National Institutes of Health

Participant
Exercise Manual

Disaster Research Response Tabletop Exercise

April 7, 2014

Banning's Landing Community Center
Los Angeles, California

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1. Introduction

Progress in disaster preparedness, response, and recovery is hampered by the relative absence of scientific data that can guide systems development, protocols and procedures, citizen action, and use of medical countermeasures. Short and long term health consequences to a variety of exposures are often unknown. Behavioral health consequences have been identified, but preventive and mitigating measures are yet fully understood. While there are many reasons for the overall lack of disaster science, a major contributor to this is the inability to conduct disaster research in the immediate post-disaster period when much critical information is most perishable. Public health and medical responders have recognized the need to conduct disaster research for years. NIOSH has been leading an effort post-9/11 to follow responders to the WTC attacks. Funding has been recently made available by NIH to perform a long-term study of Gulf workers exposed during the BP Oil Spill. Additional research grants have been provided by NIH, CDC, and ASPR to examine the response to Hurricane Sandy. In all of these examples, the research efforts came to fruition only after long periods where protocols were developed and approved by Institutional Review Boards and funding became available. Locals were well into the recovery period when these programs were started. To date there is no systematic research infrastructure for public health and medical investigations following disasters

In September 2012, HHS convened a group representing the various internal components of HHS to discuss disaster research. Leadership from NIH, CDC, and ASPR published an article on the need for disaster research in the New England Journal of Medicine in 2012 (Reference). About the same time, NIEHS committed to developing a disaster research pilot project, with support from the NIH Director and collaboration with the National Library of Medicine. The Disaster Research Responder Project (DR2P) is a pilot project that is systematically assembling the component pieces necessary for disaster research response and creating the capability to conduct disaster research in the immediate post-disaster period (More about the project can be found in Appendix B of this document). In collaboration with the NLM, NIEHS intends to collect environmental health data collection tools and make them publically accessible on an NLM website. After conducting a portfolio review of existing NIEHS grantees performing research related to disasters, a network of subject matter experts and researchers will be assembled to assist in conducting research in disaster response and recovery. NIEHS is developing research protocols and obtaining advanced Internal Review Board (IRB) approval using the NIEHS IRB. Intramural researchers are being trained to conduct research in the disaster environment, as will be extramural researchers who will be an integral part of the disaster research team. Component elements of NIEHS programs are supporting the effort. WETP, PEPH and COEC are working together to develop community support packages to assist and participate in disaster research. A Concept of Operations (ConOps) has been drafted that pulls all the elements together in a cohesive, collaborative program that is consistent with and integrated into the larger national response and recovery frameworks.

This exercise is a means to test and gather feedback on the Concept of Operations (ConOps) and to facilitate integration with state, local, private, and federal stakeholders. The exercise will bring together these stakeholders to discuss the process of integrating research responders into the response system. The discussions resulting from this exercise, as well as the after-action reports, will assist NIEHS to make necessary revisions to key components of the ConOps.

It important to note that while there will be evaluators in the room; these evaluators will not be evaluating the participants' responses. They will only be reviewing the validity of the ConOps.

Notes from this exercise will not attribute comments to individuals or agencies.

2. Agenda

April 7, 2014 • Los Angeles, California

8:00am	Registration and Sign-in The Westin Los Angeles Airport 5400 West Century Boulevard Los Angeles, CA 90045
8:30am	Bus leaves hotel for tour Tour
11:30am	Arrive at Banning's Landing Community Center 100 E. Water Street (Wilmington) Los Angeles, CA 90744
	Lunch
12:00pm	Begin Exercise
3:00pm	End of exercise
3:15pm (**Approx.)**	Buses depart community center for The Westin Los Angeles Airport and The Millennium Biltmore
4:00pm	Buses arrive at hotels

3. Exercise Concepts

3.1 Goals and Objectives

The objective of this tabletop exercise is to provide a facilitated discussion using a realistic scenario that enables participants to:

- Assess the need to perform disaster research
- Discuss activation of the disaster research response team
- Demonstrate integration into the HHS/ESF8 operations
- Demonstrate process for initiating a research protocol
- Identify issues with the engagement and research CONOPS
- Access the NLM disaster research website
- Engage selected stakeholders and partners
- Explore opportunities for community based research
- Engage state and local agencies

3.2 Description of Exercise

Registration:

Registration will occur prior to the bus tour at 8:00 am. You will need to sign-in at the registration table. At that table, you will be provided a nametag and a folder containing materials for the exercise. Facilitators and staff members can be identified by their nametags. There will also be a clearly identified help table, which will be staffed throughout the duration of the exercise.

