

**Disaster Preparedness Training
Lessons Learned and Preparing for
Climate Change**

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NIEHS Disaster Activity

Goal: Providing health & safety support and training to prevent injury, illness, and fatalities during cleanup and recovery.

- 9/11 World Trade Center
- Hurricane Katrina
- BP Oil Spill
- Super Storm Sandy

9/11



- * Relatively small area
- * Intentional act
- * Primary exposure in days/weeks
- * Work went on for months
- * Primary work within a defined perimeter

Katrina



- * Large area
- * Category 4 Hurricane
- * Failed levees
- * Flooded city for 2 weeks
- * Evacuated urban area
- * Failure for weeks

BP Oil Spill



- * Large area
- * One complex hazardous substance
- * Federal and BP response structures

Sandy



- * Large area
- * Tidal Surge
- * History of 9/11- hazard awareness, volunteers
- * Super Storm
- * Intact large urban area

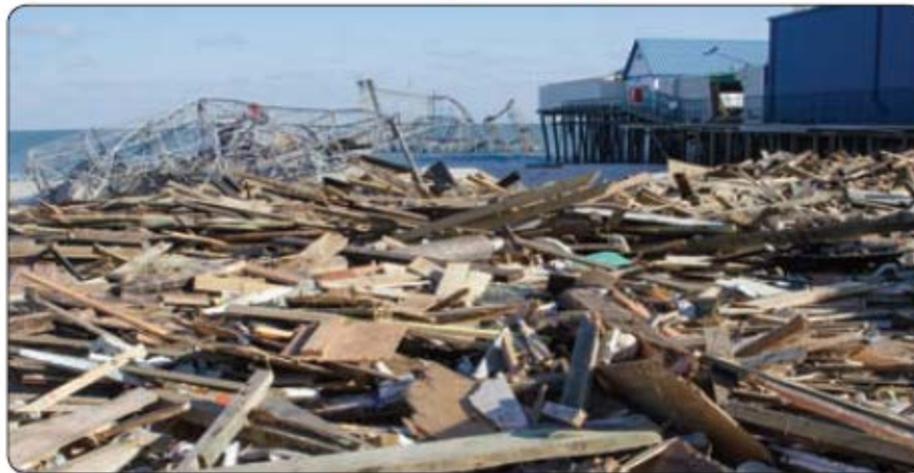
NIEHS Hurricane Booklet



National Institute of Environmental Health Sciences **Hurricane Response Orientation**

Safety Awareness for Responders to Hurricanes:

Protecting Yourself While Helping Others



FEMA/Liz Roll



Peligro: Quemaduras solares

- Evite sobreexponer la piel y los ojos a la luz solar y al viento.
- Use loción antisolar y protección labial.
- Use gafas protectoras.
- Limite la exposición.



Las quemaduras solares no le permiten a la persona actuar con prontitud y aumentan la probabilidad de cáncer de la piel.



National Institute of Environmental Health Sciences
Hurricane Response Initiative

Hướng Dẫn An Toàn Cho Công Nhân Thu Dọn Sau CƠn Bão

Bảo Vệ Chính Mình khi Giúp Đỡ Người Khác



NIH/NIHES-10-001

WORKER EDUCATION & TRAINING PROGRAM



Hazard: Cold Stress *(continued)*

Workers Are at Increased Risk When...

- They have predisposing health conditions such as cardiovascular disease, diabetes, and hypertension.
- They take certain medication (check with your doctor, nurse, or pharmacy and ask if any medicines you are taking affect you while working in cold environments).
- They are in poor physical condition, have a poor diet, or are older.

Training

- 1) Very limited access to workers and volunteers**
- 2) Explore any requests/opportunities for training**
- 3) Assess hazards**
- 4) Design curriculum: implement training**
- 5) Build ties to any active organizations**

Dover Beach, Tom's River, NJ March 2013



Extensive structural damage over wide area

Training

Opportunities for training

NYCHA, AmeriCorps

Muck and Gut operations

AmeriCorps, NY Cares, new organizations

Assess hazards

Mold, Carbon Monoxide, Asbestos, Sewage

Lead

Demolition/Construction

Overall Assessment

Super Storm

Flooding largely high tide/storm related

Significant overload of regional capacity

Aid becomes political question

Diverse workforce for Muck and Gut

**Homeowners, volunteers, non profit,
government**

Volunteers

Large intact urban area with history of 9/11



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

Driving Hazard Awareness



Developed by HMTRI through cooperative agreement
2 U45 ES006177-14 with NIEHS
under the Worker Safety and Health Training Support Annex of the National Response Plan

