



Integrating Environmental Justice and Climate and Health

Examples for Environmental Public Health Programs



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Incorporating Environmental Justice Into Core Programming

To ensure the health and safety of all communities, environmental public health organizations need to incorporate diversity, equity, inclusions, access, and justice into their internal and external operations (Environmental Health & Equity Collaborative, 2023) . STLT health departments can begin to address health equity and environmental justice broadly by formally acknowledging structural racism and the role of public health in addressing its impact. Environmental public health programs should access culturally and linguistically appropriate approaches to address social determinants of health, partner with social justice organizations and communities impacted by environmental injustice, and use



awareness about how climate change disproportionately impacts the health of communities and groups, and incorporates the CDC Building Resilience Against Climate Effects (BRACE) framework.





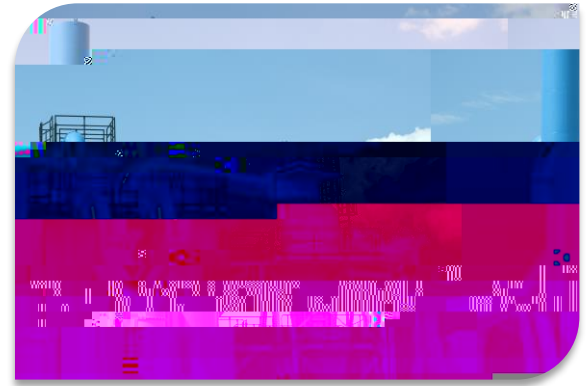
Emergency Preparedness and Response



Hazardous Materials and Waste Management

Extreme weather events can damage hazardous waste storage sites and shut down refineries and chemical manufacturing facilities that can lead to community exposures to hazardous materials and toxic emissions (Rudolph et al., 2018).

Extreme weather events can damage solid waste infrastructure and disrupt waste transportation (Rudolph et al., 2018).



Low-income people and some people of color are at higher risk of adverse health impacts because hazardous waste facilities are disproportionately placed in their communities (Mohai & Saha, 2015).

Children and pregnant individuals are more susceptible to adverse health outcomes when exposed to hazardous waste or improper waste management (Shrader-Frechette & Biondo, 2020).

Waste Management

Assessment and Policy	Cross-Sectoral Engagement	Education and Outreach
Assess the extreme weather event impacts on local waste management and landfill sites and associated potential public health risks that might occur if these facilities are compromised. Follow up through planning interventions for vulnerable communities (Rudolph et al., 2018).	Collaborate with local agencies and community organizations to support and promote reuse and recycling programs to reduce waste streams and to assess if existing programs can be scaled to handle disaster-related wastes (U.S. EPA, 2022f).	Prepare culturally and linguistically appropriate messages about exposure to waste contamination in advance of extreme weather events and post-disaster.
Develop strategies to expedite the removal of disaster-related waste during extreme weather events and disasters (U.S. EPA, 2022f).	Maintain key waste management storage infrastructure features through multidisciplinary partnerships with civil engineers or urban planners (NEHA, 2021b).	
Integrate climate impacts into the siting and approval of solid waste facilities (Rudolph et al., 2018).		





Support improvement of existing water systems to ensure that safe drinking and recreational water is accessible for the whole community (Rudolph et al., 2018).

Collaborate with local governmental agencies (e.g., planning) to design and develop healthy community design features to reduce negative effects on community health factors like municipal drainage systems, dams, and levees



Vector Control

Climate Change Impact

Changes to local weather patterns and ecosystems due to climate change have increased vectors and the risk of vectorborne disease, including Lyme disease, West Nile virus, and Zika virus in communities (Caminade et al., 2019).

Low-income communities are at higher risk for vectorborne diseases due to poor environmental and social conditions and the lack of access to preventative health and treatment services (Nigusie et al., 2021).

Assessment and Policy	Cross-Sectoral Engagement	Education and Outreach
Assess and investigate current community health needs by identifying vector trends and vulnerabilities across jurisdictions. For example, trace and monitor prevalent vectors and assess emerging threats (NEHA, 2021 d). Follow up through planning interventions for vulnerable communities.	Collaborate with other local agencies (e.g., communicable disease, vector control, preparedness) to expand surveillance programs and create plans for rapid notification and case management protocols for novel vectorborne diseases. (Rudolph et al., 2018).	Develop a culturally and linguistically appropriate alert system of high-risk locations and seasons for vector exposure, parks, lakes, rivers, playgrounds, and other natural areas. Communication can be done through signage, social media updates, and blocking off unsafe communal areas (NEHA, 2021 d).
Enhance surveillance and response during and after extreme weather events.	Collaborate with other local agencies (e.g., housing, zoning) to add requirements and protocols for structures and businesses that would reduce vectorborne disease risk (e.g., require screens on windows) (Rudolph et al., 2018).	Engage community members to help identify local sources of vector habitats (e.g., reporting dead birds and nuisance mosq73.Tm Tf 1 1 414.9ance)



local legislation to prevent



Resources

The following resources can support your effort to incorporate environmental justice and equity into your environmental health programs and services.

Air Quality—Emergency Preparedness and Response to Climate Change: The Role of Environmental Health Professional: An overview of the role of environmental public health professionals in emergency preparedness and response to poor air quality exacerbated by climate change. It also provides actions environmental public health professionals can take to address these issues while considering vulnerable populations.

<https://2022.neha.org/sites/default/files/Air%20Quality.pdf>

Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts: Information on how vulnerable populations defined by income, education, race, ethnicity, and age might



professionals in emergency preparedness and response to vectorborne illness exacerbated by climate change. It also provides actions environmental public health professionals can take to address these issues while considering vulnerable populations.

