



2022 Climate Strategy Report

Department of Health and Human Services

October 15, 2022

Introduction	3
About Department of Health and Human Services	3
Department of Health and Human Services' Vulnerabilities to Climate Change.....	3
Department of Health and Human Services' Approach to Fulfilling the Strategies in the Climate Risk Assessment and Resilience Plan	3
Reducing Energy Use.....	5
Addressing Environmental Injustices and Inequities	5
Public Participation Plan	6
1.0. Reduce greenhouse gas emissions.....	7
1.1 Reduce energy consumption per square foot in state-owned buildings by at least 40% from fiscal year 2002-2003 levels.....	7
1.2 Support the use and expansion of energy efficient and clean energy resources	12
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	12
1.4 Prioritize Zero Emission Vehicles (ZEVs) in the purchase or lease of new vehicles and for agency business travel.....	12
1.5 Initiate other initiatives to decarbonize the transportation sector	13
2.0. Increase statewide resilience to the impacts of climate change	15
2.1 Evaluate the impacts of climate change on cabinet agencies' programs and operations.....	15
2.2 Integrate climate change adaptation practices and resiliency planning into cabinet agencies' policies and operations	15

2.3 Assist the communities served by each cabinet agency to implement climate change adaptation practices and resiliency planning	15
3.0. Address the public health impacts of climate change.....	17
3.1 Increase understanding and awareness of the health impacts of climate change	17
3.2 Advance health equity.....	19
3.3 Initiate other projects aimed at addressing the public health impacts of climate change	20
4.0. Invest in historically underserved communities.....	22
4.1 Increase affordability for low- and moderate-income households	22
4.2 Create jobs and economic growth	22
4.3 Alert residents and businesses, particularly those in underserved communities, of state and federal grant opportunities	23
4.4 Initiate other projects aimed at investing in underserved communities.....	23
Additional Information.....	25
Environmental Justice and Equity Considerations	25

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 vision of the NCDHHS is to advance innovative solutions to foster independence, improve health and promote well-being for all North Carolinians. 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. NCDHHS divisions and offices fall under six broad service areas - Health, Opportunity and Well-Being, Medicaid, Operational Excellence, Policy and Communications and Health Equity.

Department of Health and Human Services' Vulnerabilities to Climate Change

Amidst the COVID-19 pandemic and other public health emergencies, NCDHHS continues to respond to and prepare for climate hazards of extreme heat, impaired air quality, and flooding. The 2020 North Carolina Climate Science Report projected that the main climate change threats for NC are, in order of likelihood, increases in sea level rise, increase in summer temperatures, changes in annual precipitation, increased hurricane intensity, severe drought, and inland flooding.

Some communities, such as those in the Sandhills Region of the state, are already experiencing the cumulative impacts of climate and social stressors, such as an increase in warmer night-time temperatures with inadequate access to cooling, and increasingly intense precipitation and repeated flooding incidents. Thus, while some actions are statewide, the Sandhills region, including Bladen, Hoke, Robeson, Sampson, and Scotland counties, is prioritized for climate and health adaptations in heat-health alert systems and wildfire education through the NCDHHS Building Resilience Against Climate Effects program funded by the Centers for Disease Control and Prevention (CDC). These counties were prioritized due to a combination of complex hazards, health conditions, historical injustice, and historical resilience.

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

NCDHHS continues to implement the following Climate Risk Assessment and Resilience Plan

Recommendations:

- Support the Building Resilience Against Climate Effects (BRACE) program and expand the tracking of epidemiological health impacts of climate change in North Carolina
 - The BRACE program applied for and received expanded CDC funding in 2021, doubling the annual budget for the program to \$500K

