



2023 Climate Strategy Report

Department of Health and Human Services

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Introduction

About Department of Health and Human Services

The North Carolina Department of Health and Human Services (NCDHHS) manages the delivery of health- and human-related services for all North Carolinians, especially our most vulnerable citizens—children, elderly, disabled and low-income families. The mission of NCDHHS is to provide essential services to improve the health, safety, and well-being of all North Carolinians in collaboration with our partners. The vision of NCDHHS is to advance innovative solutions to foster independence, improve health, and promote well-being for all North Carolinas. NCDHHS works closely with health care professionals, community leaders, and advocacy groups; local, state, and federal entities; and many other stakeholders to make this happen. The Department is divided into 33 divisions and offices that fall under six broad service areas: Health, Opportunity & Well-Being, Medicaid, Operational Excellence, Policy and Communications, and Health Equity.

Department of Health and Human Services' Vulnerabilities to Climate Change

NCDHHS continues to respond to and prepare for climate hazards of extreme heat, wildfire smoke, and flooding. The 2020 North Carolina Climate Science Report projected that the main climate change threats in NC are, in order of likelihood: continued sea level rise and resulting coastal storm surge flooding; increased summer heat index and increased number of warm and very warm nights; increased frequency and intensity of extreme precipitation and increased heavy precipitation accompanying hurricanes; increased hurricane intensity; and more frequent and intense droughts which result in more frequent wildfire-conducive climate conditions.

Multiple NCDHHS Offices and Divisions address vulnerabilities to climate change to protect the health of North Carolinians. The Division of Public Health addresses multiple climate and health concerns, including those related to communicable disease, public health preparedness and response, indoor air quality, extreme heat, wildfire smoke, climate justice, and mapping and visualizing climate and health hazards and vulnerabilities. The Division of Property and Construction is responsible for overseeing upgrades to NCDHHS properties to make them more resilient to climate change, while the Office of Health Equity ensures that the perspectives and voices of populations disproportionately affected by climate and other health hazards are at the center of NCDHHS health equity initiatives and other activities. The Division of Social Services and Division of Aging and Adult Services provide important resources to populations vulnerable to extreme heat through energy assistance programs and providing fans and air conditioners to older adults, respectively. NCDHHS also engages in activities that promote environmental justice across the state.

Department of Health and Human Services' Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan

NCDHHS continues to implement recommendations from the 2020 Climate Risk Assessment and Resilience Plan. Recommendations are addressed through both initiatives of individual programs and collaborative efforts across the agency. Where relevant, NCDHHS partners with other state agencies to fulfill these commitments. Where possible, NCDHHS activities described in this report are linked to our specific recommendations in the 2020 Climate Risk Assessment and Resilience Plan.

Activities related to specific 2020 Climate Risk Assessment and Resilience Plan recommendations assigned to NCDHHS, and not described elsewhere in the report, are listed below:

- Support the Building Resilience Against Climate Effects (BRACE) program and expand the tracking of health impacts of climate change in North Carolina
 - The Climate and Health Program was awarded its FY2024 BRACE funding of \$500,000.
 - The Program's FY2024 work plan includes:
 - implementing and evaluating adaptation actions to prevent heat related illness and protect health during wildfire smoke events;
 - supporting local organizations through the climate justice mini grant program (RFA A395 – Community-driven Climate Justice Initiatives in NC);
 - overseeing a contract with Hoke County Emergency Management to provide local climate adaptation support in the Sandhills region; and
 - updating North Carolina's Climate Impact Compendium through updates to the Environmental Health Data Dashboard. The Climate Impact Compendium provides information about climate hazards and projections in North Carolina, health impacts associated with these climate hazards, and which communities are most vulnerable to the health effects of climate change.
 - Specific Climate and Health Program activities conducted through Cooperative Agreement support are described in detail elsewhere.

NCDHHS is also implementing several recommendations assigned to all Cabinet Agencies. Activities not described in detail in other Sections of this report are listed below:

- Reducing inequity: Providing information on minimizing effects of moisture and mold will help those in housing with lasting flooding impacts.
 - The NCDHHS Occupational and Environmental Epidemiology Branch continues to provide more than 1,500 consultations per year to homeowners and renters about how to address indoor air quality issues including moisture damage and mold growth.
 - The [NC Environmental Public Health Tracking Program](#) (NCEPHT) was recently awarded \$1 million in funding for a four-year project titled "Farmworker Hurricane Recovery and Resilience." After conducting a community needs assessment in the first year, NC EPHT will partner with the Office of Rural Health's Farmworker Health Program and NC State

- Cooperative Extension Farmworker Health and Safety educators to conduct trainings with preparedness staff, farmers, and farmworkers on topics highlighted during the assessment.
- Adopt the targeted universalism approach for resilience, in which policies and programs begin by addressing the needs of those who are most vulnerable to climate change, and seek to improve the resilience of the entire state.
 - The NCDHHS Climate and Health Program continues to prioritize populations disproportionately affected by climate change in their adaptation actions.
 - The NCDHHS Environmental Public Health Tracking Program has prioritized the addition of environmental justice metrics and climate indicators in the development of the [NC Environmental Health Data Dashboard](#), with regular feedback from their Community Advisory Board.
 - Develop metrics to determine progress of equity and resilience initiatives
 - For the first time, the NCDHHS Office of Health Equity is including an environmental health section in their 2023 Health Disparities Data Report and Guide. The Office of Health Equity is collaborating with epidemiologists in the NCDHHS Occupational and Environmental Epidemiology Branch to include measures related to heat-related illness, air quality, and extreme weather, which are known climate, health, and equity concerns.
 - Engage community and faith-based organizations that work in disaster response to incorporate other elements of resilience into their programming.
 - The NCDHHS Office of Health Equity successfully launched Phase I of the Health Equity Interfaith Leaders Network, starting with Black Faith Leaders. OHE will continue to build out a full interfaith network that serves historically marginalized communities. One of the many issues faith networks will consider are the impacts of climate change, disaster response and equitable access by historically marginalized populations to resources during times of crises.
 - The Office of Diversity Equity and Inclusion conducted multiple presentations on health outcomes among LGBTQIA+ and African American communities with the Jackson County Public Health Department. The Office of Health Equity, in collaboration with the Office of Diversity Equity and Inclusion, convened over 260 Black Faith leaders to discuss the pressing health needs of the black community and innovative solutions to tackle these needs. By providing greater understanding and empathy, these engagements have contributed to a more compassionate and inclusive healthcare environment for LGBTQIA+ individuals and highlighted the significance of cultural competence in addressing health disparities among Black communities. A more inclusive healthcare environment can improve resources available to LGBTQIA+ and black communities during disaster response. This engagement has the potential to also inform climate and health activities in the future.
 - Work with agency Human Resource offices to set goals and strategies for diversifying staff and leadership in recovery and resilience, and for hiring disaster survivors into recovery and resilience positions

- Current Human Resource efforts do not address staff and leadership diversity in recovery and resilience specifically. However, the Division of Public Health is measuring progress towards outcomes for the entire Division: reducing the vacancy rate, reducing the turnover rate, increasing the percentage of staff who report having joy at work, and ensuring that DPH staff look like those residing within our state.
- Specific activities supporting these outcomes include increasing the DPH Sections that have representation on the DPH Diversity Equity and Inclusion Council. As part of DPH workforce pipeline initiatives, DPH recruits public health fellows/trainees from diverse communities to reflect those who reside in North Carolina and recruits interns from Historically Black Colleges and Universities and Minority-Serving Institutions in the state.
- With agency communications offices, set goals and strategies to increase interaction with communities that have historically frayed relationships with government and government officials.
 - The NCDHHS Health Equity Portfolio prioritizes engagement with communities which have been marginalized and maintain regular contact with faith and community-based organizations which support individuals with disabilities, from LGBTQIA+, African American, American Indian, and Latinx/Hispanic communities. The offices in the Portfolio including the Office of Rural Health and Office of Health Equity focus on rural, low wealth communities with a specific emphasis on individuals with disabilities, those with behavioral health conditions, and those who experience greater health disparities.
 - The NCDHHS Office of Health Equity, in collaboration with the Data Office, hosted Community Listening Sessions concerning priority data conversations, including the 2023 Health Disparities Data Report and Guide, which includes key environmental health data. This work is being used to co-develop a guide for data-related community engagement, to recenter historically marginalized communities within everything we do, including data.
 - The NCDHHS Office of Health Equity has recently hired on a full staff, including a Communications Specialist, a Cultural Competency and Communication Equity Program Manager, and additional Community and Partner Engagement Program Managers.
 - The NCDHHS Office of Health Equity created a Community and Partner Engagement Companion Guide for the Health Equity Framework. This guide is focused on creating and sustaining authentic and equitable relationships with historically marginalized communities and the organizations that are led by, and serve, those communities.
 - The NCDHHS Health Equity Portfolio is developing the Health Equity Advisory Team of the Governance Model, which includes an External Community Advisory Board and Subject Matter Expert Network Council. This group will be made up of community and partner representatives from across DHHS programming and will serve as a community and partner advisory council that exists at the Portfolio and Secretary level.
 - Spanish-speaking persons are disproportionately impacted by climate change. Latinx/Hispanic populations in North Carolina often reside in areas disproportionately impacted by climate hazards like extreme heat and flooding. In addition, their access to

information about climate change and health in their native language is limited. The following activities aimed at building relationships with trusted community organizations help address these structural inequities:

