

## Resiliency Actions - Draft 12-10-18

### Public Health

Overall Theme	Adaptation Strategies	Comments/Explanations	Potential Partnerships	Tools
<b>Best Management Practices</b>				
1Ph	Incorporate climate change into local and regional public health programs. Coordinate among local, regional, and state health departments to monitor impacts and identify climate change adaptation strategies.		Health departments, sanitarians, health districts, CT DPH	NACCHO Essential Actions for Resilience <a href="https://www.naccho.org/uploads/downloadable-resources/Essential-Actions-for-Climate-Resilience-Fact-Sheet.pdf">https://www.naccho.org/uploads/downloadable-resources/Essential-Actions-for-Climate-Resilience-Fact-Sheet.pdf</a> ; NACCHO 12 Steps to Operationalize Climate Change in a Local Health Department <a href="https://www.naccho.org/uploads/downloadable-resources/NA634PDF-12Steps.pdf">https://www.naccho.org/uploads/downloadable-resources/NA634PDF-12Steps.pdf</a> ; Minnesota Climate & Health Case Study <a href="https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Minnesota-Climate-and-Health.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Minnesota-Climate-and-Health.pdf</a>
2Ph	Conduct public health vulnerability studies. Identify populations, communities, and geographic areas most at risk for the identified health risks. Consider the public health needs of vulnerable populations in climate change adaptation planning. Identify locations of vulnerable residents. Coordinate with utilities to reduce shut-offs during high heat or extreme cold events.		Health departments, sanitarians, emergency managers, REPT, CT PURA, electrical utilities	<a href="https://www.cdc.gov/climateandhealth/pubs/AssessingHealthVulnerabilitytoClimateChange.pdf">https://www.cdc.gov/climateandhealth/pubs/AssessingHealthVulnerabilitytoClimateChange.pdf</a> ; Appendix G: G. Mapping 101: Joining census data for beginning GIS users from Minnesota Extreme Heat Toolkit.; Antioch University New England Webinar Enhancing the Resilience of Seniors ( <a href="http://www.communityresilience-center.org/webinars/enhancing-the-resilience-of-seniors-in-your-community/">http://www.communityresilience-center.org/webinars/enhancing-the-resilience-of-seniors-in-your-community/</a> ) ; Climate Change, Health, and Populations of Concern <a href="https://archive.epa.gov/epa/climate-impacts/climate-change-and-health-factsheets.html">https://archive.epa.gov/epa/climate-impacts/climate-change-and-health-factsheets.html</a>
3Ph	Continue to develop and update all municipal emergency preparedness plans for extreme weather events. Evaluate current early extreme weather events warning system and emergency response plans. Develop or strengthen joint protocols for multi-jurisdictional response to a broad spectrum of climate-related emergencies and disasters. Establish communication mechanism to coordinate efforts between disaster relief and public health agencies. Partner with health districts/departments to exercise pandemic response plans.	Coordinate with regional NWS offices for correct coverage locations. Cross Reference with Sustainable CT Action 7.2 Provide Effective Community Communications.	CEOs, EMDs, CT DPH, CT DESPP, REPT, DEHMS	
4Ph	Manage municipal properties to reduce heat island affect. Provide potable water and shaded areas in public spaces during community events. Consider adding lighting to allow for use of recreational facilities at cooler points of the day. Seek state criteria for school closings and outdoor play during extreme heat events. Research and follow cooling station best management practices. Develop a strategy for providing and communicating heat wave behavioral adaptations such as air conditioning availability and increased fluid intake. Develop communications plan for extreme heat for the public and vulnerable populations through schools, daycares, landscape/construction businesses, sports teams/camps, and senior living facilities, etc.	