- We continue to work on project deliverables including developing a Request For Applications for funding to support a Regional Climate Specialist (posted); and developing a Climate Justice mini-grant program (in design).
- 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.
 - We are engaged in the development of the NC Clean Transportation Plan with a focus on reducing harmful air pollution from Medium and Heavy-Duty vehicles which disproportionately impacts communities of color and low-income communities.
- 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.
- Reducing inequity: Providing information on minimizing effects of moisture and mold will help those in housing with lasting flooding impacts.
 - The NC Division of Public Health continues to provide 1500+ consultations per year to homeowners and renters about how to address moisture damage and mold growth.
- Develop and maintain comprehensive tick and mosquito surveillance
 - Through distribution of CDC ELC funds the NC DPH has collaborated with university partners to conduct surveillance for both *Ixodes* and metastriate ticks for over four years now. 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, both container inhabiting *Aedes* species and those species associated with West Nile Virus and Eastern Equine Encephalitis transmission.
- Increase the ability to prevent, detect, and respond to waterborne infections
 - The NC Communicable Disease Branch provided waterborne and foodborne surveillance training to all local health departments in Winter/Spring 2022. Since many local health department staff are new, this provided a strong foundation for understanding why and how surveillance is conducted, as well as a good refresher for all other staff.
- Improve housing and access to adequate cooling to help communities adapt to rising temperatures
 - NCDHHS [Division of Aging and Adult Services](#) partners with the N.C. 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. This program typically delivers 3000+ fans and air conditioners to NC residents.

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 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.

Reducing Energy Use

Peter Veit, Chief of Facilities Engineering and Construction in the NCDHHS Division of Property and Construction, is the 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 through measures such as the following: identifying ways to reduce water usage, consolidating staff into fewer buildings to vacate buildings and shutoff utilities serving vacant buildings, instituting temperature setbacks after normal business hours, specifying energy efficient equipment, installing motion sensors, replacing existing lights with LED lights, installing variable frequency drives, commissioning new building systems and retro-commissioning existing systems, replacing existing windows, installing additional insulation, and purchasing electric and zero emission replacement vehicles.

Addressing Environmental Injustices and Inequities

NCDHHS named 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 since 2003. Dr. Guidry and her team have accomplished the following since January:

- Helped to coordinate the annual environmental justice lecture at University of North Carolina (UNC) School of Public Health in honor of Dr. Steve Wing (April 2022)
 - Speaker: Danielle Rivera, Assistant Professor at the University of California Berkeley and Director of the Just Environments Laboratory, on “Policy Barriers to Promoting Active Living in South Texas Colonias”
- Submitted a NCDHHS comment on the [2022 HHS Environmental Justice Strategy and Implementation Plan Draft Outline](#) (June 2022)
- Received CDC grant for NCDHHS to join the national Environmental Public Tracking Network (Dr. Kim Gaetz, PI, \$710K annually for 5 years) (June 2022)
 - Includes funding to develop the Environmental Health Data Dashboard available at: <https://epi.dph.ncdhhs.gov/oeep/programs/epht.html>
 - Currently collecting community feedback on beta version of the dashboard, creating new positions, and establishing data pipelines to the CDC EPHT program
- Posted [NCDHHS Public Participation Plan](#) (June 2022)

- Met with community organizations (NC Conservation Network, Clean Air Carolina, and NC Environmental Justice Network) and UNC faculty to discuss possible health and EJ collaborations (March-May 2022)
- Representing NCDHHS on the NC Clean Transportation Plan development and the Medium and Heavy-Duty Vehicle Committee due to air quality and EJ concerns from these vehicles (March 2022-present)
- Hosted a summer intern, Seewoo Jung, from the UNC School of Public Health to support NC Clean Transportation Plan and EJ work; currently developing a paper about the health benefits of the NC Clean Transportation Plan (May 2022 to present)
- Attended the community event commemorating the 40th anniversary of the birth of environmental justice in Warren County, NC, with six NCDHHS staff (Sept 2022)
- Met with Adm Rachel Levine, US Department of Health and Human Services (HHS) Assistant Secretary for Health, NC residents, UNC faculty, and NIEHS scientists to discuss the recently released HHS/CDC Environmental Justice Index and EJ needs in North Carolina (Sept 2022)

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 in their own right. We hope to establish formal consultation policies between the state government and state/federally-recognized Tribal nations. This would address the injustice of anthropogenic climate change imposed on indigenous communities by colonization, while strengthening indigenous communities own self-determined planning for climate change.

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. It will be updated annually.

