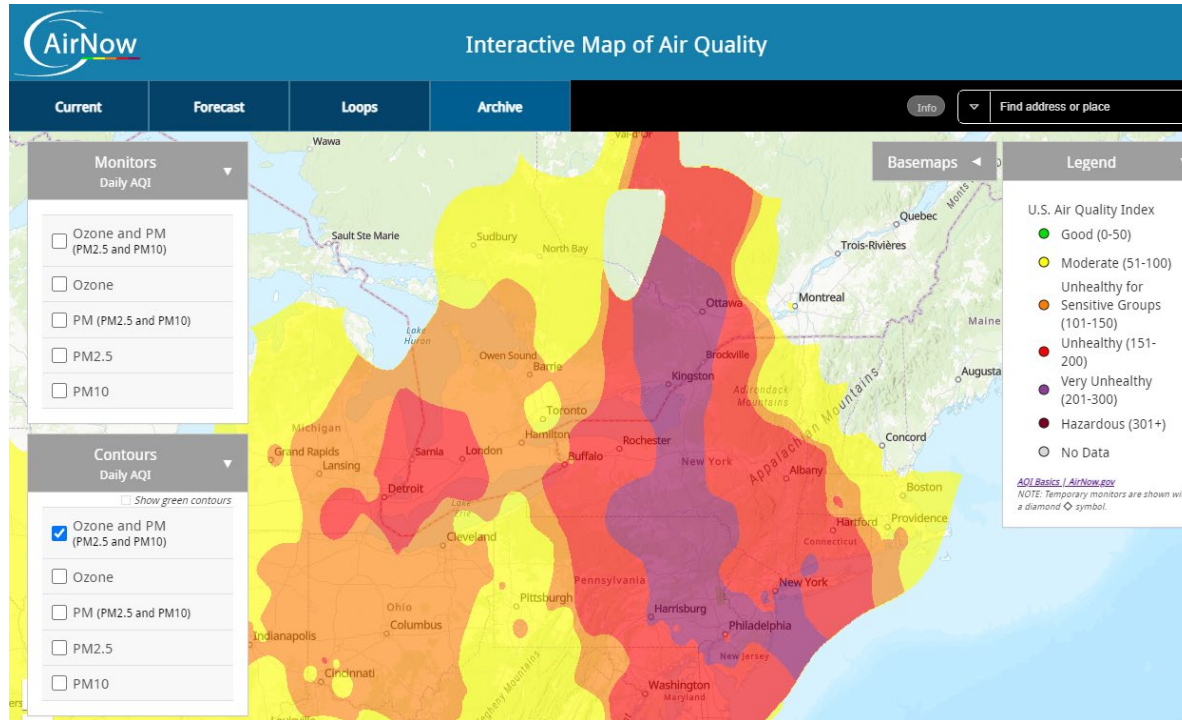
Same Day Exposure and Risk of Heat Related Illnesses in New York State





