



Mitigating the Impact of Climate Change and Securing Environmental Justice through Safety and Health Training

NIEHS Worker Training Program

Protecting Workers from Climate Change Hazards

The National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP) proactively trains underserved workers to identify, prepare for, and avoid climate-related health and safety hazards. Natural disasters such as severe weather, droughts, flooding, and wildfires are consequences of the longer-term climate change crisis. Overall, climate change impacts human health and can intensify existing vulnerabilities that affect people's daily lives, such as increasing the risk of asthma attacks, heat exhaustion, and mosquito and tick-borne diseases.¹

The climate change crisis requires an informed and educated workforce that is trained to identify health threats and work safely in an increasingly complex environment. Occupational sectors predicted to bear a disproportionate burden of these impacts include agriculture, construction, transportation, food service,

outdoor services, and health care. For example, agriculture workers experience heat-related deaths at 35 times the rate of workers in other occupations.²

Executive Order 14008, of January 27, 2021, pledges the U.S. will move quickly to build resilience against the impacts of climate change that will continue to intensify. The order creates a government-wide Justice40 Initiative with the goal of delivering 40% of the overall benefits of relevant federal investments to disadvantaged communities.

WTP addresses environmental and climate justice and prepares workers for climate change impacts through a variety of activities supporting the Justice40 initiative. The activities identify worker- and occupation-specific gaps and vulnerabilities and advance worker climate justice. The program also develops tailored training curricula for climate-related hazards such as hurricanes, floods, and wildfires.

² U.S. Global Change Research Program

¹ U.S. Environmental Protection Agency

Advancing Environmental Justice through Job Training

The Environmental Career Worker Training Program (ECWTP) advances environmental justice by increasing opportunities for individuals from disadvantaged and underserved communities to obtain careers in environmental remediation, construction, and emergency response. Disadvantaged communities include those that are traditionally burdened by economic distress (unemployed or underemployed), health disparities, or hazardous environmental conditions.

Since 1995, ECWTP has equipped individuals with pre-employment, health and safety, and life skills training needed to attain well-paying jobs and protect themselves and their communities from exposure to hazardous chemicals. Upon program completion, individuals go on to obtain careers in environmental remediation and restoration, construction, hazardous waste removal (e.g., lead, mold, asbestos),



Grantee Spotlight: OAI, Inc. is a community-based not-for-profit organization that provides worker safety and health training and related community service programs. Prior to joining the OAI ECWTP training, C. Myers reported her insecurity about returning to the classroom as an adult and balancing training while being a single mother.

Despite her doubts, Myers ended up earning the overall highest test scores in her training class. She expressed gratitude for her peers and the OAI staff for pushing and believing in her. She gained a newfound sense of confidence and drive during the program and obtained employment in the solar industry prior to graduation. She began her new career with Re-Think Solar and within 12 weeks, her wages increased from minimum wage to \$18 per hour. Myers is one of a few women working in the solar industry and can be found proudly wearing her pink hard hat on solar worksites. Photo of C. Myers (photo courtesy of OAI)

Disaster and Public Health Emergency Resources

Available WTP resources for workers on the National Clearinghouse website include:

- A disaster preparedness mobile app that puts a full suite of training courses at the fingertips of workers exposed to hazards.
- An online catalog of hazardous waste and emergency response training curricula produced by WTP awardees.
- Awareness-level training tools and pocket booklets that address a variety of disasters and public health emergencies (e.g., chemical incidents, earthquakes, hurricanes, infectious diseases, wildfires).
- Links to federal, state, and other disaster-related resources.
- Reports, guidance documents, and research articles on disaster-related topics.

and natural disaster and emergency response. Some even move into **green careers** (e.g., solar and wind energy), which are critical for building new infrastructure and a clean energy economy to advance vulnerable communities' resilience to climate change impacts and natural disasters.

An **economic analysis** of the program showed an annual federal investment of \$3.5 million in ECWTP generates a \$100 million return.

NIEHS WTP Climate Change Vulnerability Assessment

In 2015, WTP's National Clearinghouse for Worker Safety and Health Training (National Clearinghouse) published the Climate Change Vulnerability Assessment, a **report** assessing how climate change will impact worker health and how to prepare for these impacts.

To develop this report, WTP and the National Clearinghouse assessed climate change vulnerabilities that may affect WTP, its grantees, and partner worker sectors by gathering input from stakeholders and federal agencies. A draft of the report was reviewed and discussed during a Climate Change and Worker Health workshop.

The report concluded that the consequences of climate change are already having severe impacts on workers and identified training priorities to prepare workers for present and emerging challenges related to climate change impacts. These training priorities include better understanding and recognition of:

- Extreme temperature exposure,
- The relationship between increased temperature and air quality,
- Health effects of ultraviolet light,
- Effects of climate change on stress, and
- Disease carrying vectors.

Preparing Workers to Respond to Natural Disasters

Since 1987, WTP has supported the training of more than 4 million emergency responders and hazardous waste workers across the country in response to natural disasters.

WTP's **disaster preparedness and response training** has played a critical role in recovery from a variety of natural disasters, human-made disasters, and public health emergencies that are occurring more frequently due to climate change.

