



NEW
YORK
STATE

Department of
Environmental
Conservation

NYSERDA

Interim Recommendations

PREPARING FOR EXTREME HEAT

EXTREME HEAT ACTION PLAN WORK GROUP

Kathy Hochul, Governor | Basil Seggos, Commissioner | Doreen Harris, President and CEO



Acknowledgements

This report was developed pursuant to Governor Kathy Hochul's 2022 directive that the Department of Environmental Conservation (DEC) and New York State Energy Research and Development Authority (NYSERDA) develop an extreme heat action plan. This report provides interim recommendations to enhance New York State's response to a heat emergency in the immediate future and to initiate long-range planning for adaptation to extreme heat and response to acute heat events.

This report represents the input of more than 70 New York State agency and authority staff comprising the Extreme Heat Action Plan Work Group (EHAPWG). Work Group members contributed valuable time, expertise, and coordination. DEC Empire State Fellow Dr. Leo Matteo Bachinger and NYSERDA Excelsior Fellow Jennifer Sing-Bock conducted the bulk of research and other work to assemble the information in this report and serve as the primary authors. A steering committee comprising Bachinger, Ríobart Breen (DEC), Anna Brown (NYSERDA), Adam Helman (Department of Health, DOH), Mark Lowery (DEC), Neil Muscatiello (DOH), Sing-Bock, and Amanda Stevens (NYSERDA) provided overall coordination and oversight.

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In gathering information for this report, Sing-Bock and Bachinger conducted interviews with numerous community representatives, subject matter experts, and others. We want to thank representatives of the Coalition for the Homeless, Cornell Farmworker Program, Joseph's House and Shelters, Legal Aid Society Northeastern New York, New York City Environmental Justice Alliance, Radix Ecological Sustainability Center, Sachem HawkStorm of the Schaghticoke First Nations, WE ACT for Environmental Justice, Public Utility Law Project of New York, and Worker Justice Center of New York for their time and valuable input. We look forward to working with these partners as we continue to develop and implement plans to enhance New York's resilience to extreme heat.

This report comprises the EHAPWG's interim recommendations. We strongly endorse the EHAPWG's ongoing work to develop a long-term heat adaptation plan and support its recommendation that the State Comprehensive Emergency Management Plan be supplemented with a heat-specific annex or otherwise amended to address extreme heat events.

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Executive Summary

Pursuant to Governor Kathy Hochul's 2022 State of the State directive, the Department of Environmental Conservation (DEC) and New York State Energy Research and Development Authority (NYSERDA) have convened an interagency work group to develop an extreme heat action plan (EHAP). The Extreme Heat Action Plan Work Group (EHAPWG) currently comprises staff representing 22 agencies and authorities (Table 2), with further additions anticipated as the EHAPWG progresses in its work.

The EHAPWG is engaged in developing a comprehensive, long-term extreme heat adaptation plan to address the structural drivers of extreme heat impacts, such as green infrastructure inequities and institutional settings, through measures such as building retrofits and passive cooling, and measures to improve and preserve water quality, critical infrastructure, and public health, and well-being (Recommendation P1, below). As part of long-term heat adaptation planning, the EHAPWG will conduct further policy and program evaluation using existing resources, such as the New York State Climate Impacts Assessment, and other relevant climate risk assessments and initiatives. In addition, the EHAPWG is supporting development of a heat emergency response plan to guide the State's response during extreme heat emergencies (Recommendation P2, below).

Whereas the EHAPWG is both developing the State Heat Action Plan and supporting emergency response planning for extreme heat over the coming months, the EHAPWG has developed recommendations to address the most acute heat impacts through immediate actions this summer. This interim report provides an overview of these interim recommendations. Although these interim recommendations focus on immediate actions to enhance the State's response to a heat emergency, some include necessary first steps for initiatives that will eventually be included in other planning or will become ongoing activities.

New York State is Committed to Acting on Heat

New York State is already committed to addressing extreme heat and mitigating its impacts across New York. The State Energy Plan, the nation-leading Climate Leadership and Community Protection Act, and the Community Risk and Resiliency Act are strong foundations for effective leadership on mitigating climate change and its impacts on New York communities.

The State has launched critical initiatives to protect New Yorkers and reduce their vulnerabilities to environmental risks and climate change and has **committed investments through existing programs and initiatives toward addressing extreme heat** through ongoing programs, initiatives and services (see "Existing State Programs and Investment"). These initiatives include efforts to protect the most vulnerable people in New York.

Governor Hochul has initiated a whole-of-government effort that makes addressing extreme heat impacts in disadvantaged communities a priority for the State. In the 2022 State of the State address, Governor Hochul directed NYSERDA and DEC to develop a comprehensive heat action plan to mobilize a State government-wide, coordinated and strategic response to the growing impacts of extreme heat on disadvantaged communities.¹

DEC and NYSERDA convened the EHAPWG, comprising staff from 22 State agencies and authorities in a whole-of-government mobilization for swift and comprehensive action.

¹ Disadvantaged communities are those that bear the burdens of negative public health effects, environmental pollution, impacts of climate change, and possess certain socioeconomic criteria, or comprise high-concentrations of low- and moderate- income households. The Climate Leadership and Community Protection Act required the Climate Justice Working Group to establish criteria to identify disadvantaged communities statewide.

Interim Recommendations for Immediate Action

Governor Hochul has made addressing extreme heat and its impacts on New York communities a State priority. Pursuant to the State's commitment to action, the EHAPWG is coordinating a comprehensive whole-of-government effort to address extreme heat and its impacts on disadvantaged communities by

- developing a State extreme heat adaptation plan to address the underlying structural drivers of vulnerabilities to extreme heat and heat inequities;
- developing a comprehensive State extreme heat emergency response as part of the State Comprehensive Emergency Management Plan (CEMP);
- directing and coordinating investments to better benefit disadvantaged communities; and
- rapidly implementing immediate action for this summer that scales existing efforts and address the most acute extreme heat related impacts.

As an immediate step, the EHAPWG has developed recommendations for additional immediate action. These additional actions, meant to be rapidly implemented to address acute needs, complement and build upon ongoing State efforts. These actions aim to address the impacts of extreme heat on the most vulnerable groups in the State.

The recommended actions are intended to address acute heat-related impacts and needs this summer, as plans for longer-term actions are prepared and evaluated. These recommendations are based on a survey of existing State initiatives, programs, and services (see “Existing State Programs and Investment” and “Appendix A”) and informed by targeted consultations with key stakeholders, including residents and representatives of disadvantaged communities and heat-vulnerable population groups. These recommendations include actions that

- address acute heat-related impacts and needs in disadvantaged and heat-vulnerable communities and populations;
- advance implementation this summer; and
- avoid the potential for maladaptation, which is adaptation measures or policies that are ostensibly taken to reduce climate risk, vulnerability and exposure but, instead, result in increased risk of adverse climate-related outcomes, increased vulnerability, or diminished welfare now or in the future.

The proposed interim recommendations build on existing State agency and authority programs and actions and do not require new or additional authorities or mandates prior to execution. However, the success of these actions is dependent on sustained interagency coordination.

The EHAPWG proposes interim recommendations for actions in six opportunity areas (Table 1): planning, coordination, public cool spaces, heat health warning systems and protocols, community partnerships, and housing and cooling.

Interim Recommendations

Table 1. Interim recommendations in six opportunity areas.

Category	Recommendations
Coordination	<p>C1. Convene heat emergency coordination team. Convene an interagency team to direct and coordinate preparation for and response to predicted extreme heat, including pre-positioning and distribution of key assets necessary for response to an extreme heat emergency.</p> <p>C2. Leverage existing touchpoints with the public to perform heat health checks and/or enhance public outreach. During extreme heat events, utilize existing routine contact between State agencies and the public to perform heat health checks, to connect vulnerable individuals with resources, and to enhance public outreach.</p> <p>C3. Convene a EHAPWG team to coordinate extreme heat-related outreach and communications. The EHAPWG will convene a team comprising staff from member agencies involved in communications and outreach on extreme heat to coordinate ongoing outreach across agencies during this summer and develop a comprehensive extreme heat outreach and communications strategy as part of the adaptation plan.</p>
Public Cool Spaces	<p>PC1. Expand availability of cooling centers and shelters. Identify applicable partners who could volunteer their facilities as cooling centers and provide their contact information to the heat emergency coordination team for incorporation into response planning.</p> <p>PC2. Promote use and visibility of cool spaces and expand outreach. Continue to collect, collate and disseminate information about cooling center locations across the state (excluding NYC) through the Cooling Center Finder on the DOH website.</p> <p>PC3. Extend access to State parks, swimming areas, recreational lands and other State facilities that provide relief from extreme heat. DEC and OPRHP will identify suitable locations that can provide the public with temporary relief from extreme heat and expand access, as appropriate and feasible. NYS can consider waiving fees for appropriate locations, as identified by DEC and OPRHP.</p>
Heat Health Warning Systems and Protocols	<p>H1. Improve alert system for extreme heat and/or humidity. Continue ongoing collaboration with the National Weather Service to improve extreme heat and/or humidity warning language and thresholds and review existing alert templates to ensure agencies are using consistent and accurate language.</p>
Community Partnerships	<p>CP1. Collaborate with community-based organizations to provide services. Utilize partnerships with community-based organizations to provide services and support to otherwise hard-to-reach groups, while building and investing in community capacities.</p>
Housing and Cooling	<p>HC1. Develop uniform utility hot weather provisions. Adopt uniform criteria and language for utility policies and procedures regarding utility disconnection.</p> <p>HC2. Improve access to existing energy efficiency and weatherization programs. Increase uptake of energy efficiency measures, weatherization retrofits, home energy bill assistance, and affordable electrified cooling solutions in heat-vulnerable communities.</p> <p>HC3. Expand access to affordable cooling through the HEAP program by advocating for additional funding for the HEAP cooling component. Expand Home Energy Assistance Program (HEAP) eligibility to expand access to cooling through the HEAP cooling component. Additional funding is necessary because, in addition to the cooling component, HEAP funds are allocated to several critical areas of energy affordability service provision.</p> <p>HC4. Explore long-term ability to mitigate energy burden impacts associated with cooling and electrification. Increased need for cooling and the longer-term potential for electrifying heating and cooling homes will require consideration of the energy burden on low-income households. Over the next year, DPS, OTDA, and NYSEDA will explore the potential to develop a utility bill assistance supplement to cover incremental costs of using air conditioning for cooling and of electrification for heating and cooling.</p>

Planning

P1. Initiate process to develop heat adaptation plan.

Develop a heat adaptation plan by January 1, 2024, comprising long-term actions to reduce risks associated with extreme heat, with a focus on disadvantaged communities, as outlined in the 2022 State of the State.

P2. Initiate process to develop a heat hazard annex.

Develop a heat-specific hazard annex to the State's Comprehensive Emergency Management Plan by June 1, 2023.

P3. Fund development and implementation of actions.

Provide a comprehensive assessment of existing resources and capacities and proactively identify and secure needed new funding to ensure effective implementation of recommended short- and long-term actions. Detail funding sources and commitments as well as implementation timelines for each action contained in the adaptation plan, and work with the State legislature, federal partners and other funding sources to dedicate adequate funding for implementation.

Extreme Heat Action Plan Work Group

Pursuant to Governor Kathy Hochul’s 2022 State of the State directive, the Department of Environmental Conservation (DEC) and New York State Energy Research and Development Authority (NYSERDA) have convened an interagency work group to develop an extreme heat action plan (EHAP). The Extreme Heat Action Plan Work Group (EHAPWG) currently comprises staff representing 22 agencies and authorities, with further additions anticipated as the EHAPWG progresses in its work.

Table 2. Agencies represented on the Extreme Heat Action Plan Work Group

Department of Agriculture and Markets (AGM)	New York State Energy Research and Development Authority (NYSERDA)
Department of Corrections and Community Supervision (DOCCS)	Environmental Facilities Corporation (EFC)
Department of Environmental Conservation (DEC)	Governor’s Office of Storm Recovery (GOSR)
Department of Health (DOH)	Metropolitan Transportation Authority (MTA)
Department of Labor (DOL)	Office for the Aging (OFA)
Department of Public Service (DPS)	Office of Children and Family Services (OCFS)
Department of State (DOS)	Office of General Services (OGS)
Department of Transportation (DOT)	Office of Parks, Recreation and Historic Preservation (OPRHP)
Division of Criminal Justice Services (DCJS)	Office of Temporary and Disability Assistance (OTDA)
Division of Homeland Security and Emergency Services (DHSES)	Thruway Authority
Division of Homes and Community Renewal (HCR)	University at Buffalo (SUNY-UB)

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Acronyms and Abbreviations

AGM	Department of Agriculture and Markets
CBO	Community-based Organization
DEC	Department of Environmental Conservation
DHSES	Division of Homeland Security and Emergency Services
DOCCS	Department of Corrections and Community Supervision
DOH	Department of Health
DOHMH	New York City Department of Health and Mental Hygiene
DOL	Department of Labor
DOS	Department of State
DOT	Department of Transportation
DPS	Department of Public Service
EHAP	Extreme Heat Action Plan
EHAPWG	Extreme Heat Action Plan Work Group
ESFs	Emergency Support Functions
F	Fahrenheit
FEMA	Federal Emergency Management Agency
HCR	Division of Homes and Community Renewal
HNP	Healthy Neighborhoods Program
ICARWG	Interagency Climate Adaptation and Resilience Work Group
IPAWS	Integrated Public Alert and Warning System
MAC	Multi-agency Coordination
NWS	National Weather Service
NYC	New York City
NYCEM	New York City Emergency Management
NYS	New York State
NYSERDA	NYS Energy Research and Development Authority
SEOC	State Emergency Operations Center
WEA	Wireless Emergency Alerts

1. Introduction

In the 2022 State of the State, Governor Hochul directed “DEC and NYSERDA to develop an extreme heat action plan to address heat in disadvantaged communities, areas of employment, and recreational zones across the state.” Further, the initiative is to “survey, analyze, collate, and scale existing high heat-related initiatives designed to mitigate neighborhood climate impacts associated with extreme heat” and to “help coordinate interagency investments to ensure that priority assistance goes to disadvantaged communities.” (New York State 2022, 237).

The Extreme Heat Action Plan Work Group (EHAPWG), currently comprising staff from 22 agencies and authorities (Table 2), has developed interim recommendations for immediate action this summer. The interim recommendations include actions with low-implementation barriers that can help address the most acute needs and impacts with existing resources. These interim recommendations allow the State to take immediate, coordinated action in parallel to the development of longer-term plans in a whole-of-government, coordinated and strategic effort.