The bus tour will conclude at Banning's Landing Center.

The exercise will begin promptly at 12 noon following lunch.

Seating:

The seating assignment will be based on the organization you represent and your role in the exercise. Participants will be seated with others who share similar roles, i.e., participants will be seated with those who represent similar organizations. For instance, WETP grantees will sit with each other. Participants seated at the main (U-shaped) table are those who will be making decisions regarding the operation of research responders. Support personnel may be seated behind them. Please do not change tables without first discussing that with one of the exercise facilitators.

Staff members will be available to usher participants to their seats.

Participants' Roles and Responsibilities:

For the exercise, participants will assume the role of their organization. For instance, WETP grantees and Core Center grantees will assume their roles as grantees of NIEHS, and they will participate as representatives of that organization. A WETP grantee may be asked questions that relate to his/her role as a grantee and will be expected to contribute to the discussion as a grantee. Questions directed to participants will relate to those specific activities and your responses should be based on your role as it relates to NIEHS (i.e., as a grantee or federal partner). Participants should feel free to speak with other tables to ask questions, clarify information, or share ideas.

Facilitated Discussion:

Participants are expected to have attended the webinar prior to attending the exercise. Participants are strongly encouraged to have reviewed and thought through the goals, scenario and any questions prior to attending the exercise.
A facilitator will lead the discussion with questions that will cover fundamental disaster research related policies, procedures, and protocols laid out in the NIEHS Disaster Research Concept of Operations. The primary discussions will be related to that document and to the performance of research in the disaster environment. While the majority of the

questions will be directed at the front table, in order to keep the conversation flowing, the facilitator or the front table participants may ask questions to others. Front table participants are encouraged to consult with back tables, as needed. At times, the facilitator will present impromptu situations and questions that would require participants to consult with other organizations.

It is important to remember that the objective of the exercise is not to focus on finding answers to the questions, but to think through the process of developing answers and solutions. There may not always be a 'right or wrong' answer and discussions may lead to further questions.

Participants at the tables should pay attention to the discussion on the main table, as it may affect future actions of their organization. Evaluators/facilitators will also be around the room to assist in facilitating conversations.

Evaluation Survey and After Action Report:

In your packet, you will find an evaluation survey. At the conclusion of the exercise, please take some time to fill out the survey and turn it in the staff.

In the weeks following the exercise, an after action report will be prepared and distributed to participants.

4. Exercise Outline

4.1 Scenario

Background:
On Thursday March 24, a magnitude 9.1 earthquake occurred offshore of the Alaska Peninsula at 11:57 a.m. PDT triggering a tsunami. Travel times to California from the occurrence of the earthquake to the arrival of the first tsunami waves range from four hours in Crescent City to almost six hours in San Diego. The peak tsunami heights were reported to range from 10 to 20 feet in Central California. Flooding from the waves reached miles inland.

Tsunami warnings and wave arrivals were activated. Approximately a half million people are impacted in the inundation area in California at residences and businesses as well as public venues such as parks and beaches. Areas for many miles inland were flooded, and major infrastructure, including major roads were severely damaged, as widespread fires were reported at sites where fuel and petrochemicals are stored due to electrical problems. In addition, several boats in California's coastal marinas were damaged or sunk and over half of the docks were damaged/destroyed. Power outages are also widespread near the ports/marinas.

While evacuation was ordered for the State of California's previously designated maximum mapped tsunami inundation zone (based on a variety of possible tsunamis), evacuation remains a challenge due to limited egress options and short warning time. Schools, hospitals, and major public venues are closed, but communities in the impacted areas struggled with complete evacuation.

Main Event:
The strong currents and water from the tsunami caused electrical problems at a facility at a Refinery located near the Port of Los Angeles. As a result, the facility, located near a distribution terminal, exploded and caught on fire. Several worker injuries were immediately reported, and it is unknown if there are other injuries in the proximity related to the event. The fire caused a huge black plume. Oil can be visibly seen leaking out from the facility into the floodwaters.

Assumptions:

- Roads have been blocked due to flooding and debris.
- Electrical transformers were damaged due to the flooding, and major roads to the transformers have been blocked by debris.
- Local first responders, including firefighters and police officials, report to the scene of the event.
- Currents are still very strong.
- The Ports of Los Angeles and Long Beach will be shut down for a minimum of two days because of strong currents.

Timeline of events:

24 Hours

- Large dark plume of smoke; strong chemical smell has been reported 1 mile out from scene of accident.
- Floodwater has slowly begun to retreat.
- Widespread power outage.
- Evacuees are sheltered at schools and community centers not in flood risk zone.
- Wind patterns blow toward the shelters.
- Heavy debris found in areas where flooding occurred—affecting homes and businesses.