Climate and Health

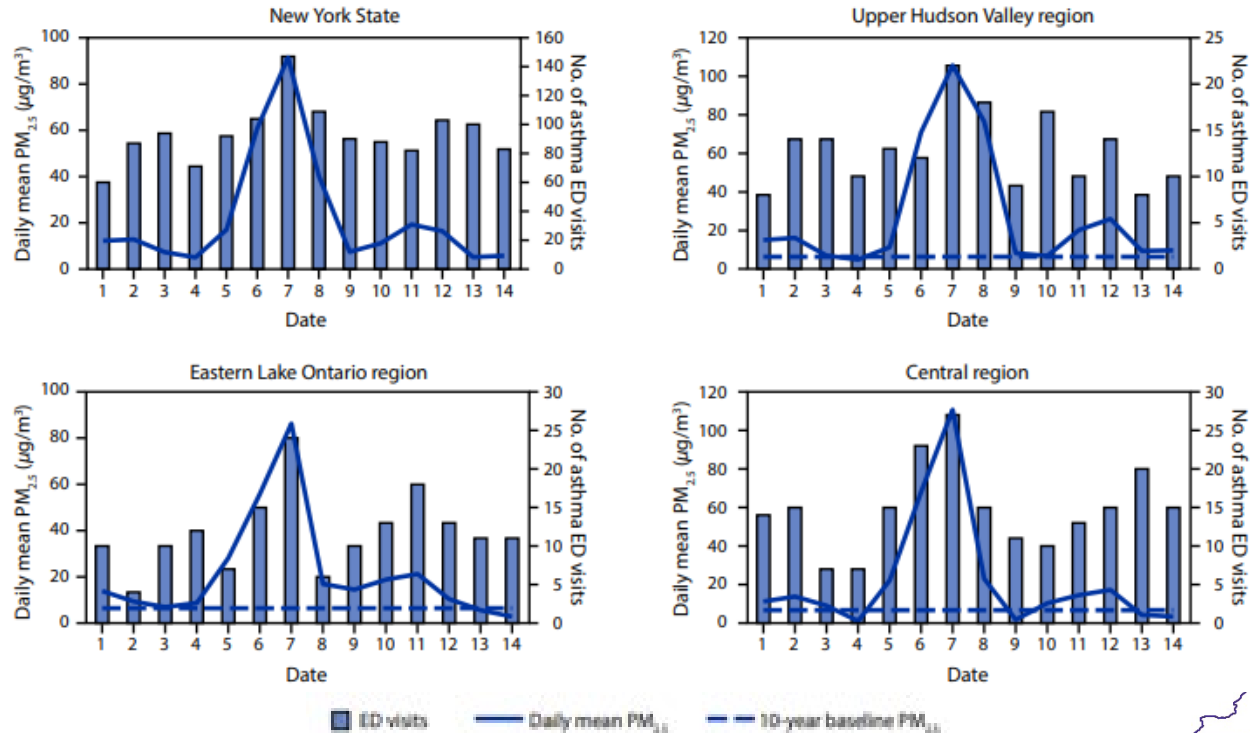
Wildfire Impacts – June 7, 2023



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Wildfire Impacts

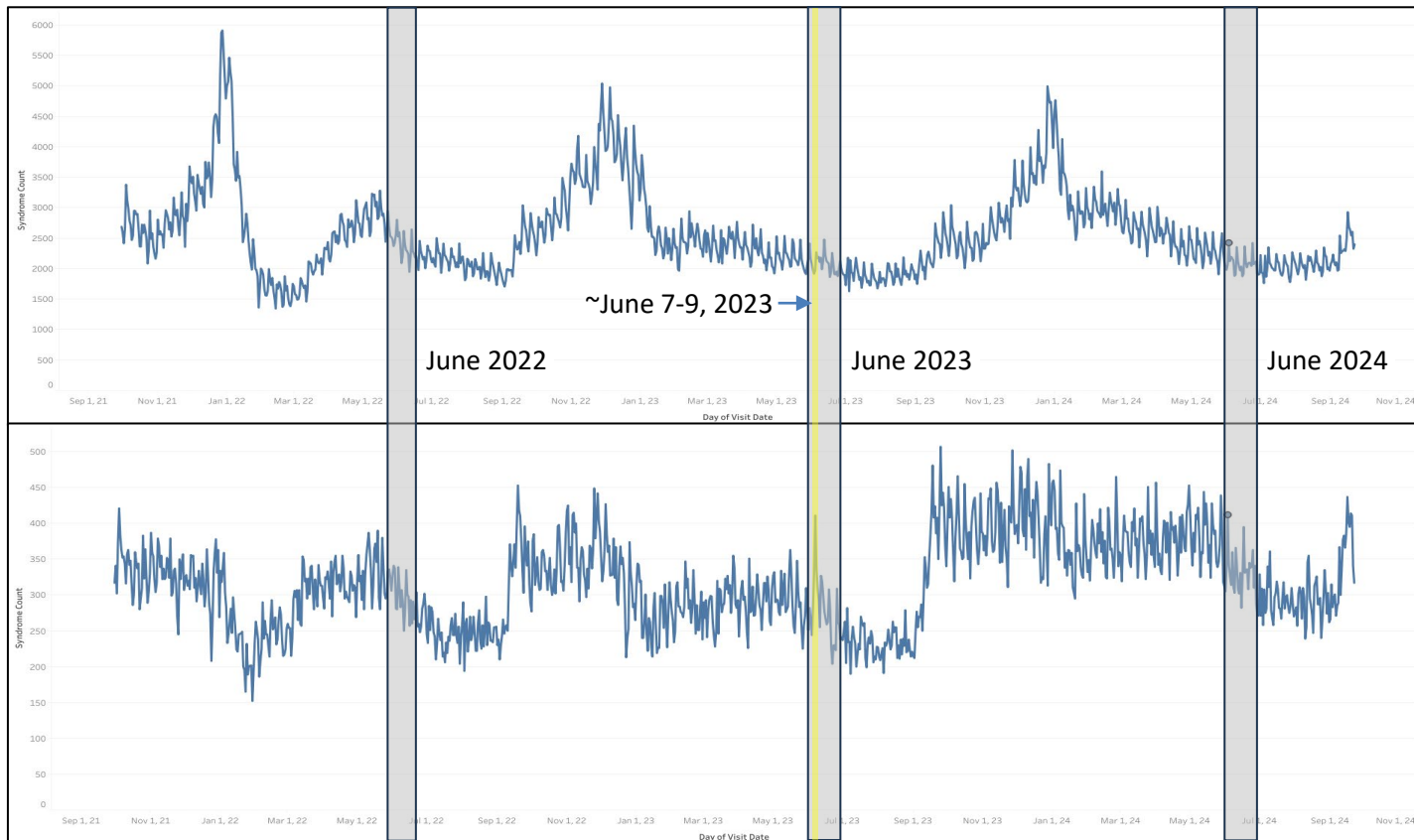
FIGURE. Daily mean particulate matter with aerodynamic diameter $\leq 2.5 \mu\text{m}$ and number of asthma-associated emergency department visits statewide* and selected regions† — New York excluding New York City, June 1–14, 2023



