

# Sharon D. Beard Industrial Hygienist, WETB, NIEHS

## NIEHS WORKER TRAINING PROGRAM - DEVELOPING EFFECTIVE HEALTH AND SAFETY TRAINING





# WTP: Preparing workers since 1987

Increasing **worker safety and health** across the country

Trained approximately **4 million workers** since 1987

Helps **businesses and municipalities** meet worker training needs; helps keep worksites and communities safer

Increasing the country's capacity for **disaster preparedness and emergency response**

Trained thousands of workers in response 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/Biosafety Response

Providing a **job and life skills training program** to unemployed and underemployed individuals

Reached over **12,000 individuals** in 30 communities across U.S., with **average job placement rate of 70%**

Annual federal investment of **\$3.5M** generates a **\$100M return**

# Worker Training Program: Protecting Communities through Hands-on Hazardous Material Training

- Safe workers, safe communities
  - Workers are certified and skilled to handle hazardous waste and chemical emergency response, e.g., chemicals, asbestos, lead, mold, and radiation
  - Training in every state and U.S. territory
  - Training is responsive to emerging threats and inclusive of diverse populations
- Curricula and resources available in a national Clearinghouse
- Currently 17 grantees for 5-year funding cycle, August 1, 2015 – July 31, 2020



Trainees in personal protective equipment in Sacramento, CA  
(**Grantee:** International Brotherhood of Teamsters)



# WTP: Dynamic, Responsive Health and Safety Training

Core, fundamental topics

Disaster response & recovery

New hazards





## Hazardous Materials Worker Health and Safety Training (U45)

Includes **three** programs: Hazardous Waste Worker Training Program; HazMat Disaster Preparedness Training Program, and the Environmental Career Training Program



## NIEHS/Department of Energy Nuclear Worker Training (UH4)

Focuses on training workers engaged in environmental restoration, waste treatment, and emergency response activities at sites in the U.S. DOE nuclear weapons complex



## SBIR E-learning for HazMat (R43/R44)

Focuses on development of e-learning products that support health and safety training of hazardous materials workers, emergency responders, and skilled support personnel



## Biosafety & Infectious Disease Response Training (UH4)

# WTP Network: National Resource During Emergencies

- **Past Responses:** World Trade Center, Hurricanes Katrina and Rita, Super Storm Sandy, the Gulf Oil Spill, 2016 Louisiana Floods, and Far West Wildfires.
- **Flint, MI Response:** Four grantees implemented lead awareness and safety training for workers preparing to replace pipes and other construction and plumbing needs, workers and volunteers distributing water testing kits, and other exposed workers.
- **Local Emergencies, Local Impact:** A training recipient at Blount Hospital in Marysville, Tennessee, received training through University of Tennessee (UT) (part of the grantee Midwest Consortium) and stated:

*“The training provided through UT greatly enhanced my leadership ability during a **recent train derailment and evacuation**. Our facility decontaminated over 80 patients. No staff members were exposed to the chemical, and we were able to keep the contaminants outside our buildings.”*



## Hazardous Waste Worker Training Program (HWWTP)

- Since 1987, the NIEHS WTP has trained workers in every state and territory – a total of **3.1 million workers**
- Annually 110,000 to 172,000 workers trained since 2010
- In **2017**: 7,382 courses were held for 112,622 workers resulting in 1,057,864 contact hours of training



**17 awardees/consortia**  
supported by HWWTP

# Wide Range of Employers Use WTP Training

*For example*

Federal



Large Businesses



State, Local, and Tribal



Small and Midsized Businesses



# TSU/DSCEJ Hurricane Harvey Response Activities

## Mold Remediation and Awareness Training:

- Mold awareness training was conducted at 2 locations in Houston, Texas for residents in target communities.
- A total of 20 residents and leaders were selected for mold awareness – train-the-trainer – work consisting of these modules: (1) Mold Awareness Training; and (2) Introduction to and Use of Moisture Meters.
- A total of four (4) training workshops were held, two in Pleasantville and two in the Fifth Ward.
- A total of twenty (20) moisture meters were purchased and given to two Community-Based Organizations selected for this project; Achieving Community Tasks Successfully (ACT) and Coalition of Community Organizations (CCO).
- Each CBO also received a re-grant of \$10,000 for “mucking and gutting,” sheetrock and sheetrock installation supplies, and construction costs.



# Mold and health classes help Hurricane Florence workers and residents



<https://factor.niehs.nih.gov/2019/4/community-impact/mold-and-health/index.htm>

## Mold and health classes help Hurricane Florence workers, residents

◀ Previous Article   Next Article ▶

*The NIEHS Worker Training Program continues to train and build local expertise for disaster recovery in Robeson County, North Carolina.*

BY KENDA FREEMAN AND DEMIA WRIGHT

In March, NIEHS Worker Training Program (WTP) grantee the [International Chemical Workers Union Council](#) (ICWUC) delivered mold remediation training in Robeson County, North Carolina. The training built on a partnership between ICWUC and the [Robeson County Disaster Recovery Committee](#) (RCDDRC) that was established as part of Hurricane Matthew recovery efforts in 2016.