- The Office of Health Equity’s Latinx Policy and Strategy Program’s Community and Partner Engagement efforts have reached over 50,000 Spanish-speaking and Latinx/Hispanic individuals across North Carolina. This includes public service announcements (PSAs) created by the Program with 160 PSAs on health equity materials targeted to Spanish-speaking members of the community. These PSAs were distributed via broadcast (e.g., television and radio), websites (e.g., YouTube and NCDHHS website), social media platforms (e.g., Twitter (X), TikTok, Instagram, and Facebook) and at movie theaters and in-person sporting events.
- The Latinx Policy and Strategy Program conducted Spanish language Cafecitos and Tele-Town Halls, which were live-streamed from the NCDHHS Facebook, Twitter (X), and YouTube accounts as part of the state’s ongoing efforts to ensure equitable access to timely health information, resources, and vaccines, and to eliminate health disparities in the Latinx/Hispanic populations. These events reached over 64,000 people from July 2022 to June 2023.
- The Language, Communication, and Physical Access workgroup continued supporting increased language access by coordinating interpretation services for health equity. Using Centers for Disease Control and Prevention disparities funding, the workgroup coordinated Spanish interpretation for 48 health equity-related events (in person and virtual) during the 2022-23 fiscal year. Interpretation services were provided to an estimated 2,913 individuals.
- Provide data and best practices to equip local government to perform and regularly update county vulnerability assessments.
 - NCDHHS is currently assisting local health departments with responding to/completing the addition of an environmental justice section to the Community Health Assessments completed every 3-4 years. More than 10 health departments have expressed interest and are in conversation with NCDHHS or partners about this work. Additional information is provided in the Addressing Environmental Injustices and Inequities section of this report.
- The state should consider a pilot project focused on flooding. Modeling, observational data, mapping, and socioeconomic analysis could be brought together to evaluate the spatial extent of exposure. A quantified assessment could reveal the degree of vulnerability and risk of property, people, and other resources. Options for adaptation could then be considered with a clear understanding of how those factors differ through space and time throughout the state.
 - NCDHHS Climate and Health Program staff serve on Technical Advisory Groups for the NC Flood Resilience Blueprint, which is led by NCDEQ.

- Resilience-relevant programs should engage new types of partners in their work, such as institutions that are frequent points of contact for socially vulnerable people, e.g., schools, medical clinics, retail outlets, houses of worship, and public transit services.
 - The NCDHHS Climate and Health Program has increased its engagement with new partners, including Tribes, and expanded its engagement with farmworker organizations. In the coming year, the Program plans to expand its partnerships with additional organizations representing socially vulnerable groups.

In addition, NCDHHS continues to incorporate lessons learned from the COVID-19 pandemic, especially regarding the utmost importance of health equity, to our ongoing work across the agency. In both COVID-19 and climate change, the same disproportionate impacts are evident and exacerbated by the higher prevalence of chronic diseases that increase the risk of serious illness in historically marginalized populations. NCDHHS has led its COVID-19 response with an intentional focus on health equity, thereby addressing the compounding health impacts of environmental injustice and building a stronger framework for engaging with communities which have historically been marginalized beyond the pandemic. We continue to build trust by engaging local leaders to guide our policies and practices, investing in partners on the ground, codesigning solutions, using data to drive outreach and interventions, using culturally and linguistically appropriate strategies, and working to ensure contractors and other trusted partners look like the communities served.

To address health disparities, the Health Equity Portfolio adopted a [framework](#) that when fully adopted will guide the work of all divisions in centering communities in the efforts to prioritize and address health disparities. The framework is made up of 5 mutually reinforcing pillars that, if implemented in tandem, will move us towards improved health equity for the communities we serve across NC. The Office of Health Equity works with various communities and partner groups, including community and faith-based organizations, legislative and policy groups, and service providers. These partnerships are crucial to sharing health matters that are important to local communities across the state, identifying solution-seeking approaches to eliminate health disparities, making resource connections to build healthier communities, and making plans for action to keep our state healthy and safe.

Reducing Energy Use

NCDHHS does not have an energy manager position. However, William (Bill) Stevens, Chief of Facilities Engineering and Construction in the NCDHHS Division of Property and Construction, is the newly designated NCDHHS Utility Manager. NCDHHS Division of Property and Construction continues to work with leadership, facility maintenance staff, and other stakeholders at each statewide campus to develop and implement an energy conservation plan to reduce energy use by: identifying ways to reduce water usage, consolidating staff into fewer buildings and shutting off utilities to vacant buildings, instituting temperature setbacks after normal business hours, designing new HVAC building systems in accordance with all applicable building code requirements, specifying energy efficient equipment, installing motion sensors, replacing existing incandescent and compact fluorescent lights with LED lights, installing

variable frequency drives, commissioning new building systems, replacing existing windows, installing additional insulation in walls and on roofs, and purchasing electric and zero emission replacement vehicles.

North Carolina Clean Transportation Plan

NCDHHS actively contributed to the development of the NC Clean Transportation Plan, released in April 2023. More detail is included in Section 1.5.2 “Support the Development of the NC Clean Transportation Plan.”

Addressing Environmental Injustices and Inequities

NCDHHS named Dr. Virginia Guidry as our Environmental Justice Lead in January 2022. She has been the head of the NCDHHS Occupational and Environmental Epidemiology Branch (OEEB) since 2019 and has worked on environmental justice topics in North Carolina since 2003. Dr. Guidry and her team have accomplished the following in the past year:

- Received CDC grant for DHHS to join the national Environmental Public Tracking Network (Dr. Kim Gaetz, PI, \$710K annually for 5 years) and continued development of the [Environmental Health Data Dashboard](#) (Aug 2022)
 - Hired and onboarded a GIS analyst and Health Educator.
 - Added the CDC/ATSDR environmental justice index, air quality monitor locations, emergency disaster declaration data, and other point locations and indicators to the EHDD GIS tool in development.
 - Added county-level projections for extreme heat, drought, and precipitation, to the EHDD Tableau tool.
 - Gathered input from community and agency partners at the NC EPHT Advisory Committee meeting on March 2, 2023, regarding additional data to support EJ initiatives.
 - Continued discussions with DEQ about potentially combining the EHDD with the DEQ Community Mapping Tool
- Attended the community event commemorating the 40th anniversary of the birth of environmental justice in Warren County, NC (6 DHHS staff, Sept 2022)
- Met with ADM Rachel Levine, US Department of Health and Human Services (HHS) Assistant Secretary for Health, North Carolina residents, UNC Chapel Hill faculty, and National Institute of Environmental Health Sciences scientists to discuss the recently released HHS/CDC Environmental Justice Index and EJ needs in North Carolina (Sept 2022)
- Supported efforts to incorporate environmental justice into Community Health Assessments (CHAs), with the goal of incorporating EJ into at least 10 CHAs in the next cycle (Began Oct 2022)
 - Promoted the Alamance County inclusion of EJ in their CHA

- Met with representatives of North Carolina Environmental Justice Network and North Carolina Conservation Network to coordinate community-based organization support with counties regarding CHAs
- Presented this work at the Public Health Leaders Conference on March 16, 2023 and a DHHS Earth Day event on April 26, 2023.
- As of this report, more than 10 local health departments have expressed interest and have engaged with DHHS and partners on this work.
- Included partners focused on climate and environmental justice in focus groups collecting feedback on the Office of Health Equity framework and health equity definition (Oct 2022)
- Facilitated expert presentations from DEQ, DHHS and DOT about data integrity and modernization and effective community engagement by state agencies as part of the NC Healthy Environments Collaborative (HEC) Health and Equity Indicator Project led by Tish Singletary and colleagues in the Chronic Disease and Injury Section (Nov 2022).
 - Advice will inform data-driven processes to identify and meaningfully engage with underserved communities from health data “hotspots” that align with geographic areas impacted by state-level decisions such as permitting.
 - Advice will also inform the development of coordinated technical assistance that can impact previously identified HEC Indicators in the priority communities and contribute toward Healthy NC 2030 goals.
- Attended the two-day Environmental Justice Training organized by Governor Cooper’s Office (6 NCDHHS staff). The training was delivered by the Metropolitan Group led by Ms. Vernice Miller-Travis. NCDHHS had the largest representation out of all Cabinet agencies (Dec 2022).
- Initiated monthly NCDHHS EJ team meetings (Jan 2023)
- Met with Dean Nancy Messonnier from UNC Gillings School of Global Public Health (Jan 2023) during her visit to NC Division of Public Health to discuss Environmental Justice as a specific area of interest and potential collaboration.
- Met with HHS Office of Environmental Justice. As a follow up to the meeting with ADM Rachel Levine from HHS in September 2022 at UNC, Susan Kansagra, Betsey Tilson, Zack Moore and Virginia Guidry met with the HHS Office of EJ to discuss follow up items. (Feb 2023)
- Helped to coordinate the annual environmental justice lecture at University of North Carolina School of Public Health in honor of the late Dr. Steve Wing (Dr. Guidry). Speaker: Corban Addison, author of the book *Wastelands*. (March 2023)
- Applied for USEPA funding through the Environmental Justice Government to Government cooperative agreement (\$1 million in funding over 3 years). Proposed to collaborate with the Environmental Justice Community Action Network (EJCAN), a community-based organization in Sampson County; UNC Chapel Hill; Appalachian State University; and Open Heaven Community Center in Sampson County to enhance private well testing in eastern NC and offer low-cost treatment when needed. Most funds would go to EJCAN for outreach and treatment systems. (April 2023, awardees will be announced in September 2023).