48 Hours-72 Hours

- People in the shelters, as well as nearby communities, have been complaining about multiple symptoms. Local first responders have reported to develop additional unknown symptoms as well. Reports of strong chemical smell continue.
- Heavy debris is still found around the impacted area.
- Reports of sick and dead animals have been reported.
- Oil and other chemicals have been reported to be seen inland, in flooded areas.

72 Hours -2 weeks.

- Floodwaters have retreated. Power remains out in majority of the areas.
- Major debris has been picked up from the major roads, but roads remain unsafe and closed to public.
- Due to the large amount of debris that needs to be cleaned, workers are needed to clean up.
- Workers are also needed to clean up the oil and other chemicals on sea/on land.
- Several day laborers, unskilled workers, and volunteers have shown up wanting to help with the recovery.
- There are continued reports of sick and dead animals.

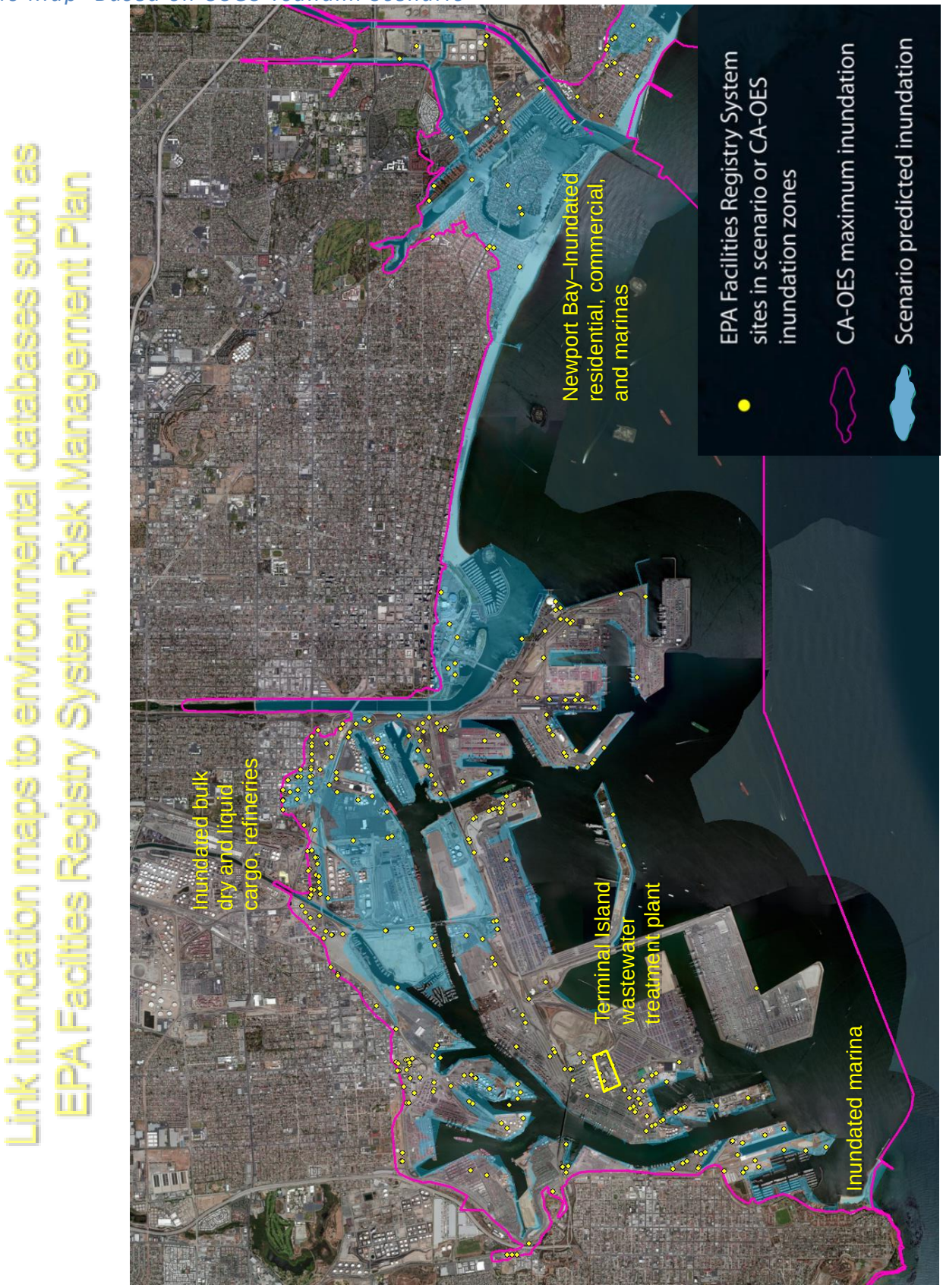
**Governor of California declared state of emergency and requested federal assistance from President. **