In September 2018, Hurricane Florence dumped more than two feet of rain on eastern North Carolina. In the record-breaking floods that followed, surging water from the Lumber River destroyed many homes and businesses in Robeson County. Months later, residents still face extensive cleanup, especially of mold.

This home is one of many in Robeson County that were flooded during Hurricane Florence. (Photo courtesy of Demia Wright)



### Disaster recovery training

WTP has a long history of disaster recovery training after hurricanes and floods. The program offers educational and training resources for workers, homeowners, and community members.

- [Training resources on hurricane and flood recovery](#)
- [Training resources for responder and community resilience](#)

WTP also has pocket-sized booklets that include information on mold cleanup and hurricane safety and health.

These booklets are available in English and Spanish, and can be ordered through an [online order form](#) at no cost.

RELATED ARTICLES



# WTP Training Resources

NIH National Institute of Environmental Health Sciences  
Worker Training Program  
November 2014

## Ebola Awareness Orientation

Health and Safety Essentials for Workers



NIH National Institute of Environmental Health Sciences

Mold Clean-up and Treatment Orientation

National Institute of Environmental Health Sciences  
NIEHS Disaster Recovery

## Health and Safety Essentials for Workers, Volunteers, and Homeowners



June 2013  
WORKER EDUCATION & TRAINING PROGRAM

National Institute of Environmental Health Sciences  
Flood Response Orientation

## Safety Awareness for Responders to Floods: Protecting Yourself While Helping Others



WORKER EDUCATION & TRAINING PROGRAM

NIH National Institute of Environmental Health Sciences  
Worker Training Program

## Providing Worker Health and Safety Training to Prepare for and Respond to Disasters



The National Institute of Environmental Health Sciences (NIEHS) Worker Training Program (WTP) has responded to numerous disasters in its 30-year history. It provides support for health and safety training of workers engaged in hazardous waste removal, containment, transportation, or emergency response on an ongoing basis. And it has played key roles in the recovery efforts following such major disasters as Hurricanes Sandy and Katrina.

Perhaps in no other disaster has the need to ensure recovery workers can safely deal with harmful substances been greater than in the aftermath of Hurricanes Harvey and Irma. From cleaning up chemical spills and oil refineries to thousands of homes and commercial buildings, the health risks are substantial.

The program's network of grantees provide just-in-time awareness training targeted to specific types of cleanup efforts and populations. Through Train-the-Trainer courses they build local capacity to provide training to workers and communities. WTP's National Clearinghouse for Worker Safety and Health Training maintains numerous training materials for disasters that can be used immediately.

Specifically, the training technical assistance WTP can provide includes:

- Site-specific health and safety training to worker and community audiences, including instruction related to particular hazards, such as mold, lead, asbestos, and general hurricane and flood hazards
- Instructional staff, curriculum-development experts, and subject-matter experts.
- Safety training targeted to the unique needs of specific populations of workers, reflecting cultural and language needs and tasks performed.
- Training on the proper use of essential Personal Protective Equipment (PPE), or safety gear, including respirator-fit testing.
- Facilitation of training of vulnerable worker populations, such as day laborers and everyday citizens, through community organizations.
- Curricula and instructor resources for workers and responders.

**Training Tools and Resources**

WTP's National Clearinghouse has a wealth of training tools and pocket booklets that can be used in special courses or as guides by on-site frontline workers. Examples of topics covered include:

- Hurricanes
- Floods
- Chemical incidents
- Oil spills
- Mold cleanup
- Debris removal

A disaster preparedness mobile app puts a full suite of training courses at the fingertips of workers exposed to hazards. And the Clearinghouse's *Hurricanes and Floods* website provides access to these resources.

**A Track Record of Responses**

For three decades, WTP has played a critical role in responses following disasters. In the aftermath of Hurricane Sandy, for example, it prepared and trained cleanup workers, homeowners, and volunteers on the hazards they faced working in debris removal, gutting, mucking, and mold remediation. Special mold guidelines and training were developed then. Nearly 1,000 people were trained through WTP awareness in just the first six months of its post-Sandy work.

Following Hurricane Katrina, WTP was designated as the coordinating agency for OSHA's health and safety response plan and set up a field office in Baton Rouge. Its hurricane response training booklet was developed during this period.