Work Zone Safety



Developed by HMTRI through cooperative agreement
2 U45 ES006177-14 with NIEHS

WORKER EDUCATION & TRAINING PROGRAM

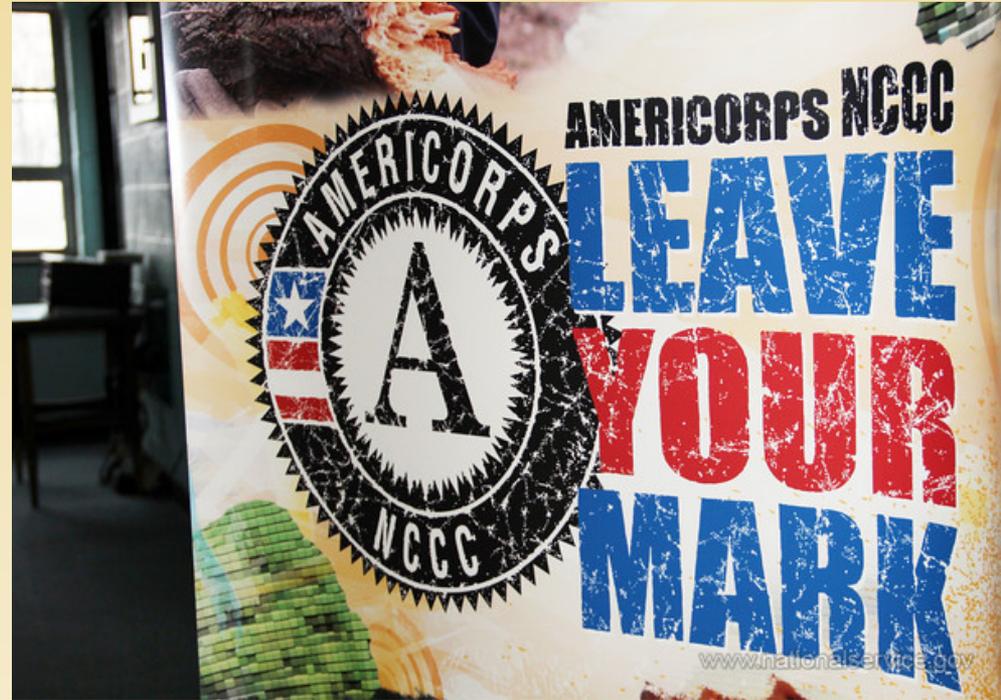


March 2013

Gerritsen Beach, Brooklyn

AmeriCorps success story

- Adopted half face respirators with a P-100 cartridges
- 2 to 3 hour H&S training by NIEHS grantees



Work Practices for AmeriCorps workers

General awareness of many hazards

Inconsistent for Confined spaces, asbestos

Safety briefings

Half face respirators - no disposable masks

**No medical evaluation, fit testing,
filter change out questions**



National Institute of
Environmental Health Sciences

Muck and Gut Curriculum

**NYCOSH, NJ WEC
Factsheets
OSHA fatalities
Confined Spaces**

**Work and hazard
photo slides**

Hurricane Sandy Recovery

Protecting Yourself While Mucking and Gutting



Two Small Group activities

Icebreaker - Awareness of Sandy hazards

Four factsheets –Mold, Asbestos, CO, Sewage

Common reference

NIEHS Hurricane Booklet

Resources developed - NIEHS Mold Booklet

Organizational ties – various responses

Respiratory protection

- No medical screening, fit testing, or training



Important to have volunteers to actually don and doff respirators they will be using