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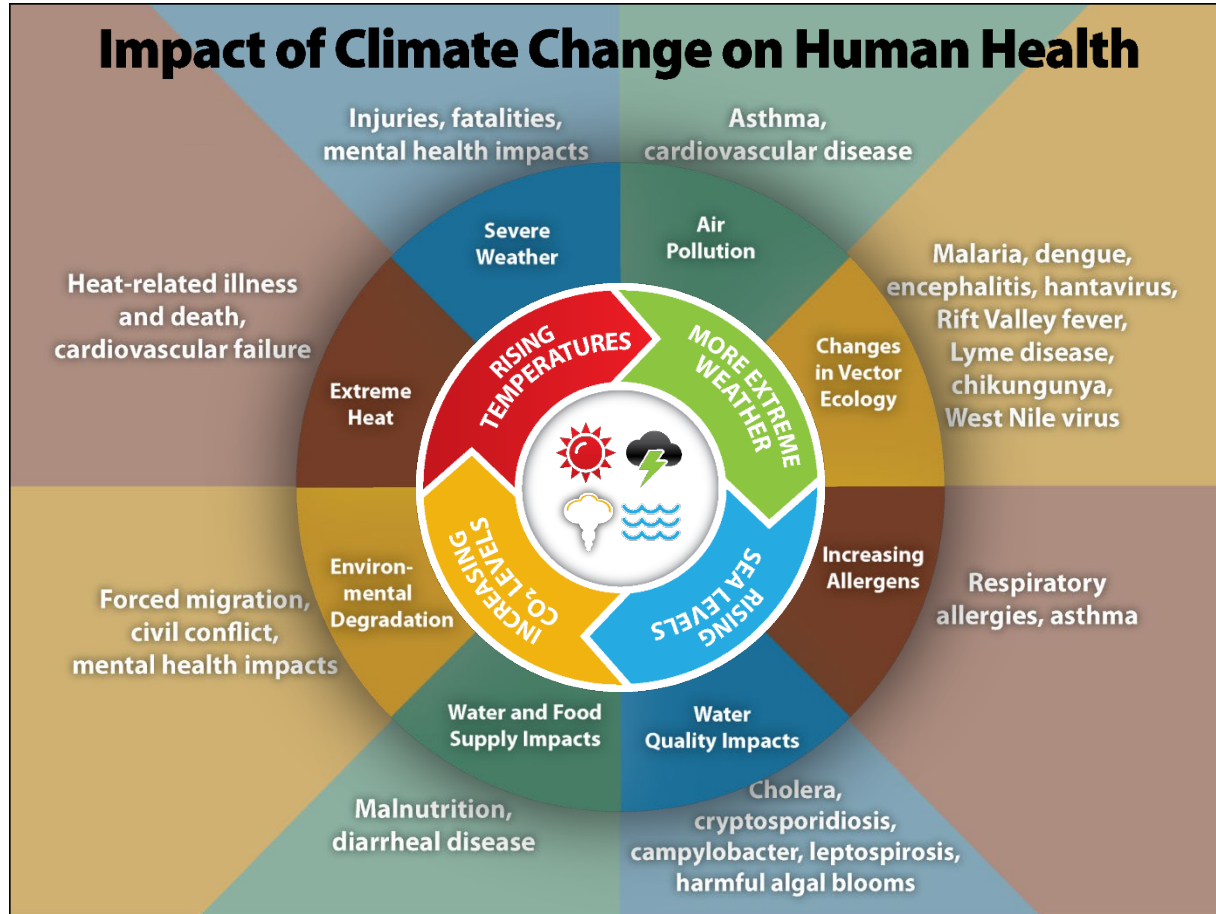
Syndromic Surveillance of June 2023 in Additional Context