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>Underway</p>
<p>Expected Completion Date: December 2026</p> <p>The project is currently in design with the final document submittal to be ready approximately October 2022.</p> <p>In the next 12 months, the document revisions will be completed, and bidding will begin.</p>	
<p>1.1.2 Replace domestic water heater in the Black Mountain Neuro-Medical Treatment Center</p>	<p>Underway</p>
<p>Expected Completion Date: July 2024</p> <p>In the next 12 months, the project construction will stay on track to meet the expected completion date of July 2024.</p>	
<p>1.1.3 Upgrade Black Mountain Center – Boiler Plant</p>	<p>Underway</p>
<p>Expected Completion Date: October 2025</p> <p>The designer is under contract and in the early stages of design.</p> <p>In the next 12 months, work on the design will continue. The design phase will continue into summer of 2024.</p>	
<p>1.1.4 Replace Kitchen Domestic Water Heater - Broughton Hospital</p>	<p>Underway</p>
<p>Expected Completion Date: December 2022</p> <p>The contractor is in the process of procuring equipment.</p> <p>In the next 12 months, the equipment will be acquired and installed.</p>	

<p>1.1.5 Perform repairs and upgrades to the Broughton Hospital: Avery Building. This project includes mechanical and boiler upgrades</p>	<p>Underway</p>
<p>Expected Completion Date: December 2026</p> <p>In the next 12 months, NCDHHS will interview designers and select and contract with a designer for the project. Design to continue through 2024.</p>	
<p>1.1.6 Install boiler at Caswell Developmental Center: Kendall Hall & Johnson Hall</p>	<p>Underway</p>
<p>Expected Completion Date: October 2025</p> <p>The designer is under contract and in the early stages of design.</p> <p>In the next 12 months, the design phase will continue with bidding of the project expected summer of 2024.</p>	
<p>1.1.7 Perform upgrades to Cherry Hospital: Building Automation System</p>	<p>Underway</p>
<p>Expected Completion Date: December 2024</p> <p>NCDHHS is in the process of finalizing the design contract.</p> <p>In the next 12 months, the design contract will be finalized.</p>	
<p>1.1.8 Renovate Cherry Hospital: W Building Renovations – Phase One</p>	<p>Underway</p>
<p>Expected Completion Date: December 2025</p> <p>NCDHHS is in the process of developing the scope for this project prior to interviewing for designers.</p> <p>In the next 12 months, the scope of work for the project will be developed, a design firm will be selected, and a design contract will be executed.</p>	
<p>1.1.9 Renovate J. Iverson Riddle Developmental Center: Spruce Cottage</p>	<p>Underway</p>
<p>Expected Completion Date: December 2026</p> <p>NCDHHS is in the process of interviewing designers for the project.</p> <p>In the next 12 months, a designer will be selected. The design phase will continue through 2024.</p>	

1.1.10 Upgrade Domestic Water & HVAC at the Longleaf Neuro-Medical Treatment Center: Scott Wing	Underway
<p>Expected Completion Date: December 2025</p> <p>The project is in design phase with bidding to occur early 2023.</p> <p>In the next 12 months, the design phase will continue.</p>	
1.1.11 Upgrade Longleaf Neuro-Medical Treatment Center: Boiler Plant	Underway
<p>Expected Completion Date: Autumn 2025</p> <p>The project is in design phase with bidding to occur early 2023.</p> <p>In the next 12 months, the design phase will continue.</p>	
1.1.12 Renovate Murdoch Developmental Center: Ridgeway Cottage	Underway
<p>Expected Completion Date: December 2026</p> <p>NCDHHS is in the process of interviewing designers for the project.</p> <p>In the next 12 months, the design phase will continue with expected completion in 2024.</p>	
1.1.13 Replace O’Berry Neuro-Medical Treatment Center: ELC2 Air Handling Unit	Underway
<p>Expected Completion Date: December 2025</p> <p>The designer is under contract and in the early stages of design.</p> <p>Over the next 12 months, the design will continue and go into summer of 2024.</p>	
1.1.14 Replace O’Berry Neuro-Medical Treatment Center: Hab East & Hab West Chiller	Underway
<p>Expected Completion Date: March 2023</p> <p>Construction will start in December 2022 and continue through spring of 2023.</p> <p>In the next 12 months, significant progress will be made with the needed construction.</p>	
1.1.15 Replace O’Berry Neuro-Medical Treatment Center: ELC2 Windows	Underway
<p>Expected Completion Date: June 2023</p>	