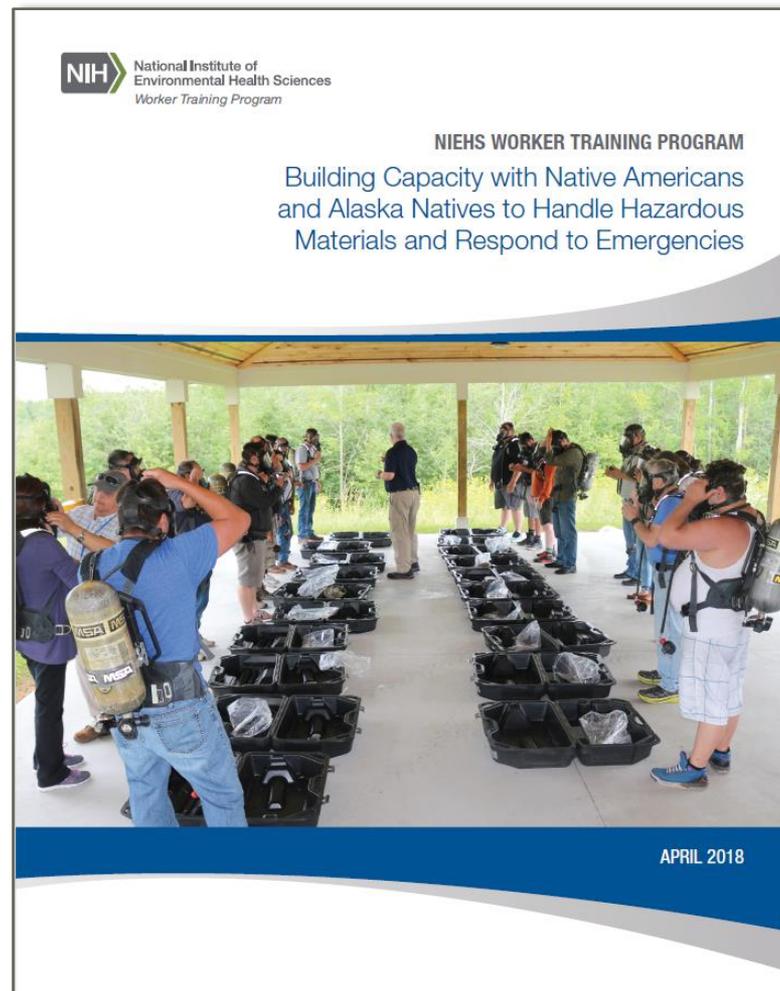
For more information, contact the National Clearinghouse at 202-331-7733 or [wetp@niehs.nih.gov](mailto:wetp@niehs.nih.gov).

# Building Capacity with Native Americans and Alaska Natives

Report published in April 2018 provides an overview of WTP grantee-led training for tribes across the U.S. during program years 2015 – 2017.

Grantees delivering training include:

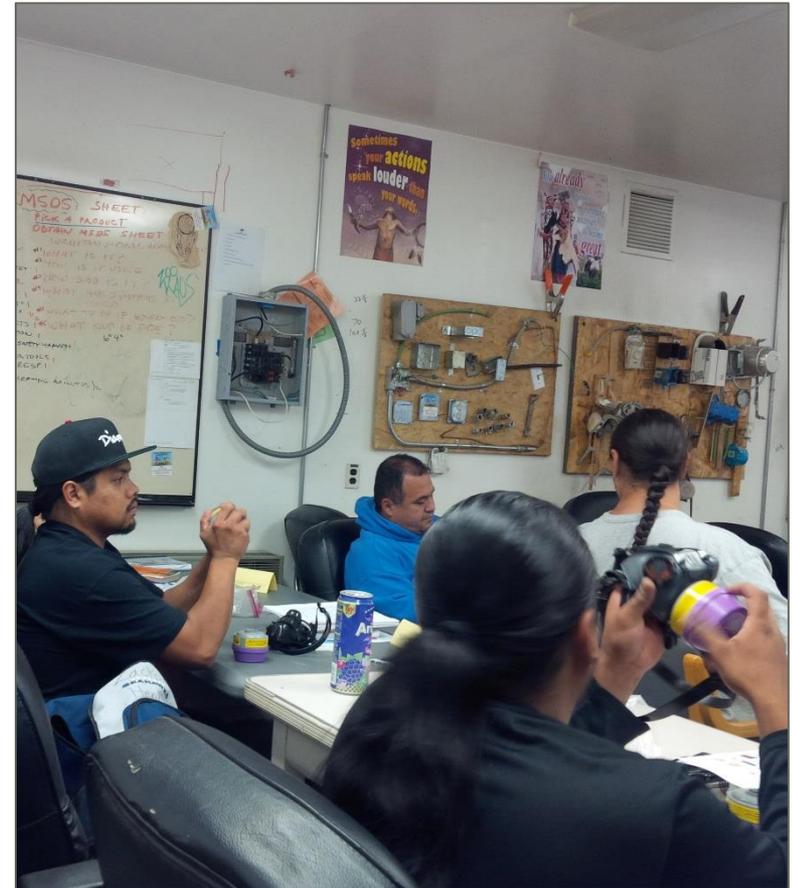
- Alabama Fire College Workplace Safety Training
- International Union of Operating Engineers National Training Fund
- Midwest Consortium
- Steelworkers Charitable and Educational Organization Tony Mazzocchi Center
- Western Region Universities Consortium