- Represented NCDHHS on the newly released NC Clean Transportation Plan and the Medium and Heavy-Duty Vehicle subcommittee due to air quality and EJ concerns from associated pollution (Dr. Guidry). (April 2023)
 - Also drafting manuscript on health and EJ benefits of NC Clean Transportation plan
- Represented NCDHHS EJ efforts on a panel at the NC Breathe Conference (Dr. Guidry), discussing the NC Clean Transportation Plan and EO 271 (April 2023)
- NCDHHS staff from the Environmental Health Section presented about EJ issues related to private wells and septic systems at a Health Equity Conference in Warren County (May 2023)
- Memo highlighting EJ activities at DHHS sent to Governor Cooper from Secretary Kinsley (May 2023)
- Prepared to release new fish consumption advisories related to PFAS levels in fish tissue in the middle and lower Cape Fear region. Data were received and analyzed in winter/spring 2023. Given the potential impacts on subsistence fishermen and tribal communities, we worked to make sure the announcement was informed from an environmental justice perspective with engagement from community organizations, local health departments, and academic partners (published July 2023).
- Presented information on environmental justice and climate issues on behalf of the NCDHHS Health Equity Portfolio at:
 - 2023 Warren County Advancing Health Equity Conference (May 2023)
 - Eastern District NCPHA Annual Conference “Public Health: Advancing Equity and Inclusion in NC” (April 2023)
- Attended DHHS Health Equity Meetings led by Chief Health Equity Officer Debra Farrington. Dr. Guidry represents EJ at these meetings.

NCDHHS is also exploring ways to address environmental justice and inequities by including tribal participation in environmental planning. Indigenous tribes in North Carolina possess thousands of years of knowledge on how to adapt to seasonal and inter-annual environmental changes and therefore are climate resilience experts. NCDHHS Climate and Health Program will continue building relationships with indigenous communities in the coming year.

There are additional activities across DHHS addressing environmental justice that are described in other sections throughout this report.

Public Participation Plan

The [NCDHHS Public Participation Plan](#) was posted June 1, 2022 and was open for public comment until July 15, 2022. The Plan includes best practices for community engagement, meaningful dialogue, and mechanisms for incorporating public input into agency decision making. We are currently completing our 2023 update.

1.0. Reduce greenhouse gas emissions

1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels

<p>1.1.1 Renovate Black Mountain Neuro-Medical Treatment Center: Gravely Hall. This project includes window replacement and a new HVAC system.</p> <p>Status: Underway Expected Completion Date: December 2025</p> <p>The project has recently bid and a construction contract awarded.</p> <p>During the next 12 months, construction will continue. Construction completion is expected in September 2024.</p>
<p>1.1.2 Renovate Black Mountain Neuro-Medical Treatment Center: Rasberry Hall. This project includes window replacement and a new HVAC system.</p> <p>Status: Underway Expected Completion Date: December 2026</p> <p>The project has recently started in design. Construction standards to be specified will meet or exceed minimum standards allowed by code.</p> <p>During the next 12 months, the above efforts will continue. The project is expected to be ready for bidding in the summer of 2024.</p>
<p>1.1.3 Replace domestic water heater in the Black Mountain Neuro-Medical Treatment Center</p> <p>Status: Complete This project has been completed and the new water heaters are operational.</p>
<p>1.1.4 Upgrade Black Mountain Center – Boiler Plant</p> <p>Status: Underway Expected Completion Date: October 2025</p> <p>The designer is under contract and in the early stages of design.</p> <p>During the next 12 months, work on the design will continue. The design phase will continue into summer of 2024.</p>
<p>1.1.5 Replace Kitchen Domestic Water Heater – Broughton Hospital</p> <p>Status: Complete The project is complete, and this water heater is operational.</p>

1.1.6 Perform repairs and upgrades to the Broughton Hospital: Avery Building. This project includes mechanical and boiler upgrades

Status: Underway

Expected Completion Date: December 2026

Currently the Avery Building is being assessed by the design team for recommendations on what work should be completed for both sustainability and energy efficiency of the Avery Building. The building will remain in use by Broughton Hospital for office support functions. This allows the hospital to consolidate operations on the old hospital campus into one building and turn utilities off in other buildings for energy savings.

During the next 12 months, NCDHHS expects to complete the design phase and begin to bid the project for Construction.

1.1.7 Install boiler at Caswell Developmental Center: Kendall Hall & Johnson Hall

Status: Underway

Expected Completion Date: October 2025

Design documents have been completed.

During the next 12 months, the project will be bid, and construction will begin.

1.1.8 Perform upgrades to Cherry Hospital: Building Automation System

Status: Underway

Expected Completion Date: December 2025

Design documents are near completion.

During the next 12 months, Cherry Hospital will continue to evaluate whether to proceed with this project due to concerns about compatibility between the new and existing building automation systems.

1.1.9 Renovate Cherry Hospital: W Building Renovations – Phase One

Status: Underway

Expected Completion Date: December 2024

NCDHHS is in the process of bidding this project for construction. Construction expected to start about October 2023.

During the next 12 months, the project will have a construction contract and the construction will be nearly complete.

1.1.10 Renovate J. Iverson Riddle Developmental Center: Spruce Cottage

Status: Underway

Expected Completion Date: August 2026

The project's designer is preparing the construction documents required for bidding and construction. The project is a major renovation of the building and will provide more energy efficient building systems for plumbing, HVAC, electrical, and the building envelope.

During the next 12 months, this project is expected to go to bid and begin construction.

1.1.11 Renovate J. Iverson Riddle Developmental Center: Cedar Cottage

Status: Underway

Expected Completion Date: April 2027

The project's designer is beginning design for the project. The project is a major renovation of the building and will provide more energy efficient building systems for plumbing, HVAC, electrical, and the building envelope.

During the next 12 months, the design firm is expected to be preparing the Construction Document for Agency approval.

1.1.12 Upgrade Domestic Water & HVAC at the Longleaf Neuro-Medical Treatment Center: Scott Wing

Status: Underway

Expected Completion Date: April 2027

The project is in final design phase with bidding to occur fall of 2023. The project is a major renovation of the building and will provide more energy efficient building systems for plumbing, HVAC, electrical, and the building envelope.

During the next 12 months, the project should be bid, and the construction started.

1.1.13 Upgrade Longleaf Neuro-Medical Treatment Center: Boiler Plant

Status: Underway

Expected Completion Date: Fall 2025

Design documents are nearly complete.

During the next 12 months, the project likely be bid (Fall 2023) with construction beginning during the summer of 2024.

1.1.14 Upgrade Longleaf Neuro-Medical Treatment Center: Cooling Tower Replacement

Status: Underway

Expected Completion Date: Fall 2025

The project has been awarded and shop drawings are being processed.

During the next 12 months, construction will begin (December 2023). Construction will be completed by spring of 2024.

1.1.15 Renovate Murdoch Developmental Center: Ridgeway Cottage

Status: Underway

Expected Completion Date: December 2026

The project's designer is beginning design for the project. The project is a major renovation of the building and will provide more energy efficient building systems for plumbing, HVAC, electrical, and the building envelope.

During the next 12 months, the design firm is expected to prepare the Construction Document for Agency approval.

1.1.16 Replace O'Berry Neuro-Medical Treatment Center: ELC2 Air Handling Unit

Status: Underway

Expected Completion Date: December 2025

Design documents are being reviewed. Expect bidding to take place in the fall of 2023.

During the next 12 months, the project will be bid, awarded and construction will begin.

1.1.17 Replace O'Berry Neuro-Medical Treatment Center: Hab East & Hab West Chiller

Status: Underway

Expected Completion Date: September 2023

The chillers are installed and operational.

During the next 12 months, punch list items will be completed, and the final inspection will be scheduled.

1.1.18 Replace O'Berry Neuro-Medical Treatment Center: ELC2 Windows

Status: Underway

Expected Completion Date: June 2023

The contractor is in the processing of installing windows. This project will provide windows with greater energy efficiency to lower energy demand on the HVAC system and have less draft for patient comfort.

During the next 12 months, the windows will be acquired and installed.

1.1.19 Renovate Walter B. Jones ADATC: Therapy Building HVAC System

Status: Complete

Expected Completion Date: August 2023

This project has been completed and the system is operational.