Longer-Term Time Trends



**Acute
Respiratory**

Asthma



Climate and Health

CDC Climate and Health Program Vulnerability Framework

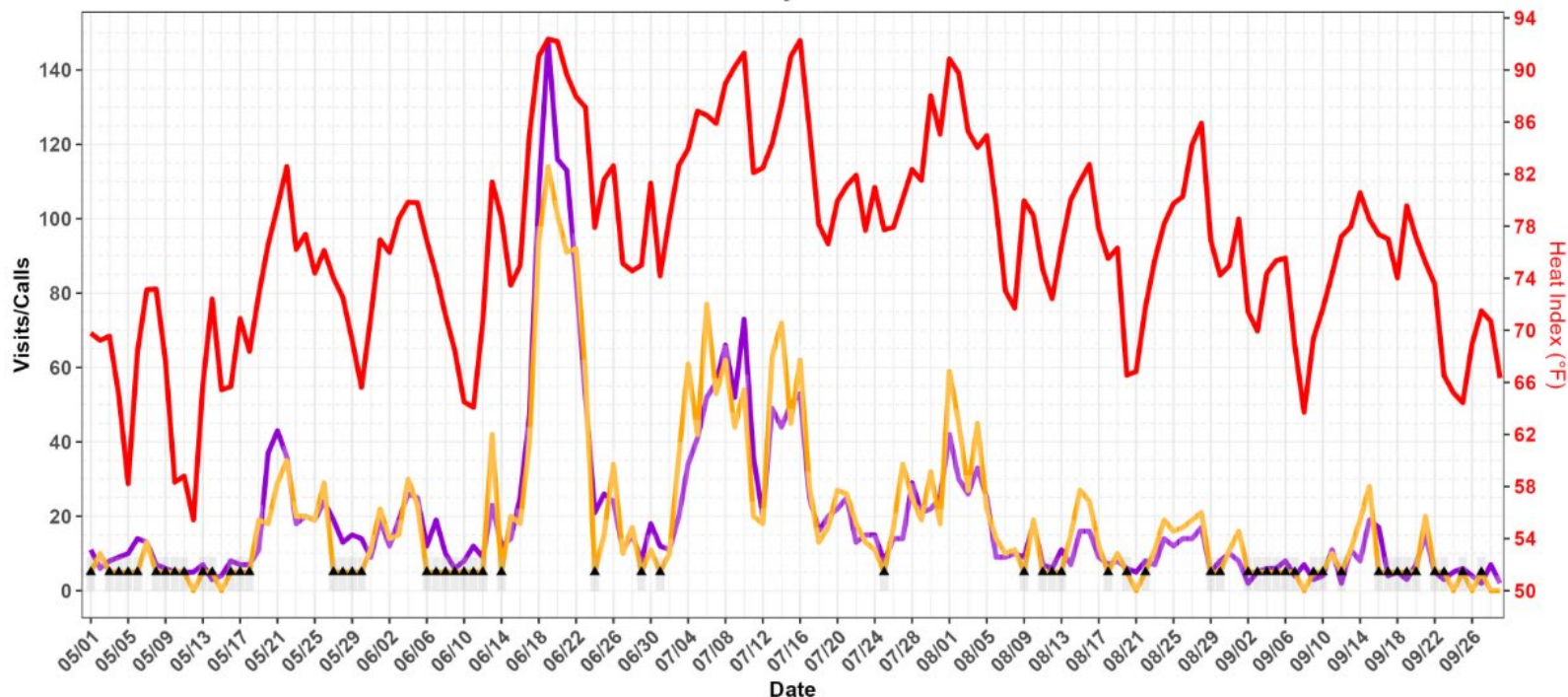


Current and Future Directions

Extreme Heat/Weather Planning and Response

- Surveillance and Research
- Partnerships
 - LHDs, DEC, DHSES, OTDA, NYSERDA
 - Updating DOH Extreme Heat/Weather Preparedness and Response plans
 - Implementing Extreme Heat Action Plan
 - Updating the Heat Vulnerability Index
 - Enhancing Cooling Center Finder
 - Worker H&S in collaboration with DOL
 - Congregate settings
- Communications
 - Continuing to develop/enhance extreme heat/extreme weather advice and guidance
 - Annual social media campaign and other outreach to stakeholders

Heat Surveillance



— ED Visit — EMS Call — Heat Index

▲ values between 1 to 9 are suppressed.

Heat Surveillance

Table 1. Time Trends and Historical Comparisons for Electronic Syndromic Surveillance System Heat-Related Emergency Department Visits and New York State Mesonet Heat Index

| Indicator | Count ¹ | Change |
|--|--------------------|--------|
| Previous Day Heat-Related Emergency Department Visits | | |
| 06/23/2024 | 43 | +105% |
| Historical for Month of June ² | 21 | |
| Previous 14 Days Heat-Related Emergency Department Visits | | |
| 06/10/2024 ~ 06/23/2024 | 730 | +263% |
| Historical for previous 14 days ³ | 201 | |
| Cumulative for Heat Season (May ~ September) | | |
| Heat-Related Emergency Department Visits May 1 ~ June 23 | 129 | +71% |
| Historical Baseline Heat-Related Emergency Department Visits for May 1 ~ June 23 ⁴ | 754 | |
| Percent of County-Days with Heat Index of 85 or Greater (May 1 ~ June 23) ⁵ | 11.9% | +125% |
| Historical Baseline Percent of County-Days with Heat Index of 85 or Greater (May 1 ~ June 23) ⁶ | 5.3% | |

¹ Values are shown as counts, unless otherwise indicated.