After 2 weeks

- Several day laborers, unskilled workers, and volunteers continue to show up wanting to help with the recovery.
- Local Emergency Departments are still seeing complaints of respiratory irritation, headaches, and gastrointestinal symptoms.
- Most major roads have been opened.
- Power has been restored to 50%.

**The President has requested HHS to respond to the situation. Assumption: Funding has been approved. **

Scenario Map- Based on USGS Tsunami Scenario



CAVEATS

1. There are artificialities built into the scenario that are designed to ensure flow of the exercise. We encourage you to not "fight the scenario". The scenario is only an example being used to facilitate the exercise.
2. Injects will be added as the scenario progresses. They will be used to promote specific actions and decision by the participants.
3. These questions serve as the "first line" of questions, however follow on questions not listed below are likely to be asked as the scenario moves forward.
4. There are no "gotcha" questions. Questions are designed to stimulate discussion and many times have no single correct answer.

4.1.1: Decision to Engage

Scenario: Tsunami occurs and causes regional catastrophic damage to LA coastal area. Oil refinery damaged with resultant air/water/ground contamination. Presidential declaration made and FEMA setting up a Disaster Field Office in southern CA. Because of adequate warning, evacuations were generally successful. Much of the healthcare infrastructure is damaged. Acute trauma is managed by surviving local healthcare facilities but they are at capacity in the Emergency Departments.

- **Situational Awareness**
    - How does NIEHS maintain situational awareness of the event?
        - What questions might you be considering at this time?
        - What are your sources of information?
    - How is this information coordinated with CDC, NIOSH, ASPR, EPA, and DHS?
    - How can NLM assist in maintaining situation awareness?
    - Who is responsible for contacting ASPR/SOC?
    - What other Operation Divisions from HHS might be engaged with research/data collection?
    - What is the role of the EHS Network and how might this play into providing subject matter experts?

Inject: There are increasing reports of local citizens complaining of respiratory irritation, headaches, and gastrointestinal symptoms. These appear to be associated with exposure to the oil refinery.

- Is NIEHS starting to adopt a "lean forward" posture?
    - What elements of NIEHS might be engaged in a response?
        - What could they do to assist?

Inject: EDs report increases in visits related to the above symptoms and Poison Control Centers report a 50% increase in calls related to exposure related questions.

- What is the local response to these reports?
  - What is the process of requesting outside assistance?
- What is the NIEHS response to these reports?
  - How can more information be obtained?

Inject: Congressman Smith has requested that NIH investigate the health effects of this oil spill and assist the State and Local health departments in their efforts.

- **Decision to Engage**
  - What factors are considered by the NIEHS in deciding to engage the research team?
  - How are the research questions developed?
    - Are protocols ready for use in an engagement?
      - What is the IRB approval process?
      - Are local IRB needed if NIEHS IRB or PHERB has approved protocol? How long does it take?
      - If no protocol exists, can a protocol be created and IRB approved rapidly?
  - What are your potential sources of funding?
  - What is the readiness status of the research team?
  - What is the health and safety program for the field team?
    - Who maintains and provides any special equipment for use? Who provides training for the use of the equipment?
  - What are the safety and health needs for the protection of workers?
    - Are there any factors that would exclude a research responder from participating?

- **Funding**

Inject: A Mission Assignment for the research team is rejected by the FEMA Federal Coordinating Officer.

- What are the options?

Inject: Through a Congressional Supplemental Appropriation, HHS receives funding to assist in the response. Secretary Sebelius approves the use of funds for "Disaster Research".

- What are the procedures to accept these funds?
- Can funds be given to NIEHS grantees rapidly?
  - How is this done?

4.1.2: Engagement

Inject: CA requests medical and public health augmentation to support the response. HHS is preparing to deploy NDMS teams and CDC has deployed EIS officers and NIOSH staff to assist. NIEHS has been asked to send staff from the WETP and a disaster research team.