The interim recommendations focus on addressing extreme heat and its disproportionate impacts on disadvantaged and otherwise vulnerable communities and population groups. In combination, the recommendations present an opportunity to provide urgent relief to the most vulnerable New Yorkers. The recommendations were developed in an interagency effort, with contributions from State agency staff, external experts, and with input by key stakeholders. The recommendations include actions that can be immediately taken, based on existing resource capacities. They do not preclude additional actions that may be developed as part of the State’s overall response this summer. Rather, the recommended actions are an initial steppingstone within a larger whole-of-government commitment to address heat impacts on disadvantaged communities and the most vulnerable New Yorkers in a comprehensive manner through short- and long-term strategic actions.

Extreme Heat is Affecting New York State Today

Extreme heat is a leading cause of death among hazardous weather events in the United States, as shown in NWS data.² Without any action to mitigate greenhouse gas emissions, by 2050, different regions of New York State are projected to experience between 2 and 57 additional days above 90°F per year, from the 2000-2004 baseline. The number of heat waves (periods of three or more days above 90°F) per year in different regions is expected to rise from a baseline of 0 to 2 per year (2000-2004) by an additional 0 to 8 heat waves per year by the 2050s. (Horton et al., 2014).

Extreme heat is severely affecting the health and well-being of New Yorkers across the State (see “Extreme Heat in New York State,” p. 5). Impacts are likely to grow more acute with rising temperatures and as heat waves become more severe, frequent and prolonged in a changing climate (Horton et al., 2014). Extreme heat impacts unfold unevenly across New York’s communities and are exacerbated by socio-economic, environmental, age- and health-related conditions, and other factors that compound vulnerabilities (Wilhelmi et al., 2013). In general, older adults, infants and children, pregnant women and people with chronic illnesses are especially vulnerable. Heat impacts also unfold along social and economic margins, especially in combination with physical risks and existing health, environmental and socio-economic inequities. 85 percent of heat stroke deaths in NYC have been attributed to heat exposure at home and lack of air conditioning (Bock et al., 2021; CDC, 2013; Madrigano et al., 2015; Vant-Hull et al., 2018). Other studies have found that the majority of fatal heat exposures occur inside the home (CDC, 2013; Fouillet et al., 2008; Madrigano et al., 2015).

² <https://www.weather.gov/hazstat/>

New York State is Acting on Extreme Heat

New York State is taking proactive action to address present and future impacts of extreme heat, tackle prevailing extreme heat inequities, and reduce the disproportionate impacts extreme heat has on the most vulnerable population groups across the State.

Existing State programs and initiatives directly or indirectly help mitigate extreme heat impacts in New York State communities (see “Existing State Programs and Investment” and “Appendix A”). These programs provide a foundation for a coordinated State response to extreme heat, including through better coordination of new and existing investments, programs and services, scaling existing initiatives to better benefit disadvantaged and heat-vulnerable communities and population groups, removing barriers for disadvantaged communities to access existing resources and creating new opportunities that build capacities in affected communities while mitigating risks.

- New York State is investing in **green infrastructure projects** and **community gardens** and **supports community tree planting** initiatives to mitigate urban heat islands and address greenspace inequities.
- New York State is **prioritizing safe shelter and housing and affordable cooling**. The State is seeking to address longstanding inequities in housing, shelter and cooling inequities and is making investments in weatherization and electrification programs, access to housing and cooling and heating assistance.
- In 2022, the State has already helped New Yorkers afford at home cooling during the hot summer months by **expanding eligibility to receive an air conditioner or fan at no cost** through the HEAP Cooling Assistance benefit, issuing approximately 30,000 HEAP Cooling benefits to low- and moderate-income New Yorkers. The State is also investing in reliable infrastructure, including access to safe and efficient public transportation and a reliable, climate-friendly electric grid.
- The State is investing in **climate smart and resilient communities** by supporting adaptation and resilience planning, development of cooling centers, and projects that promote environmentally friendly modes of travel and to improve access to the transportation system for all users, two thirds of which will benefit environmental justice communities.

In addition, Governor Hochul has initiated a whole-of-government effort that makes addressing extreme heat impacts in disadvantaged communities a priority of the State. In the 2022 State of the State address, Governor Hochul directed NYSERDA and DEC to develop a comprehensive heat action plan to mobilize a State government-wide, coordinated and strategic response to the growing impacts of extreme heat on disadvantaged communities.

DEC and NYSERDA convened the EHAPWG, comprising staff from 22 State agencies and authorities in a whole-of-government mobilization for swift and comprehensive action. By convening the EHAPWG, DEC and NYSERDA have scaled the State’s capability to coordinate and plan the State’s extreme heat short-term, long-term and emergency responses as a whole-of-government priority.

The EHAPWG will deliver a first-of-its-kind comprehensive State plan for addressing present and future extreme heat by

- developing a comprehensive State response to extreme heat emergencies as part of the **State Comprehensive Emergency Management Plan (CEMP)**;
- developing an **extreme heat adaptation plan** to identify short, intermediate and long-term actions the State can take to address the structural drivers of extreme heat and heat inequities;

- identifying sources and **dedicating appropriate resources for implementing the extreme heat adaptation plan** to mitigate impacts, reduce risks and address intersectional vulnerabilities in disadvantaged communities and other heat-vulnerable, marginalized communities and groups;
- **directing and coordinating investments to benefit disadvantaged communities** by creating a comprehensive inventory of State programs, initiatives and services, analyzing how these programs benefit heat-vulnerable disadvantaged communities; and
- rapidly developing and **implementing immediate action this summer** to scale existing efforts needed for addressing the most acute extreme heat related impacts and needs.

The EHAPWG has identified a set of high-priority actions the State can implement in short time and that complement extreme heat related efforts that are already underway.

Development of the Interim Recommendations

Members of the EHAPWG and the Interagency Climate Adaptation and Resilience Work Group (ICARWG) were invited to complete an interagency survey of existing initiatives, programs and services, and known needs during April 2022. Based on agency survey results, a preliminary literature review and initial stakeholder interviews, the EHAPWG identified an extensive initial set of opportunities for action. This initial set of opportunities was organized into opportunity areas (Table 3). Drafting teams comprising members of the EHAPWG reviewed the initial set of opportunities and vetted them for a) inclusion in the interim recommendations for this summer or b) consideration for the adaptation plan or CEMP. The following criteria were applied in the vetting process:

- Actions address an acute or urgent need or have benefits for disadvantaged and heat vulnerable communities or population groups.
- Actions are no-regret solutions, avoiding maladaptation.
- Implementation is possible with available resources.
- Agencies have existing legal authority required for implementation.
- Actions can be rapidly and adequately implemented this summer.

All excluded actions will be further considered for the long-term adaptation plan or CEMP.

Table 3. Opportunity areas for action and short descriptions.

Opportunity area	Description
Coordination	Actions that improve coordination among agencies and across government levels, such as a coordinated outreach and communications plan, processes for improved data and information sharing, and coordination of resource allocation during extreme heat emergencies.
Heat Health Warning Systems and Protocols	Actions that improve, scale and develop heat health warning systems and protocols, such as extreme heat warnings and alarms, a heat health hotline, prepositioning resources, or requiring heat emergency protocols and plans on the local or asset level.
Public Cool Spaces	Actions that increase access to public cooling spaces, remove barriers, and expand their availability.
Housing and Cooling	Actions that address extreme heat impacts in housing, including equitable access to cooling or access to adequate shelter.
Community Capacity Building and Equity	Actions that help build community capacities in disadvantaged communities and removal of barriers to access key resources and services.
Planning	Actions that provide a coordinated and planned approach for addressing extreme heat, related impacts, and vulnerabilities.

Interagency drafting teams for each of the opportunity areas vetted the initial opportunities for action, added further opportunities as needed and based on team members' technical expertise. Drafting teams identified the opportunities for action suitable for rapid development and implementation and developed them into preliminary draft interim recommendations. Draft interim recommendations were reviewed and refined by EHAPWG and ICARWG members through June 2022. The EHAPWG recommends additional review by scientific experts and key stakeholders from affected communities to inform implementation and additional actions.

Stakeholder Engagement and Community Expert Input

The expertise and experiences of groups representing, working in and collaborating with disproportionately affected and marginalized communities are needed to address extreme heat impacts, remove barriers, and address structural vulnerabilities and risks effectively and justly.

As a first step toward incorporating and centering the pluralistic expertise and experiences of affected communities and groups, the EHAPWG reviewed existing reports and identified known needs and gaps related to extreme heat. The EHAPWG also requested initial consultations with representatives of environmental justice communities, marginalized workers (including seasonal and migrant workers), Indigenous communities, people without shelter and people experiencing houselessness, or organizations working with those affected communities.

In developing the interim recommendations, the EHAPWG interviewed representatives of community-based, advocacy and environmental justice groups, with the objectives to

- initiate an exchange about the EHAPWG's work, in particular the development of interim recommendations;
- better understand extreme heat impacts in specific communities, identify needs and better understand how State action can support disproportionately affected groups and communities; and
- understand appropriate modes of engagement and collaboration for developing the longer-term extreme heat adaptation plan.

EHAPWG members conducted limited preliminary engagement with selected stakeholders during April 2022. The engagement with experts from community-based organizations in developing the interim recommendations was explicitly preliminary and should be viewed as an initial step toward more substantive engagement processes that *will continue after publication of this draft report, which* will allow for stronger incorporation of expertise, provide for adequate resources and capacities for community-based organizations to do so, and facilitate an effective incorporation in long-term planning and implementation.

Input by community groups was annotated and collated with other information about known needs, gaps and capacities derived from an interagency survey and the existing literature, including peer-reviewed publications, government reports and reports by community-based organizations and research organizations. Information was collated into a list of "opportunities for action" connected to identified needs and capacities across themes that include worker's health, institutional settings, infrastructure, food systems and ecosystems, housing and cooling, public cool spaces, communication and outreach, community capacity building and community partnerships, and more. Appendix B provides a high-level thematic summary of the input provided by stakeholders to date. The EHAPWG will develop and implement a plan for comprehensive stakeholder engagement in the drafting and implementation process of the extreme heat adaptation plan over the coming months.

Focus and Limitations

The interim recommendations comprise actions that can be rapidly implemented while relying on existing resources and capacities. The EHAPWG intends to identify additional actions and seek additional opportunities to strengthen and complement the recommendations in this report, including by

- engaging with community stakeholders and experts,
- responding to emergent needs and impacts,
- capitalizing on emergent opportunities for action, and
- seeking out and leveraging additional resources and capacities for immediate and long-term action.

By their nature, the most immediate opportunities for action included in the interim recommendations are constrained in scope and scale, including by existing agency resources, capacities, and authority. The actions included in these interim recommendations are only one element within a larger, coordinated, and strategic approach to address extreme heat impacts and vulnerabilities comprehensively. The efficacy with which these interim recommendations are carried out will depend strongly on achieving coordination across agencies.

2. Extreme Heat in New York State

Climate change is contributing to warmer and more extreme weather in New York State. These climate impacts are exacerbated in communities that already experience disproportionate environmental and health burdens. New York State is acting to implement climate and health adaptations to reduce the impacts of extreme heat.

Extreme Heat is Impacting New York State Today

Extreme heat is a recurrent extreme weather hazard that is already affecting New York State. Since the beginning of the 20th century, average temperatures in NYS have risen by 2.5°F, and temperature increases have occurred every decade across all parts of the state (NOAA National Centers for Environmental Information, 2022). Warming has been more pronounced in the winter, while summer warming has been particularly evident in increases in nighttime temperatures (Insaf et al., 2013). Data collected since the 1970s reveals that the number of days with temperatures below 32°F decreased overall, while the number of days at or above 90°F increased (Rosenzweig et al., 2011).

Extreme heat is a leading cause of death among hazardous weather events in the United States.³ New Yorkers who do not have access to cool spaces or who have certain preexisting medical conditions may be at higher risk as the weather becomes warmer.

Projections

Extreme heat is a leading cause of death among hazardous weather events in the United States, as shown in NWS data.⁴ Without any action to mitigate greenhouse gas emissions, by 2050, different regions of New York State are projected to experience between 2 and 57 additional days above 90°F per year, from the 2000-2004 baseline. The number of heat waves (periods of three or more days above 90°F) per year in different regions is expected to rise from a baseline of 0 to 2 per year (2000-2004) by an additional 0 to 8 heat waves per year by the 2050s. (Horton et al., 2014).

³ <https://www.weather.gov/hazstat/>

⁴ <https://www.weather.gov/hazstat/>

Extreme Heat Impacts

Extreme heat is affecting the health and wellbeing of New Yorkers across the State. Measurable outcomes from heat include direct impacts of heat stress like heat-related illnesses, including heat edema, heat stroke, heat cramps, and dehydration, as well as mortality. Outcomes also go beyond direct impacts to include the exacerbation of other existing health conditions such as renal, lung, and cardiovascular disease. Increases in emergency department visits, admissions to hospitals, and deaths are observed during and following extreme heat events, especially among children and the elderly. Outdoor workers in strenuous jobs are also at high risk of heat related illness. OSHA has found⁵ that less severe heat-related illnesses can happen at Heat Index values below the national and local weather service heat advisory warnings for the general public. During the months May to September (2010-2019), there were an average of 1400 to 2900 emergency department visits and 200 to 350 hospitalizations per year for heat stress across the State, according to the DOH Environmental Public Health Tracker.⁶

The impacts of heat on health are likely to grow more acute with rising temperatures and as heat waves become more severe, prolonged, and frequent in a changing climate (Horton et al., 2014). Previous studies suggest that the range of temperatures at which health effects occur may be lower in the Northeast than in other areas of the country with hotter weather, possibly because our bodies are not acclimated to the heat and our buildings and other infrastructure were not built to counteract extreme heat (Vaidyanathan et al., 2019). An investigation of emergency department visits and hospitalizations in New York suggests that a 5°F increase in temperature may double a New Yorker's risk of heat-related illness (Adeyeye et al., 2019).

Extreme Heat Inequities and Vulnerable Communities

Extreme heat does not affect individuals and communities equally. Rosenthal et al. (2014) found that overall heat-related death rates correlated with a prevalence of poor housing conditions, poverty, impervious land cover, high land-surface temperatures, and lower access to air conditioning. Urban areas tend to heighten the risk for heat-related morbidity and mortality due to overall higher temperatures, physical microenvironments like apartments, and high nighttime temperatures brought about by the urban heat island (UHI)⁷ effect that prevent the physical environment from cooling off sufficiently. In NYS, the influence of UHIs on public health are often realized in neighborhoods that are home to lower income populations and higher concentrations of older adults⁸ (Wilhelmi et al., 2013). About 85 percent of heat stroke deaths in NYC are attributed to heat exposure at home and lack of air conditioning (Bock et al., 2021; CDC, 2013; Madrigano et al., 2015; Vant-Hull et al., 2018). Studies of heat wave mortality support this trend, finding that the majority of fatal heat exposures occur inside the home (CDC, 2013; Fouillet et al., 2008; Madrigano et al., 2015). However, it is important to note that recent studies by DOH suggest that people living in rural areas are also at risk (Insaf et al., 2021).