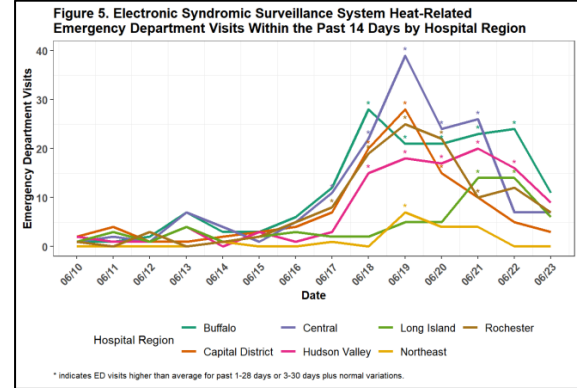
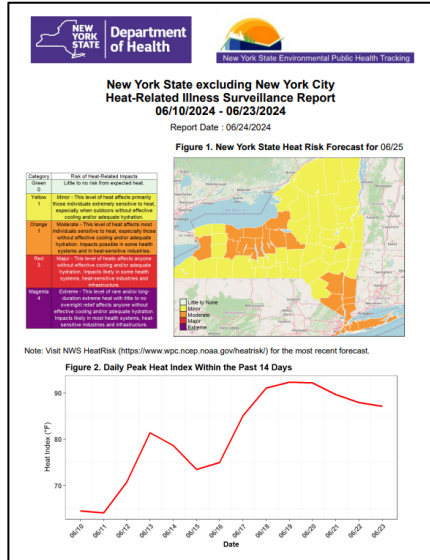
² Average visits per day June for the years 2019-2023, excluding 2020.

³ Average visits for 06/10 ~ 06/23 for the years 2019-2023, excluding 2020.

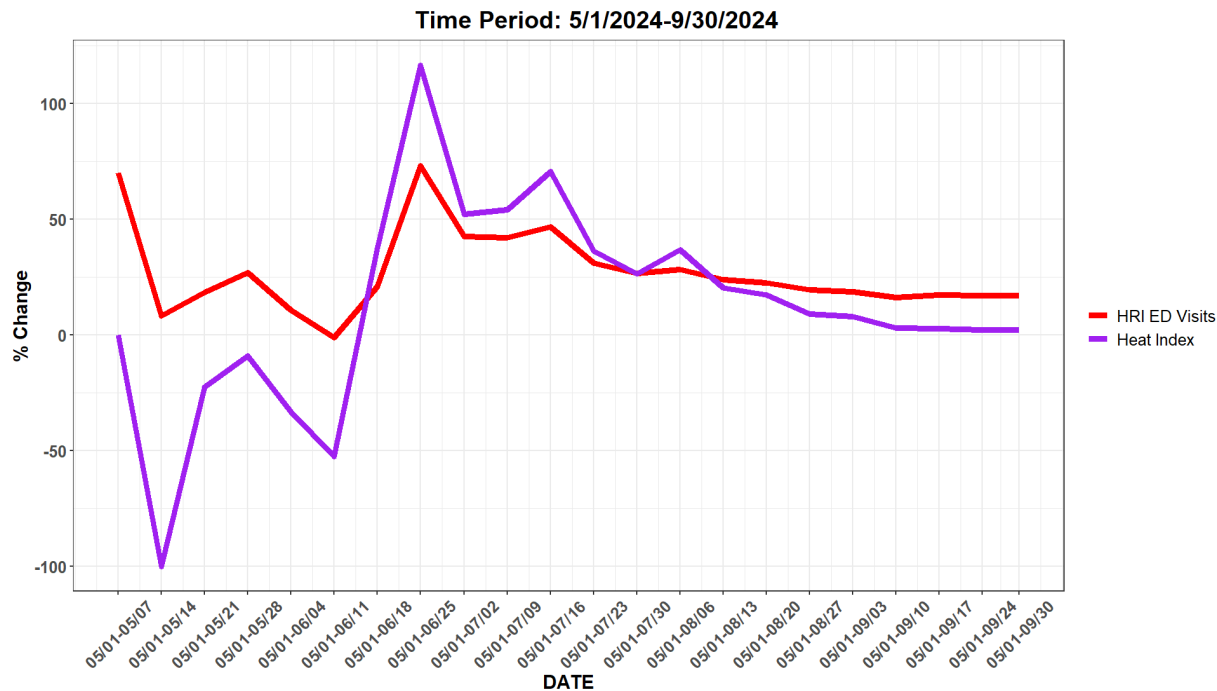
⁴ Average cumulative visits from May 1 ~ June 23 for the years 2019-2023, excluding 2020.

⁵ County-days: each county contributes one county-day on any day in the summer. Since there are 57 counties in NYS excluding NYC, on each day there are 57 county-days.

⁶ Proportion of all county-days with heat index of 85 or greater from May 1 ~ June 23 for the years 2018-2023.