REHABBING FLOODED HOUSES

A Guide for Builders and Contractors

RECONSTRUCCIÓN Y REHABILITACIÓN DE VIVIENDAS DAÑADAS POR INUNDACIÓN

Una Guía para Constructores y Contratistas



**Other
Organizations**

Other funding

Future activities

**Continue training – Muck and Gut, Mold
AmeriCorps, volunteers**

Train the Trainer Classes

**Identify presenters of Safety briefings
Prepare for future disasters**

Muck and Gut Trainer's Guide

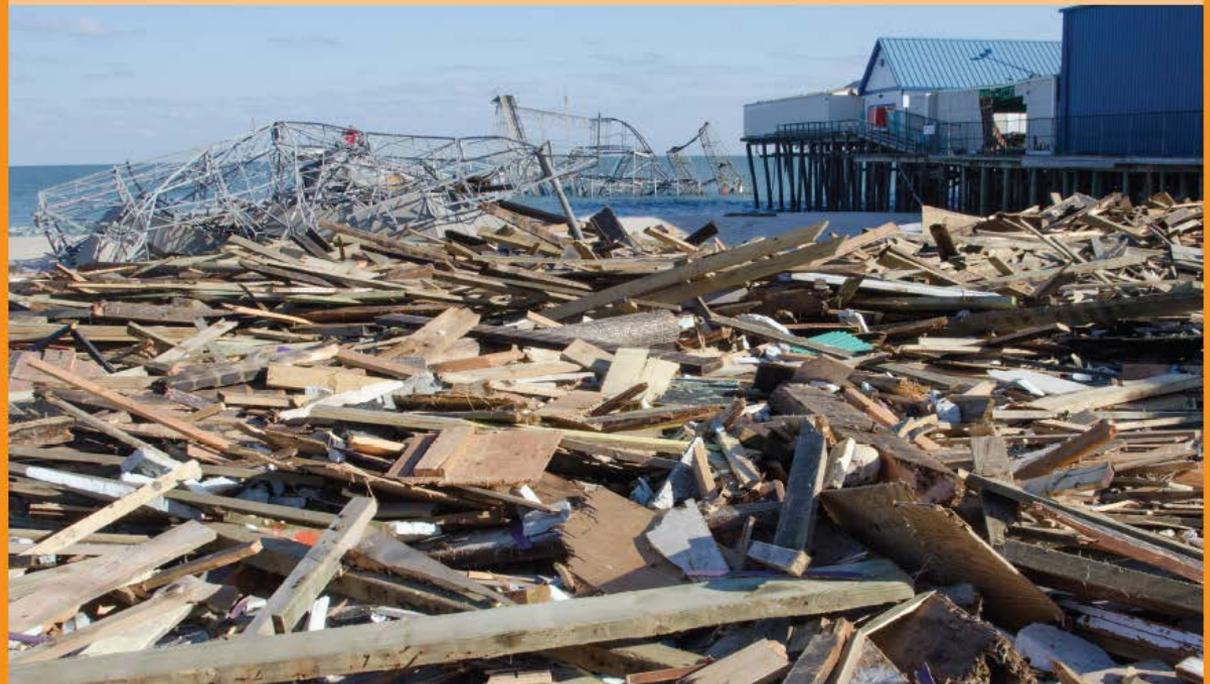
To be done
Fatalities
PPE
Respirators
Work slides
Confined Sp.



TRAINER'S GUIDE

Hurricane Sandy Recovery

Protecting Yourself While Mucking and Gutting



Mold Remediation Guidance

Trainer's Resource



NIEHS Disaster Recovery MOLD REMEDIATION GUIDANCE

Health and Safety Essentials for Workers,
Volunteers, and Homeowners



Prepare for next disaster and next hazard

Strengthen Infrastructure/Capacity

Educational materials

Staffing: staff, trainers

Space/Office

100 year storm/flood?

Climate change is normal

One question is why?

NIEHS Flood Booklet

National Institute of Environmental Health Sciences
Flood Response Orientation

Safety Awareness for Responders to Floods:

Protecting Yourself While Helping Others



How to respond?

“Do you need assistance?”

Is there an office we can work out of?

Outreach, outreach, outreach

Mutual aid, build local organizations

Consistent material

NIEHS booklets, local factsheets

Be flexible, listen

Hurricane Irene

11 AM EDT Fri Aug 26 2011

Position 30.7 N 77.3 W

Maximum Winds 105 mph

Gusts 125 mph

Movement Nat 13 mph

Minimum Pressure 946 mb (27.93 inches)

Blue Marble basemap imagery courtesy NASA

Satellite 4:57 PM UTC

12:57 PM EDT

Epilogue:

Next Storm or Flood?

When? Where?

Will we be better prepared?



wunderground.com



**Not a miracle:
Plan, Equip and Practice**