Cross-reference with Infrastructure.	Public Works, CEOs, School districts, health departments	Potential Heat Island areas in NHCOC Region: <a href="https://resilientrural.com/wp-content/uploads/2018/11/NASA-NHCOG-heat-islands-by-town-Braneon-McConnell.zip">https://resilientrural.com/wp-content/uploads/2018/11/NASA-NHCOG-heat-islands-by-town-Braneon-McConnell.zip</a> ; EPA Heat Island Effect <a href="https://www.epa.gov/heat-islands">https://www.epa.gov/heat-islands</a> ; Excessive Heat Events Guidebook helps officials plan for and respond to excessive heat events by highlighting best practices that have been employed to save lives during excessive heat events in different urban areas and providing a menu of options that officials can use to respond to these events in their communities. ( <a href="https://www.epa.gov/sites/production/files/2016-03/documents/ehguide_final.pdf">https://www.epa.gov/sites/production/files/2016-03/documents/ehguide_final.pdf</a> ); <a href="http://www.riema.ri.gov/resources/citizens/prepare/threats/documents/Heat%20Safety.pdf">http://www.riema.ri.gov/resources/citizens/prepare/threats/documents/Heat%20Safety.pdf</a> ; Minnesota Extreme Heat Toolkit: "Messages should include information on what to do (e.g., how to prevent illnesses from extreme heat) (see Appendix E for a tip sheet), symptoms of heat-related illnesses (see Table 2 on page 2-3), characteristics of persons more vulnerable to extreme heat (see Table 3 on page 2-5), and where to go for more information." and Appendix J for sample media release

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5Ph	Manage municipal properties to eliminate or reduce vector habitat (e.g. standing stagnant water). Implement management strategies in public spaces to reduce disease-carrying pests such as ticks and mosquitoes. Enhance preparedness for disease prevention of vector-borne and water-borne diseases following floods and storms. Develop communication plan for residents about on-property tick and mosquito management.	Cross Reference with Sustainable CT Action 7.2 Provide Effective Community Communications	DOT, Public Works, health districts, local health depts	Case Study - Brookfield CT Health Department Tick Outreach <a href="https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Tick-Communication.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Tick-Communication.pdf</a> ; Vermont Tick Tracker <a href="http://healthvermont.gov/tracking/tick-tracker">http://healthvermont.gov/tracking/tick-tracker</a>
6Ph	Reduce public exposure to algal blooms in recreational swimming areas		DOT, Public Works, health districts, local health depts., local land use commissions	Health districts' Sanitarians perform water sampling and visual assessments for algal blooms and advise as necessary. Management of storm-water run-off through Low-Impact Development Practices reduce their occurrences.
7Ph	Develop communications for visitors and seasonal/permanent residents about evacuation routes and heating/cooling/emergency shelter locations esp. if animal-friendly. Provide information to pet owners on protecting their pets from extreme heat. If possible, identify a local cool place that may be willing to accept people and their pets. Encourage residents and businesses to use Town social media/web sites for information sharing. Ensure senior centers and shelters have cooling systems. Consider extending hours at municipal buildings, public spaces, and commercial areas like movie theaters and shopping malls where air conditioning is available. Also consider free public transportation to shelters.	Cross Reference with Sustainable CT Action 7.2 Provide Effective Community Communications	health districts, local health depts, EMDs, CEOs, Parks & Rec, Public Works	Improving ADA access to cooling centers: Chapter 7 of the ADA Best Practices Tool Kit for State and Local Governments, available online at: <a href="http://www.ada.gov/pcatoolkit/toolkitmain.htm">http://www.ada.gov/pcatoolkit/toolkitmain.htm</a> . Minnesota Climate & Health case study <a href="https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Minnesota-Climate-and-Health.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Minnesota-Climate-and-Health.pdf</a>