<https://2022.neha.org/sites/default/files/Vectors.pdf>



References

- AghaKouchak, A., F. Chiang, L.S. Huning, C.A. Love, Mallakpour, O. Mazdidasni, H. Moftakhari, S.M. Papalexiou, E. Ragno, and M. Sadegh, 2020: Climate extremes and compound hazards in a warming world. *Journal of Hydrology*, 48, no. 1, 519-548, doi:10.1146/annurev-earth-071719-055228.
- Birkmann, J., Liwenga, E., Pandey, R., Boyd, E., Djalante, R., Gemenne, F., Leal Filho, W., Pinho, P.F., Stringer, L., & Wrathall, D. (2022). Poverty, livelihoods and sustainable development. In H. -O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Lösche, V. Möller, A. Okem, & B. Rama (Eds.), *Global Warming of 1.5°C: An IPCC Special Report on the Impacts, Adaptation, and Resilience in a World in the Process of Warming* (pp. 1171–1274). Cambridge University Press.
https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter08.pdf
- Block, M.L., & Calderón-Garcidueñas, L. (2009). Air pollution: Mechanisms of neuroinflammation and CNS disease. *Journal of Neuroinflammation*, 9, 505–516. <https://doi.org/10.1016/j.tins.2009.05.009>
- Boulder County Public Health . (2016). *Disaster Preparedness Guide for Restaurants*.
<https://assets.bouldercounty.gov/wp-content/uploads/2017/03/disaster-preparedness-guide-restaurant.pdf>
- Caminade, C., McIntyre, K.M., & Jones, A.E. (2019). Impact of recent and future climate change on vector borne diseases. *Journal of Great Lakes Research*, 45(1), 157–173.
<https://doi.org/10.1111/nyas.13950>
- Center for American Progress (2020). The Nature Gap. <https://www.americanprogress.org/article/the-nature-gap/>
- Centers for Disease Control and Prevention. (2021). *Food Safety and Inspection Service*. <https://www.cdc.gov/foodnet/about.html>
- Centers for Disease Control and Prevention. (2022a). *Global Health Equity*.
<https://www.cdc.gov/globalhealth/equity/pdf/GlobalHealthEquity.pdf>
- Centers for Disease Control and Prevention. (2022 b). *Near-Point Source Exposures*.
<https://www.cdc.gov/nceh/ehs/nears/index.htm>
- Centers for Disease Control and Prevention. (2022 c). *Climate and Health*.
<https://www.cdc.gov/climateandhealth/effects/default.htm>
- Centers for Disease Control and Prevention. (2022 d). *West Nile Virus*.
<https://www.cdc.gov/mosquitoes/guidelines/west-nile/prevention-control/community-engagement.html>
- City of Tacoma. (2020). *Climate Action Plan*.
https://www.cityoftacoma.org/government/city_departments/environmentalservices/office_of_environmental_policy_and_sustainability/climate_action/2030_climate_action_plan/climate_justice
- Conference for Food Protection. (2014). *Emergency Action Plan for Retail Food* (2nd ed.).
<http://www.foodprotect.org/media/guide/Emergency%20Action%20Plan%20for%20Retail%20food%20Est.pdf>



Conference for Food Protection. (2023).

<http://www.foodprotect.org/guides -documents/comprehensive-guidance-for-food-recovery->



- T.K.Maycock, & B.C. Steward (Eds.),
 (pp. 512–538). U.S. Global Change Research Program.
<https://doi.org/10.7930/NCA4.2018.CH13>
- Po, L.G., Bourquin, L.D., Occeña, L.G., & Po, E.C. (2011, June 1). Food safety education for ethnic audiences.
<https://www.food-safety.com/articles/3833-food-safety-education-for-ethnic-audiences>
- Pullen Fedinick, K., Taylor, S., & Roberts, M. (2019). (R: 19-09-A) Natural Resources Defense Council. <https://www.nrdc.org/sites/default/files/watered-down-justice-report.pdf>
- Royal College of Paediatrics and Child Health. (2020).
https://www.rcpch.ac.uk/sites/default/files/2020-01/the-inside-story-report_january-2020.pdf
- Rudolph, L., Harrison, C., Buckley, L., & North, S.(2018).
 Public Health Institute and American Public Health Association.
https://climatehealthconnect.org/wp-content/uploads/2018/10/APHA_ClimateGuide18_pp10web_FINAL.pdf
- Shrader-Frechette, K., & Biondo, A.M. (2020). Protecting children from toxic waste : Data-usability evaluation can deter flawed cleanup . , (2),
 Article 424. <https://doi.org/10.3390/ijerph17020424>
- U.S. Environmental Protection Agency. (2021).
<https://www.epa.gov/climate-indicators/ecosystems>
- U.S. Environmental Protection Agency. (2022 a).
<https://www.epa.gov/wildfire-smoke-course/health-effects-attributed-wildfire-smoke>
- U.S. Environmental Protection Agency. (2022 b).
<https://www.epa.gov/climateimpacts/climate-change-and-health-socially-vulnerable-people>
- U.S. Environmental Protection Agency. (2022 c).
<https://www.epa.gov/indoor-air-quality-iaq/indoor-air-quality-and-climate-change>
- U.S. Environmental Protection Agency. (2022 d). <https://www.epa.gov/green-infrastructure/benefits-green-infrastructure>
- U.S. Environmental Protection Agency. (2022 e).
<https://www.epa.gov/homeland-security-waste/waste-management-benefits->