Extreme heat can exacerbate existing inequities and vulnerabilities, reflecting patterns of historical marginalization. In New York City, Black New Yorkers are more likely to die from heat stress, with death rates two times higher than among other New Yorkers (2.2 deaths per million versus 0.9 deaths per million, NYC Health, 2022). Areas with high proportions of Black and low-income individuals 65 years old and older in NYC are less likely to have access to air conditioning (Rosenthal et al., 2014). Certain demographic and socio-

⁵ <https://www.osha.gov/heat-exposure/hazards>

⁶ https://apps.health.ny.gov/statistics/environmental/public_health_tracking/tracker/index.html#/hsMonthandYear

⁷ UHIs are defined as higher air temperature (as measured from a sensor generally about six feet off the ground, per the National Weather Service standard) and surface temperature (as measured from a sensor at ground level) in cities compared to rural surroundings due to factors such as heat absorption by buildings and heat-trapping canyons between high-rise buildings.

⁸ Increased temperatures are also associated with an increase in the duration and intensity of harmful algal blooms which humans can be exposed to through recreation, drinking water contamination and shellfish contamination. These algal blooms can produce liver and nerve toxins that can cause skin irritation, cramps, vomiting, diarrhea, fever, and weakness.

economic characteristics, including age (older adults and children), occupation (workers with outdoor and strenuous jobs), household income (access to air-conditioning, or ability to afford cooling units), linguistic and social isolation, as well as pre-existing medical conditions can increase an individual's vulnerability to heat, as can environmental characteristics of the community they live in, such as urbanicity, population and building density, tree canopy and green space (Nayak et al., 2018). In general, older adults, infants and children, outdoor and migrant workers, pregnant women and people with chronic illnesses are especially vulnerable. Heat impacts unfold along social and economic margins, especially in combination with physical risks and existing health, environmental and socio-economic inequities.

Actions to Build Resilience & Reduce Heat Impacts

In general, building community resiliency and public health capacity to minimize the health impacts of climate change will also protect New Yorkers from other threats to public health as well. Safety, health benefits, risks, and opportunities can be considered in climate policy to intentionally maximize community wealth building to address the underlying causes of inequity in physical, social and emotional health.

Cooling Equity

Because most heat-related deaths occur from heat exposure in homes, there is a need to provide heat-vulnerable communities with indoor cooling mechanisms such as air-conditioning units. The environmental justice and public health aspects of cooling equity should be communicated to key stakeholders while also recognizing the significant investment that will be necessary to deliver equitable cooling for vulnerable populations. Both direct and indirect strategies to achieve cooling equity within the home require large, continued investments in capital and operating costs, electricity consumption and demand, and other resources. Similar policy and financial discussions on how to achieve equitable climate mitigation through building energy efficiency, heating and transportation electrification, and other strategies are taking place today on State and local levels. The opportunities, impacts, and costs for achieving cooling equity should be considered in these tough discussions. (Bock et al., 2021)

Home Energy Assistance Program Cooling Benefit

The NYS Office of Temporary and Disability Assistance oversees the Home Energy Assistance Program (HEAP). During summer months, a Cooling Assistance benefit is offered through the HEAP program. Eligible applicants may receive one Cooling Assistance benefit per applicant household for the purchase and installation of an air conditioner or a fan to help the home stay cool.

Cooling Centers

Spending a few hours in a cooled or air-conditioned environment during a heat event can reduce the impact of heat on health. Since many New Yorkers do not have access to air conditioning, local agencies often set up cooling centers in their jurisdictions to provide the public with resources to cool down. During the months of May through September, the DOH works with DHSES, county emergency management offices and local health departments to gather information on cooling centers and disseminate information through the Cooling Center Finder (<https://www.health.ny.gov/environmental/weather/cooling/>). The tool is updated frequently to provide the most up-to-date information to the public. New York City maintains a separate Cooling Center Finder for locations in New York City, which NYC activates during extreme heat events.

Heat Vulnerability Index

Vulnerability to heat can be influenced by an individual's socio-demographic characteristics as well as environmental features of the community they live in. These characteristics or "heat vulnerability factors" can

play an important role in one's ability to adapt to heat. DOH developed a Heat Vulnerability Index (HVI) to identify areas in the state where large proportions of populations are vulnerable to heat. The HVI can help local and State public health officials identify and map heat-vulnerable areas and populations in the State. The overall HVI provides a cumulative measure of heat vulnerability, while the four vulnerability components provide information on the factors (or characteristics) that drive the vulnerability. The four heat vulnerability categories include 1) language vulnerability, 2) socio-economic vulnerability, 3) environmental and urban vulnerability, and 4) elderly isolation and elderly vulnerability. Although areas with lower HVI represent places where there is a lower proportion of people that have heat vulnerability characteristics, low vulnerability does not mean no risk. Everyone is at some risk for heat-related illness and during extreme heat events should follow steps to reduce this risk. More information on the NYS Heat Vulnerability Index can be found here https://www.health.ny.gov/environmental/weather/vulnerability_index/.

NYC has its own vulnerability index that shows neighborhoods whose residents are at higher risk of dying during and immediately after an extreme heat event (<https://a816-dohbsp.nyc.gov/IndicatorPublic/HeatHub/hvi.html>). The neighborhoods in NYC are ranked from 1 (lowest risk) to 5 (highest risk), based on the NYC HVI. The factors included in the NYC HVI are surface temperature, green space, access to home air conditioning, and the percentage of residents who are low-income or non-Latinx Black. While many factors affect a neighborhood's heat risk, Black New Yorkers in particular experience higher rates of poverty and lower access to air conditioning, green space, and neighborhood cooling resources.⁹

Climate and Health Risk Awareness Messaging

NYSDOH maintains a Climate, Weather, and Health website,¹⁰ which includes communications resources for extreme heat.¹¹ These resources can be used to assist other state and local partners in developing heat risk messaging. The DOH has also developed County Heat and Health Profiles where users can view county temperature trends and projections, along with heat-related health effects and vulnerabilities that can be found online.¹² An interactive StoryMap that presents the latest research on extreme heat and impacts on health in New York State in a user-friendly application is also available online.¹³

3. Responding to Heat Emergencies

The Division of Homeland Security and Emergency Services (DHSES) serves as the primary response and recovery agency for the State and is the central partner for local communities in their planning and response efforts. DHSES applies an all-hazards approach in planning for, and responding to, emergencies, including extreme heat.

National Weather Service: Extreme Heat Events

The National Weather Service (NWS) issues heat advisories, excessive heat warnings and excessive heat watches along with related communications that inform State and local emergency response and preparations.¹⁴ NWS provides guidance to local Weather Forecast Offices (WFOs) on appropriate thresholds for issuing heat advisories and warnings. However, WFOs are encouraged to work with local officials to define locally appropriate alert thresholds and messaging. State agency staff continue to communicate with NWS to

⁹ <https://nyccas.cityofnewyork.us/nyccas2021/web/report/7>

¹⁰ <https://www.health.ny.gov/environmental/weather/>

¹¹ <https://www.health.ny.gov/environmental/emergency/weather/hot>

¹² https://health.ny.gov/environmental/weather/profiles/county_profiles.htm

¹³ https://health.ny.gov/environmental/weather/heat_story_map

¹⁴ See <https://www.weather.gov/bgm/heat>

refine heat-health warnings and messaging. Staff from both agencies review updated health guidance at the start of the summer. The collaboration also amplifies messages across both NWS and DOH platforms before and during heat events. (Hawkins et al., 2017)

As of summer 2018, these advisories had been updated and informed by scientific research done by DOH to evaluate the relationship between heat and health among New Yorkers (Adeyeye et al., 2019).¹⁵

Heat Advisories are issued at the county level when the heat index is predicted to remain above 95°F for two hours for upstate New York, and for NYC, between 95 and 99°F for two consecutive days or between 100 and 104 °F for any duration. A heat advisory means that people can be affected by heat if precautions are not taken. The issuance of a heat advisory is important to raise public awareness that individuals should take precautions. Heat advisories are also used to trigger other actions and regulations based on existing local or State plans and policies.

Excessive Heat Warnings are issued at the county level when the heat index is at or above 105°F for 2 hours or more at any location within the affected county or counties. A heat warning means that some people can be seriously affected by heat if precautions are not taken. Mortality begins to increase exponentially as the heat increases or stays above a heat index of 104°F. Note: Reaching this threshold will be a rare event in New York State.

Excessive Heat Watches are issued one to two days in advance of when the probability that the Excessive Heat Warning criteria will be met is 50 to 79 percent.

Communications and Outreach

NWS issues communications, warnings and alerts. DOH has worked with NWS to tailor heat warnings and advisories in NYS based upon associations between heat and health outcomes. DOH will continue to collaborate with NWS on heat alerts, messaging and thresholds (see Recommendation H1).

DOH, in coordination with DHSES, works with local health departments and county emergency management agencies to maintain a map of cooling centers (NYS Cooling Center Finder) and other places to get cool during extreme heat. (Note that NYC Office of Emergency Management maintains a cooling center finder specific to NYC). The functionality of the NYS Cooling Center Finder has been enhanced this summer to allow for more efficient updating. As a result, local agencies are encouraged to submit cooling center information to be added to the Finder as the summer progresses. DOH and DHSES will continue to seek opportunities to enhance preparedness, share information and resources, and update State resources and information.

DOH conducts an extreme heat outreach campaign for areas outside NYC that focuses on vulnerable ZIP codes to help New Yorkers prepare for and stay safe during extreme heat events.¹⁶ Outreach resources include funding specifically set aside to be used during extreme heat events for increased media saturation in vulnerable areas. This outreach, among other efforts, provides extreme heat risk awareness messaging, promotes the OTDA HEAP cooling benefit program, and connects people with the NYS Cooling Center Finder. DOH also disseminates heat alerts to hospitals and other health care facilities and will be working with other State agencies to coordinate and align on extreme heat communications and outreach.

Currently, State agencies are reviewing and identifying suitable existing routine touchpoints with the public to enhance outreach and communications and to connect vulnerable New Yorkers with critical resources (see Recommendation C2).

¹⁵ New York State Lowers the Heat Advisory Threshold - WeatherNation (weathernationtv.com)

¹⁶ NYC conducts its own outreach.

The EHAPWG will support additional coordination in outreach and communications this summer (see Recommendation C3) and will develop communication strategies and a coordinated outreach plan as part of the heat adaptation plan. The EHAPWG will also coordinate ongoing communication efforts.

Most counties and New York City (NYC) are authorized authorities of the FEMA Integrated Public Alert and Warning System (IPAWS), which includes Wireless Emergency Alerts (WEA) broadcast to cell phones in a geographical area, and Emergency Alert System (EAS) notifications, broadcast over TV and radio. NWS sends notifications of warnings if weather related, and the county/NYC may send separate emergency alerts at their discretion (e.g., communication about power outages, shelters). The State can provide backup support for IPAWS alerts in emergency situations only. Some counties and NYC have additional communication tools, including reverse-automated calling and user sign-up programs. Cities, towns and villages may have capabilities in addition to those of the county. The State strives to reinforce the day-to-day information that informs and supports local response and decision-making and provides additional assistance upon request from local jurisdictions.

In addition, some state agencies have the ability to issue alerts to their regulated partners and local stakeholders in the event of an emergency. DOH uses the Integrated Health Alerting and Notification System (IHANS) to issue emergency notifications to local health departments and healthcare facilities. In the event of a major heat-related incident, DOH has the ability to issue an IHANS alert to critical public health response partners. DOH heat-related IHANS alerts contain a summary of the event, the signs and symptoms of heat-related illnesses, outreach and communication recommendations, and healthcare facility recommendations.

The Department of Corrections and Community Supervision (DOCCS) also uses the IHANS to notify superintendents at DOCCS' facilities when Excessive Heat Warnings or Heat Advisories are issued. These notifications include a summary of the event, results of an increased risk of heat stress and heat-related illness, a list of people more susceptible to heat related illnesses, notification for staff and incarcerated individuals to remain hydrated, signs and symptoms of heat-related illnesses, and evaluating the necessity for outside assignments. In addition, watch commanders at each facility are to monitor for the most up-to-information and the memorandum is to be read at all line-ups for 72 hours.

State Emergency Response

The State, coordinated by DHSES and involving all State agencies, takes an all-hazards approach to emergency management and has established plans, procedures, and systems to effectively respond to an emergency, including the following:

- Consistent communication and information sharing across State agencies and jurisdictions.
- Comprehensive emergency response planning and procedures as outlined in the CEMP.¹⁷
- Interagency and cross-jurisdictional response coordination capabilities, including Multi-agency Coordination calls, activation of the State Emergency Operations Center (SEOC), response to requests for assistance, and/or rapid deployment of field teams and/or resources.

When an incident is significant enough to warrant coordinated State response, DHSES may leverage one or more key capabilities to support the response as outlined in the CEMP, including initiating a Multi-agency Coordination (MAC) call to brief all agencies involved in the multi-agency response on forecast information, current and potential impacts and resource requests; an activation of the SEOC, and distribution of resources and/or personnel based on requests received through the "New York Responds" centralized system.

¹⁷ NYS Comprehensive Emergency Management Plan (CMEP): <https://www.dhSES.ny.gov/nys-comprehensive-emergency-management-plan-cemp#:~:text=Overview%20The%20development%20of%20the%20New%20York%20State,that%20comprise%20the%20NYS%20Disaster%20Preparedness%20Commission%20%28DPC%29.>

When DHSES initiates a tiered activation of the SEOC, DHSES will also activate the appropriate Emergency Support Functions (ESFs), which are grouped by functional areas (e.g., Transportation, Public Health and Medical Services, Energy, and Public Safety and Security) and include a lead coordinating agency and several additional member agencies. SEOC activation and response level are informed by available information, resources, and consequence thresholds.

Each county has similar response procedures and processes for coordinating local emergency response. Counties also have access to “New York Responds,” which is the mechanism county emergency managers use to request State assistance as needed. DHSES Office of Emergency Management (OEM) regional staff connect regularly with county emergency managers to maintain information sharing and support requests.