The WTP **network** has thousands of trainers



This photo from Santa Rosa gives an idea of how hard it can be for cleanup workers to know what they will encounter on any particular site. Photo courtesy of Western Region Universities Consortium.



across the country who provide safety and health training to workers involved in disaster and emergency response. WTP-trained workers have been called in to respond to many of the worst natural and manmade disasters in the U.S., including:

- World Trade Centers
- Hurricanes Katrina, Sandy, Harvey, Irma, Maria, and Florence
- Deepwater Horizon Gulf Oil Spill
- Ebola virus disease

WTP-funded trainers provide site-specific awareness-level training that targets cleanup efforts for affected populations and communities. Through Train-the-Trainer courses, WTP builds local capacity for underserved workers to provide disaster training in the future, bolstering resilience in communities experiencing environmental injustices.

Strengthening Hurricane Response

Multiple WTP grantees have supported and led critical training initiatives for natural disaster preparedness, response, and recovery. WTP lost no time in the Hurricane Harvey and Florence responses, providing disaster cleanup and response training within the first two weeks after touchdown.

In response to Hurricane Harvey, the International Chemical Workers Union Council Center (ICWUC) for Worker Health and Safety Education delivered a three-day bilingual Disaster Train-the-Trainer course in Houston, in collaboration with a local worker center, Fe y Justicia. The course trained day laborers, faith groups, volunteer groups, and local residents. Another grantee, the United Steelworkers Tony Mazzocchi Center for Health, Safety, and Environmental Education, deployed bilingual Specialized Emergency Response Trainers who also partnered with Fe y Justicia to deliver Train-the-Trainer courses on mold awareness.

After Hurricane Harvey, the Deep South Center for Environmental Justice conducted mold awareness training in two environmental justice communities: Pleasantville and Fifth Ward, Texas. These are two historically Black neighborhoods where working-class residents live with poor air quality from a range of sources, including congested freeways, scrap metal recycling, and diesel trucks.

The training raised participant awareness on health effects associated with excessive indoor mold growth, appropriate protective equipment to wear when cleaning up disaster related debris, and moisture prevention and control. By making

community members aware of these and how to mitigate them, the training built the community's capacity to respond to environmental threats and hazards.

Strengthening Wildfire and Mudslide Response

Through the [HAZMAT Disaster Preparedness Training Program](#), WTP grantees deliver training to construction workers, day laborers, volunteers, firefighters, and emergency response teams on outdoor worker safety, wildfire smoke and toxic ash hazards, and correct use of protection equipment during [wildfire response and debris cleanup](#).

2020 was the worst wildfire year on record in California. Five of the six largest wildfire events ever recorded in the state occurred in Aug-Sept 2020, devastating communities across the state. Through the Disaster Relief Act of 2019, the Western Region Universities Consortium (WRUC) trained more than 500 workers in California in the 2020 program year in courses held throughout northern and southern parts of the state, including El Dorado, Los Angeles, Orange, and Riverside counties. WRUC's training courses and materials focused on fire prevention and protection and disaster preparedness and response, including Cal/OSHA's emergency regulation to protect workers from wildfire smoke (California Code of Regulations, title 8, [section 5141.1](#)).

University of California, Los Angeles Labor Occupational Safety and Health Program (UCLA-LOSH), as the lead WRUC institution, provided a Train-the-Trainer course in Spanish on wildfire smoke exposure prevention for health promotoras, or community health workers, in Southern California. Course participants in turn provided direct awareness-level training on smoke and cleanup hazards to more than 900 day laborers and domestic workers in California.

Oregon has also recently experienced the most destructive fires in the state's history. The fires burned over 1 million acres and destroyed thousands of homes



Protecting Against Toxic Mold Exposure

After flooding, mold can grow on porous building materials such as drywall, air ducts, and ceiling tiles. If left untreated, mold can spread and release toxins that are harmful to human health.

In response to Hurricane Florence, ICWUC delivered mold remediation training for residents in Robeson County, North Carolina, as mold remediation is necessary before repair and re-entry into building structures.

Early action in mold remediation alleviates the threat of airborne toxins that could lead to respiratory and lung inflammation and damage.

ICWUC Train-the-Trainer participants practiced teaching portions of the mold remediation module.

and businesses. In the aftermath of the fires, members of the International Union of Operating Engineers (IUOE) were called upon to help clean up the destruction and provide hazardous waste training. IUOE taught workers in Gladstone, Oregon, how to properly wear personal protective equipment and handle hazardous waste and debris in a safe manner. Workers regularly encounter fire debris that contain dangerous materials such as:

- Asbestos
- Batteries
- Electronic waste, such as computers and monitors
- Gasoline, propane, and other flammable liquids
- Heavy metals in ash such as arsenic and lead
- Pesticides

IUOE is part of a building trades consortium led by CPWR—the Center for Construction Research and Training.



Since 2014, the NIEHS Worker Training Program has provided more than 5,000 training booklets containing health and safety tips to organizations involved in wildfire response, cleanup, and recovery. An update of the booklet is planned for 2021.

Long-Lasting Benefits to Workers

Overall, WTP delivers comprehensive training to increase the number of disadvantaged and underrepresented workers in areas such as environmental remediation, construction, hazardous materials/waste handling, and emergency response.

WTP programs are geared toward low-income residents of communities affected by disasters or contamination, so graduates can work on local cleanups. Afterward, their certificates and experience may lead to better jobs, advancing the futures of thousands of people from underserved communities nationwide.

FOR MORE INFORMATION

NIEHS Worker Training Program—www.niehs.nih.gov/wtp

NIEHS Environmental Career Worker Training Program and 25th Anniversary—
https://www.niehs.nih.gov/careers/hazmat/training_program_areas/ecwtp/iWindex.cfm
<https://www.tools.niehs.nih.gov/wetp/index.cfm?id=2595>

The National Clearinghouse for Workers Safety and Health Training—<https://tools.niehs.nih.gov/wetp>