- **Integration into the Response Organization**
  - How is NIEHS integrated into the larger HHS response operations and HQ decision-making?
    - WETP integration
    - DR2 integration
  - How will NIEHS coordinate and integrate into the State and local response?
    - What are the sensitivities and challenges?
  - How will NIEHS integrate with academic organizations?
    - COEC's
    - PHEP centers
  - How will NIEHS coordinate with other responding Federal agencies (e.g., EPA, CDC/NIOSH, USCG, FEMA, etc.)?
  - How will unions be approached for access to their workers?

Inject: Local WETP and Core Center grantees are unable to participate because of damage to their homes and institutions. WETP and Core Center grantees from other states need to be engaged.

- How will these grantees be selected?
  - Are they trained?
  - Are they available?
- How will they be engaged?
  - Who makes these arrangements?
- Can grants be modified rapidly to get personnel into the field?
- What is the health and safety plan for these personnel?
- What are the grantees tasked to do?
  - Who are your target audiences?
  - How will you evaluate?
- Once hazard assessments are completed, how do you communicate this to the responders?
- How do research responders coordinate with WETP grantees? How do findings get integrated into the training?

- **Protocol Execution**
  - How do you decide what protocols to use?

- How will bio samples be stored?
- Do academic partners require their own IRB approval?
- How are research responders trained to use the protocols?
- How will you coordinate between the field teams?
- How will the health and safety of the research teams be monitored?

- **Information Sharing/Communications**

Inject: Local media has inquired about this program?

- Who will be the spokesperson for this request?
  - Who will develop the message and what is it?
- How will information be reported?
  - To HHS
  - To State
  - To Locals
  - To community
- How will information be checked for consistency?
- How quickly might any findings be released?

4.1.3: Transition

Inject: Data and specimen collection begins to wind down. Cohort size exceeds protocol requirements.

Decision to make the transition

- What are your triggers to terminate the participation?
- Who does this decision need to be communicated to?
- How are post-engagement health issues managed?
- What happens to the biosamples collected?
- How do you debrief your teams?

Inject: A University wants access to the data and samples for an IRB.

Protocol Management

- Where are the data stored? Who will manage the data?
- How are the biosamples accessed by non-federal researchers?
- How is the exposure data accessed by non-federal researchers?
- How is follow-up and analysis of data conducted?

Annexes

1. List of Acronyms

ASPR	Assistant Secretary for Preparedness and Response, HHS
CONOPS	Concept of Operations
COEC	Community Outreach & Engagement Cores
DR2	Disaster Research Response Project
ED	Emergency Department
HHS	US Department of Health and Human Services
IRB	Institutional Review Board
MSEL	Master Scenario Events List
NDMS	National Disaster Medical System
PH	Public Health
PHERRB	Public Health Emergency Research Review Board
POC	Point of Contact
REC	Regional Emergency Coordinator
S/L	State/Local
SOC	HHS Secretary's Operations Center
TTX	Tabletop Exercise
WETP	Worker Education and Training Program

2. Disaster Research Response Project

The National Institutes of Health (NIH) commitment to disaster resilience has been the foundation for more than three decades of research. Multiple Institutes, Centers and NIH funded grantees conduct research focusing on disaster preparedness, response and recovery issues. These efforts have contributed to a deeper understanding of disaster risks, recovery and act to provide critical information when disasters strike.

In response to recent disasters and the research conducted in their wake, NIH has committed to fund **The NIH Disaster Research Response Project.** This pilot project, developed by the National Institute of Environmental Health Sciences (NIEHS) in collaboration with the National Library of Medicine (NLM), aims to create a disaster research system consisting of coordinated environmental health disaster research data collection tools and a network of trained research responders. Elements of the system include epidemiologic questionnaires and clinical protocols, specially trained disaster researchers, environmental health disaster research networks, a reach-back roster of subject matter experts, and a support infrastructure that can be activated and engaged during public health emergencies and declared disasters. NIEHS will build on its extensive program capabilities, research networks, and field experience in leading this pilot.

Project Goals

- **Readily Available Data collection Tools and Research Protocols**
  - Field tested, IRB & OMB approved tools
  - Implementation guidance, forms, and participant tracking information
  - Hosted on publically accessible NLM website

- **Environmental Health Research Response Network**
  - NIEHS intramural/extramural researchers, Centers, grantees, and academic partners
  - Engaged in the development and prioritization of the system & tools
  - Trained 'research responders' who are familiar with data collection tools, protocols, and can respond in a disaster
  - Listing of subject matter experts that can be called upon for assistance

- **Coordination & Integration with Disaster Response & Recovery Infrastructure**
  - Multi-stakeholder engagement and information sharing
  - Training exercises for research responders and partners
  - Disaster Research Response Workshop
  - Facilitate State and local environmental health research response capabilities regardless of federal disaster declarations or effort