Additional Preparations and Planning during Summer 2022

- Per recommendation C1 and H1, the heat emergency coordination team will convene to coordinate and plan for future responses to extreme heat events.
- The EHAPWG, as part of its long-term adaptation planning (P1), will develop measures addressing “persistent” heat exposure, i.e., increased temperatures with adverse health effects that are not classified as heat emergencies or do not exceed emergency thresholds.
- The planning effort of the Heat Emergency Coordination Team (C1) will include identifying heat-emergency-specific responses to enhance the State’s response capacity.

4. Interim Recommendations

This chapter provides immediately actionable recommendations to address extreme heat this summer. The EHAPWG proposes interim recommendations for actions in six opportunity areas: planning, coordination, public cool spaces, heat health warning systems and protocols, community partnerships, and housing and cooling. The interim recommendations are presented below, organized in individual sections for each of the six opportunity areas. Summaries at the beginning of each section provide an overview of the recommendations included for the respective opportunity area, with more detailed descriptions following immediately thereafter. Table 1 provides an overview of recommended actions, as identified by the EHAPWG. Detailed descriptions of each of the recommended actions are provided in the remainder of this chapter.

Planning

PLANNING		
	Recommendation Title	Recommendation description
P1	Initiate process to develop heat adaptation plan.	Develop a heat adaptation plan by January 1, 2024, comprising long-term actions to reduce risks associated with extreme heat, with a focus on disadvantaged communities, as outlined in the 2022 State of the State.
P2	Initiate process to develop a heat hazard annex.	Develop a heat-specific hazard annex to the State’s Comprehensive Emergency Management Plan by June 1, 2023.

P3 Fund development and implementation of actions.

Provide a comprehensive assessment of existing resources and capacities and proactively identify and secure needed new funding to ensure effective implementation of short and long-term actions. Detail funding sources and commitments as well as implementation timelines for each action contained in the adaptation plan, and work with State legislature, federal partners and other funding sources to dedicate adequate funding for implementation.

P1. Initiate process to develop heat adaptation plan.

Develop a heat adaptation plan by January 1, 2024, comprising long-term actions to reduce risks associated with extreme heat, with a focus on disadvantaged communities, as outlined in the 2022 State of the State.

The EHAPWG will develop a heat adaptation plan in consultation with experts, affected stakeholders, and community leaders in disadvantaged communities. The EHAPWG will pursue a comprehensive stakeholder engagement process using co-design methods to ensure equitable participation and effectively address needs and impacts in disadvantaged communities.

As feasible with existing resources and capacities, the EHAPWG will provide additional analysis, such as mapping of key impacts on disadvantaged communities (e.g., location of urban heat islands, distribution of exposures and vulnerabilities in rural settings, the degree of cooling deficiencies in institutional settings). The EHAPWG has compiled a preliminary inventory of existing State programs and initiatives related to extreme heat. The EHAPWG will analyze a subset of programs for barriers to access and opportunities for addressing extreme heat impacts in disadvantaged communities and high-priority impact areas. Where feasible, lessons will be drawn from the New York State Disadvantaged Communities Barriers and Opportunities Report, developed pursuant to the Climate Leadership and Community Protection Act and released in December 2021. More comprehensive analyses will be planned as warranted and as resources allow.

P2. Initiate process to develop a heat hazard annex.

Develop a heat-specific hazard annex to the State's Comprehensive Emergency Management Plan by June 1, 2023.

DHSES Office of Emergency Management (OEM) will lead the development of a heat-specific annex to the State CEMP, or, as warranted, make necessary amendments to the CEMP to enable effective response to extreme heat events. OEM has developed two hazard-specific annexes to the CEMP (drought, coastal storms). The EHAPWG and other agencies, including members of the Health Emergency Coordination Team, will support this planning process and provide content for the annex or CEMP.

P3. Fund development and implementation of actions.

Provide a comprehensive assessment of existing resources and capacities and proactively identify and secure needed new funding to ensure effective implementation of short and long-term actions. Detail funding sources and commitments as well as implementation timelines for each action contained in the adaptation plan, and work with the State Legislature, federal partners and other funding sources to dedicate adequate funding for implementation.

The EHAPWG will form a finance team to mobilize high-potential funding and financing opportunities to direct more resources for heat action work in New York State, particularly in support of disadvantaged communities, municipalities, localities, and institutions. This team will work with relevant agencies to identify funding needs to mitigate the impacts of heat stress and extreme heat, including to enable extended operations of homeless shelters during extreme heat events, support cooling centers and public cooling spaces, and expand access to

heat resilience building retrofits (e.g., weatherization, electrification, cool roofs, green roofs, rooftop solar). The team will examine funding and financing options that may include allocations within the Environmental Protection Fund, and federal funding opportunities, and make recommendations for agency and Executive Chamber action. The finance team will also consider opportunities that mobilize private finance and philanthropic capital and provide corresponding recommendations.

Although the finance team’s work will extend beyond summer 2022, it will prioritize identifying current and near-term opportunities to increase investment in heat preparedness and action, while also considering opportunities that may link with the heat adaptation plan (P1) and the heat hazard annex (P2). The finance team will work with the outreach team and other members of the EHAPWG to disseminate information to appropriate target audiences. The finance team will also work to align its funding recommendations with corresponding recommendations in the Climate Action Council’s Draft Scoping Plan.

The EHAPWG has begun compiling an inventory of existing heat-related State programs, initiatives and services (see “Appendix A”). The EAHPWG will continue updating this list and select key programs for a benefit-flow analysis. This analysis will help identify funding gaps, barriers for access, and opportunities to scale funding of existing efforts and to better direct funding to benefit disadvantaged communities.

Coordination

COORDINATION		
	Recommendation Title	Recommendation description
C1	Convene heat emergency coordination team.	Convene an interagency team to coordinate preparation and response in the event of predicted extreme heat, including pre-positioning and distribution of key assets necessary for response to an extreme heat emergency.
C2	Leverage existing touchpoints with the public to perform heat health checks and/or enhance public outreach.	During extreme heat events, utilize existing routine contact between State agencies and the public to perform heat health checks, connect vulnerable individuals with key resources and/or enhance public outreach.
C2	Convene a EHAPWG team to coordinate extreme heat related outreach and communications.	The EHAPWG will convene a team comprising staff from member agencies involved in communications and outreach on extreme heat to coordinate ongoing outreach across agencies this summer and develop a comprehensive extreme heat outreach and communications strategy as part of the adaptation plan.

C1. Convene heat emergency coordination team.

Convene an interagency team to coordinate preparation and response in event of predicted extreme heat, including pre-positioning and distribution of key assets necessary for response to an extreme heat emergency.

DHSES will convene a heat emergency coordination team, comprising emergency response or other appropriate personnel from DHSES, DOH, DEC, OPRHP, DOCCS, OTDA, OMH, OCFS, SUNY, DOL, OPWDD, GOSR, SOFA, State Education Department (SED), and any other appropriate State agencies as soon as is practicable. The heat emergency coordination team will direct and coordinate preparation for, and response to, predicted heat emergencies, including coordination of interagency and public communication, local implementation and the implementation of specific interim recommendations.

C2. Leverage existing touchpoints with the public to perform wellness checks and enhance public outreach.

Utilize existing routine contact between State agencies and the public to perform wellness checks of vulnerable individuals during extreme heat events and to enhance public outreach.

Many agencies routinely interact with different segments of the public, such as participants in State programs, visitors to State facilities and sites, callers to State hotlines, or direct contacts at regional offices. All agencies will commence an internal review of existing touchpoints with the public that could be utilized to perform wellness checks with vulnerable individuals, appropriate to the agency's mission and type of interaction, and establish protocols for notifying appropriate authorities if individuals in need of assistance are identified. This internal review would also identify opportunities to enhance communication of relevant DOH-approved messages related to heat exposure, as part of routine interactions with members of the public.

The Healthy Neighborhoods Program¹⁸ (HNP) seeks to reduce the burden of housing-related illness and injury through a holistic, healthy homes approach. The program provides in-home assessments and interventions for asthma, tobacco cessation, indoor air quality, lead, fire safety, and other environmental health hazards in selected communities throughout New York. The program targets housing in high-risk areas that are identified using housing, health, and socioeconomic indicators from census data. The HNP uses a combination of door-to-door canvassing (roughly 67 percent of visits) and referrals (32 percent of visits) to reach residents in these high-risk areas.

The current HNP budget funds local programs in 18 counties throughout New York State, including New York City. The HNP program provides residents in disadvantaged communities with in-home assessments for several environmental hazards, including lead and asthma. During in-home assessments, HNP staff can discuss the symptoms of heat-related illnesses, educate residents of disadvantaged communities on HEAP cooling and heating assistance benefits, and if cooling is not readily available, educate residents on where they can find cool spaces during extreme heat events.

C3. Convene a EHAPWG team to coordinate extreme heat related outreach and communications.

The EHAPWG will convene a team comprising staff from member agencies involved in communications and outreach on extreme heat to coordinate ongoing outreach across agencies this summer and develop a comprehensive extreme heat outreach and communications strategy as part of the adaptation plan.

Coordinated and effective communication about the risks and impacts of extreme heat, about acute extreme heat events and about available resources for mitigating impacts is crucial. Communications must be targeted and specific to different affected stakeholder groups and should rely on a range of communication strategies and mechanisms.

DOH is currently conducting a \$75,000 extreme heat media campaign with the state media buyer, OpAD Media, to promote awareness about the risks of extreme heat and steps to reduce these risks, including visiting cooling centers, spending time in air conditioning, and staying hydrated. The campaign also promoted OTDA's HEAP air-conditioning assistance program. The campaign is highly successful, running all summer long and boosting social-media posts during extreme heat events through August 31, 2022. Messages are targeted to older adults and adults with families in lower socioeconomic status households in both English and Spanish throughout NYS, excluding NYC.

¹⁸ https://www.health.ny.gov/environmental/indoors/healthy_neighborhoods/

The EHAPWG will continue to coordinate heat related outreach this summer and develop a coordinated State extreme heat outreach and communications plan as part of the extreme heat adaptation plan.

Public Cool Spaces

PUBLIC COOL SPACES		
Recommendation Title		Recommendation description
PC1	Expand availability of cooling centers and shelters.	Identify applicable partners who could volunteer their facilities as cooling centers and provide their contact information to heat emergency coordination team for incorporation into response planning.
PC2	Promote use and visibility of cool spaces and expand outreach.	Continue to collect, collate and disseminate information about cooling center locations across the state (excluding NYC) through the Cooling Center Finder on the DOH website.
PC3	Extend access to State parks, swimming areas, recreational lands and other State facilities that provide relief from extreme heat.	DEC and OPRHP will identify suitable locations that can provide the public with temporary relief from extreme heat and expand access, as appropriate and feasible. NYS can consider waiving fees for appropriate locations, as identified by DEC and OPRHP.

PC1. Expand availability of cooling centers and shelters.

Identify applicable partners who could volunteer their facilities as cooling centers and provide their contact information to heat emergency coordination team for incorporation into response planning.

The EHAPWG will engage relevant agencies to identify further opportunities for creating access to safe cool spaces and cooling centers, as appropriate and feasible with existing resources. For example, GOSR's project portfolio includes many facilities throughout New York State where sufficient HVAC systems and backup power generators are available. Many of these locations are already prepared to serve as emergency shelters, primarily during storm and flooding events. Based on HVAC capacity and availability of backup power, several of these facilities could also function as public cooling sites during extreme heat events. GOSR will collate a list of GOSR-funded project locations that have operational HVAC systems and backup power, and that could serve as public cooling centers. This list will include additional information, including location and contact information. In collaboration with the heat emergency coordination team, GOSR will contact applicable project partners in underserved areas to explore their ability to act as cooling centers during extreme heat emergencies.

PC2. Promote use and visibility of cool spaces and expand outreach.

Continue to collect, collate and disseminate information about cooling center locations across the state (excluding NYC) through the Cooling Center Finder on the DOH website.

DOH will continue work with county health departments, county emergency management offices, and DHSES to add cooling center information to its Cooling Center Finder. The EHAPWG will initiate contact with SED to explore the potential to establish cooling centers in schools. Prior to and during expected heat emergencies, DOH will use its heat vulnerability index (HVI) to identify heat-vulnerable communities and improve awareness of extreme heat impacts and available resources through targeted social media campaigns and other public outreach strategies. OFA will work with local governments to open senior meal sites and senior centers as cooling centers. DOH will work with the National Weather Service (NWS) and other agencies to share the Cooling Center Finder link and related information on social media to improve reach of messaging. This information will also be provided to agency staff performing wellness checks and/or heat-health outreach

during routine interactions with the public (C2). The outreach coordination team (C3) will identify additional outreach channels suitable for increasing visibility of cool spaces, such as existing heat warning reminders issued by State agencies.

PC3. Extend access to State parks, swimming areas, recreational lands and other State facilities suitable for temporary relief from extreme heat.

DEC and OPRHP will identify suitable locations that can providing the public with temporary relief from extreme heat and expand access, as appropriate and feasible. NYS can consider waiving fees for appropriate locations, as identified by DEC and OPRHP.

Many people seek refuge from extreme heat at public swimming areas. Access to outdoor cooling opportunities, including at certain forested areas, parks, indoor and outdoor swimming areas, and other suitable locations, is vital for disadvantaged communities and high-risk populations that often do not have access to indoor cooling and may seek public spaces when power failures prevent use of air-conditioned indoor spaces. Improving access to locations that can provide temporary relief from extreme heat can offer added refuge for affected communities.

NYS can consider waiving fees for appropriate locations, as identified by DEC and OPRHP. DEC and OPRHP will identify appropriate locations, taking into consideration:

- availability and capacities of staff and other relevant resources to ensure visitor safety;
- water quality at swimming locations, including impacts from Harmful Algae Blooms (HABs);
- a specific location’s ability to provide appropriate cooling relief and risk of additional heat exposure, including risk of heat exposure at certain beaches; and
- other considerations necessary to ensure safe access to, and overall public safety at, a location.

DEC and OPRHP will also extend hours at selected facilities, as appropriate and to the extent feasible with existing resources and staff capacities. During a heat emergency, temperatures can remain high into the evening, when life-guarded swimming areas are typically closed. By extending hours at select facilities, the State will increase access to outdoor cooling opportunities for vulnerable populations. DEC and OPRHP will, to the extent possible, contingent upon staffing and other resource limitations, consider extension of life-guarded swimming hours at select state pools and beaches during a heat emergency.