8Ph	In the aftermath of extreme events, prepare for additional trauma due to dispossession, mental health challenges and post-traumatic stress disorder.		DESPP, DEHMS, health depts./districts	
9Ph	Assess food security for all sectors of society in the state/region.	Support local sustainable agriculture to improve food security; cross-reference with agriculture	CT DPH, CT Dept of Ag	USDA Food Security Assessment Toolkit <a href="https://www.ers.usda.gov/webdocs/publications/43164/15810_efan02013a_1_.pdf?v=0">https://www.ers.usda.gov/webdocs/publications/43164/15810_efan02013a_1_.pdf?v=0</a>
10Ph	Develop partnerships and/or policies to prevent power and water companies from shutting off services to their customers due to nonpayment of bills during extreme heat events.		CEOs, social service agents, PURA	
11Ph	Institute extreme weather protocols for municipal employees especially for high-heat and low air quality days. Develop communication plan for residents about poor air quality and high ozone days. Coordinate with CT DEEP about maintaining regional air quality.	CT DEEP and Cross Reference with Sustainable CT Action 7.2 Provide Effective Community Communications	EMDs, health departments, CEOs, Public Works	EPA EnviroFlash Air Quality Alert Program. <a href="http://www.enviroflash.info/">http://www.enviroflash.info/</a>
<b>Research, Monitoring, and Education</b>				
12Ph	Develop an education campaign for students, residents, and visitors on natural hazards and preparedness. Provide outreach to seasonal home-owners on how to protect against frozen pipes and water damage during the winter with the loss of electricity, including information on automatic shut-off switches or alarms (LHNHMP). Distribute resources through town hall, community events, local/regional websites, social media. September is National Preparedness Month.	from Litchfield Hills NHMP & Burlington Annex of Hazard Mitigation Plan for the Former Central Connecticut Region	NHCOG, health districts, CT DPH, CEOs, EMDs, Public Works, Building Department, local/regional schools	Litchfield Hills NHMP; <a href="http://www.riema.ri.gov//resources/citizens/prepare/documents/Flood%20Safety.pdf">http://www.riema.ri.gov//resources/citizens/prepare/documents/Flood%20Safety.pdf</a> ; <a href="http://www.riema.ri.gov//resources/citizens/prepare/threats/documents/Hurricane%20Preparedness.pdf">http://www.riema.ri.gov//resources/citizens/prepare/threats/documents/Hurricane%20Preparedness.pdf</a> ; <a href="https://training.fema.gov/is/courseoverview.aspx?code=IS-909">https://training.fema.gov/is/courseoverview.aspx?code=IS-909</a> ; <a href="https://www.ready.gov/">https://www.ready.gov/</a> ; <a href="https://resilientrural.com/wp-content/uploads/2018/11/CT-DPH-Before-Hurricane.pdf">https://resilientrural.com/wp-content/uploads/2018/11/CT-DPH-Before-Hurricane.pdf</a> ; <a href="https://resilientrural.com/wp-content/uploads/2018/11/Red-Cross-thunderstorm.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Red-Cross-thunderstorm.pdf</a> ; <a href="https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/power-outage/safe-generator-use.html">https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies/power-outage/safe-generator-use.html</a> ; Ready.gov ; FEMA Avoiding Hurricane Damage: A Checklist for Homeowners <a href="https://www.fema.gov/media-library/assets/documents/13737?id=3340">https://www.fema.gov/media-library/assets/documents/13737?id=3340</a>
13Ph	Increase public awareness and education on opioid abuse and misuse.		health districts & depts., NHCOG Prescription assistance network	TAHD is currently administering a DEMHS grant entitled SPF-Rx which is designed to help combat the opioid crisis and an ad campaign called "Change the Script".