The contractor is in the processing of procuring the windows. In the next 12 months, the windows will be acquired and installed.	
1.1.16 Renovate Walter B. Jones ADATC: Therapy Building’s HVAC System	Underway
<p>Expected Completion Date: August 2023</p> <p>The contractor is in the process of procuring equipment.</p> <p>In the next 12 months, the necessary equipment for renovation will be acquired and installed.</p>	
1.1.17 Work with facility managers to reduce energy use and water usage in their facilities	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, significant progress will be made working with facility managers to reduce energy use and water usage in their facilities. (See Additional Information for environmental justice and equity considerations for Section 1.2 activities.)</p>	
1.1.18 Consolidate building occupants in buildings with a high square foot per person so that buildings may be closed off and HVAC system temperatures set back or turned off completely	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, significant progress will be made in consolidating building occupants in buildings with a high square foot per person so that buildings may be closed off and HVAC system temperatures set back or turned off completely.</p>	
1.1.19 Recommission existing HVAC control systems to optimize energy savings. Verify proper outdoor air set points on HVAC systems	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 weeks, significant progress will be made in recommissioning existing HVAC control systems.</p>	
1.1.20 Survey each campus for energy savings opportunities for system leaks and repair them	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, significant progress will be made in surveying each campus for energy saving opportunities.</p>	

1.1.21 Replace existing lighting (incandescent and fluorescent) with LED lighting	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, replacing existing incandescent and fluorescent lighting with LED lighting will continue.</p>	
1.1.22 Install occupancy sensors in appropriate areas/rooms	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, progress will be made in the installation of occupancy sensors in appropriate areas/room.</p>	
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	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, implementation of temperature setbacks for non-occupied time periods for non-patient areas will continue.</p>	
1.1.24 Repair and caulk leaks in windows and doors and add building insulation where needed or where it does not exist	Ongoing
<p>Expected Completion Date: N/A</p> <p>In the next 12 months, repair and caulking of windows and doors to prevent leaks will continue.</p>	
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	Ongoing
<p>Expected Completion Date: N/A</p> <p>This past year, we met with stakeholders at Broughton Hospital, Caswell Developmental Center, and O’Berry Neuro-Medical Treatment Center to discuss and develop energy conservation plans. (See Additional Information for environmental justice and equity considerations for Section 1.6 activities.)</p> <p>In the next 12 months, we plan to meet with stakeholders at two to three other NCDHHS statewide campuses to discuss and develop energy conservation plans.</p>	

1.1.26 Design New Buildings and Renovation Projects	Ongoing
<p>Expected Completion Date: N/A</p> <p>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 to provide buildings and systems that minimize negative impacts to the environment and that are more sustainable. This activity promotes environmental justice and equity by use of environmental design strategies that reduce energy consumption and greenhouse emissions and thus reduce energy costs and the unfair exposure of vulnerable communities, respectively.</p> <p>Over the next 12 months, the above efforts will continue.</p>	

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	Ongoing
<p>Expected Completion Date: N/A</p> <p>The NCDHHS continues to work diligently with the 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.</p>	

Currently, the NCDHHS utilizes four (4) MFM leased EV/ZEV vehicles representing 9.7% of the existing MFM EV/ZEV fleet. Further, the NCDHHS will be reviewing the potential for an additional sixteen (16) 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 ninety (90) leased vehicles with eight-four (84) being hybrids.

In 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

Ongoing

Expected Completion Date: N/A

With long-term lease and owned vehicular assets acquired and managed by the NC Department of Administration, Motor Fleet Management (MFM), the NCDHHS, in an ongoing effort with MFM, 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 absolutely required. (See Additional Information for environmental justice and equity considerations for Section 1.4 activities.)

In 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.

1.5 Initiate other initiatives to decarbonize the transportation sector

1.5.1 Augment electrical service infrastructure to support EV/ZEV vehicles

Ongoing

Expected Completion Date: N/A

The NCDHHS continues to undertake supportive measures with NCDHHS allocations (state owned and leased properties) to augment electrical service infrastructure to support EV/ZEV vehicles – those in service and additional EV/ZEV units as they come online with the NCDHHS after procurement by the MFM. Further, in working with the NC Department of Administration, State Property Office (SPO), the NCDHHS is working towards incorporation of EV/ZEV infrastructure language into the lease acquisition process. (See Additional Information for environmental justice and equity considerations for Section 1.5 activities.)