1.1.20 Consolidate building occupants in buildings with a high square foot per person so that buildings may be vacated and HVAC systems set back or completely turned off

Status: Ongoing

Expected Completion Date: Ongoing

This activity is occurring on all DHHS campuses statewide. NCDHHS is consolidating our building footprint statewide so that buildings are being used more efficiently and unneeded building space can be vacated, allowing the building systems to be turned down or completely off to save energy and funds for the department.

During the next 12 months, NCDHHS will continue to make progress in consolidating building occupants in buildings with a high square foot per person so that buildings may be vacated and HVAC building systems turned down or completely off.

1.1.21 Survey each campus for energy savings opportunities for system leaks and repair them

Status: Ongoing

Expected Completion Date: Ongoing

DHHS Energy Managers can now monitor trends in energy use using Capturis, which will allow them to see spikes in energy use that could indicate system leakage.

In the next 12 months, DHHS Energy Managers will continue to monitor energy usage and note energy spikes which might indicate leakage.

1.1.22 Replace existing lighting (incandescent and fluorescent) with LED lighting

Status: Ongoing

Expected Completion Date: Ongoing

Property and Construction has provided funding for several NCDHHS institutions to upgrade to LED lighting in areas where no renovation is planned. This effort is roughly 80% complete. Additionally, many areas with renovations either in progress or planned to commence shortly will have new LED lighting retrofitted.

During the next 12 months, replacement of existing incandescent and fluorescent lighting with LED lighting will continue.

1.1.23 Implement temperature setbacks for non-occupied time periods for non-patient areas. Provide proper deadband between heating and cooling setpoints in all occupancies

Status: Ongoing

Expected Completion Date: N/A

With less dense building occupancy post-Covid there is more opportunity to utilize temperature setback.

During the next 12 months, implementation of temperature setbacks for non-occupied time periods for non-patient areas will continue.

1.1.24 Repair and caulk leaks in windows and doors and add building insulation where needed or where it does not exist

Status: Ongoing

Expected Completion Date: N/A

This is an ongoing process in which facility maintenance staff inspect buildings for potential leaks of water or air. If leaks are identified, they will then implement an appropriate repair. This provides the best means of preventing building damage and energy loss.

During the next 12 months, staff will continue to investigate, repair, and caulk windows and doors to prevent leaks.

1.1.25 Continue to work with leadership, facility maintenance, and other stakeholders at each NCDHHS statewide campus to evaluate and identify projects which will reduce energy consumption and greenhouse emissions

Status: Ongoing

Expected Completion Date: N/A

In general, on all building renovation and HVAC projects, new HVAC systems are selected for energy efficiency to reduce energy use, which reduces greenhouse emissions. When direct expansion HVAC systems are replaced, they are replaced with heat pumps to reduce heating season gas consumption.

This past year, we met with stakeholders at Broughton Hospital, Caswell Developmental Center, and O’Berry Neuro-Medical Treatment Center to discuss the need for developing an energy conservation plan for each site. The plan for Broughton Hospital continues to be successfully implemented.

During the next 12 months, we plan to meet with stakeholders at additional NCDHHS statewide campuses to begin discussions regarding developing energy conservation plans. We also plan to develop energy conservation plans for Caswell Developmental Center and O’Berry Neuro-Medical Treatment Center.

1.1.26 Design new buildings and renovation projects

Status: Ongoing

Expected Completion Date: N/A

NCDHHS designs each new building and renovation project to meet the requirements of all applicable federal, state, and local building codes and ordinances, including providing new life safety fire alarm and suppression systems to protect building occupants and reduce potential damage to facilities; providing new state-of-the-art energy efficient heating, ventilation, and air conditioning systems to reduce energy consumption and maintenance costs; and providing buildings and systems that minimize negative impacts to the environment and that are more sustainable.

During the next 12 months, the above efforts will continue.

1.2 Support the use and expansion of energy efficient and clean energy resources

This section is not applicable to the North Carolina Department of Health and Human Services.

1.3 Increase the number of registered Zero Emission Vehicles to at least 1,250,000 by 2030 so that 50% of in-state sales of new vehicles are zero-emission by 2030

This section is not applicable to the North Carolina Department of Health and Human Services.

1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel

1.4.1 Vet all new or replacement vehicular asset deployments for potential EV/ZEV utilization

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS continues to work diligently along with the Motor Fleet Management (MFM) to fully vet all vehicular asset situations whether for new or replacement vehicles regardless of lease or own status. Further, all new or replacement vehicular asset deployments are evaluated for potential EV/ZEV utilization. These processes incorporate feedback from the departmental divisions to help identify EV/ZEV deployment opportunities. Vehicle utilization, in order to provide direct client services, are the final arbiter of the make and model requested and deployed, but always in the most economical yet environmentally sustainable manner, be it EV/ZEV, hybrid or gas.

Currently, NCDHHS utilizes seven MFM leased EV/ZEV vehicles representing approximately 15% of the existing assigned/leased MFM EV/ZEV fleet. Further, NCDHHS will be reviewing the potential for an additional ten EV/ZEV units once acquired by the MFM. At the same time, the NCDHHS Fleet Services Office has replaced, with our partners at MFM, a total of 90 leased vehicles with 84 being hybrids.

During the next 12 months, this prioritization and methodology will continue until the EO80 goals are met by a multipronged, multi-departmental, and statewide effort.

1.4.2 Implement the electric vehicle/zero emission (EZ/ZEV) initiative

Status: Ongoing

Expected Completion Date: Ongoing

Long-term lease and owned vehicular assets are acquired and managed by the NC Department of Administration's Motor Fleet Management (MFM). In an ongoing effort with MFM, NCDHHS has implemented the electric vehicle/zero emission vehicle (EV/ZEV) initiative by approaching all vehicular asset needs with the goal of utilizing a EV/ZEV or hybrid vehicle unless the particular situation determines another vehicle type is required.

During the next 12 months, the review process and implementation of EV/ZEV vehicles will continue and be open-ended and ongoing to accommodate vehicular needs.

1.4.3 Add additional EV/ZEV units to the NCDHHS fleet

Status: Ongoing

Expected Completion Date: Ongoing

Since the last report, DHHS has added three additional EV/ZEV units to the fleet and continues to look for opportunities given the makes/models available through Motor Fleet Management (MFM).

During the next 12 months, NCDHHS will continue to work with the MFM to add additional EV/ZEV units from the existing MFM stock as the situation permits. NCDHHS looks forward to MFM providing a wider selection of EV/ZEV models as the manufacturers make them available.

1.5 Initiate other initiatives to decarbonize the transportation sector

1.5.1 Augment electrical service infrastructure at NCDHHS leased properties to support EV/ZEV vehicles

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS continues to undertake supportive measures with NCDHHS allocations (state owned and leased properties) to augment electrical service infrastructure to support EV/ZEV vehicles – both those in service and additional EV/ZEV units as they come online with the NCDHHS after procurement by the Motor Fleet Management (MFM). Further, in working with the NC Department of Administration, State Property Office (SPO), NCDHHS is working towards incorporation of EV/ZEV infrastructure language into the lease acquisition process.

During the next 12 months, to accommodate the ongoing departmental property needs, the addition of appropriate EV/ZEV infrastructure language will be addressed with the SPO as each NCDHHS leased property contractual situation allows by the existing Terms and Conditions.

1.5.2 Support the Development of the NC Clean Transportation Plan

Status: Underway

Expected Completion Date: March 2023

In addition to addressing EO commitments, this activity addresses the following recommendation from the 2020 Climate Risk Assessment and Resilience Plan: Reducing inequity: preventing pollution in communities of color and low-income communities will minimize exposure and increase these communities' abilities to regenerate after hurricanes and flooding.

NCDHHS actively contributed to the development of the NC Clean Transportation Plan, released in April 2023. We participated in the Medium and Heavy-Duty Vehicles work group due to diesel exhaust and other pollutants from these vehicles associated with harms to health and documented disproportionate impacts communities of color and low-income communities. Prioritizing the transition of Medium and Heavy-Duty Vehicles like school buses, public transit buses, and freight vehicles to electric Zero Emission Vehicles would result in a significant reduction in harmful air pollution. The plan emphasizes the need to prioritize infrastructure investments for traditionally underserved communities in order to ensure access and affordability to clean transportation.

During the next 12 months, we will publish a commentary about the health benefits of implementing the NC Clean Transportation Plan, a commitment from EO 271.

1.5.3 Increase EV/ZEV electrical infrastructure at NCDHHS state-owned/allocated campuses.

Status: Ongoing

Expected Completion Date: Ongoing

Since the last report, NCDHHS has incorporated additional EV/ZEV electrical infrastructure at NCDHHS state-owned/allocated campuses, increasing EV/ZEV charging opportunities for state, staff, and general public vehicles.

During the next 12 months, NCDHHS will participate in the 2nd Round of the NC Department of Environmental Quality Volkswagen Level 2 Agency Program to install a dual electrical vehicle charging station (infrastructure) at DHHS Division of State Operated Healthcare Facilities campuses statewide. NCDHHS will also be investigating additional EV/ZEV infrastructure opportunities through the NC State University Clean Fuel Advanced Technology (CFAT) program.