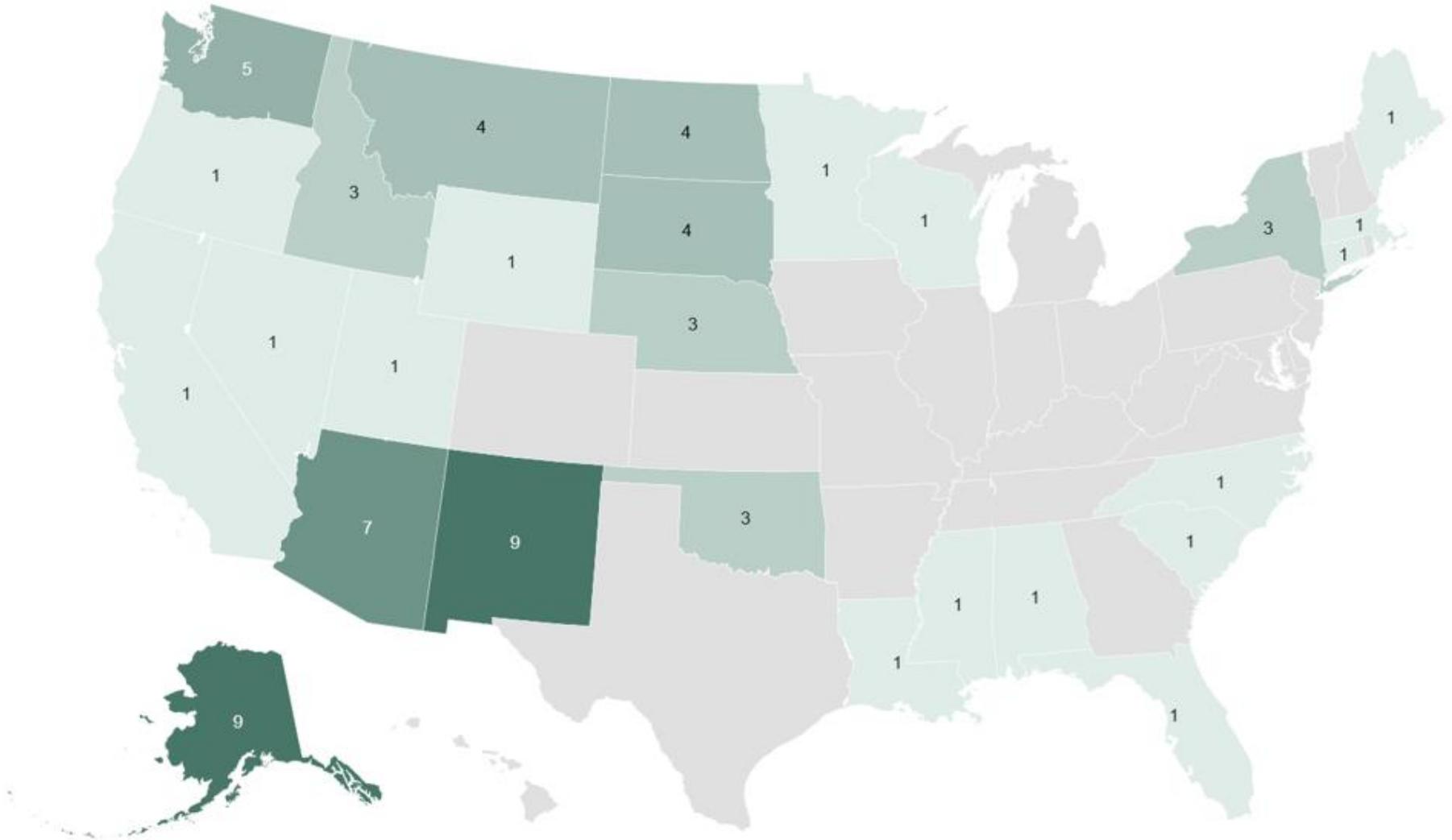
## More Than 20 Types of Courses were Offered to Tribal Workers