14Ph	Develop plans to deal with vector-born diseases from ticks and mosquitoes especially in case of need for rapid response. Implement educational programs for schools and the public on how to help control vector (e.g. ticks and mosquitoes) breeding sites.		REPT, health districts, local health depts	Vermont Tick Tracking Program <a href="http://www.healthvermont.gov/tracking/tick-tracker">http://www.healthvermont.gov/tracking/tick-tracker</a> ; Brookfield CT Tick Communication Program ( <a href="https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Tick-Communication.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Public-Health-Tick-Communication.pdf</a> )

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15Ph	Review potable water vulnerabilities in both private well and public water supply systems across community. Encourage private well owners with vulnerable well locations to seal well and to grout the space between the casing and bore hole and/or relocate the well on the property. Develop GIS database of private wells or parcels with wells. Track and communicate incidences of private water well failures with health departments especially in drought conditions. Encourage residents to sample their wells on an annual basis, especially following significant storm events. Encourage private well owners extend well casing above flood level if in a delineated FEMA flood zone or commonly known flooding area even if above 1ft above grade. Research possibility of solar-powered or hand-powered pumps for residents/facilities dependent on potable well water. Well depth will determine feasibility of different technologies.	Cross reference with Sustainable CT Action 2.6	Dept of Consumer Protection, DPH Private well program, local health departments and districts, building departments	Review "Drinking Water Vulnerability Assessment and Resilience Plan" by Milone and MacBroom; Example: Fairfield CT GIS private well parcel database; <a href="https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking_water/pdf/wellcasingextensionpdf.pdf?la=en">https://portal.ct.gov/-/media/Departments-and-Agencies/DPH/dph/drinking_water/pdf/wellcasingextensionpdf.pdf?la=en</a>
16Ph	Coordinate with water utilities to protect reservoirs and aquifer protection areas.		WUCC, CT DPH, local water utilities	
17Ph	Develop a database of morbidity and mortality caused by climate change.		health districts, CT DPH	
18Ph	Intensify vector associated disease monitoring from vectors such as ticks and mosquitoes		health districts, local health depts	
19Ph	Develop GIS StoryMap that communicates the multiple ways that climate change intersects with public health.		CT DPH	<a href="https://rihealth.maps.arcgis.com/apps/MapJournal/index.html?appid=1d57fba5e14c4b86b27f329a733d679d&amp;mc_cid=5ba8ef4c5c&amp;mc_eid=4d705d84f4">https://rihealth.maps.arcgis.com/apps/MapJournal/index.html?appid=1d57fba5e14c4b86b27f329a733d679d&amp;mc_cid=5ba8ef4c5c&amp;mc_eid=4d705d84f4</a>
<b>Policy, Legislation, Regulation &amp; Funding</b>				
20Ph	Seek funding to provide for adequate updates to municipal water & sewage infrastructure.		CT DAS, DPH, USDA, Local Public Works	
21Ph	Review existing septic system regulations for capacity from increased soil saturation from storm events.		CT DPH, health districts, local health depts	CT Public Health Code
<b>Emergency Management</b>				
22Ph	Work with FirstNet (public safety broadband network) to improve communications coverage. Communicate with vulnerable populations on cooling centers, emergency shelters, and transportation options to avoid exertion in heat. Expand use of existing communication tools and develop a comprehensive contact list of organizations representing vulnerable populations as a resource for preparedness and response to extreme events. Encourage all businesses and residents, particularly older adults, to sign up for emergency information systems in your community (Nixel, Everbridge, etc.).	Cross Reference with Sustainable CT Action 7.2 Provide Effective Community Communications and POCD Goal 2.	CEOs, social service agents, local health departments, EMDs, volunteer emergency responders, senior centers	CA DOH Climate change & Health Equity Program <a href="https://www.cdph.ca.gov/Programs/OHE/Pages/CCHEP.aspx">https://www.cdph.ca.gov/Programs/OHE/Pages/CCHEP.aspx</a> , Kern County California is an example partnership between utility and county government to sponsor cooling centers. Building Older Adults' Resilience <a href="https://resilientrural.com/wp-content/uploads/2018/11/Building-Older-Adults-Resilience-Toolkit-RAND.pdf">https://resilientrural.com/wp-content/uploads/2018/11/Building-Older-Adults-Resilience-Toolkit-RAND.pdf</a> ; firstnet.gov