Heat Health Warnings and Protocols

HEAT HEALTH WARNINGS AND PROTOCOLS		
Recommendation Title		Recommendation description
H1	Improve alert system for extreme heat and/or humidity.	Continue ongoing collaboration with the National Weather System to improve extreme heat and/or humidity warning language and thresholds and review existing alert templates to ensure agencies are using consistent and accurate language.

H1. Improve alert system for extreme heat and/or humidity.

Continue ongoing collaboration with the National Weather System to improve extreme heat and/or humidity warning language and thresholds to ensure warnings are health-based and actionable by at-risk individuals and disadvantaged communities and review existing alert templates to ensure agencies are using clear, consistent and accurate language.

The National Weather Service (NWS) issues weather-related public warnings, including for extreme heat. NWS disseminates public warnings using a variety of methods, including the Emergency Alert System (EAS). Several State agencies also issue emergency warnings and communications internally and externally. DOH and DEC will continue to collaborate with NWS to improve extreme heat and/or humidity warning thresholds and language, including translations to languages other than Spanish, and DOH will continue to collaborate with relevant agencies to review and update existing alert templates.

To improve, better target, and scale emergency communications, DOH will develop an internal protocol for issuing Integrated Health Alerting and Notification System (IHNAS) alerts during excessive heat watches and support other agencies issuing similar alerts. For example, DOH uses the IHANS to issue notification to local health departments and health care facilities, DOCCS also uses IHANS to notify superintendents at facilities about heat advisories and to implement relevant protocols, and DOT alerts staff working outdoors through various means.

Community Partnerships

COMMUNITY PARTNERSHIPS		
	Recommendation Title	Recommendation description
CP1	Collaborate with community-based organizations to provide services.	Utilize partnerships with community-based organizations to provide services and support to otherwise hard-to-reach groups while building and investing in community capacities.

CP1. Collaborate with community-based organizations to provide services.

Utilize partnerships with community-based organizations to provide services and support to otherwise hard-to-reach groups.

Within limits of available resources, the EHAPWG and its member agencies will work with existing partners to provide critical resources and services to vulnerable population groups, including migrant workers on temporary visas or without documentation; people without shelter; and Black, Indigenous, and people of color. The EHAPWG will identify resources to deploy to key partner organizations for expanding their service coverage and to provide critical heat-health related outreach.

Current programs available to support such collaboration include NYSEERDA’s Regional Clean Energy Hubs, Clean Heating and Cooling Community Campaign, and Climate Justice Fellowship Program. The EHAPWG will also explore pathways for scaling these and other existing programs that mobilize members of the public and local community groups for heat related outreach and other services, including – in the longer term – emulating conservation corps models for providing information on health concerns or helping supplement community based and community serving groups.

The EHAPWG will consider further opportunities to scale partnerships with local communities and community-based organizations. This includes supporting community capacity buildings through existing and new partnerships, creating opportunities for communities and the groups that serve them, supporting youth and community groups, corps and teams and support their activities, and explore pathways to scale existing agency efforts and partnerships. This will include reviewing select existing programs and initiatives for gaps, barriers to access, and opportunities for scaling to better serve and provide support to communities, community groups, and community-based organizations.

Housing and Cooling

HOUSING AND COOLING		
Recommendation Title		Recommendation description
HC1	Develop uniform utility hot weather provisions.	Adopt uniform criteria and language for utility policies and procedures regarding utility disconnection.
HC2	Improve access to existing energy efficiency and weatherization programs.	Increase uptake of energy efficiency measures, weatherization retrofits, home energy bill assistance, affordable electrified cooling solutions in heat-vulnerable communities.
HC3	Expand access to affordable cooling through HEAP program by advocating and/or securing additional funding for the HEAP cooling component.	Expand Home Energy Assistance Program (HEAP) eligibility to expand access to cooling through the HEAP cooling component. Additional funding is necessary because, in addition to the cooling component, HEAP funds are allocated to several critical areas of energy affordability service provision.
HC4	Explore long-term ability to mitigate energy burden impacts associated with cooling and electrification.	Over the next year, DPS, OTDA, and NYSERDA will explore the potential for developing a utility bill assistance supplement to cover incremental cooling costs of using air conditioning for cooling and/or electrification for heating and cooling.

HC1. Develop uniform utility hot weather provisions.

Adopt uniform criteria and language for utility policies and procedures regarding utility disconnection.

Investor-owned electric utilities have processes to suspend the disconnection of service when defined heat criteria are met. The criteria vary, as they are defined within each utility's respective Joint Proposal, as agreed upon in individual rate case proceedings and approved by the Public Service Commission. DPS will initiate discussions among State agencies and electric utilities to develop consistent criteria. Following the development of the criteria, DPS will determine which utilities will use the revised criteria on a voluntary basis this summer or identify what reasonable conditions exist to prevent it from being implemented. During this time, DPS will also define the appropriate course of action necessary to make the revisions to existing requirements permanent for each utility.

HC2. Improve targeting and uptake of existing energy efficiency and weatherization programs in heat vulnerable, disadvantaged communities to expand access to sustainable and affordable cooling.

Increase uptake of energy efficiency measures, weatherization retrofits, home energy bill assistance, and affordable electrified cooling solutions in heat-vulnerable communities.

Energy efficiency and weatherization improvements will reduce cooling loads and improve the overall energy performance of the home, while energy bill assistance can help offset incremental costs and mitigate increased energy burdens associated with cooling during the summer months. New York State currently administers several programs that subsidize energy efficiency, weatherization, and energy bill assistance.

NYSERDA's EmPower and Assisted Home Performance Programs and HCR's Weatherization Assistance Programs (WAP) serve LMI communities with free or reduced-cost energy-efficiency work for one- to four-unit homes. The WAP and utility-administered Affordable Multifamily Energy Efficiency Program (AMEEP) provide subsidies for energy efficiency improvements for affordable multifamily buildings, while OTDA's Home Energy Assistance Program provides subsidies for energy costs and low- or no-cost repairs and upgrades to heating and cooling equipment to income-eligible households. Energy efficiency measures can reduce the cooling load

of buildings, thereby lowering the costs to cool living spaces and making resources such as air conditioning more accessible.

NYSERDA, HCR, DOH, OTDA and DPS will coordinate promotion of existing energy efficiency and weatherization programs in heat vulnerable communities through the following activities:

- Outreach through NYSERDA's Clean Heating and Cooling Community campaigns and HCR's existing disadvantaged community (DAC)-focused weatherization and electrification campaign, and targeted outreach in DACs through NYSERDA's EmPower program geo-eligibility tool.
- DOH promotion of OTDA, HCR and NYSERDA's programs as part of its existing cooling communications campaign.
- Development of a long-term plan and outreach methodology for NYSERDA, HCR, DOH, OTDA and DPS to reduce program access barriers and conduct targeted outreach in heat vulnerable communities.

As part of long-term heat adaptation planning, further program evaluation will be conducted using existing resources such as the NYS Climate Impacts Assessment and other relevant climate risk assessments and reports, including NYSERDA's 2021 Equitable Access to Cooling in NYC report¹⁹ to implement energy efficiency, weatherization and electrification programs that provide cooling-specific benefits and improve comfort for occupants during high heat events.

HC3. Expand access to affordable cooling through HEAP program by advocating and/or securing additional funding for the HEAP Cooling component

Amend Home Energy Assistance Program (HEAP) eligibility criteria to expand access to cooling through the HEAP Cooling component, which currently provides for the installation of air conditioners at no cost to clients to provide immediate cooling relief.

Additional funding is necessary because, in addition to the cooling component, HEAP funds are allocated to several critical areas of energy affordability service provision, including benefits for heating bill assistance, heating equipment repair or replacement, weatherization, and energy efficiency services.

On May 2, 2022,²⁰ Governor Hochul announced expansion of the eligibility guidelines for the 2021-2022 HEAP Cooling benefit to more effectively assist those in need by removing the requirement for a household member to have a medical condition that is made worse by heat. This program expansion was possible due to the increase in federal HEAP funding available in New York in 2022. The program was also expanded to residents who lived in subsidized housing in 2020. Program application access was also expanded in NYC for the 2021-2022 Cooling program and allowed NYC residents to apply for cooling benefits online through Access NYC.²¹

OTDA initially allocated \$15 million in federal HEAP funding to the 2021-2022 HEAP Cooling Assistance Component to help eligible low- to moderate-income individuals and families stay cool during the summer months. This funding was expended by mid-June 2022, as a result of the increase in applications associated with expanded program eligibility and access. An additional \$8 million of federal HEAP funding was redirected from weatherization programs to the HEAP Cooling benefit to meet the increased demand for cooling assistance, bringing the total budget for this year to \$23 million, compared to the \$7.7 million expended last year to provide cooling assistance. Based on applications received through July 8, OTDA projects that approximately 30,000 benefits will be issued through the HEAP Cooling benefit program this year, nearly a threefold increase over the 10,155 HEAP Cooling benefits issued last year.

¹⁹ <https://www.nyserdera.ny.gov/-/media/Files/Publications/Research/Environmental/21-27-Equitable-Access-to-Cooling-in-New-York-City-Under-a-Changing-Climate.pdf>

²⁰ <https://www.governor.ny.gov/news/governor-hochul-announces-expanded-eligibility-15-million-cooling-assistance>

²¹ <https://access.nyc.gov/>

A longer-term approach needs to be developed to ensure heat-vulnerable households have equitable access to cooling and to develop mechanisms for providing utility bill cooling assistance. This includes consideration for funding mechanisms and installation models to scale adoption of cooling solutions, as well as support needed to ensure energy affordability for vulnerable residents. As part of this workstream, the interagency team will assess long-term approaches to increasing access to cooling, including the exploration of increased federal funding for the HEAP Cooling program, as well as other programmatic solutions.

HC4. Explore long-term ability to mitigate energy burden impacts associated with cooling and electrification.

Over the next year, DPS, OTDA, and NYSEERDA will explore the potential for developing a utility bill assistance supplement to cover incremental cooling costs of using air conditioning for cooling and/or electrification for heating and cooling.

The expansion of cooling and the longer-term potential for electrifying heating and cooling homes will require consideration of energy burden impacts for low-income households. Current energy affordability programs are primarily designed to supplement home heating costs and modification of these programs will require considerable time and budget to incorporate a cooling benefit. Over the next year, DPS, OTDA, and NYSEERDA will explore the potential for developing a utility bill assistance supplement to cover incremental cooling costs of using air conditioning for cooling and/or electrification for heating and cooling. This will include an analysis of the typical impact on household energy burden, an assessment of funds necessary to provide adequate levels of bill assistance to offset the cost of air conditioning for cooling and/or electrification for heating and cooling, and identification of the opportunities to align and leverage bill assistance and clean energy interventions to optimize the resources necessary to advance an approach for increasing access to traditional air conditioning and/or electrified heating and cooling, while mitigating energy bill impacts for vulnerable low-income residents.

As part of long-term heat adaptation planning, OTDA, HCR, DPS, NYSEERDA, DOS, and DOH will identify a long-term strategy and associated funding mechanisms for providing access to sustainable and affordable cooling solutions for heat-vulnerable households and communities.

5. Existing State Programs and Investment

The EHAPWG has identified numerous existing State programs, services and initiatives that help address extreme heat and its impacts on communities. A preliminary list of such programs is provided in Appendix A. The EHAPWG is currently creating a comprehensive inventory of existing State programs, initiatives and services with direct and indirect extreme-heat related benefits to enhance planning and coordination and improve public information about available resources.

A set of selected programs and associated investment expenditures or commitments for the FY 2022 are highlighted below. These existing programs and initiatives have components that provide direct and indirect benefits to mitigate extreme heat impacts and/or vulnerabilities. The programs invest in local communities, support extreme heat adaptation projects, mitigate the urban heat island effect, and provide electric utility and cooling assistance. Note that the programs listed below are not comprehensive. The programs do not necessarily focus on extreme heat equity and justice and may not specifically address extreme heat impacts in disadvantaged communities. They may, instead, benefit New York State communities more broadly. Improving access to relevant programs where appropriate and relevant and removing existing barriers can improve benefits for disadvantaged and otherwise heat-vulnerable communities.

New York State is already investing in green infrastructure to help address extreme heat and its impacts on communities, for example:

- \$15 million to provide funding for the design and construction of green stormwater infrastructure, energy efficiency and water efficiency practices (DEC Green Innovation Grant Program)
- \$3.2 million to help communities start and develop ongoing urban and community forestry programs (DEC Urban Forestry Program)
- \$800,000 to support urban farms and community gardens that may act as heat sinks (AGM Urban Agriculture and Community Gardens Grant Program)
- \$1,000,000 to support community gardens that may act as heat sinks (AGM SNAP-ed Community Growers Grant Program)
- \$450,000 for DEC to plant trees to restore environmental damages
- \$500,000 to assist landowners in establishing and enhancing forest regeneration (DEC Regenerate NY program)
- Approximately \$62 million in tax incentives to maintain forested property (varying, based on enrollment)
- 1-1 matching grants of up to \$2,000 per customer for tree plantings that can provide shade and windbreak on buildings (NYPA Tree Planting program)
- \$500,000 for planting trees in riparian corridors (DEC Trees for Tribes)
- \$500,000 for municipal land acquisition for community forests (DEC Community Forest Grant Program)

The listed examples represent a total allocated investment amount of approximately \$84 million.

New York State is supporting community groups, for example:

- \$10 million committed between 2018 and 2025 for community-based organizations across the State to help homeowners and small businesses learn about clean heating and cooling and energy efficiency solutions (NYSERDA Clean Heating and Cooling Communities Campaign)
- \$6 million committed over the next three years to provide professional development training/mentoring to support full-time, year-long Climate Justice Fellowship placements at community-based organizations, universities, municipalities, clean energy businesses and other institutions for individuals currently residing in disadvantaged communities or from priority populations (NYSERDA Climate Justice Fellowship)
- \$52.6 million committed for community-based organizations to manage Regional Clean Energy Hubs across New York State, which will support a full range of community engagement services over the next four years
- \$3 million to provide access to the outdoors by covering program fees, rentals and transportation (Connect Kids program)
- \$4.1 million for community-based organizations to carry out environmental justice related projects (DEC Community Impact Grants program)
- \$3 million for community-based organizations to build capacity related to air quality monitoring and fund or bolster air monitoring programs.

The listed examples represent a total allocated investment amount of approximately \$79 million.

New York State is investing in safe housing and affordable cooling, for example:

- \$65 million for energy efficiency retrofits and electrification installations for LMI households, funded in part through HEAP (HCR Weatherization Assistance Program)
- \$57 million for energy efficiency retrofits in eligible low-income households (NYSERDA EmPower New York)

- \$23 million through HEAP, including \$8 million in additional funding from NYSEERDA's energy efficiency program reallocated to ODTA for expanded cooling benefits
- \$13 million committed for low- and moderate-income building heat pump demonstration (NYSEERDA Clean Heat Development Plan)
- \$366.7-million utility bill discount program for low-income customers (DPS Energy Affordability Program)

The listed examples represent a total allocated investment amount of approximately \$101 Million.

