

The National Environmental Health Association (NEHA) represents more than 7,000 governmental, private, academic, and uniformed services sector environmental health professionals in the U.S., its territories, and internationally. This workforce represents the second largest constituent of the existing public health workforce, second only to nursing. We are the profession's strongest advocate for excellence in the practice of environmental health as we deliver on our mission to build, sustain, and empower an effective environmental health workforce.

## Policy Statement on Climate Change

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*Policy Sunset: July 2028*

Climatic changes like rising temperatures, more extreme weather, and rising carbon dioxide (CO<sub>2</sub>) and sea levels are influencing environmental exposures that affect human health. These environmental exposures include air pollution, changes in vectorborne disease, increases in allergens and seasons when allergens are prevalent, water quality impacts, water and food supply, population displacement and relocation, environmental degradation, and the frequency and intensity of extreme heat and weather events. Not everyone is equally at risk for climate change-related health impacts. Risk can be influenced by age, economic resources, and location (Centers for Disease Control and Prevention [CDC], 2022).

Furthermore, one of the most comprehensive reviews of climate change research worldwide—and the largest assessment exercise in history—is being conducted by the Intergovernmental Panel on Climate Change (IPCC), which is made up of independent working groups that examine both peer-reviewed publications and gray literature. The 6th IPCC systematic review of the applicable published literature and the assessment reports for the public and policymakers is current and clear: “It is unequivocal that human influence has warmed the atmosphere, ocean, and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere have occurred” (IPCC, 2021, p. 4).

NEHA recognizes climate change as a global environmental health problem that has health and safety impacts on individuals and communities. Environmental health professionals improve and protect the public's health and create healthy and sustainable communities. NEHA supports building the capacity of environmental health professionals to address the health impacts of climate change with risk assessment, adaptation, and mitigation planning. Developing successful solutions to climate change has implications for the structure and viability of the U.S. economy, as well as global economic impacts that affect the health and welfare of people worldwide.

NEHA supports federal, state, local, tribal, and territorial (SLTT) jurisdictions in developing policies, using frameworks, and implementing plans to address climate and health, including

technical assistance and training, some through mini-grants and direct funding, to accomplish the following:

- Conduct risk assessments and establish plans to anticipate risks for adaptation and resilience building for future generations. Using the audience segmentation techniques identified by Maibach et al. (2008) can help professionals refine individual risk perceptions. Climate change and health equity are at the cutting edge of these assessments of risks to vulnerable populations.
- Incorporate green space, green roofs, energy conservation, and other technologies into the built environment to help reduce the effects of urban heat islands. Urban areas are warmer than adjacent rural areas due to the absorption of sunlight (Seto et al., 2012; U.S. Global Change Research Program [USGCRP], 2016). In the short-term, heat waves pose the greatest threat to the environment and human health due to impaired air quality and heat-related illnesses in vulnerable populations including older adults, individuals with chronic diseases, low-income populations, outdoor laborers, etc. (U.S. Environmental Protection Agency [U.S. EPA], 2022; Watts et al., 2015).
- Conserve and replenish fresh water sources and support planning and implementation activities to mitigate climate change-related health impacts on water sources. According to the U.S. Geological Survey (n.d.), climate change poses increased risks of prolonged droughts, making them more frequent, more severe, and of longer duration. Droughts can have short- and long-term health implications, led by the devastating impacts of wildfires. Possible long-term public health impacts include drinking water scarcity and decreased water quality, poor air quality, increased wildfire impacts, degraded sanitation and hygiene, impacts on food supplies and nutrition, and an increase in vectorborne disease (CDC, 2022). The U.S. Environmental Protection Agency (U.S. EPA, 2023a) estimates that more than one half of the U.S. population relies on groundwater for domestic use. Wildfires impact water quality, as shown by the devastating effect of the Colorado wildfires in Boulder and surrounding counties. Droughts—forecasted to worsen with climate change—can have a significant impact on existing groundwater supplies through decreased aquifer recharge and increased pumping (Taylor et al., 2013).
- Address the need for more funding and coordinated data bank repositories for state and local governments that are designed for collaborative use by jurisdictions. In the decades-long-term future, climate change poses an increased risk of changes in the extent and volume of sea ice; significant changes in sea levels, water temperatures, ocean acidification, and freshwater chemistry; increased coastal flooding and erosion and impacts on infrastructure; expansion of the range of disease vectors; and geographic spread of tropical diseases.

NEHA supports the following policies and actions for environmental health professionals:

- Adopt a multidisciplinary approach to address action on climate change. The Commission on Health and Climate Change has produced 10 policy recommendations



that can serve as a broad reference base for environmental health professionals to make incremental changes at their associated levels of community (Watts et al., 2015).