1.6 Initiate other projects aimed at reducing statewide greenhouse emissions

1.6.1 Research Latest Energy Conservation Practices and Strategies

Status: Ongoing

Expected Completion Date: Ongoing

Continue to research the latest industry standards to stay current with the best energy conservation practices and strategies for addressing environmental justice and equity considerations. Incorporate these standards and strategies into the design, construction, and maintenance of NCDHHS statewide facilities.

During the next 12 months, NCDHHS will continue to perform research to stay current with the latest industry standards regarding energy conservation.

2.0. Increase statewide resilience to the impacts of climate change

2.1 Evaluate the impacts of climate change on North Carolina Department of Health and Human Services' programs and operations

NCDHHS has not formally evaluated how climate change has impacted programs and operations, yet we are addressing several known impacts (Section 2.2). We integrated extreme heat and heat-related illness into the State's Enhanced Hazard Mitigation Plan for submission by the Department of Emergency Management to FEMA in October 2022. We are also designing, constructing, and maintaining building systems that are both resilient and adaptive to climate change and related disruptions.

2.2 Integrate climate change adaptation practices and resiliency planning into Department of Health and Human Services' policies and operations

2.2.1 Support the integration of climate change into hazard mitigation planning

Status: Complete

Expected Completion Date: October 2022

NCDHHS' Climate and Health team contributed content on extreme heat and heat-related illness to the State's Enhanced Hazard Mitigation Plan for submission by the Department of Emergency Management to FEMA in October 2022. The Plan is an update of the 2018 Hazard Mitigation Plan. The Plan highlights climate resilience strategies addressing extreme heat that are being implemented across NCDHHS programs. The Plan incorporates environmental justice by providing information on populations disproportionately impacted by extreme heat and heat-related illness, like farmworkers.

During the next 12 months, NCDHHS Climate and Health Program will work with NCORR and NCEM to determine if the response activation triggers in the Hazard Mitigation Plan for extreme heat should be updated based on the latest heat and health research. NCDHHS Climate and Health Program will also work with NCORR to support local heat action planning efforts across the state.

2.2.2 Integrate climate change adaptation practices and resiliency planning into the design, construction, and maintenance of NCDHHS buildings.

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS integrates climate change adaptation practices and resiliency planning into facilities by designing, constructing, and maintaining building systems that are both resilient and adaptive to climate change and disruptions. Examples include: constructing facilities with the lowest floor elevation to meet or exceed code specified elevations to avoid facility flood damage and provide occupant safety, providing structural framing and envelope materials capable of sustaining code specified wind forces, selecting resilient materials that can tolerate extreme temperatures, providing emergency generators in the event of loss of primary power, utilizing a disaster recovery server room in the event that the primary server room fails, providing uninterruptable power supply (UPS) for computers, sizing HVAC systems to meet projected temperatures resulting from climate change, utilizing higher quality exterior building skin materials and systems to reduce cooling and heat gains and losses, and providing building filtration systems that minimize the potential spread of viruses.

During the next 12 months, NCDHHS will continue to look for opportunities to integrate climate change adaptation practices and resiliency planning into the design, construction, and maintenance of our buildings.

2.3 Assist the communities served by Department of Health and Human Services to implement climate change adaptation practices and resiliency planning

2.3.1 Provide technical assistance to the Black River Flooding Forecast Initiative

Status: Complete

Expected Completion Date: January 2023

NCDHHS partnered with Sampson County Emergency Services, the Southeast River Forecast Center, and the National Weather Service to forecast flooding in the Black River and issue a warning 3-4 days in advance of potential flooding. The Southeast River Forecast Center has been fully operational since January 2023. These forecasts will address the public health impacts of climate change by alerting residents that are most vulnerable to flood risks so they can take preventive action. This activity was driven by community needs for advance warning in areas disproportionately impacted by flooding. Agencies and organizations involved in this effort also consulted with leaders in impacted communities to improve the benefits of the early warning system.

This effort is complete; no additional activities are expected in the next 12 months.

2.3.2 Complete a flood survey assessment and develop adaptation strategies.

Status: Underway

Expected Completion Date: August 2024

NCDHHS conducted qualitative interviews with key community members and leaders in Sampson County to learn about the effects of geographic and social isolation related to hurricanes and extreme flooding events and the community's readiness for addressing those effects. The survey included both English and Spanish speakers. Our preliminary findings provide insight into the needs and priorities of isolated communities related to extreme flooding events. This activity promotes environmental justice and equity by using engagement with affected communities to drive potential NCDHHS Climate and Health Program activities that mitigate the risk of isolation during flooding after a hurricane. Sampson County is disproportionately affected by several environmental exposures, including those related to climate change, and has a high percent low-income, black, Hispanic, and indigenous population. This activity also promotes equity by incorporating the perspectives of Spanish-speaking community leaders.

During the next 12 months, NCDHHS Climate and Health Program staff will share results with community stakeholders and identify climate adaptations with the support of community leaders.

2.3.3 Implement a Heat Health Alert System in the NC Sandhills

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS Climate and Health Program coordinates and implements a Heat Health Alert System in the Sandhills Region. The System sends heat alerts to partners who work in Bladen, Hoke, Robeson, Sampson, and Scotland counties. Alerts are sent to these partners 24-96 hours in advance and include template messaging and images for the alerts in English and Spanish. These organizations distribute heat information through social media, text message, radio public service announcements, e-mail, and other communication channels to reach people who are disproportionately impacted by extreme heat (e.g., farmworkers, older adults). The Heat Health Alert System addresses environmental justice by focusing on geographic areas and populations with the highest exposure to extreme heat and with limited resources to adapt to extreme heat. Alerts and associated materials are provided in both English and Spanish to reach populations disproportionately impacted by extreme heat, like farmworkers.

During the next 12 months, the Climate and Health Program will explore options to expand the Heat Health Alert System statewide. We will work with research and implementation partners to refine health-based heat alert thresholds and automate the system.

2.4 Help complete initiatives in the Natural and Working Lands Action Plan

This section is not relevant to NCDHHS.

2.5 Initiate other projects aimed at increasing statewide resilience to the impacts of climate change

2.5.1 Integrate climate change awareness into Public Health Preparedness and Response activities.

Status: Planned

Expected Completion Date: Ongoing

This is a new action and responds to the following recommendation in the 2020 Climate Risk Assessment and Resilience Plan: Enhance state and local collaboration to (a) anticipate and communicate the threat of landslide hazards and (b) coordinate emergency responses to landslide events.

NC Public Health Preparedness and Response (PHPR) has implemented all hazards preparedness planning, during which risk assessments are completed to identify threats and/or hazards so opportunities for prevention, deterrence, or risk mitigation can be determined. In some cases, this includes landslide hazards.

During the next 12 months, NCDHHS Public Health Preparedness and Response Branch will integrate climate change awareness into All-Hazards Plans and relevant annexes (i.e., review any current plans related to drought/wildfire, severe weather). The Branch will also conduct Jurisdictional Risk Assessment (JRA) and will include consideration of climate change in these risk assessments (e.g., potential for extreme of either increased flooding, high winds, tornadoes, landslides and damage during severe weather events or increased drought periods, extreme heat, etc.). JRA is planned to be conducted beginning July 2024. This represents an opportunity for jurisdictions to identify initial and residual public health risks associated with climate/weather hazards and identify mitigation measures.

3.0. Address the public health impacts of climate change

- 3.1 Increase understanding and awareness of the health impacts of climate change

3.1.1 Initiate a new CDC grant as part of the National Environmental Public Health Tracking Network

Status: Ongoing

Expected Completion Date: Ongoing

This activity responds to commitments described in EO246 and the following recommendations from the 202 Climate Risk Assessment and Resilience Plan:

- Reducing inequity: preventing pollution in communities of color and low-income communities will minimize exposure and increase these communities' abilities to regenerate after hurricanes and flooding.
- Provide data and best practices to equip local government to perform and regularly update county vulnerability assessments.
- In addition to expanded use of quantitative information to make decisions at the state level, North Carolina also has the opportunity to provide this information and related expertise to local communities.

In August 2022, NCDHHS was awarded a grant from CDC that supported the launch and improvement of the [NC Environmental Health Data Dashboard](#), and the formation of an Environmental Public Health Tracking (EPHT) Program for North Carolina. The Dashboard is designed to examine community characteristics and vulnerabilities that lead to inequitable exposures and disproportionate health outcomes.

NCDHHS piloted the Environmental Health Data Dashboard, based on the framework for CDC's EPHT Network in the summer of 2022. The dashboard includes environmental exposure and health outcome data such as chemical releases, asthma emergency department visits, and carbon monoxide poisonings. It incorporates critical climate change indicators including extreme weather, extreme heat and population demographics important to climate justice, such as race and socioeconomic status. In March 2023, the NC EPHT program's GIS tool went live with point source, address level, and county level environmental data and resources, including the number of emergency declarations related to extreme weather by county. The NC EPHT GIS tool also can overlay this information with locations of public housing complexes and the CDC's Social Vulnerability Index and ATSDR's Environmental Justice (EJ) Index. In May 2023, NC EPHT staff presented at the NC Public Health Preparedness and Response Symposium on how to incorporate environmental justice into preparedness and response planning and took attendees through an exercise thinking through how to work with EJ communities before and during a disaster.