In 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 contractual situation allows by the existing Terms and Conditions.

1.5.2 Support the Development of the NC Clean Transportation Plan

Underway

Expected Completion Date: March 2023

NCDHHS continues to support the development of the NC Clean Transportation Plan through participation in ongoing general sessions and the Medium and Heavy-Duty Vehicle subcommittee. This activity promotes environmental justice and equity by targeting programs toward communities that bear the greatest burden of pollution, including communities of color and low-income communities

In the next 12 months, we will complete the development of the plan and publish a commentary on the health benefits of the NC Clean Transportation Plan and similar policies.

2.0. Increase statewide resilience to the impacts of climate change

2.1 Evaluate the impacts of climate change on cabinet agencies’ programs and operations

The North Carolina Department of Health and Human Services is not currently running any programs or projects that apply to this section.

2.2 Integrate climate change adaptation practices and resiliency planning into cabinet agencies’ policies and operations

<p>2.2.1 Support the integration of climate change into hazard mitigation planning</p>	<p>Underway</p>
<p>Expected Completion Date: October 23, 2022</p> <p>NCDHHS Climate and Health team is contributing content on 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 will highlight climate resilience strategies addressing excessive heat that are being implemented across NCDHHS programs. This is an update of the 2018 Hazard Mitigation Plan.</p> <p>The Hazard Mitigation Plan is due to FEMA October 23, 2022. NCDHHS will continue to provide content as needed to meet the due date.</p>	

2.3 Assist the communities served by each cabinet agency to implement climate change adaptation practices and resiliency planning

<p>2.3.1 Complete a flood survey assessment and develop adaptation strategies</p>	<p>Underway</p>
<p>Expected Completion Date: August 2026</p> <p>NCDHHS conducted qualitative interviews with key community members in Sampson County to learn about the effects of geographical and social isolation related to hurricanes and extreme flooding events and the community’s readiness for addressing those effects. Our preliminary findings provide insight into the needs and priorities of isolated communities related to extreme flooding events, including strong support among leaders to address health impacts experienced during Hurricane Florence. NCDHHS worked with county partners to</p>	

expand the survey to include members of the community whose first language is Spanish. NCDHHS staff updated participants on the status of the project last year. This activity promotes environmental justice and equity by including input from community leaders who can advocate for the needs of their community and mitigate the risk of isolation during flooding after a hurricane.

In the next 12 months, Department staff will complete analysis of survey results and discuss results with community stakeholders. NCDHHS staff will help to facilitate adaptations to address the issues, while also encouraging state and community leadership to support adaptation efforts.

2.3.2 Continue Black River Flooding Forecast Initiative

Ongoing

Expected Completion Date: N/A

NCDHHS has 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 able to put the river basin into their forecast model and the simulations look promising.

In the next 12 months, National Weather Service will seek operational approval of the forecast. 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.

3.0. Address the public health impacts of climate change

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

<p>3.1.1 Continue CDC-funded North Carolina Building Resilience Against Climate Effects (NC BRACE) climate and health adaptation work across the state</p>	<p>Underway</p>
<p>Expected Completion Date: August 2026</p> <p>The North Carolina Building Resilience Against Climate Effects (NC BRACE) program has continued adaptation projects including implementing a heat-health alert systems and heat-health surveillance in the Sandhills. NC BRACE has continued syndromic surveillance of statewide heat-related illness and provides weekly reports to the public from May 1st – September 30th. This activity addresses environmental justice and equity by providing weekly reports that highlight populations most vulnerable to heat illness and therefore where adaptations and interventions should be targeted. The NC BRACE program has also expanded efforts to incorporate impacts from flooding and climate injustice.</p> <p>Over the next 12 months, NCDHHS staff will continue climate and health adaptation work using the CDC BRACE Framework. They will work with stakeholders to develop a Climate Impact Compendium to identify climate projections, current and potential health impacts, affected systems, and adaptive capacity to inform future climate and health work. Plans will be initiated to help build local capacity and expertise of climate change adaptation within the Sandhills region.</p>	
<p>3.1.2 Initiate a new CDC grant as part of the national Environmental Public Health Tracking Network</p>	<p>Ongoing</p>
<p>Expected Completion Date: N/A</p> <p>In June 2022, NCDHHS was awarded a grant from CDC that will support the enhancement of the NC Environmental Health Data Dashboard and the formation of an Environmental Public Health Tracking Program for North Carolina. NCDHHS piloted the Environmental Health Data Dashboard, based on the framework for CDC’s Environmental Public Health Tracking Network during Spring/Summer 2022. The dashboard includes environmental exposure and health outcome data such as chemical releases, private well water, childhood lead poisoning, 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. Having this information easily available and accessible</p>	