Heat Surveillance

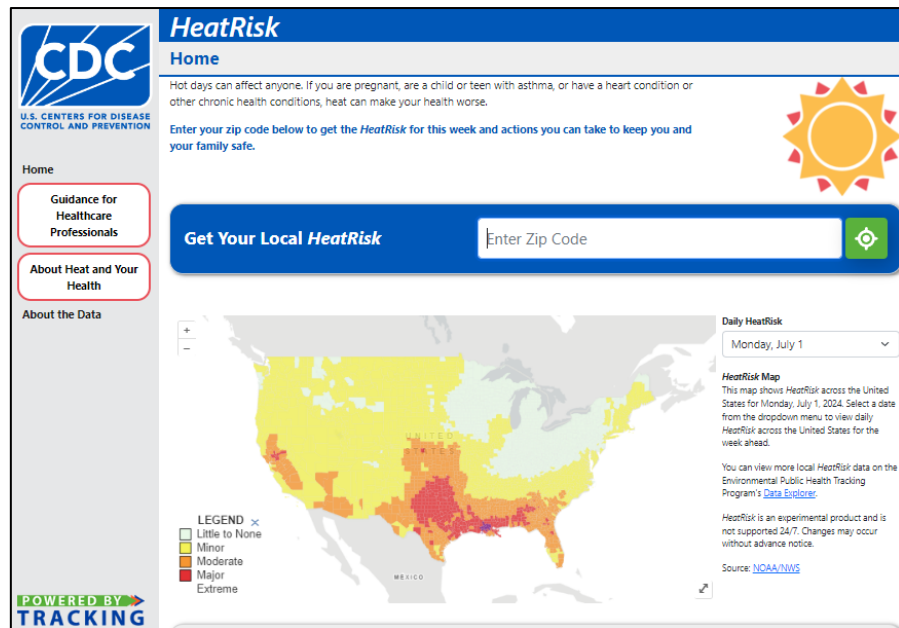


CDC HeatRisk

<https://ephtracking.cdc.gov/Applications/HeatRisk/>

- Rapid access to information about heat health risks and air quality where you live
- Actions you can take to protect health
- Guidance for healthcare professionals

| Category | Risk of Heat-Related Impacts |
|--------------|--|
| Green 0 | Little to no risk from expected heat. |
| Yellow 1 | Minor - This level of heat affects primarily those individuals extremely sensitive to heat, especially when outdoors without effective cooling and/or adequate hydration. |
| Orange 2 | Moderate - This level of heat affects most individuals sensitive to heat, especially those without effective cooling and/or adequate hydration. Impacts possible in some health systems and in heat-sensitive industries. |
| Red 3 | Major - This level of heat affects anyone without effective cooling and/or adequate hydration. Impacts likely in some health systems, heat-sensitive industries and infrastructure. |
| Magenta 4 | Extreme - This level of rare and/or long-duration extreme heat with little to no overnight relief affects anyone without effective cooling and/or adequate hydration. Impacts likely in most health systems, heat-sensitive industries and infrastructure. |

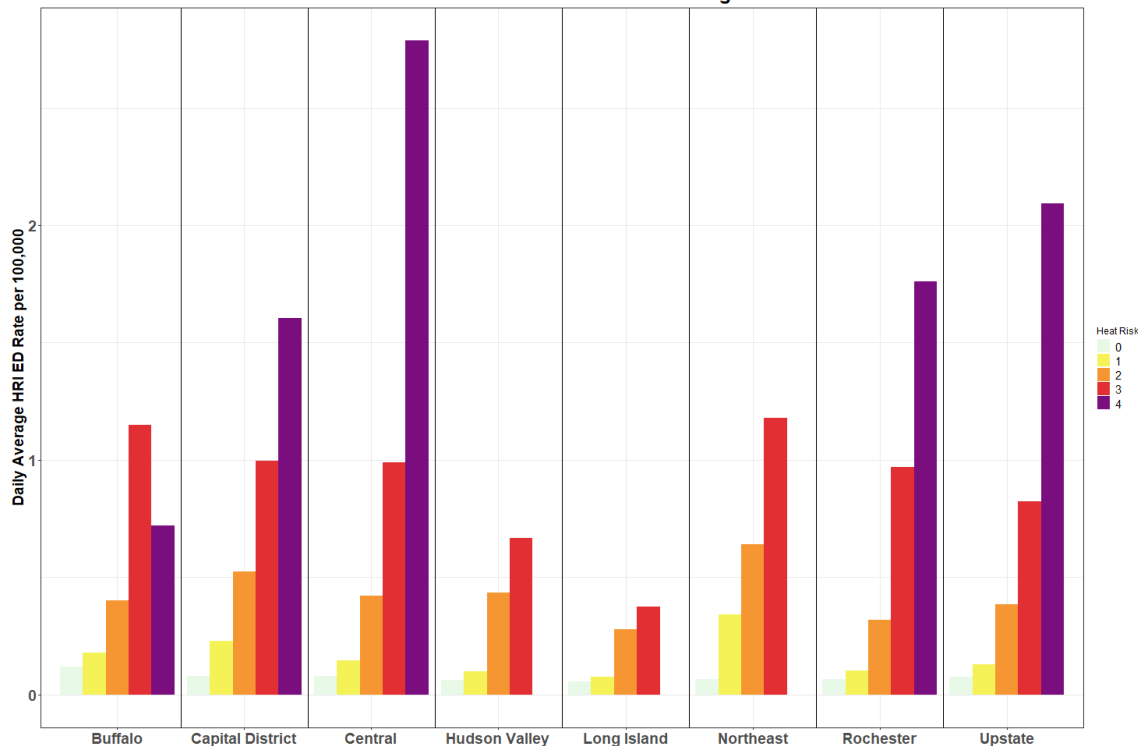


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Preliminary

Evaluation of *HeatRisk* to inform DOH response

DRAFT Preliminary results not for distribution
Time Period: 5/1/2024-9/30/2024 excluding 6/26/2024