During the next 12 months, additional climate and health indicators are being developed and will be incorporated into the dashboard. Priority indicators include flood risk, a NC specific environmental justice index, and data stories related to climate change impacts on communities with limited resources (NCDHHS Climate and Health Program's Climate Impact Compendium). NC EPHT's new health educator will also be working on new educational initiatives related to climate justice including blog posts and other types of social media to educate the public on resources for climate resilience.

3.1.2 Provide education and training on the health impacts of climate change

Status: Underway

Expected Completion Date: August 2026

During June 2022–July 2023, NCDHHS Climate and Health Program staff continued to provide education and training on the health impacts of climate change for various audiences, including Cabinet and non-Cabinet agencies, public health agencies, and community organizations. Example presentations include:

- “The State of Climate and Health in North Carolina” at the Climate Resilience in Medical Practice Grand Rounds, co-hosted by the Southern Regional Area Health Education Center and the North Carolina Clinicians for Climate Action (September 2022).
- “Occupational Heat-Related Illness in North Carolina” at the Council of State and Territorial Epidemiologist Occupational Health Indicators workgroup meeting (August 2022).
- “North Carolina’s Climate and Health Program: Putting BRACE and JEDI into Practice” for the American Public Health Association’s and ecoAmerica’s Climate for Health Ambassador’s Training on the Climate Change and Health Playbook: Adaptation Planning for Justice, Equity, Diversity, and Inclusion (JEDI). (May 2023)
- “Preparing for Climate Change Impacts in North Carolina” at the 2023 Annual Public Health Preparedness and Response Symposium (May 2023).
- “North Carolina’s Climate and Health Program: Preventing Heat-Related Illness” at the North Carolina Farmworker Health Program’s June 2023 Outreach Worker Training.
- “Climate and Health in North Carolina” at the NCORR-led Interagency Resilience Team Meeting, June 2023

The climate and health team also contributed to a peer-reviewed publication on evaluating climate adaptation activities in public health: Joseph H, Mallen E, McLaughlin M, Grossman E, Holmes TJ, **Locklear A**, Powell E, **Thie L**, Uejio CK, Vacca K, **Williams C**, Bishop T, Jeffers C, Siegel H, Austin C. [“Evaluating public health strategies for climate adaptation: Challenges and opportunities from the climate ready states and cities initiative.”](#) *PLOS Climate*, 2(3): 0000102.

Presentations and training often focus on climate, health, and equity, including providing training and education on populations disproportionately impacted by climate change.

During the next 12 months, the Climate and Health Program will continue to provide education and training on the health impacts of climate change. This will include trainings for Community Health Workers in partnership with the Southern Regional AHEC, presentations on climate change and communicable disease, and presentations at national conferences like the Council of State and Territorial Epidemiologists Annual Conference.

3.1.3 Implement wildfire smoke and health adaptation actions as a part of the BRACE cooperative agreement

Status: Underway

Expected Completion Date: August 2026

In 2019, NCDHHS and community partners developed a wildfire smoke and health curriculum component to accompany existing Smokey Bear elementary curriculum and worked with local forestry staff to pilot the intervention in elementary school sessions in Hoke County. Results of a process evaluation of the intervention indicated the curriculum was implemented successfully and identified key recommendations for program improvement. During 2022-2023, the Climate and Health program reinstated efforts to implement the curriculum. This activity addresses environmental justice and equity by prioritizing Hoke County, which is disproportionately impacted by wildfire and prescribed burn smoke. In addition, most census tracts in Hoke County are classified in the highest quartile of the CDC/ATSDR environmental justice index.

During the next 12 months, the NCDHHS Climate and Health Program plans to implement a revised curriculum based on key recommendations from the 2019 process evaluation. The Program will also work with academic and community partners to identify opportunities to determine appropriate climate adaptation actions to protect health during wildfire smoke events.

3.1.4 Provide public updates on heat-related illness and other climate-related health impacts

Status: Underway

Expected Completion Date: August 2026

The NCDHHS Climate and Health Program convenes a Statewide Heat Illness Working Group, which meets monthly during the heat season (May-September) to discuss heat-related illness surveillance and share information and resources related to heat-related illness prevention activities statewide. This workgroup includes members from state and local public health departments, state emergency management, non-profits, and academia.

During the next 12 months, the Climate and Health Program will continue to coordinate Statewide Heat Illness Working Group meetings and will plan meeting topics and activities for the 2024 heat season.

3.1.5 Update the Climate and Health Program's Climate Impact Compendium using the Environmental Health Data Dashboard

Status: Underway

Expected Completion Date: August 2026

This activity responds to the following recommendation from the 2020 Climate Risk Assessment and Resilience Plan: In addition to expanded use of quantitative information to make decisions at the state level, North Carolina also has the opportunity to provide this information and related expertise to local communities.

As a part of its BRACE Cooperative Agreement with CDC, the NCDHHS Climate and Health Program is updating its Climate Impact Compendium to create an ArcGIS StoryMap, leveraging the Environmental Health Data Dashboard. The Climate Impact Compendium is a tool that will be used to inform the climate hazards and communities of focus for the Climate and Health Program, and to help communities visualize their climate hazards, climate and health vulnerabilities, and adaptation and planning resources.

During the next 12 months, the Climate and Health Program will identify and update the climate and health related data in the Environmental Health Data Dashboard and create user-friendly visualizations in an ArcGIS StoryMap that describe climate hazards, health effects, vulnerabilities, and adaptation resources at the local level. The tool will be updated at least annually thereafter. We will also coordinate with NCORR to leverage potential resources in their Climate Resilience Clearinghouse, which is also under development.

3.1.6 Conduct statewide heat-related illness surveillance.

Status: Underway

Expected Completion Date: August 2026

This activity responds to NCDHHS commitments in EO246 and the following recommendation from the 2020 Climate Risk Assessment and Resilience Plan: In addition to expanded use of quantitative information to make decisions at the state level, North Carolina also has the opportunity to provide this information and related expertise to local communities.

The NCDHHS Climate and Health Program conducts heat-related illness surveillance using emergency department visit data in NCDETECT and provides weekly reports during the heat season (May–September). These reports are emailed to the State Heat Illness Working Group and posted on the NCDHHS Climate and Health Program website (<https://epi.dph.ncdhhs.gov/oeec/climate/heat.html>). Extreme heat and heat-related illness disproportionately impact communities already facing environmental justice and equity concerns.

During the next 12 months, the Climate and Health Program plans to develop regional heat-related illness surveillance reports to inform public health action at the local level. Climate and Health Program staff are also analyzing NCDETECT data to identify and summarize occupational heat-related illness emergency department visits. Additional improvements to the heat-related illness surveillance system and reports will be implemented based on the recommendations from an evaluation of the system that is currently underway.

3.1.7 Develop and maintain comprehensive tick and mosquito surveillance

Status: Underway

Expected Completion Date: August 2026

This action responds to commitments in the 2020 Climate Risk Assessment and Resilience Plan.

NCDHHS Division of Public Health (DPH) has developed multiple processes to conduct tick surveillance. Using CDC Epidemiology and Laboratory Capacity (ELC) funds the NC DPH has collaborated with university partners to conduct surveillance for both Ixodes and metastriate ticks. This has resulted in 50 counties in NC being surveyed for the vector of Lyme disease and has allowed DPH to characterize the emergence of the tick and disease in our state. Approximately 1500 ticks have been collected and pathogen tested at the CDC with data available

<https://www.cdc.gov/ticks/surveillance/TickSurveillanceData.html>. The NC Tick ID program, a citizen science program also based on ELC funding, has resulted in over 1000 tick submissions from 120 veterinary clinics in the state. This has allowed DPH to identify presence and distribution of over 12 different species of ticks in the state.

All mosquito surveillance is completed in accordance with the principles of Integrated Mosquito Management. Through distribution of state appropriations via AA 908 the NC DPH has collaborated with 17 local health departments to conduct surveillance for mosquitoes since 2016, including both container inhabiting Aedes species and those species associated with West Nile Virus, La Crosse, and Eastern Equine Encephalitis transmission. CDC ELC funding is utilized to perform insecticide resistance testing and to develop recommendations for disease prevention via university partners. All surveillance data is being published on a public website, being developed to national standards for many states, for use by local mosquito control programs

<https://vectorsurv.org>.

Tick and mosquito surveillance, along with human disease surveillance, is the foundation of the NC vector-borne disease program. The DPH program is truly collaborative, utilizing state funding for personnel and some program activities, and using federal funding for larger projects as described. The DPH also works closely with NC Emergency Management (as a key member of the Mosquito Management Task Force) to address post tropical storm mosquito control and wide-area mosquito disease suppression. Public education is critical to raising awareness of these issues and the DPH has led the “Fight the Bite” program for the last five years

<https://epi.dph.ncdhhs.gov/cd/vector/contest.html>.

