

A satellite image of Super Storm Sandy, showing a large, well-defined cyclone with a clear eye and spiral cloud bands over the Atlantic Ocean. The storm is positioned off the eastern coast of North America. The surrounding clouds are dense and textured, with some areas appearing lighter and others darker, indicating varying cloud heights and densities. The landmasses of North and South America are visible in the lower-left and bottom-center of the frame, with the Caribbean Sea and parts of the Atlantic Ocean to the right.

Super Storm Sandy Lessons Learned

**John S. Morawetz
International Chemical Workers Union**

Super Storm Sandy NIEHS Worker Training Grants

**Request from NJ WEC and NYCOSH
NIEHS approval to revise Disaster grants**

ICWU and USW deployment

Past NIEHS disaster activity

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

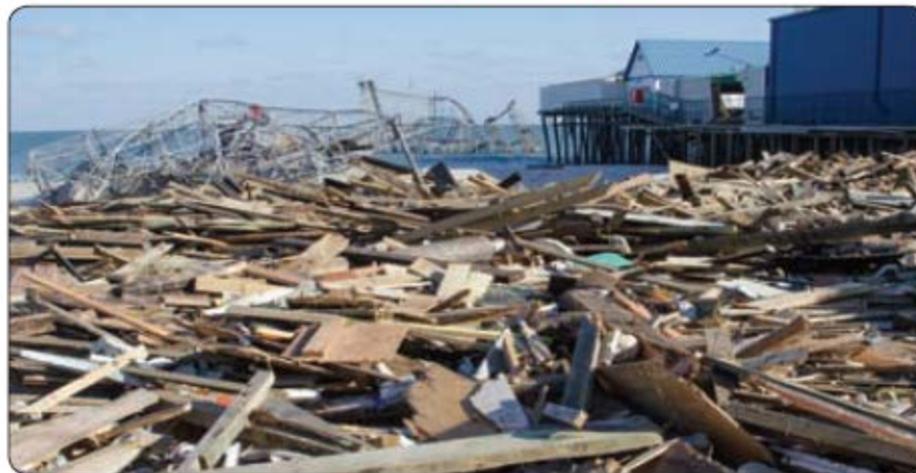
Distribute NIEHS Hurricane Booklet



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

Safety Awareness for Responders to Hurricanes:

Protecting Yourself While Helping Others



FEMA/Liz Roll



Training

Assess hazards

Mold, Carbon Monoxide, Asbestos, Sewage

Opportunities for training

AmeriCorps, NYCHA

Muck and Gut operations

AmeriCorp, NY Cares, new organizations



**Day 124 After Superstorm Sandy
A Visual Report From The Field**

**551 & 498 Midland Avenue
Staten Island, NY on 2/19/13**

433 Beach 64th St, Far Rockaway on 2/20/13

Photos by Luis Vazquez, Jonathan Rosen and John Morawetz

**Some of these circuits
were live when tested
using the volt meter.**



**Sole opening to a crawl space
to remove wet fiberglass.**



Overall Assessment

Super Storm

Flooding largely high tide/storm related

Extensive structural damage over wide area

Significant overload of regional capacity

Aid becomes political question

Thousands of untouched homes remain

Diverse workforce for Muck and Gut

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

**This fuel-driven
power washer
was being used
inside, and
generating a
mist in addition
to CO**





Yellow Team volunteers mix this product with water, put in the sprayers, and spray on the walls prior to powerwashing

Where is the respiratory, eye, and head protection?





Mold on structural walls must be cleaned, treated, and dried prior to rebuild



**Cleaning with detergent
spray and scrub brush.
Note the placement of
the goggles.**

Work Practices for AmeriCorps workers

**Generally good awareness of most hazards
Inconsistent for Confined spaces, asbestos**

Safety briefings

**No disposable masks; mainly 1/2 face pieces
No medical evaluation, fit testing,
filter change out?**

Muck and Gut Curriculum

NYCOSH

Factsheets

OSHA fatalities

Confined Spaces

Hurricane Sandy Recovery

Protecting Yourself While Mucking and Gutting



Awareness Training for AmeriCorps workers

Need for additional training

Two Small Group activities

Awareness of Sandy hazards

Four factsheets –Mold, Asbestos, CO, Sewage

NIEHS Hurricane Booklet

March 15, 2013

Dover Beach, Tom's River, NJ





March 16, 2013

Gerritsen Beach, Brooklyn



National Institute of
Environmental Health Sciences

TRAINER'S GUIDE

Hurricane Sandy Recovery

Protecting Yourself While Mucking and Gutting



Muck and Gut Trainer's Guide

To be done

Fatalities

PPE

Respirators

Work slides

Confined Sp.

Future activities

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

Train the Trainer

Identify presenters of Safety briefings

Strengthen Infrastructure

Educational materials, office, staffing

Prepare for next disaster and next hazard

Future goals

Trainers/Leaders

Leadership who can respond rapidly

Assist in first few days

Workplace and community

Labor movement

Build ties to non traditional partners

Build off of general safety and health awareness

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 Super Storm?

When? Where?

Will we be better
prepared?



wunderground.com



**Not a miracle:
plan, equip and practice**