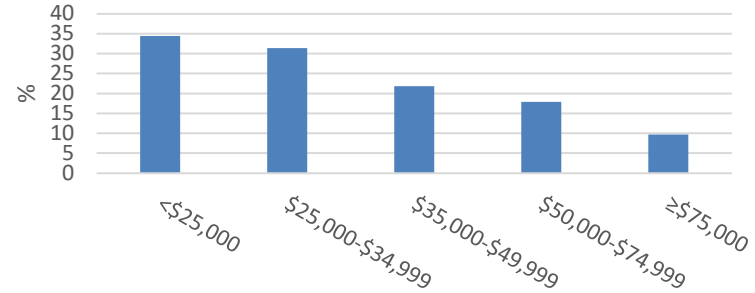


- Data:
 - HRI counts based upon ESSS data from summer 2024
 - Population from American Community Survey
- In some cases, small number of days and/or cases in particular region-category-specific calculations
- In general, *HeatRisk* forecasts were fairly good at predicting health impact in early summer 2024

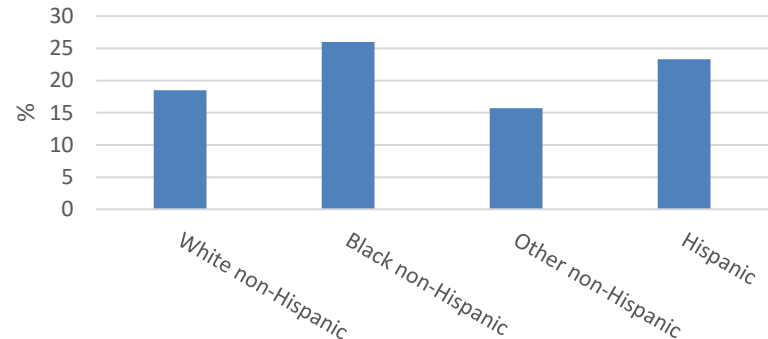
Office of Temporary and Disability Assistance (OTDA) HEAP cooling benefit program

- Provides free A/C unit or fan to applicants meeting program criteria
- Program website:
<https://otda.ny.gov/programs/heap/#cooling-assistance>
- Partnership activities
 - Program promotion
 - Social media campaign
 - Webinars to highlight PH importance

Survey respondents reporting no A/C by income category, 2018 BRFSS, NYS excluding NYC

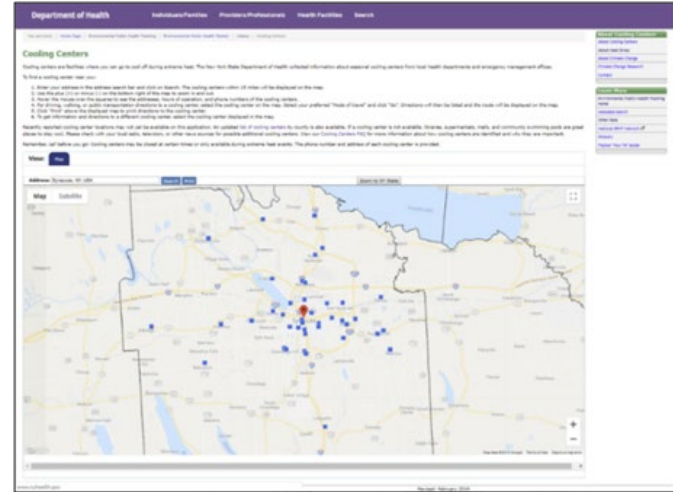


Survey respondents reporting no A/C by race/ethnicity, 2018 BRFSS



Cooling Center Finder

- Maps locations of cooling centers provided by local emergency managers and LHDs
- Participation is voluntary but appreciated and helpful
- Available at: <https://www.health.ny.gov/environmental/weather/cooling/>



Cooling Centers

Cooling centers are facilities where you can get out of hot during extreme heat. The New York State Department of Health collected information about outdoor cooling centers from local health departments and emergency management offices.

To find a cooling center near you:

1. Enter your address in the address search bar and click on Search. The cooling centers within 10 miles of the location will be displayed on the map.
2. Use the map to explore the locations of the cooling centers. You can zoom in and out of the map to see more details.
3. Click on a cooling center to see the details, including the name, address, and phone number of the cooling center.
4. Click on the map to see the details of the cooling center. You can click on the map to see the details of the cooling center.
5. Click on the map to see the details of the cooling center. You can click on the map to see the details of the cooling center.