New York State is investing in climate smart and resilient communities, for example:

- \$125 million for increasing the resilience of communities along the Mill River and around the South Shore Bay, including the creation of an education and resiliency Center at Hempstead Lake State Park that serves as an emergency cooling center (GOSR's Rebuild by Design – Living with the Bay program).
- \$60 million to support local governments by completing actions that increase climate resilience and mitigate climate change, including climate adaptation plans, heat action plans, vulnerability assessments, green infrastructure projects, and creating cooling centers (DEC Climate Smart Communities program).

The listed examples represent a total allocated investment amount of approximately \$185 million.

6. Implementation and Next Steps

The EHAPWG is fast-tracking coordinated implementation of the interim recommendations for them to take effect this summer. Work group member agencies have designated lead implementation staff and designated team members to relevant implementation teams. Agencies are taking the necessary steps to prepare implementation, with the EHAPWG facilitating regular coordination calls throughout the summer. In addition, the EHAPWG is convening separate teams to

- enhance implementation;
- identify resource needs and secure necessary funding for effective and substantive implementation of the extreme heat adaptation plan;
- secure additional resources, including funding and capability, for scaling of critical existing initiatives, including better coordination of and access to investments for disadvantaged communities and heat-vulnerable population groups;
- analyze access to program benefits and opportunities for improving select key programs and making specific, implementable and actionable recommendations for enhancing support through programs for disadvantaged communities and heat-vulnerable population groups;
- scale immediate actions and identify additional opportunities to act in the short term; and
- coordinate comprehensive outreach, communication and community engagement efforts.

Further, the EHAPWG is preparing for continued and enhanced community and stakeholder engagement, including round tables with municipal champions and community-based organizations, a co-design process for developing the extreme heat adaptation plan, and exploring mechanisms that support capacities to equitably participate in the development and implementation of short- and long-term actions.

Finally, the EHAPWG will request consultation with Indigenous Nations, Tribes and communities on a government-to-government basis and according to the preferences and priorities of the Indigenous Nations, Tribes and communities.

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Appendix A: Ongoing State Programs

Existing Programs	Description	Agency/Organization
City of Albany tree planting program	City of Albany has goal of planting x number of trees with equity focus, they require cost share with local community	City of Albany
City of Beacon River Pool	Self-contained swimming pool in the Hudson River	City of Beacon
City of Buffalo Home Energy Assistance Program/Cooling Assistance Benefit	A household can receive one air conditioner or fan up to \$800 if they fall within income guidelines	City of Buffalo
EFC Green Innovation Grant Program	Grant program for green stormwater infrastructure	Environmental Facilities Corporation (EFC)
Erie County Extreme Heat website	Website provides information about what to do during an extreme heat emergency	Erie County government
Erie County DOH provides educational materials on heat related illnesses with special aging-related considerations	Additional links are provided within the website to the OFA for aging specific resources.	Erie DOH
CDC-funded Building Resilience Against Climate Effects (BRACE) Grants	The Building Resilience Against Climate Effects (BRACE) framework is a five-step process that allows health officials to develop strategies and programs to help communities prepare for the health effects of climate change.	CDC
2022 Markey-Bowman Heating and Cooling Relief Act (proposed federal bill)	The 2022 Heating and Cooling Relief Act ensures states can use LIHEAP to address climate adaptation by increasing funding for cooling assistance and ensuring households can access utility assistance during major disasters.	Congress
2022 Climate RESILIENCE Act (proposed federal bill)	The 2022 Climate Risk and Emergency Support in Livable Inclusive and Equitable Neighborhoods and Communities Everywhere (RESILIENCE) Act improves FEMA's disaster definition to include extreme temperature events, like heat waves and freezes; improves FEMA's definitions and cost share eligibility requirements for disadvantaged communities and underserved communities; enhances the hazard mitigation planning process to better integrate states', tribes', and territories' hazard mitigation planning into other mitigation planning processes, also includes a focus on resiliency planning and investments;	Congress
NOAA Community Heat Mapping grant program	Columbia University received NOAA funding to do community urban heat island mapping campaign in partnership with local EJ groups including WE ACT and South Bronx Unite.	NOAA, NIH and Columbia University
FEMA BRIC Program	Building Resilient Infrastructure and Communities (BRIC) supports states, local communities, tribes and territories as they undertake hazard mitigation projects, reducing the risks they face from disasters and natural hazards. Opportunity to receive funding for pre-disaster extreme heat hazard mitigation work. NYC Mayor's Office of Sustainability has applied for BRIC funding to do heat resiliency work.	FEMA

OSHA Workplace Safety and Health - National Emphasis Program NEP – Outdoor and Indoor Heat-Related Hazards	Under the National Emphasis Program (NEP), OSHA aims to eliminate or reduce worker exposures to occupational heat-related illnesses and injuries in general industry, construction, maritime and agriculture.	USDOL
White House Interagency Working Group on Extreme Heat	Formed by White House in 2021 to address extreme heat risks faced by vulnerable communities including low income and communities of colors and workers. OSHA will develop rule on extreme heat worker safety: https://www.nytimes.com/2021/09/20/climate/biden-heat-workplace-rules.html	White House CEQ
Long Island Free Home Energy Audit		Long Island Green Homes
PSEG Residential Energy Affordability Partnership (REAP) Program	Energy efficiency retrofit program	PSEG Long Island
PSEG Smart Savers Thermostat Program	Rebate for smart thermostat program. Can receive \$85 if you have a central air conditioning system and install a qualifying smart thermostat that allows us to make minor, short-term adjustments to your air conditioning that reduce power use during periods of high demand for electricity.	PSEG Long Island
Monroe County DOH issued a study on the various factors to be considered in developing extreme heat policies	The publication identified “sensitivities” and “adaptive capacity and adaptation resources” when introducing mitigation measures to stakeholders, many are specific to older adults and those with health issues.	Monroe DOH
DEC State Land Planning	State lands of the Adirondack Park reduce heat island effect. Stewardship of New York’s preserved lands sequesters carbon, maintains shade, and provides ecosystem services across the State	Adirondack Park Agency, DEC
AGM Urban Ag and Community Gardens Grant Program	Supports urban farms and community gardens that may help provide heat sinks (new FY22-23)	AGM
SNAP-ed Community Growers Grant Program	Supports community gardens that may help provide heat sinks	AGM (funding passes from OTDA)
DASNY Energy Surveys	Service to meet State energy codes	DASNY
DHSES County Hazard Mitigation Plans	The Disaster Mitigation Act of 2000 and corresponding regulation - 44 CFR Part 201, require that state, local, tribal and territorial governments have a FEMA-approved mitigation plan in place in order to be eligible for mitigation project funding.	DHSES
Emergency Management Plans		DHSES
DPS Electric Infrastructure	Utility investment and O&M plans to enable operation during extreme heat events	DPS
DPS Energy Affordability Program (EAP)	Utility bill discount program for low-income customers. In 2021 DPS increased funding (EAP annual budget changed from \$129 million to \$366.7 million) for program through new PSC order that expanded program to an additional 95,000 customers. Customers are eligible for program if have utility debt or qualify for HEAP or other public assistance programs.	DPS
DPS transition to renewable energy	Generation mix will be moving to 100 percent renewable by 2040	DPS

HCR Weatherization Assistance Program (WAP)	Energy efficiency retrofit and electrification installations for LMI households, funded in part with HEAP funds.	HCR
Office of Aging Partnership with Red Cross for using Senior Centers as cooling shelters	These shelters are opened to the public (in partnership with the American Red Cross) as needed. Their availability as cooling centers/warming stations is promoted when needed. Generators have been installed at some facilities.	Local Office for the Aging
GOSR Affordable Housing Fund	Program that funds the construction of affordable housing incorporating green design standards, including green roofs, in counties affected by Hurricanes Irene, Lee, and Sandy.	GOSR
GOSR Public Housing Resilience Pilot Program	Program that supports the construction of resiliency improvements at public housing sites, including: the installation of storm-resistant air conditioning units at residences, the provision of backup generators at community centers equipped with air conditioning, and the landscaping of outdoor public spaces to increase accessibility and add more resilient plantings.	GOSR
GOSR Rebuild by Design – Living with the Bay	A \$125 million Rebuild by Design grant that aims to increase the resiliency of communities along the Mill River and around the South Shore’s bays. As part of the project an Education and Resiliency Center was constructed at Hempstead Lake State Park that can be utilized as an emergency cooling center. In addition, a full facility backup generator was installed at East Rockaway High School that will allow the facility to be used as a cooling center in the event of power interruption in the local area.	GOSR
GOSR NY Rising Community Reconstruction Program // Backup Power Sources for Critical Facilities	Installation of backup power sources (generators) for critical facilities throughout the state that prepare communities to respond to disasters, including extreme heat events that may impact the electrical grid.	GOSR
GOSR NY Rising Community Reconstruction Program // NY Rising Community Centers	A NY Rising Community Center is a large and currently operating community space that will coordinate with other service locations throughout the community, borough, and City, to create a comprehensive network of expanded and ongoing community-focused services to respond to existing longer-term recovery needs, and to new recovery needs in the event of another disaster. These centers are not evacuation centers, nor shelters. Several of the community center projects include upgrades to HVAC systems and building envelopes that will allow for the spaces to function during an extreme heat event.	GOSR
GOSR NY Rising Community Reconstruction Program // Solar Power and Battery Backup Pilot Program	This is an initiative to install renewable energy systems at library branches and community facilities across Brooklyn and the Bronx, 11 in total. These vital facilities, which serve as community hubs and assist with response and recovery operations during emergencies, experienced power outages as well as flooding damage during Superstorm Sandy. The solar panels and battery backup systems will ensure a continued power supply and make these facilities more resilient to future storms, while the surrounding utility grid will benefit from the additional energy generated. Collectively across all project sites, the solar panels will generate 345kW of power, equivalent to removing 11 tons of carbon emissions from the atmosphere annually. The battery storage units will hold 583kWh of power, equivalent to supplying power for hundreds of households.	GOSR
GOSR NY Rising Infrastructure Program // City of Long Beach Street Tree Replanting	Restoration of the Sandy-damaged urban tree canopy with salt and flood tolerant tree species. Replanted trees are more resilient to future storms. The trees improve air quality, provide shade, and reduce the heat island effect during extreme heat events. They provide co-benefits such as reduction of stormwater runoff, provision of effective mineral transfer opportunities for plantings, and aesthetic improvements.	GOSR

GOSR NY Rising Infrastructure Program // Long Beach Medical Arts Pavilion	Construction of a new, disaster resilient Medical Arts Pavilion and primary ambulatory care facility to provide critical medical services to Long Beach patients, an essential part of a short-term response to extreme heat events.	GOSR
GOSR NY Rising Infrastructure Program // NY Prize Microgrid Projects (Freeport, Greenport, and Schenectady)	Construction of microgrids in Freeport, Greenport, and Schenectady that can operate independently of the centralized electrical grid and provide continued power to critical facilities when power outages or service disruptions arising from disasters or extreme heat events adversely affect the wider grid. Critical facilities to be connected to the microgrids include infrastructure, public housing, emergency services, utilities, and other facilities that are instrumental to short-term response. Project components include those necessary for generation, storage, transmission, and distribution.	GOSR
GOSR NY Rising Infrastructure Program // Our Lady of Consolation Generator Project	Installation of backup generators to provide power for the nursing home so that it can continuously care for vulnerable senior residents during a disaster such as an extreme heat event.	GOSR
NY State Legislature Extreme Heat Worker Safety Bill (Proposed state legislature bill sponsored by Senator Kaminsky)	Defined relevant employers required to have a plan for how to protect workers on a day that's considered an emergency heat wave day, employers have must submit extreme heat worker safety plan to state.	NY State Legislature
NYPA Battery storage	Exploring opportunities to replace fossil fuel peaker plants in NYC area with battery storage; improved air quality & reduced urban heat island effect.	NYPA
NYPA Climate Resilience Study with Argonne National Lab	Develop future temperature projections (including extreme heat events) through 2050.	NYPA
NYPA Energy efficiency services	Energy efficiency programs for customers	NYPA
NYPA Green recreation space	Publicly accessible outdoor recreation opportunities (e.g., hiking trails, boat launches).	NYPA
NYPA LMI Heat Pump program	Upgrading HVAC systems with energy efficient heat pumps in low-income housing.	NYPA
NYPA Low-cost power for cooling centers	NYPA governmental customers include community centers, public schools, and libraries; these locations often act as cooling centers for their residents.	NYPA
NYPA Low-cost power municipal government program	NYPA provides low-cost power to government (including NYC), municipal & rural cooperative electric systems, and industrial customers. These include NYCHA residents and residents in areas served by municipal & rural cooperative electric systems.	NYPA
NYPA Micro-grids	NYPA has provided backup generation systems for essential services (e.g., hospitals, community centers).	NYPA
NYPA Residential weatherization workshops	Educates Environmental Justice communities on how to increase energy efficiency of their homes	NYPA
NYPA Transmission line upgrades	Upgrades to existing transmission lines to increase capacity and climate resilience, and to reduce loss.	NYPA
NYPA Tree Planting program	Encourages customer tree plantings that can provide shade and windbreak on buildings.	NYPA
NYPA Undergrounding transmission lines	Constructing new transmission lines underground should reduce line losses during extreme heat events, making them more reliable and increasing capacity during extreme heat	NYPA