### Courses included:

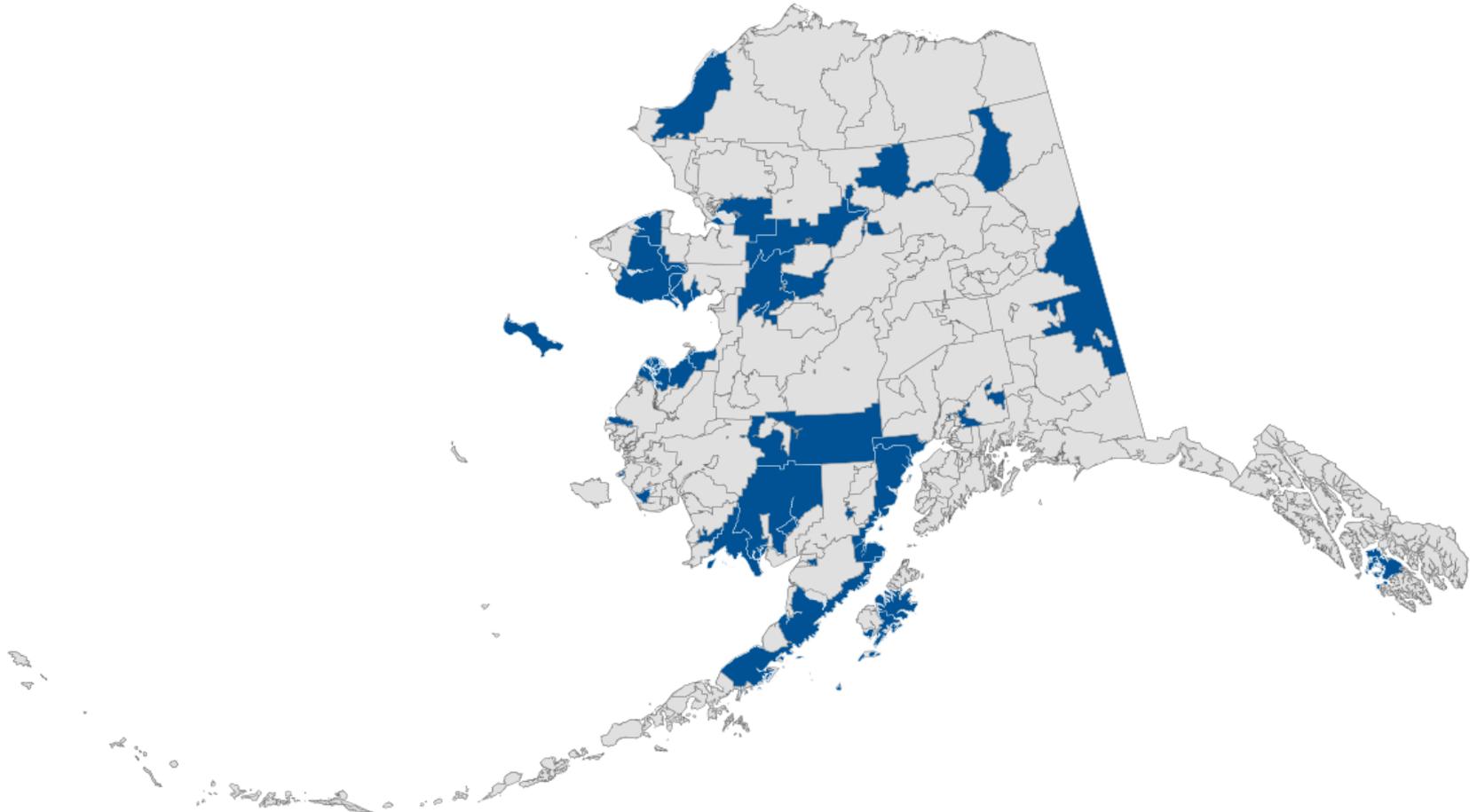
- Basic Superfund Site Worker and Site Worker Refresher
- Clandestine Methamphetamine (Meth) Lab Awareness
- Emergency Response and Preparedness
- General Construction Safety
- Hazard Communication
- Hazardous Materials (HazMat) Transportation
- Hazardous Waste Operations
- HazMat Air Monitoring
- Mass Casualty Incident Triage
- Process Safety Management
- Radiation and Nuclear Awareness
- Training Methods/Trainer Development



## Tribal Nations and Alaska Native Corporations Reached Through NIEHS WTP Training in the U.S. (2015 – 2017 Program Years)



## Zip Codes in Alaska Represented by Alaska Native Trainees of the NIEHS WTP (2015 – 2017 Program Years)



# Report Highlights: Hazardous Waste, Disaster Preparedness, and Job Training Across the Country

Training for	By Grantee
Nationwide, including summaries of work in AL, NM, NY, MS, and MT	Alabama Fire College Workplace Safety Training
Alaska Natives	University of Washington, through Western Region Universities Consortium
Bureau of Indian Affairs and tribes in AZ and NM	Arizona State University, through Western Region Universities Consortium
Three Affiliated Tribes in North Dakota	Three Affiliated Tribes, through Midwest Consortium
Spokane Indian Tribe in Washington	International Union of Operating Engineers National Training Fund, through CPWR
Yakama Nation in Washington	Steelworkers Charitable and Educational Organization Tony Mazzocchi Center

# Environmental Career Worker Training Program





# WTP Creates New Job Opportunities: Environmental Career Worker Training Program (ECWTP)

**Job and life skills training program:** For unemployed and underemployed individuals

**Success:** Since beginning of program (FY95), over 12,000 workers have been trained with an average 70% employment rate. For 2018, average employment increased to 74% with 77% for 2019.