Hours of operation for cooling centers may not be available in this application. We updated our list of cooling centers to include all available. If a cooling center is not available, the name, address, and phone number will be provided. If a cooling center is not available, the name, address, and phone number will be provided. If a cooling center is not available, the name, address, and phone number will be provided.

Where:

Days and Hours of Operation

| | | | |
|---|--|--------------|---------------------------|
| Arbor Hill Community Center Pool | 50 Lark St, Albany, NY 12210 | 518-434-5699 | Mon-Sun: 11:00 AM-7:00 AM |
| Arbor Hill/West Hill Branch | 148 Henry Johnson Blvd, Albany, NY 12210 | 518-427-4300 | Call for operating hours |
| BACH Branch | 455 New Scotland Ave, Albany, NY 12208 | 518-427-4300 | Call for operating hours |
| Beltrone Living Center | 6 A Winners Cir, Colonie, NY 12205 | 518-459-2711 | Mon-Fri: 8:30 AM-5:00 PM |
| Black Lives Matter Park Spray Pad | 484 Livingston Ave, Albany, NY 12206 | 518-434-5699 | Mon-Sun: 10:00 AM-6:00 PM |
| Colonie St. Park (Wikie Playground) Spray Pad | 200 Colonie Street, Albany, NY 12210 | 518-434-5699 | Mon-Sun: 10:00 AM-6:00 PM |
| Delaware Branch | 331 Delaware Ave, Albany, NY 12209 | 518-427-4300 | Call for operation hours |



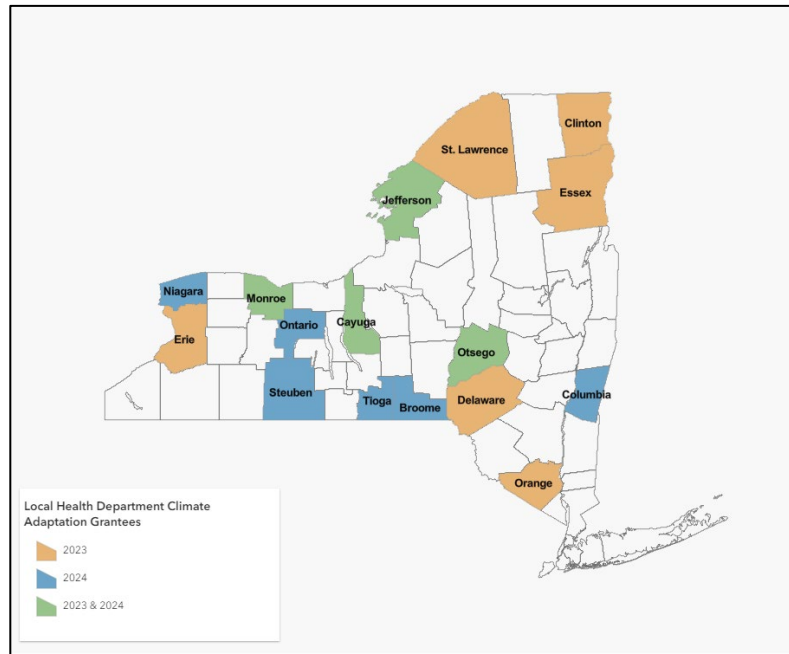
Support Local Efforts to Prepare for Climate Change



- Partnership with NYS Association of County Health Officials
- Fall 2022 workshops:
<https://www.nyscho.org/topic/climate-and-health-workshops/>
- Forum for LHDs and their partners to discuss climate and health adaptation priorities
- NYS Department of Environmental Conservation
- Helps local governments take action to reduce greenhouse gas emissions and adapt to a changing climate
- Encourage integration of certification actions related to public health
- Over 100 certified climate smart communities since 2014!

Encouraging local climate and health adaptation actions

- Two rounds of mini-grants spring-summer 2023/2024
- Future Direction:
 - 2025 Performance Incentive Program
 - Launch webinar 11/19 with support of NYSACHO
 - Additional rounds of mini-grants
 - Would love to see EH-related mini-grant proposals!



Funded LHD Mini-Grants - Examples

- Promoting extreme heat awareness among vulnerable populations
- Encouraging steps to take during a HAB
- Increasing awareness about NYSERDA energy efficiency programs
- Supporting municipal efforts to become Climate Smart Community
- Flood preparedness
- Integrating climate change in existing programs

Additional Resources

- NYS Climate Impacts Assessment
<https://nysclimateimpacts.org/>
- Climate, Weather and Health
<https://www.health.ny.gov/environmental/weather/>
- Extreme Heat
<https://www.health.ny.gov/environmental/emergency/weather/hot/>
- DOL extreme heat health and safety guidance for workers (in collaboration with DOH)
<https://dol.ny.gov/extreme-weather-guidance>
- Yale Climate Opinion Maps
<https://climatecommunication.yale.edu/visualizations-data/ycom-us/>



Thank you!

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