to the public, policy makers, and researchers is the first step toward increasing health equity, improving environmental justice, and building climate resilience for North Carolina.

Over the next 12 months, additional climate and health indicators are being developed and will be incorporated into the dashboard. The dashboard is currently in beta version.

3.1.3 Conduct presentations on the impact of climate and health

Underway

Expected Completion Date: August 2026

In 2022, NCDHHS staff continued to promote environmental justice and health equity by presenting on the following:

- “Incorporating Principles of Justice, Equity, Diversity and Inclusion in Climate Adaptation Planning” at the American Public Health Association’s webinar.
- “Occupational Heat-Related Illness in North Carolina” at the Council of State and Territorial Epidemiologist Occupational Health Indicators workgroup meeting.
- “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.

In the next 12 months, department staff will present the NC BRACE program’s climate adaptation actions to the NCDHHS Epidemiology and Evaluation Team meeting. CDC partners will present on climate and health adaptation best practices from the evaluation manuscript co-authored by NC NCDHHS and other BRACE grantees at the National Adaptation Forum annual conference.

3.1.4 Restore and expand wildland fire smoke adaptation efforts

Underway

Expected Completion Date: August 2026

In 2019, NCDHHS and community partners developed a wildland fire smoke and health curriculum component to accompany existing Smokey the Bear elementary curriculum and worked with local forestry staff to pilot the intervention in elementary school sessions in Hoke County. Process evaluations of the intervention revealed successful implementation of the curriculum and key recommendations for improving the program were identified. This adaptation intervention has not been implemented in recent years as Smokey the Bear elementary education sessions were paused during the pandemic.

In the next 12 months, Department staff plan to continue partnership with local forestry staff and the implementation of the Healthy Smokey the Bear education intervention. Department staff will work to expand partnerships in this region to reach more elementary-aged children with this curriculum.

3.2 Advance health equity

<p>3.2.1 Continue developing, implementing, facilitating, and embedding health equity strategic initiatives into every aspect of NCDHHS’ programs, services, actions, outcomes, and internal employee culture</p>	<p>Ongoing</p>
<p>Expected Completion Date: N/A</p> <p>The NCDHHS Office of Health Equity and the NCDHHS Environmental Justice Lead meet periodically to discuss further environmental justice and climate change collaboration. 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. Accomplishments of the Task Force include secured funding to help implement NCCARE360, a resource to connect North Carolinians with local health, housing, employment, and transportation services; helped secure funding to address environmental issues, like lead and asbestos, in public schools. To build on current successes and embed equity in policy and programs, NCDHHS Health Equity Portfolio will serve 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.</p> <p>In the next 12 months, the Health Equity Portfolio will adopt a framework, cooperation and governance model and develop resources which will enable programs to address equity and environmental justice in policies. A key part of the approach will include obtaining and including voices of those impacted by environmental injustices.</p>	
<p>3.2.2 Continue applying healthy equity lessons from the COVID-19 response to climate and health resilience work</p>	<p>Ongoing</p>
<p>Expected Completion Date: N/A</p> <p>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.</p>	

Over 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.	
3.2.3 Continue efforts to engage communities that have been historically marginalized, i.e. Historically Marginalized Population Connections Network	Ongoing
<p>Expected Completion Date: N/A</p> <p>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. The Network has continued to hold meetings throughout 2022 and featured presentations on various healthy equity topics, including health data and health service delivery inequities for Latin American communities, health and equity indicators for state and local agencies, and COVID-19 vaccine booster equity. In addition, the Network continues sharing educational resources and community engagement tools with its members. Underserved and Historically Marginalized Populations bear a disproportionate impact of climate change.</p> <p>In the next 12 months, the above activities will continue, and efforts will be made to broaden outreach to address issues in communities which have been marginalized.</p>	

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

3.3.1 Continue to educate on the benefits of additional support for NCDHHS programs below	Ongoing
<p>Expected Completion Date: N/A</p> <ul style="list-style-type: none"> • Building Resilience Against Climate Effects program – A CDC funded climate and health program focused on increasing resilience in southeast NC. • Back@Home program - Back@Home North Carolina is a collaboration and partnership of state and local partners implementing a targeted rehousing program to serve a select high-needs population with no path out of the disaster shelters. 	