APA Hamlet Development Program	The agency works with local communities to develop economic plans for the commercial centers. Plans could incorporate best practices related to extreme heat management and resiliency.	NYS Adirondack Park Agency
APA Regulatory Programs	The Agency mitigates environmental externalities related to projects it permits.	NYS Adirondack Park Agency
DEC Community Forest Grant Program	Funds municipal land acquisition for community forests, which are vital for to meet the obligations outlined in New York's Climate Leadership and Community Protection Act.	DEC
DEC CSC PE7 Actions: Cooling Centers, Heat Emergency Plan, and Shade Structures Policy	Provides guidance and examples, CSC grants may be available to help complete actions (See additional programs and resources listed in each action guidance in Section G).	DEC
DEC Fireplace Neck Tidal Marsh Restoration	Design and implement restoration of high marsh habitat at DEC Fireplace Neck Tidal Wetland Area with the goals of limiting further degradation of marsh to mudflats and open water; maintaining existing ecological functions and increasing habitat values; enable the marsh to sustain the same level of protection and resiliency from large storm events and support the marshes' ability to adapt to sea level rise.	DEC
DEC Forest Tax Law	Tax incentive to forest landowners to maintain forested property, combatting climate change.	DEC
DEC Integrated Watershed Action Plan	Stakeholder-driven assessment of values and goals, identification of watershed health indicators, assessment of ecosystem conditions and risks, as well as identification of projects. Explores strategies to mitigate extreme heat.	DEC
DEC Natural Resource Damages	Tree planting to restore environmental damage.	DEC
DEC Non-Agricultural Nonpoint Source Planning and MS4 Mapping Grant	The Non-Agricultural Nonpoint Source Planning and MS4 Mapping Grant (NPG) is a competitive, reimbursement grant program that funds planning reports for nonpoint source water quality improvement projects and mapping of Municipal Separate Storm Sewer Systems (MS4s). The program aims to prepare nonpoint source projects for construction and application for implementation funding, and to encourage and support cooperation among regulated MS4s to complete mapping of their stormwater system.	DEC
DEC Nutrient Inactivant Pilot Study- Honeoye Lake	Design and implement a pilot study to address phosphorus pollution in Honeoye Lake sediment. Under certain conditions the sediment phosphorus leaks into the lake water and contributes to declines in water quality and impacts climate change. The pilot study will evaluate alum as a means to bind (render inactive) the phosphorus in order to improve water quality and mitigate impacts from climate change and examine how high heat leads to water quality issues.	DEC
DEC Regenerate NY	Assists landowners in establishing and enhancing forest regeneration to ensure long-term forest cover, combatting climate change.	DEC
DEC Resilient NY Program – Ice Jam and Mitigation Planning	Developed comprehensive studies of the root causes of repetitive flooding for 16 watersheds across New York State. The studies included stakeholder engagement, field investigation, flood and ice-jam modeling, and detailed reports.	DEC
DEC St. Lawrence Area of Concern (AOC) studies	Conduct several studies to evaluate the ecological condition of the St. Lawrence River AOC and identify projects to improve shoreline resiliency, habitat and ecological value along the St. Lawrence River, as well as the Grasse, St. Regis and Raquette Rivers.	DEC
DEC Trees For Tribs	Plants trees in riparian corridors.	DEC
DEC Urban Forestry Program	Helps communities start and develop ongoing urban and community forestry programs.	DEC

DEC Water Quality Improvement Project Program	The Water Quality Improvement Project (WQIP) program is a competitive, reimbursement grant program that funds projects that directly improve water quality or aquatic habitat or protect a drinking water source.	DEC
DEC Climate Smart Community (CSC) Certification	Certified communities are the foremost leaders in the state; they have gone beyond the CSC pledge by completing and documenting a suite of actions that mitigate and adapt to climate change at the local level.	DEC
DEC CSC Grant Program	The CSC Grant program was established in 2016 to provide 50/50 matching grants to cities, towns, villages, and counties of the State of New York for eligible climate change mitigation, adaptation, and planning and assessment projects.	DEC
DEC Stormwater programs through DOW	Vegetation, runoff capture and treatment; improved water quality, and larger proportion of vegetative cover to reduce heat islands and impervious impacts	DEC
DEC Swimming in the Hudson River Estuary	Study to identify potential future swimming locations on the Hudson River	DEC
Climate Smart Communities program (interagency)	Climate Smart Communities (CSC) is a New York State program that helps local governments take action to reduce greenhouse gas emissions and adapt to a changing climate. The program offers free technical assistance, grants, and rebates for electric vehicles.	DEC, DOH, DOT, DOS, NYPA, NYSERDA, DPS
DEC Climate Vulnerability Assessments and Adaptation Plans (interagency)	Will help local governments ID heat as a risk and propose solutions. Developing vulnerability assessments for 35 State agencies based on previous interviews and publicly available information. The final report is owned by the agency, identifying agency vulnerabilities and make recommendations of actions to take to minimize vulnerability. This document is the first step toward developing an agency climate adaption plan. OGS is finalizing the reports and happy to share in 2024.	DEC, OGS, NYSERDA and others
DOS Countywide Smart Growth Resiliency Planning Grant Program	In 2018, five counties were awarded funds to develop countywide resiliency plans that integrate the principles of Smart Growth and climate resiliency (Albany, Genesee, Orange, Sullivan and Tompkins counties). The grants will help counties and their localities take the necessary local steps to protect people and property from more frequent and severe natural disasters resulting from a changing climate.	DOS
DOS Local Waterfront Revitalization Program	The Local Waterfront Revitalization Program (LWRP) serves as the Office of Planning and Development's primary program for working in partnership with waterfront communities across the State to address local and regional (coastal or inland) waterway issues, improve water quality and natural areas, guide development to areas with adequate infrastructure and services away from sensitive resources, promote public waterfront access, and provide for redevelopment of underutilized waterfronts.	DOS
DOS Smart Growth Grant Program	The Department of State (DOS) administers a portion of the State Smart Growth grant program, which is funded annually through the Environmental Protection Fund. DOS and DEC designate Smart Growth funding for a variety of purposes. DEC applies funds exclusively to Smart Growth planning and projects in the Adirondack and Catskill Parks; DOS uses funds for a variety of purposes related to community planning and development. DEC Smart Growth grants are described on the DEC website.	DOS
Climate and Research Articles	NYS scientists collect data and conduct research to better understand and characterize the health impacts from extreme weather events and a changing climate. DOH scientists publish in leading peer-reviewed and provides data and research related publications on its website.	DOH

Cooling Centers Accessibility	NYSDOH researchers have conducted a study on accessibility of cooling centers to heat-vulnerable populations in New York State and published the findings.	DOH
Cooling Centers Mapping Application	DOH helps individuals find a cooling center near them by providing the online Cooling Center Finder application. The Finder also provides public transportation, driving and walking directions.	DOH
County Heat Health Profile Reports	County Heat and Health Profiles help identify populations and neighborhoods at highest risk. The reports describe county temperature trends, summarize heat-related health effects, identify areas with populations at highest vulnerability to heat, and list some available adaptation resources.	DOH
Extreme Heat Social Media Campaign	DOH is currently conducting a media campaign to promote awareness about the risks of extreme heat and steps to reduce these risks including visiting cooling centers, spending time in air conditioning, and staying hydrated. The campaign is highly successful, running all summer long and boosting posts during extreme heat events through August 31, 2022. Messages are targeted to older adults and adults with families in lower socioeconomic status SES households in both English and Spanish throughout NYS, excluding NYC.	DOH
DOH Heat Vulnerability Index Map	NYS map of heat vulnerable regions by county	DOH
DOL Onsite Consultation	Worker protection assistance includes heat/cold stress monitoring for private sector employers.	DOL
DOL Public Employee Safety and Health (PESH)	Worker protection assistance includes heat/cold stress monitoring for public-sector employers.	DOL
NYSCC Reimagine the Canals	Expands and supports recreational opportunities along the canals (e.g., fishing, canal-side parks, water sports).	NYSCC (NYS Canal Corporation)
DOT Welcome centers and Rest Areas (not an official program, but represents "built infrastructure")	Provide cooling to travelers (especially needed during heat waves).	DOT, Thruway Authority
DEC Green Innovation Grant Program	Provides funding for the design and construction of green stormwater infrastructure, energy efficiency and water efficiency practices.	EFC
NYSERDA Climate Change: Equitable Access to Cooling in New York City Report (July 2021)	Report evaluated the potential impacts of climate change on indoor cooling needs in New York City. The project focused on the economic and health impacts to the City's heat-vulnerable populations, as well as technology and policy options to meet future residential cooling needs while minimizing increases in energy use and demand.	NYSERDA
NYSERDA Building Electrification Roadmap (BER) and Carbon Neutral Building Roadmap (CNBR)	To meet the ambitious goals of the Climate Leadership and Community Protection Act, the Carbon Neutral Buildings Roadmap (Roadmap) is intended to identify pathways to decarbonize New York's building stock by 2050. The forthcoming Building Electrification Roadmap (BER) is a sub-set plan for the CNBR.	NYSERDA
NYSERDA Clean Heating and Cooling Communities Program	The Clean Heating and Cooling Communities program is getting groups of homes and businesses in New York State to install clean heating and cooling (CH&C) technologies such as ground or air source heat pumps. These technologies can help lower energy bills and reduce emissions of harmful greenhouse gases, while making homes and businesses more comfortable.	NYSERDA
NYSERDA Community Heat Pump Systems (PON 4614)	Pilot program that encourages large-scale implementation of Clean Thermal Energy Networks.	NYSERDA

NYSERDA Electrification Resilience Analysis	Research project aimed at identifying vulnerability and resilience aspects of electrifying buildings, which could include potential vulnerabilities to and solutions for exposure to heat during power outages.	NYSERDA
NYSERDA EmPower NY+ Program	Energy efficiency retrofit and electrification installations for LMI single family households, funded in part with HEAP funds).	NYSERDA
NYSERDA Health Impacts of Power Outages and Warm Weather on Food Safety	Research project exploring the potential impacts of food safety during power outages during periods of hot weather.	NYSERDA
NYSERDA LMI Electrification Strategy (part of NY State Building Electrification Roadmap)	Plan to target electrification in low to moderate income (LMI) communities. This work includes initiatives such as the 2020 Demonstration Study for Heat Pumps in LMI Buildings.	NYSERDA
NYSERDA LMI Utility Bill Cost Analysis Study	A pending NYSERDA utility bill cost analysis study of the Energy Affordability Program will examine costs for low to moderate income customers associated with cooling and additional costs associated with electrification. This study will help inform existing information gaps around the utility bill costs associated with cooling that vulnerable residents face.	NYSERDA
NYSERDA New York Climate Change Science Clearinghouse	The New York Climate Change Science Clearinghouse (NYCCSC) is a regional gateway to data and information relevant to climate change adaptation and mitigation across New York State. It provides climate science data and literature and other resources for policy-makers, practitioners, and the public, to support scientifically sound and cost-effective decision making.	NYSERDA
NYSERDA NY Sun Solar for All Program	Solar for All is a NYS utility bill assistance program. New York State is funding solar farms to benefit homeowners and renters who may not be able to access solar (clean energy). Through Solar for All, eligible New Yorkers (low-income renter or homeowner, on HEAP, veteran) can get the benefits of clean energy while lowering their energy costs.	NYSERDA
NYSERDA NY Sun Solar Rooftop Incentive program	NY-Sun helps make solar energy more accessible and affordable for residential customers.	NYSERDA
NYSERDA Regional Clean Energy Hubs	A community engagement program in which community groups for each NY regional economic development region are funded to do educational awareness and outreach campaigns in their communities to help increase participation in NYSERDA and other clean energy and climate-related programs.	NYSERDA
NYSERDA Climate Justice Fellowship Program	NYSERDA program that funds and provides professional development training/mentoring to support full-time, year-long Climate Justice Fellowships for individuals currently residing in disadvantaged communities or from priority populations. Fellows collaborate with organizations and businesses to advance climate justice and clean energy priorities as well as encourage community engagement activities, partnership building, clean energy start-ups, and project development. The program also involves working with state and federal agencies, nonprofit organizations, foundations, and other partners to leverage existing resources, wrap-around services, training, and professional development opportunities.	NYSERDA
NYSERDA Retrofit NY	Full carbon neutral retrofits (includes energy efficiency and electrification) for affordable (LMI) housing buildings.	NYSERDA
NYSERDA Smart Grid	Investments in smart grid technologies can improve efficiency and delivery, reduce the severity of unplanned outages, and accommodate a diverse supply of clean energy generation sources and transportation.	NYSERDA

NYSERDA led Low Income Energy Task Force (LIETF)	Interagency task force created to address low-income energy affordability policies and programs, improve coordination between government and private agencies, and streamline and eliminate duplication of services and programs to increase effectiveness and reduce cost.	NYSERDA is lead coordinator. Other members include HCR, DOS, DEC, OTDA, DPS
NYSERDA Population Vulnerability to Climate Change in New York State Report (Oct. 2017)	Report prepared for NYSERDA by DOH that assessed New York State population vulnerability to extreme heat. Report focused on assessing heat vulnerability of different regions of NYS (with HVI map), heat-related health impact projections for NYS regions under different emissions scenarios, heat adaptation solutions such as cooling centers, heat warning alerts and indoor cooling	NYSERDA, DOH
NYSERDA and DPS NY Energy Advisor website	New website (2021) created to help connect income-eligible New Yorkers with a customized list of energy-related assistance in the State. Sponsored by NYSERDA and utilities, qualified New Yorkers can get help paying utility bills, receive special offers on heating assistance, and more.	NYSERDA, DPS
NYSERDA and HCR 2 Million Climate Friendly Homes 2022 State of the State Proposal	Goal of creating 2 million climate friendly homes by 2030. Includes 1 million electrification ready homes (have good enough shell and upgraded electrical paneling) and 1 million electrified homes. 800,000 affordable housing units (40percent of 2 million) need to be electrification ready or electrified homes.	NYSERDA, HCR
OFA Extreme Weather Social Media Campaign	The OFA communication team issues social media posts throughout the year on pressing weather-related emergency preparation measures and provides links to additional resources	OFA
OFA Program Calls	The LPO Division of OFA conducts bi-monthly program calls to AAAs across the state and regularly features OTDA heating and cooling programs with our partners.	OFA and OTDA
OCFS Heat Warning Reminders	Information/reminders sent to day care providers about heat and the dangers of leaving kids in cars and busses	OCFS
OCFS Community Credible Messenger Initiative (CCMI)	Case managers discuss/change hours of outside and recreations activities.	OCFS DJJOY Community Multi-Services Office
OCFS Heat-advisories trigger discussions	CMSOs reschedule meetings and or workshops due extreme temperatures with youth and their families and check in on as needed	OCFS DJJOY Community Multi-Services Office
OCFS SNUG Neighborhood Violence Prevention Program (in Onondaga County only)	Assists families with heat related information and direction to additional resources (county / external organizations)	OCFS DJJOY Community Multi-Services Office
OCFS Look Before You Lock	Annual information campaign about the real and severe danger of leaving children (and pets) in hot cars	OCFS
Office of Aging State Disaster Preparedness Commission	The State Office for the Aging is a member of the State Disaster Preparedness Commission, activates to the State Emergency Operations Center as a member of Emergency Support Function Six, and assists the 59 local Offices for the Aging (52 county agencies, four non-profits, two tribal governments, and New York City) as requested in disaster response.	OFA
OGS Building Energy Efficiency	Works with NYPA to improve energy efficiency at all OGS properties through energy audits and Build Smart NY programs	OGS
OGS Emergency Contracting	Provides a contracting mechanism for State Agencies to provide quick response contractors for impact to infrastructure or State Assets.	OGS
OGS Energy Curtailment Plans	Implemented during high demand on the utility system in the summer months	OGS