**Economic Impact Analysis:** \$100 million return on \$3.5 million investment.

- Increases probability of employment by about 59%.

**Local Programs:** E.g. Training in East Palo Alto, CA; New Orleans, LA; St. Paul, MN; and Flint, MI (CPWR)

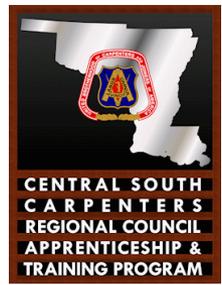
- 2018: Graduated 84 out of 86 trainees: 75 are employed at 87% job placement with average wage of \$19.02.



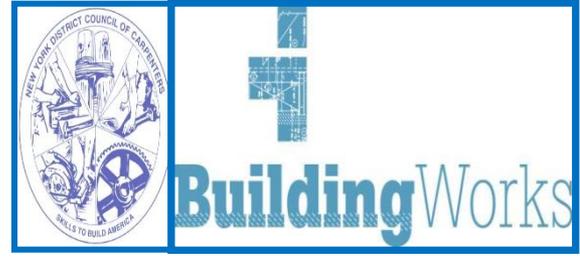
# National, Strong & Effective Consortia



Department of Environmental and Occupational Health Sciences  
 Continuing Education Programs



CENTRAL SOUTH  
 CARPENTERS  
 REGIONAL COUNCIL  
 APPRENTICESHIP &  
 TRAINING PROGRAM



BuildingWorks

UCLA-WRUC




**NIH** National Institute of Environmental Health Sciences  
 Worker Training Program




greendoor  
 initiative



CELEBRATING 45 YEARS  
 OF TRANSFORMING LIVES







- Center for Construction Research and Training
  - New Orleans, LA; St. Paul, MN; East Palo Alto, CA and Flint MI.
- OAI
  - Chicago, IL; Dallas, TX; Kansas City KS/MO.
- University of California, Los Angeles
  - Los Angeles, CA; Seattle, WA; and Portland, OR

- Rutgers School of Public Health-NJ/NY Consortium
  - Newark, NJ and New York City, NY
- TSU/DSCEJ- HBCU Consortium
  - New Orleans, LA; Pensacola, FL; Houston, TX; and Detroit, MI.
- United Steelworkers
  - New York City, NJ



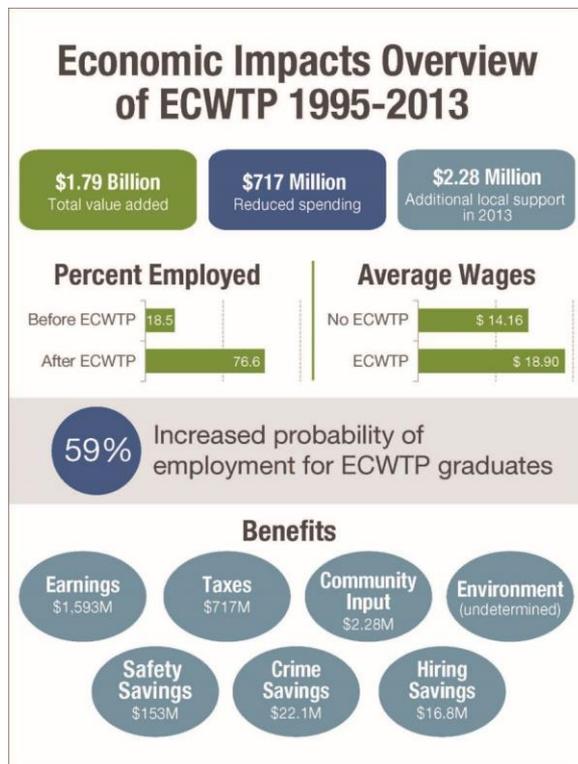
# Overview of Reports and Findings



National Institute of Environmental Health Sciences  
Worker Education and Training Program

MINORITY WORKER TRAINING PROGRAM:  
Guidance on How to Achieve Successes and Best Practices

March 2014



- Benefits
  - Higher earnings
  - Fewer workplace injuries
  - Lower hiring costs
  - Reduced crime related costs
  - Improved government fiscal budget
  - Environmental benefits
  - In-kind donations