- Mold and moisture education – Recurring flooding and a humid climate result in ongoing consultations (approximately 1000 calls a year) with residents seeking guidance in addressing mold and moisture problems in their homes.
- Health Equity staff – Led by Debra Farrington, the NCDHHS Chief Health Equity Officer, the Office of Health Equity represents NCDHHS on Governor Cooper’s Climate Change Interagency Council. Health equity staff can help to prioritize NCDHHS engagement in climate change from a health perspective, with an environmental justice focus.

In the next 12 months, NCDHHS will continue efforts to educate on the benefits of expanding support for these programs.

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

<p>4.2.1 Strengthen NC’s public health and community health worker workforce</p>	<p>Ongoing</p>
<p>Expected Completion Date: N/A</p> <p>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.</p> <p>In 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.</p>	
<p>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</p>	<p>Underway</p>
<p>Expected Completion Date: Summer 2025</p> <p>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.</p> <p>Over 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.</p>	

<p>4.2.3 Build, reinforce, and integrate a statewide CHW infrastructure with public health and healthcare systems</p>	<p>Underway</p>
<p>Expected Completion Date: Fall 2024</p> <p>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.</p> <p>Over 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.</p>	

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

<p>4.3.1 Notify underserved communities and businesses about funding opportunities</p>	<p>Ongoing</p>
<p>Expected Completion Date: N/A</p> <p>NCDHHS looks for opportunities to assist our partners and selectively promote state, federal, and private funding opportunities to community partners when relevant.</p> <p>In the next 12 months, Department staff will formalize a process to notify community members and businesses about funding opportunities.</p>	

4.4 Initiate other projects aimed at investing in underserved communities

<p>4.4.1 Serve the Underserved: Addressing PFAS and Other Contaminants in Septic Systems and Private Wells</p>	<p>Underway</p>
<p>Expected Completion Date: March 2024</p> <p>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 key</p>	

to the communities. East Carolina University has been 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. Sites have been selected and the sample collection phase will begin in October.

In the next 12 months, the results will be compiled and reviewed as part of the assessment phase. Assessments of the septic system effluent and private drinking water wells will be used to determine the presence of PFAS and other pollutants and tailor community outreach and educational materials. 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.

<p>4.4.2 Decentralize Wastewater Infrastructure: Septic Systems Needs in Marginalized Communities of North Carolina</p>	<p>Underway</p>
<p>Expected Completion Date: August 2023</p> <p>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.</p> <p>Over the next 12 months, NCDHHS staff will assess the status of malfunctioning septic systems in Historically Marginalized Communities and the potential environmental health risks they represent, conduct educational outreach, and develop a geospatial septic system database. NCDHHS staff will also map the location of septic systems to help identify areas prone to climate change impacts like flooding which can help in identifying the public health risks to which communities are exposed, including the impairment of their drinking water quality that may be caused by malfunctioning septic systems.</p>	

Additional Information

Environmental Justice and Equity Considerations

Reduce Greenhouse Gas Emissions - NCDHHS promotes environmental justice and equity through the fair distribution of environmental strategies to reduce the unfair exposure of vulnerable communities to negative environmental impacts by supporting the use and expansion of energy efficient and clean energy resources, increasing the number of registered Zero Emission Vehicles, furthering the decarbonization of the transportation sector through augmentation of the electrical service infrastructure to support EV/ZEV vehicles, and by reducing statewide greenhouse emissions through evaluation and identification of new projects to reduce energy consumption and greenhouse emissions at each statewide campus. All these activities will reduce greenhouse gas emissions and negative climate impacts resulting in a healthier and more sustainable environment for everyone.