OGS Green Employee Commuting	NYS-Ride Negotiated benefit program sponsored by the GOER and administered by WageWorks, Inc., which provides New York State employees with the opportunity to pay for certain work-related transportation expenses on a pre-tax basis. NYS-Ride allows you to save money on your eligible transportation costs. You pay for these expenses through pre-tax payroll deductions and save money each month.	OGS
OGS Green Purchasing	Purchasing Environmentally preferable products and services	OGS
OGS Green Your Fleet	Work with State agencies to decarbonize the State fleet. Right-Size Vehicle Fleets; Limit Miles traveled, Procure ZEVs	OGS
OGS reduces power usage in NYS office buildings on hot days by setting thermostats higher (to reduce electricity usage from air conditioning).	Program can be counterproductive. Hot office environments cause some staff to go home and use air conditioning at home to stay cool. OGS should update any outdated air circulation systems that cause uneven heating and cooling in office buildings. Consider expanding teleworking on hot days.	OGS
OGS Refrigerant Management	OGS provide guidance and education to encourage agencies to have a refrigerant management plan in place to ensure that refrigerants are managed effectively and that lower GWP refrigerants are considered when purchasing new equipment.	OGS
OGS RFPs for State Term Contracts Design and Construction	Availability of state term contracts for expert consultant services available to all state agencies	OGS
OGS Wedge Wire Screen Retrofit	Provide protection against entrainment and impingement of aquatic life within the Hudson River.	OGS
OPRHP Admission	Parks provides several admission programs for access into facilities	OPRHP
OPRHP Emergency Response	Parks is part of the statewide Emergency Response Team. The agency could assist with providing resources (facilities, equipment, staff) for cooling centers or other needs during an extreme heat event	OPRHP
OPRHP Environmental Stewardship	Parks oversees a diverse variety of natural habitats across the state. Protection of these habitats help provide resilience to climate change while providing shade, water, and cooling spaces that benefit both people and nature	OPRHP
OPRHP Ladders/Connect Kids	Provides access to the outdoors by covering program fees, rentals, transportation	OPRHP
OPRHP Water Recreation	Parks provides access to recreational water activities (beaches, swimming pools and spray pads) at over 70 locations	OPRHP
OTDA Home Energy Assistance Program (HEAP) Cooling Benefit Program	Provides HEAP Cooling benefit to eligible low-income households to install an air conditioner or fan at no cost to the household.	OTDA
OTDA HEAP Emergency Component (1st, 2nd, 3rd) Benefit	Provides for continuation of utility service for eligible households facing termination due to high electricity usage.	OTDA
Work From Home (interagency)	Keeps people and vehicles off of roads and reduces consumption at office buildings.	State Agencies
SUNY Clean Energy Master Plan	SUNY is undertaking, through the State University Construction Fund (SUCF), a master plan as to how each SUNY campus will transition away from fossil gas to a clean energy system, to meet the Climate Leadership and Community Protection Act.	State University Construction Fund/SUNY
DPS Energy Affordability Program	Utilities provide a year-round monthly discount to supplement customers that are enrolled in HEAP or other public assistance programs.	DPS, Utilities

DPS and NYSERDA New York State Clean Heat Program	Statewide incentive program administered by NYS Utilities and jointly managed by NYSERDA that promotes energy efficiency measures and heat pump installation.	Utilities (primary), DPS, NYSERDA
DPS and NYSERDA Statewide LMI Energy Efficiency Program	Program to assist low-moderate income residents with home energy assessments and energy efficient upgrades.	DPS, Utilities, NYSERDA
DPS and NYSERDA Utility Demand Response Programs	Program that assists in avoiding overloads on the hottest days.	Utilities, NYSERDA
NYSERDA NYPA NYCHA Clean Heat for All Challenge (Dec. 2021)	Competition to develop more affordable, easy-to-install window mounted heat pump technology for LMI multifamily housing. NYCHA has already committed to buy 24,000 window mounted heat pumps (~250 million investment, equates to heating & cooling electrification for ~8000 units; has goal of electrifying 50,000 apartments over 10 years).	NYSERDA, NYPA, NYCHA
NYC Be a Buddy Program (2018)	Two-year pilot created to promote community resiliency to extreme heat and other weather emergencies in key heat-vulnerable communities in the South Bronx, Upper Manhattan, and Central Brooklyn. Community organizations were selected through an RFP process led by NYC DOH.	NYC MOS, NYC DOH, NGOs: The Point, Fund for Public Health NY
NYC Local Law 92 & 94 – 2019 (NYC Law)	NYC laws that require all new buildings or existing buildings that need to replace the whole roof to build either green roofs or solar panels (DOB).	DOB, DCAS, NYC Parks
NYC Green Roof Tax Abatement Law- 2019 (NYC Law)	State law that provides a one-time property tax abatement of \$5.23 per square foot of green roof space for properties that have green roofs. The benefit is capped at whichever is less: \$100,000 or the amount of property taxes due for the building that tax year (DOF).	DOB, DOF, NYC Parks
NYC Introduction 1945-2020 - 2020 (NYC Law)	Introduction 1945–2020 is a NYC law enacted in 2020 which requires the DOHMH to annually report on neighborhood heat vulnerability and the number of heat-related deaths.	NYC City Council, NYC DOH
NYC Introduction 1960-2020 - 2020 (NYC Law)	Introduction 1960–2020 is a NYC law enacted in 2020 which requires NYC to submit its summer extreme heat plan (cooling and communication plan) by May 15th each year.	NYC City Council, NYC DOH
NYC code red policy	NYC Dept. of Homeless policy that requires homeless shelters to be open to any houseless person regardless of whether they are registered for shelter during an extreme heat event.	NYC Department of Homeless Services
NYC Dept. of Aging emergency operations plan requirements.	Outlines who and what each of its partners will do during various emergency situations.	NYC Dept for the Aging
NYC Local Law 97 - 2019 (NYC law)	Requires most buildings over 25,000 square feet to meet new energy efficiency and greenhouse gas emissions limits by 2024, with stricter limits coming into effect in 2030. The goal is to reduce the emissions produced by the city's largest buildings 40 percent by 2030 and 80 percent by 2050.	NYC DOB, DCAS, NYC MOS
NYC 2021 Heat Related Mortality Report	Data analysis conducted as part of NYC DOH's Environmental/Climate Health program. Summary of heat-related health outcomes in NYC during summer 2019 and 2020.	NYCDOH, NYC Community Air Survey, Queens College
NYC Heat Vulnerability Maps	Various HVI maps that show most heat vulnerable areas and include intervention maps (ex: Cool It! NYC map). NYC HVI map updated in 2020 to include new AC access metric.	NYCDOH, NYCParks, NYCMOS
NYC Resilience Hubs Inventory	Inventory of social infrastructure in NYC to serve as "resilience hubs."	NYC MOS
NYC Cool Neighborhoods NYC Program (2017)	NYC government program that focuses on addressing extreme heat risks in vulnerable communities. Program includes the use of a heat vulnerability index map and intervention specific HVI maps, targeted tree planting in heat-vulnerable areas, Be a Buddy Program, cooling centers program, cool roofs program.	NYCMOS, NYCDOH, NYCParks, NYCEM, DOB

Department of State (DOS)	Program offers grant funding for private property owners in NYC to retrofit their buildings with green roofs.	NYCDEP
City of Rochester Resilience Plan	The City of Rochester's Office of Energy and Sustainability is creating a community-wide Climate Change Resilience Plan to better prepare our community to adapt to climate change impacts. The Climate Change Resilience Plan is partially funded by the New York State Department of Environmental Conservation's Climate Smart Communities Grant program.	City of Rochester
Division of Criminal Justice Services (DCJS)	Program that provides eligible residents with free fan or AC	City of Rochester
City of Rochester Cool Sweep Program	Partnership with RG&E: spray parks, open pools, air-conditioned cooling stations at various rec center.	RG&E (Rochester Gas & Electric) and City of Rochester
Division of Homes and Community Renewal (HCR)	Disseminated extreme heat related articles within summer newsletters to older adults. Topics included hydration, nutrition, and emergency preparedness/power outages.	Westchester County Department of Senior Programs and Services
Westchester County DOH provides educational materials on heat related illnesses with special aging-related considerations	Educates the public at large of extreme heat considerations, ozone levels, cooling centers and sun safety.	Westchester DOH

Appendix B: Stakeholder Input

Affected Stakeholder Group	Feedback	Incorporation
People Experiencing Houselessness	<ul style="list-style-type: none"> - Congregate settings act as barrier. - Availability and type of cooling in shelters is inconsistent. - Shelter quality and alternative models are often lacking, with limited enforcement and investment. - Quality of services, limited availability of services present barriers. - Intersecting co-vulnerabilities (e.g., houselessness, drug use, mental health, age, preexisting health conditions, transient) create compounding risks. - Clearing of camp sites during heat waves exacerbates risks. - Stigmatization creates barriers for accessing public spaces that provide cooling, transportation. Some groups are additionally stigmatized for their identity, facing further barriers. - Street-level outreach is critical, including providing preventative services, but is dramatically under-resourced. - Housing programs using scatter-site housing models often lack adequate cooling. - Where resources exist, they are limited. - There is need to systemize the emergency services provided to unhoused populations during a heat event. - Getting people into permanent housing is the best solution. 	<p>The EHAPWG has convened a team to review and identify opportunities for action to address impacts on houseless populations. It has also begun reviewing existing programs to identify opportunities for scaling existing support. This includes coordination and communications with partners across jurisdictions who would be needed to implement many actions.</p> <p>In addition to expanded general outreach and communication this summer, the EHAPWG is convening a team to develop a coordinated State outreach strategy that will incorporate information and resource access needs.</p>
Indigenous leadership and Indigenous Communities	<p><i>No formal engagement and consultation process was initiated. However, the EHAPWG reviewed existing literature, publications and other resources, and recognizes that:</i></p> <ul style="list-style-type: none"> - Indigenous knowledges are critical for generating solutions and Indigenous leadership is a central part of, and Indigenous Peoples are already advancing, critical solutions to the climate crisis, including extreme heat. - Indigenous Peoples are heterogenous and there are significant differences in their experiences, priorities, needs and capacities. - Prevailing co-vulnerabilities constitute disproportionate impacts on Indigenous Peoples while existing inequities are exacerbated by extreme heat. - Indigenous Peoples live in all areas of the State as well as in diaspora and face unique challenges individually, as communities and Peoples. 	<p>The EHAPWG has the desire to engage in a consultation process with Indigenous Nations and consult with Indigenous-led organizations and scholars as it develops the extreme heat action plan, based on the preferences, desires and wishes of Indigenous Nations, on a government-to-government basis.</p>

<p>Workers (including outdoor, seasonal and migrant workers)</p>	<ul style="list-style-type: none"> - Need state regulations on worker safety during extreme heat events. - workers at risk. - hard-to-reach sub-groups or where reporting violations could put the visa status of workers in jeopardy. - including farm laborers, construction workers, food preparation and service industries and other occupations with increased exposure risks. - organizations provide critical resources and services and act as vital link between highly vulnerable sub-groups and critical resources. 	<p>Existing rules and regulations provide for important foundational protections, with enforcement challenges for certain sub-groups. The EHAPWG has begun reviewing options for action. On the federal level, heat-specific rulemaking is underway, shaping the State response moving forward. Expanding partnerships that can help link affected workers with key resources should be prioritized.</p>
<p>Environmental Justice Communities</p>	<ul style="list-style-type: none"> - Communities often know what the impacts are and where the hot spots are located. - More accurate and publicly accessible data is needed, including for heat-related mortality and morbidity. - Data on existing barriers to heat vulnerable communities is needed. - Communities and local governments are working on solutions, but do so with limited resources, capacities and time. - Don't replicate services communities are already providing themselves. Rather assist and scale community efforts. There are various existing models for how to support community-based resiliency programs. - There is need for short term actions including support for equitable access to cooling and associated utility bill assistance for vulnerable residents to prevent heat illnesses and mortalities. There is also need for long term adaptation actions including the scaling up of green infrastructure projects and building retrofits in heat vulnerable communities and transitioning to electrification for heating and cooling. - Green gentrification is a problem based on location, and less an issue in many post-industrial upstate cities that are structurally disinvested and lack basic resources. - There are prevailing barriers for DACs to accessing programs. - There has been a lack of consultation and collaboration with frontline, EJ communities. - It is important to be clear about the current availability of resources to address extreme heat on the State level. - Proactive State action that draws on already available information is needed to address injustices. - Small nonprofit and city government partnerships need to be strengthened to scale the existing leadership and pioneering work in affected communities. - Grant writing, access to funds and their administration require capacities that are often not available, requiring new models. 	<p>Interim recommendations focus on streamlining and refocusing response and communication efforts, improving access to cooling at home, and strengthening community capacities and partnerships. The EHAPWG has committed to support existing efforts in communities where they exist and as feasible, and to expand direct collaboration and partnerships in developing the long-term extreme heat adaptation plan and implementing solutions.</p> <p>The EHAPWG is also making efforts, in coordination with the NYS DAC Barriers and Opportunities Report, to analyze barriers disadvantaged communities and other vulnerable communities face in accessing key programs, resources and services related to extreme heat.</p> <p>The EHAPWG will also incorporate into its adaptation and emergency response planning any relevant information developed through additional studies of analysis of urban heat effects on disadvantaged communities and UHI mapping.</p> <p>Pursuant to Governor Hochul's State of the State address, the long-term extreme heat adaptation plan is specifically focused on disadvantaged and heat-vulnerable communities and population groups and is explicitly focused on extreme heat inequities. The actions it puts forward will be specifically focused on addressing structural and systematic drivers of extreme heat inequities.</p>

- There needs to be more on the ground communication and outreach to share information about available services with heat-vulnerable communities. Often there is disconnect with information not reaching residents directly.

-

capacities for engagement requests and the need to engage due to disproportionate impacts.

and purpose and show that input matters and provides results.

time and shared their extensive expertise through reports and other publications

research work

received feedback and input.

highly marginalized groups (such as undocumented people) yet often are not recognized as important partner

The EHAPWG is seeking to develop the extreme heat adaptation plan in close collaboration with a broad scope of community stakeholders and community-based organizations and is currently exploring appropriate engagement and co-design pathways that allow for equitable participation in consideration of community capacities and resources.