# NIEHS Environmental Career Worker Training Program

NIEHS Environmental Career Worker Training Program Update For 09/01/1996-10/31/2019 Draft Final			
Year	Students Trained	Placed in Jobs	Percentage of Students Placed in Jobs
1996-2008	7566	5115	68%
2009	379	285	75%
2010	531	372	70%
2011	396	291	73%
2012	366	274	75%
2013	367	279	76%
2014	348	269	77%
2015	397	323	81%
2016	440	334	76%
2017	562	392	70%
2018	569	423	74%
<b>2019</b>	<b>644</b>	<b>497</b>	<b>77%</b>
<b>Total</b>	<b>12,565</b>	<b>8,854</b>	<b>70%</b>

2020





## WORKER PROTECTION FROM WILDFIRE SMOKE

Emergency Cal/OSHA Standard 2019

California's recent wildfire seasons have confirmed fears of worsening fire conditions that have become a year-round threat. Increasingly, workers in the path of wildfire smoke have been the focus of concern given the health impacts of exposure. In December 2018, worker advocates in the state urged the California Division of Occupational Safety and Health (Cal/OSHA) to take measures to address this growing worker health threat.

The Cal/OSHA Standards Board voted to adopt an emergency temporary standard to protect workers from exposure to wildfire smoke. The temporary standard went into effect on July 29, 2019 and will remain effective for up to one year. Cal/OSHA is now developing a permanent standard.



Photo: CAUSE (Central Coast Alliance United for a Sustainable Economy) @CAUSE05

### HOW DOES WILDFIRE SMOKE AFFECT HEALTH?

Wildfire smoke includes ash and tiny particles that can travel through the air over long distances. These particles are made up of whatever is being burned – not only plants and vegetation, but also remnants of residential or commercial structures, vehicles, industrial or household chemicals, and other unknown materials. Many of these particles are invisible to the naked eye.

Individuals may experience health symptoms if they breathe in these smoke particles. These symptoms can include:

- Irritation of the eyes, nose, and throat
- Difficulty breathing
- Asthma attacks
- Chest pain
- Persistent cough, phlegm, and wheezing

Particulate matter can also cause more serious longer term health problems, such as reduced lung function, chronic bronchitis, worsening of asthma, heart failure, and early death.

Adults over 65 years of age, children, and individuals with pre-existing health conditions are at higher risk for smoke-related health problems.

### DEFINITIONS:

AQI: Air Quality Index. An index that indicates air pollution and associated health concerns

- Real-time AQI for any location in the U.S is available at: [www.airnow.gov](http://www.airnow.gov)

PM2.5: Particles (or "particulate matter") with a diameter of 2.5 micrometers or less - about 3% the thickness of a strand of human hair. The small size of PM2.5 particles allows them to reach deep into the lungs and even enter the bloodstream.

### WHEN ARE EMPLOYERS REQUIRED TO ACT?

The emergency standard is triggered when the AQI (air quality index) for PM2.5 at the worksite exceeds 150. An AQI above 150 indicates that the air is "unhealthy" to breathe. Employers must monitor air quality using publicly accessible forecasts of AQI for PM2.5 or by directly measuring PM2.5 levels at the worksite.

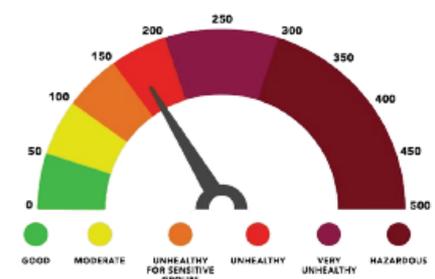


Photo: Cowaymega

### WHO DOES THE EMERGENCY STANDARD APPLY TO?

The emergency standard applies to both outdoor and indoor workers who may be exposed to wildfire smoke for more than one hour per day, even if they are not directly impacted by fires.

This may include:

- Construction Workers
- Agricultural Workers
- Utility Workers
- Landscapers and Gardeners
- Day Laborers and Domestic Workers
- Warehouse Workers
- School Personnel

The emergency standard does not apply to wildland firefighters or workers in enclosed buildings, structures, or vehicles with filtered air systems.