NC DPH is working to expand our genomic epidemiology and Advanced Molecular Detection capacity. Over the past year, this work has included hiring new staff for the Sequencing and Bioinformatics Response team at NCSLPH, piloting novel methods for detecting viruses in wastewater, and using whole genome sequencing to improve antimicrobial resistance surveillance.

During the next 12 months, the above activities will continue.

3.1.8 Increase the ability to prevent, detect and respond to waterborne infections.

Status: Underway

Expected Completion Date: August 2026

This action responds to commitments in the 2020 Climate Risk Assessment and Resilience Plan.

The NCDHHS Communicable Disease Branch provided quarterly trainings to new Environmental Health Specialists regarding communicable disease surveillance and outbreak response, which includes waterborne pathogens. Four of these occurred between July 1, 2022, and June 30, 2023. A newsletter focusing on waterborne pathogens included prevention messages and was distributed in May of 2023.

During the next 12 months, the above activities will continue. For example, a [press release](#) was published in July 2023 to warn the public of an increase in vibriosis infections.

3.2 Advance health equity

3.2.1 Implement Healthy Opportunities pilot program among Medicaid enrollees

Status: Ongoing

Expected Completion Date: Ongoing

This activity addresses the following recommendation from the 2020 Climate Risk assessment and Resilience Plan: Reducing inequity: Incentivizing housing integration across race, ethnicity, and income, as well as reducing substandard housing, will reduce exposure to floods and poor indoor air quality resulting from flooding.

NCDHHS's Healthy Opportunities Pilots are the nation's first comprehensive program to test and evaluate the impact of providing evidence-based, non-medical interventions such as addressing unstable housing. Through the Pilots, Medicaid enrollees can receive support to help them locate secure housing or address health and safety risk in their existing home.

During the next 12 months, these efforts will continue.

3.2.2 Continue developing, implementing, facilitating, and embedding health equity strategic initiatives into every aspect of NCDHHS' programs, services, actions, outcomes, and internal employee culture

Status: Ongoing

Expected Completion Date: N/A

The NCDHHS Office of Health Equity and the NCDHHS Environmental Justice Lead meet periodically to discuss further environmental justice and climate change collaboration. In April 2023, the NCDHHS Environmental Justice Lead, Virginia Guidry, and the NCDHHS Climate and Health Program Lead, Sarah Hatcher, presented to the NCDHHS Secretary's Health Equity Briefing on climate change and environmental justice in North Carolina.

The NCDHHS Chief Health Equity Officer represents the Department on the Interagency Resilience Team. The NCDHHS Chief Health Equity Officer was appointed to Governor Cooper's newly reestablished Andrea Harris Task Force that works to identify best practices to help create economic stability in disadvantaged communities, improve health and wellness in underserved areas and achieve environmental justice. To build on current successes and embed equity in policy and programs, NCDHHS Health Equity Portfolio serves as a thought leader and technical assistance resource to NCDHHS divisions enabling them to address disparities in health impacted by racial, geographic, ethnic, environmental and climate factors. Accomplishments include adopting and implementing a [framework](#) for the Health Equity Portfolio and incorporating diversity, equity, and inclusion into performance planning processes in NCVIP.

During the next 12 months, the EJ lead and Climate and Health program lead will continue to meet with the DHHS Office of Health Equity to further enhance this collaboration.

3.2.3 Provide University of North Carolina MPH capstone students with real-world health equity experience

Status: Underway

Expected Completion Date: Ongoing

The Office of Health Equity has secured and invested in working with a team of MPH fellows from the UNC CAPSTONE Program. This is a yearlong service-learning project for 2nd year Master of Public Health (MPH) fellows from the UNC Gillings School of Global Public Health. This will be for a mutually beneficial project focused on a formative-process to operationalize and evaluate the Health Equity Advisory Team (HEAT) component of the Health Governance Model to be used to engage cross-sectional work to formally embed the health equity framework across DHHS. The fellows would be able to engage in actual praxis, broadly applying a diverse skill set that they have learned in their program to a real life, state led project centered around fostering health equity for the entirety of North Carolina. The Office of Health Equity would greatly benefit from this team of fellows who are equipped to bring the most rigorous, evidence-based academic expertise to the leadership efforts of the Office and Portfolio and would help increase capacity of the Office as we embark on our first complete year of the new Governance Model for the Health Equity Portfolio.

During the next 12 months, OHE will host the first cohort of fellows, with the first fellows starting in August 2023.

3.2.4 Continue applying healthy equity lessons from the COVID-19 response to climate and health resilience work

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS continues to serve as the lead agency for the response to the COVID-19 pandemic, using a data driven approach to address the inequitable impacts we see from COVID-19. Closing these disparity gaps is important to mitigating the impacts of climate change on our most vulnerable communities. NCDHHS continued to provide increased social and behavioral supports across communities during the COVID-19 response; and provided unprecedented health guidance to protect a wide array of North Carolinians in the pandemic.

During the next 12 months, NCDHHS will continue efforts to apply some of these same supports to the statewide response to climate change, which also has disproportionate effects on historically marginalized populations.

3.2.5 Continue efforts to engage communities that have been historically marginalized, i.e., Historically Marginalized Population Connections Network

Status: Ongoing

Expected Completion Date: Ongoing

Underserved and Historically Marginalized Populations bear a disproportionate impact of climate change. Throughout the pandemic, NCDHHS engaged trusted partners in codesigning solutions, responding to crises and disseminating information/messages to individuals who were mistrustful of formal systems. One effective strategy was to engage community groups like Latin19 and the Historically Marginalized Population (HMP) Connections Network which includes internal NCDHHS staff and contractors and external partners from community groups, advocacy organizations, health care providers and academic institutions. The HMP Connections Network is the largest network within the former Historically Marginalized Population Workgroup, which was first developed in 2020. In FY 22-23, the HMP Connections network conducted virtual meetings with partners reaching over 600 health equity advocates between July 2022 and April 2023. Each meeting addressed barriers faced by communities that have been historically marginalized through trust building, open forums, and the facilitation of live Q&A sessions with health equity champions, subject matter experts, and those passionate about improving health outcomes for those in NC.

During the next 12 months, the above activities will continue, and efforts will be made to broaden outreach. The HMP Network will build an action plan/charter to define its network priorities, possible solution seeking approaches and collaborations. The Office of Health Equity will continue its consultative leadership and support, work to help expand network membership with additional HMP groups/organizations not yet represented, share educational resources and community engagement tools and capacity building opportunities with its members. In addition, the Network will continue working together to improve the health of North Carolinians by making linkages, increasing access to resources and services, addressing the social drivers of health, and reducing health disparities.

3.2.6 Increase Climate and Health Program’s engagement with indigenous communities in North Carolina.

Status: Ongoing

Expected Completion Date: Ongoing

This activity addresses the following recommendation from the 2020 Climate Risk Assessment and Resilience Plan: Resilience-relevant programs should engage new types of partners in their work, such as institutions that are frequent points of contact for socially vulnerable people, e.g., schools, medical clinics, retail outlets, houses of worship, and public transit services.

The NCDHHS Climate and Health Program is building relationships with indigenous communities and organizations across North Carolina, including the Coharie and Lumbee Tribes and the Triangle Native American Society. Indigenous tribes in North Carolina possess thousands of years of knowledge on how to adapt to seasonal and inter-annual environmental changes and therefore are climate resilience experts. This engagement helps address the injustice of anthropogenic climate change imposed on indigenous communities by colonization, while strengthening indigenous communities’ own self-determined planning for climate change. This activity also contributes the Program’s focus on populations disproportionately impacted by climate change and efforts to center health equity and environmental justice in climate and health adaptation activities.

During the next 12 months, the Climate and Health Program will continue these efforts through attending cultural events, conducting outreach to additional tribes and indigenous organizations, and consulting with the North Carolina Commission on Indian Affairs.

3.3 Initiate other projects aimed at addressing the public health impacts of climate change

Actions 4.4.3-4.4.5 in Section 4.4 (Initiate other projects aimed at investing in underserved communities) address the public health impacts of climate change. These actions describe projects aimed at improving private septic systems, quantifying traditional and emerging contaminants in septic system effluent and private well drinking water, and developing a geospatial database of septic systems in historically marginalized communities. During extreme weather events, private wells are vulnerable to contamination and private septic systems can become a source of pollution. While the goals of these projects are not explicitly climate change-related, they improve resiliency to the health effects of climate change.

4.0. Invest in historically underserved communities

4.1 Increase affordability for low- and moderate-income households

This section is not applicable to the North Carolina Department of Health and Human Services.

4.2 Create jobs and economic growth

4.2.1 Strengthen NC's public health and community health worker workforce

Status: Ongoing

Expected Completion Date: N/A

NCDHHS is creating a strong and diverse pipeline for our state and local public health workforce by implementing Academic Practice Partnerships with Historically Black Colleges and Universities and rural communities. NCDHHS is further working to strengthen the public health workforce by helping local government to implement sign-on and retention bonuses for school nurses and environmental health staff. NCDHHS is also expanding staffing in foundational areas such as data and epidemiology, expanding training and capacity-building for state and local staff, and increasing retention efforts and piloting shared services to support smaller local health departments. These efforts to strengthen the public health workforce supports the Department's ability to respond to public health emergencies, including climate-related emergencies, and pursue additional climate and health initiatives.