- Create a “whole community” engagement approach to engage and empower the entire community, all levels of government, nongovernmental organizations, nonprofits, faith-based organizations, and private sector industries established through the Federal Emergency Management Agency and the U.S. Department of Homeland Security (Federal Emergency Management Agency, 2011).
- Strengthen community resilience to climate-related events. Due to local culture and capacity, there is no single solution to climate change adaptation, but there are resiliency frameworks, such as the one developed by the U.S. Department of Health and Human Services, that can be used by environmental health professionals (Chandra et al., 2011).
- Collect baseline disease rates and examine exposure-outcome associations to quantify the impacts of climate change on health and determine direct attribution (Marinucci et al., 2014). Climate change hazards might exacerbate existing health disparities over time due to the changing density and demography of populations. Support for surveillance activities will allow better monitoring for change over time. U.S. EPA (2023b) has developed more than 50 climate change indicators that can help environmental health professionals to better examine and assess these risks in their own communities.
- Reduce barriers, share best practices, and evaluate metrics through stakeholder engagement strategies similar to those activities proposed by Bierbaum et al. (2013).
- Work with the Climate and Health Program within the Centers for Disease Control and Prevention to assist health departments in developing states and cities that are climate ready. The five-step process framework from CDC—Building Resilience Against Climate Effects (BRACE)—anticipates impacts, assesses health vulnerabilities, and creates adaptive capacity to reduce exposures and disease (Managan et al., 2014).

## Analysis

In 1997, NEHA adopted a climate change position statement that acknowledged the gravity of climate change, as well as the need for legislation and research, concerted action and cooperation, and the deployment of environmental and public health professionals to be resources (Radtke et al., 1997). Since then, additional evidence of climate change has documented the seriousness of regular, worldwide climate change impacts. This policy statement continues to address the fundamental objectives of NEHA.

This policy statement is updated and portrays current information on the status of the climate change crisis with particular emphasis on the implications for environmental and public health. It is intended to be used as a basis for environmental health professionals and their colleagues to initiate discussions within their communities regarding the potential impacts and vulnerabilities of climate change and develop solutions to issues and opportunities. Environmental health professionals are vital partners in developing climate change mitigation



and adaptation measures.

NEHA recognizes climate change as a worldwide environmental health crisis caused in part by human influences. Climate change has serious health and safety impacts on individuals and communities. While initially referred to as global warming, climate change is a more recent term that identifies significant changes in climate trends and measures lasting for an extended period of time, such as changes in temperature, precipitation, or wind patterns (U.S. EPA, 2023c). Greenhouse gases (i.e., CO<sub>2</sub> from burning coal, oil, and natural gas; nitrous oxide; methane) in the atmosphere absorb solar radiation and emit it back to the Earth's surface, which plays a significant role in triggering the climate changes observed in recent decades (U.S. EPA, 2023d). Therefore, energy policy, including the electric utility generation mix, has been at the leading edge of public policy. Progress has been slow, however, similar to the evolution of electric airplanes and cars becoming a dominant force in transportation. These changes can take decades, even though the market and our knowledge are always dynamic and in real time.

## Justification

Weather-related disasters occur throughout the U.S. and abroad each year. Based on the latest data in 2022, extreme events are growing in intensity and cost, fueled in part by the Earth's changing climate. The sum of leading research across the globe continues to confirm that human activities contribute to increasing levels of CO<sub>2</sub> in the atmosphere. Shifting weather patterns are impacting food production, rising sea levels, and increased rainfall events, which increase the risk of catastrophic flooding, wildfires, droughts, intensified storm events, and other related consequences. These climatic fluctuations are also leading to significant disparities within the U.S. and internationally.

According to the World Health Organization, climate change adversely affects human health. One example is that federal healthcare expenditures are increasing due to climate-related impacts (U.S. Government Accountability Office, 2015). Health effects include increased respiratory and cardiovascular disease, as well as injuries and premature death (CDC, 2022).

The U.S. average temperature has increased by 1.3–1.9 °F since 1895 with most of the increase (not geographically uniform) happening since 1970 (USGCRP, 2016). The percentage of people diagnosed with asthma has increased in the U.S. from 7.3% in 2001 to 8.4% in 2010 (CDC, 2022). In the U.S., an average of 702 heat-related deaths and 67,512 emergency department visits occur annually due to heat (CDC, 2023).

The benefits far outweigh the economic consequences of delaying the implementation of climate change mitigation and adaptation policies. It will be costly either way, but the costs of delayed action are more costly as higher temperatures and higher CO<sub>2</sub> concentrations continue. Policies now can avoid more costly fixes in future years (Furman & Podesta, 2014).

Addressing climate change can be an overwhelming and daunting task, but when all individuals in a community engage, prepare, and collaborate on effective climate change strategies, partnerships and solutions arise that can lead the way in the design of solutions. Evaluating



baseline opinions, values, core beliefs, and identities of a community's diverse population can allow environmental health professionals to better understand how and where behavior change can produce maximum positive results. Promoting long-term planning for climate change is important. Communities must create and be examples of how to live more efficient and sustainable lifestyles, such as using mass transportation, reducing waste, and conserving energy and water. Environmental health professionals can lead the way.

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