### WHAT PROTECTIONS DOES THE EMERGENCY STANDARD PROVIDE?

When the AQI for PM2.5 exceeds 150, employers are required to:

- Communicate with workers about current AQI PM2.5 at the worksite and the potential symptoms of wildfire smoke exposure
- Provide training on the health effects of wildfire smoke, protections available to them, and procedures for obtaining medical treatment
- Reduce workers' exposure to wildfire smoke by providing enclosed building or vehicles with filtered air, relocating work where the AQI or PM2.5 is lower than 151, changing work schedules, lessening work intensity, and/or accommodating longer rest breaks
- Provide respirators (NIOSH-approved N95 filtering face piece respirators) and encourage their voluntary use
- As currently written, the emergency standard requires respirator use along with mandatory fit testing for workers if the AQI for PM2.5 exceeds 500

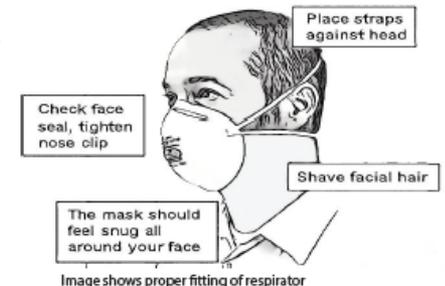


Photo: Cal/OSHA

### NEXT STEPS

- Cal/OSHA is working to develop a permanent standard to protect outdoor workers from wildfire smoke.

To download this and other LOSH factsheets, visit [losh.ucla.edu](http://losh.ucla.edu)

Produced by the UCLA Labor Occupational Safety and Health Program (LOSH) under a grant from the National Institute for Environmental Health Sciences (NIEHS) Worker Training Program (Grant no. 3U49ES006173), October 2019.





## Bilingual Wildfire Training- October 23, 2019 – Pasadena Job Center



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Photo: Cowaymega

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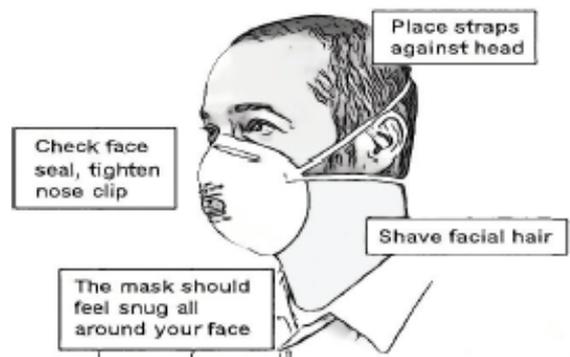


Image shows proper fitting of respirator

Photo: Cal/OSHA

## DOE/NIEHS Worker Training Program:

- NATIONAL DEFENSE AUTHORIZATION ACT: Section 3131 created the Worker Training Program in 1993 for NIEHS and DOE as a partnership.
- Interagency Agreement with DOE to develop model worker safety and health training programs at DOE facilities.
- Support worker safety training for the purpose of DOE site clean up activities, waste management and hazardous materials response.

DOE- IAFF HAMMER Training



Tank Cleaning Operation



## What Is the Goal of the Program?

- To provide safety and health training that is both site specific and trade-specific in view of the fact that DOE sites are complicated, featuring a combination of nuclear, industrial, demolition, and construction activities
- To ensure that DOE site workers are prepared to work safely in hazardous environments
- To provide workers with sufficient knowledge to identify hazardous situations and to take appropriate actions to protect themselves, fellow workers, and the environment.





- MANY RESOURCES!**
- NIEHS Minimum Criteria (Appendix E of 1910.120)
  - Contact information for non-profit training providers
  - Curricula Catalog for hundreds of courses
  - Weekly E-Newsbrief
  - Calendar of Important Conferences and Events
  - Special Reports and Additional Resources
  - Links to OSHA and those other agencies

**Environmental Justice and Hazardous Waste Worker Training Programs**

15 Years of Investment in Environmental Justice

**2010**

Prepared by: MDB, Inc. Doing Well by Doing Good

Prepared for: NIEHS National Institute of Environmental Health Sciences

**WORKSHOP REPORT**

**Worker Education and Training Program**

Minimum Health and Safety Training Criteria:

**GUIDANCE FOR**

**Hazardous Waste Operations and Emergency Response (HAZWOPER) HAZWOPER-Supporting and All-Hazards Disaster Prevention, Preparedness, & Response**

Based upon NIEHS/WETP National Technical Workshop — March 30-April 1, 2005

National Clearinghouse for Worker Safety and Health Training  
Operated by MCB, Inc. • Washington, DC • 202-331-0000 • www.wetp.org

January 2006

- NIEHS Worker Training Program
  - <http://www.niehs.nih.gov/careers/hazmat/index.cfm>
- NIEHS NATIONAL CLEARINGHOUSE
  - <http://tools.niehs.nih.gov/wetp/>
- **Hurricanes, Floods and Mold Resources**
  - <https://tools.niehs.nih.gov/wetp/index.cfm?id=2472>
  - Mold Booklets are available in English and Spanish, and can be ordered through an [online order form](https://tools.niehs.nih.gov/wetp/booklets/index.cfm) at no cost - <https://tools.niehs.nih.gov/wetp/booklets/index.cfm>
  - [https://tools.niehs.nih.gov/wetp/public/hasl\\_get\\_blob.cfm?ID=9795](https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=9795)
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# Thank you

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<http://www.niehs.nih.gov/careers/hazmat/index.cfm>