During the next 12 months, NCDHHS will be working with vendor partners to explore alternative funding models for Community Health Workers (CHWs) including working for safety net providers, insurers, and local health departments.

4.2.2 Create a robust infrastructure of Community Health Workers (CHWs) that provide social supports and access to healthcare for historically marginalized and vulnerable populations

Status: Underway

Expected Completion Date: Summer 2025

CHWs will be a flexible, community-based, equity-focused workforce focused on historically marginalized and vulnerable populations providing care resource coordination support, with primary care and behavioral health linkages for whole person health.

During the next 12 months, NCDHHS will finalize its Statewide CHW strategy in collaboration with key stakeholders including the NC CHW Association, provide technical assistance to CHW organizations, and work with social support resource networks including NCCARE360/UniteUs/FHLI to strengthen availability and access to social supports.

4.2.3 Build, reinforce, and integrate a statewide CHW infrastructure with public health and healthcare systems

Status: Underway

Expected Completion Date: Fall 2024

In collaboration with partners across the state, NCDHHS will support the expansion of standardized core competency training and development of specialty training for CHWs, development and launch of CHW certification pathways via the NC CHW Association, integration of CHWs into public health and health systems via clinical practice support coaching and Advanced Medical Homes (AMH), with robust program evaluation to support ongoing investment in the CHW workforce.

During the next 12 months, NCDHHS will support remote access of the standardized core competency training via the NC Community College System, additional specialty training via NC Area Health Education Center (AHEC), advanced levels of CHW certification via the NC CHW Association, and launch of an AMH Integration learning collaborative. NCDHHS will also facilitate linkages and connections between CHWs, CHW employers, local public health, and health systems via regional coordinators at the Office of Rural Health.

4.3 Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities

4.3.1 Notify underserved communities and businesses about funding opportunities.

Status: Ongoing

Expected Completion Date: Ongoing

NCDHHS looks for opportunities to assist our partners and selectively promote state, federal, and private funding opportunities to community partners when relevant. The Environmental Public Health Tracking Program created an e-mail list for their community partners, including local health departments and community advocates, and shares information about state and federal funding opportunities through this list. NCDHHS Environmental Justice lead Dr. Guidry also explored potential mechanisms for posting federal grant opportunities on existing NC websites; however, these websites are NC-specific do not currently allow posting of federal opportunities. NCDHHS environmental and climate justice staff and Governor's Office representatives met with the leads of the newly awarded EPA Thriving Communities Technical Assistance Center at RTI International to better understand the resources they will provide to underserved communities interested in applying for federal funding.

During the next 12 months, Department staff will continue to explore options for posting state and federal grant opportunities.

4.4 Initiate other projects aimed at investing in underserved communities

4.4.1 Administer funding to support climate justice initiatives in NC

Status: Ongoing

Expected Completion Date: Ongoing

This activity responds to the following recommendation from the 2020 Climate Risk Assessment and Resilience Plan: Explore opportunities to provide financial resources for climate preparation efforts to culturally specific organizations.

During July 1, 2022–June 30, 2023, the NCDHHS Climate and Health Program developed a request for applications titled “Community-Driven Climate Justice Initiatives in North Carolina” (RFA A395). The RFA was released on July 5, 2023, and will fund up to two entities at \$25,000 each to implement climate adaptation actions in climate justice communities in North Carolina.

During the next 12 months, we will review applications, execute the subcontracts, and work with recipients to implement adaptation actions in climate justice communities in NC.

4.4.2 Conduct a clean watershed needs survey to identify decentralized wastewater treatment systems (DWTS) needs in NC

Status: Complete

Expected Completion Date: May 2023

DWTSs can provide underserved and economically challenged communities with viable, more economical/cost-effective options for wastewater collection, treatment, and disposal. Such systems may be the solution for those unable to afford expansion of sewer lines, connection costs, and associated usage fees in areas with no centralized wastewater treatment facilities.

The Clean Watersheds Needs Survey (CWNS) is the only national survey of needed wastewater infrastructure improvements in the country. The On-Site Water Protection Branch staff developed a data collection and cost assessment approach to estimate DWTS needs in the state over a 20-year period from 2022 to 2042. Once the state-specific data collection and cost estimation method was approved by the US EPA, DWTS data was gathered, documented, and entered into the EPA’s data entry portal following a set of guidelines and criteria for the survey. Only DWTSs with subsurface dispersal were included in this current survey. North Carolina’s estimated needs over the next 20 years reported in the 2022 survey was \$4.3 billion.

4.4.3 Restore the Waste Detection and Elimination (WaDE) Program

Status: Ongoing

Expected Completion Date: May 2024

On-site wastewater systems (septic systems) are an important part of North Carolina's wastewater infrastructure, especially in rural and remote areas. In North Carolina, over two million septic systems treat and dispose of wastewater from homes and businesses serving nearly half of the state's population. After installation, property homeowners are solely responsible for maintaining their septic systems to keep the public and environment safe. Restoring the WaDE program assists low-income homeowners in marginalized communities to repair their septic systems. Septic system repair assistance grant determination criteria and application procedures to apply for financial assistance to repair septic systems have been established. Two projects have been completed and 13 applications are under review.

In the next 12 months, at least 28 malfunctioning septic systems are slated for repair and educational outreach will be conducted to show the importance of proper septic system maintenance.

4.4.4 Address PFAS and other contaminants in septic systems and private wells in underserved communities

Status: Underway

Expected Completion Date: March 2024

This project focuses on reducing potential health risks in underserved communities utilizing septic systems and private wells in a progressive effort to achieve environmental justice through investigation of possible environmental risks, education, and reasonable solutions to the communities. East Carolina University was contracted to collect septic tank effluent and groundwater samples from aging and/or compromised septic systems and private wells in disadvantaged communities to determine concentrations of traditional contaminants including nitrogen, chloride, and *E. coli* as well as concentrations of emerging contaminants such as PFOA, PFOS and GenX.

Septic system effluent and private drinking water well samples have been collected and analyzed to identify the presence of PFAS and other emerging contaminants. Results were compiled and shared with interested homeowners and NCDEQ's Division of Waste Management. During the next 12 months, the results will be further disseminated via conferences, workshops, and peer-reviewed journals. Increasing public awareness of these pollutants may help reduce the potential risks of disease and illness as well as reduce septic system-derived non-point source pollution contributions to the state's water resources.

4.4.5 Implement a decentralized wastewater infrastructure project to address septic system needs in marginalized communities of North Carolina

Status: Underway

Expected Completion Date: August 2025

NCDHHS worked with the CDC Water, Food, and Environmental Health Services Branch (WFEHSB) at the National Center for Environmental Health (NCEH) and developed a case study to evaluate the status of septic systems and their impacts on the local environment and public health in historically marginalized communities in two Tier 1 counties.

NCDHHS staff have initiated digitizing hardcopies of septic system permits in Bladen County and are working on a GIS-based model to identify decentralized wastewater treatment infrastructure within the county. Over the next 12 months, NCDHHS staff will develop a geospatial septic system database, assess the status of malfunctioning septic systems in historically marginalized communities, and the potential environmental health risks they represent.

4.4.6 Implement Energy Assistance Programs for low-income households.

Status: Ongoing

Expected Completion Date: Ongoing

This activity responds to the following recommendation in the 2020 Climate Risk Assessment and Resilience Plan: Expand energy efficiency and renewable energy programs specifically targeted at underserved markets and low-income communities to allow communities to function in the face of higher temperatures.

NCDHHS Department of Social Services Energy Assistance Programs provide assistance to individuals and families to help pay heating expenses (Low Income Energy Assistance Program, Piedmont Natural Gas Share the Warmth Program), avoid heating or cooling related crises (Crisis Intervention Program), and provide heating and cooling assistance to families served by various energy provider customers (Duke Energy Progress Energy Neighbor Program, Wake Electric Round Up Program, Haywood Electric Company's Helping Each Member Cope Program).

NCDHHS Department of Social Services Low Income Home Energy Assistance Program Block Grant Program provides funding to the Department of Environmental Quality to support weatherization and heating and air repair and replacement to help make homes more energy efficient.

During the next 12 months, the above efforts will continue.

4.4.7 Implement Operation Fan Heat Relief

Status: Ongoing

Expected Completion Date: Ongoing

This activity responds to the following recommendation in the 2020 Climate Risk Assessment and Resilience Plan: Improve housing and access to adequate cooling to help communities adapt to rising temperatures.

NCDHHS Division of Aging and Adult Services partners with NC Area Agencies on Aging and local service providers to distribute fans and air conditioners to eligible recipients through Operation Fan Heat Relief from May 1–Oct. 31. During May 1–October 31, 2022, this program distributed 3,793 fans and 23 air conditioners. This activity addresses health equity concerns because older adults are more sensitive to the health effects of extreme heat than younger populations.

During the next 12 months, the above efforts will continue.