23Ph	Consider developing a Memorandum of Understanding with schools or school bus company to utilize school buses for mass transportation during an emergency. Ensure regional evacuation plans include health care facilities, senior housing, disabled residents, and those without transportation.		REPT ESF-1 Transportation working group, EMDs, school bus companies, Transit Districts	
24Ph	Partner with health departments/districts to promote health services like flu shots, inspections for issues that exacerbate respiratory illnesses.		health districts, local health districts, pharmacies	TAHD's "Healthy Home" Program
25Ph	Develop plan to insure uninterrupted prescription refills for residents with chronic medical conditions.		Pharmacies, NHCOC Prescription Assistance network	

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26Ph	Create and assist community-supported neighbor-to-neighbor networks across the community that are accessible to all income levels (e.g., villages, fraternal organizations, faith-based communities, neighborhood associations).		EMDs, volunteer emergency responders, senior centers, Community Foundations	
27Ph	Develop redundant back-up power systems, possibly via renewable energy (solar, wind) for critical facilities to keep those facilities operational and avoid outcomes of displaced or decreased workforce and increased social/health stress for extended power outages. Develop redundant infrastructure, backup power, and increase system storage and conduct more comprehensive emergency response planning to improve resiliency. Reach out to buildings where vulnerable populations reside, such as hospitals, nursing homes, etc. to evaluate back up power generation during extreme heat or cold events and extended power outages.	Cross reference with Microgrid Action in Infrastructure and WUCC "Prioritization and Implementation for Non-Capital Improvement Recommendations"	CEO, EMDs, volunteer emergency responders, senior centers, REPT	local and regional Natural Hazard Mitigation plans, Emergency Operations Plans, etc.
28Ph	Encourage residents over 18 to join community emergency response teams or medical reserve corps.	Cross reference with health districts Medical Reserve Corps outreach efforts.	CERT, REPT, senior centers	
29Ph	Increase frequency and expand topic coverage of Community Emergency Response Team (CERT) trainings to better respond to natural hazard events.		EMDs, CEOs, REPT	
30Ph	Create a Community Hub to assist in relay of critical information, especially during disaster. Community Hub identifies needed equipment such as generator, storage space, amateur radio network, etc.		Regional Emergency Planning Team ESF -2 Communications Chair Steve Savage; CT ARES (Amateur Radio Emergency Service)	Larimer Community Hub - <a href="https://www.larimer.org/emergency/larimer-connects/community-hubs-0">https://www.larimer.org/emergency/larimer-connects/community-hubs-0</a>
31Ph	Develop Time to Recovery Goals Matrix with minimal, operational, and functional time goals to identify priority restoration locations.		REPT, DESPP, DEHMS	Resilient Design Performance Standard <a href="http://www.bccollaborative.org/uploads/6/6/0/6/66068141/resilientdesignperformancstandard_adopted_05.13.2016.pdf">http://www.bccollaborative.org/uploads/6/6/0/6/66068141/resilientdesignperformancstandard_adopted_05.13.2016.pdf</a>
32Ph	The Town should continue to require the installation of fire protection water in new developments. Establish a maintenance and testing schedule for dry hydrants/fire ponds and require an annual budget funding for maintenance and repairs. Towns should also consider mutual aid tankers and properly maintain key waterholes for refilling emptied tankers.	from Litchfield Hills NHMP	CEOs, local fire departments, land use commissions	
33Ph	Establish a designated area for brush disposal following storm related events that generate debris and/or storage of snow. Identify methodology for tracking cost of debris management for potential FEMA reimbursement.	from Litchfield Hills NHMP	Local Public Works	CT DEEP - <a href="https://www.ct.gov/Deep/cwp/view.asp?a=2718&amp;Q=410492&amp;deepNav_GID=1646">https://www.ct.gov/Deep/cwp/view.asp?a=2718&amp;Q=410492&amp;deepNav_GID=1646</a>
34Ph	Provide public information on safe fire practices (check with DEEP fire rating, fire extinguisher availability, etc.)	from Litchfield Hills NHMP	Local fire departments	