

BREAKOUT SESSION: EXTREME EVENTS AND WATER-BORNE ILLNESSES

- ▶ **Moderator – David Murphy**
 - ▶ **Note taker – Alec Shub**
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BREAKOUT SESSION

EXTREME EVENTS AND WATER-BORNE ILLNESSES

Extreme Events Subtopic Team:

Lead: Laura E. Hayes, Ph.D. Epidemiologist Health Statistics & Surveillance

Members:

Todd Berman, United Illuminating

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Robert Scully, DPH

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Kirk Westphal, Brown and Caldwell

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Dr. Laura Bozzi, Yale University

Michele DeLuca, City of Norwalk

Christine Kirkchoff, UConn

Lori Mathieu, DPH

Ryan Tetreault, DPH

Jeri Weiss, EPA Region 1

Joanna Wozniak-Brown, CIRCA

Extreme Events Recommendations:

- Enhance support for communication and outreach programs to educate residents about all aspects of preparedness, response and recovery for extreme weather events.
- Establish State and Regional Access and Functional Needs (AFN) Emergency Preparedness and Response Coordinators
- Create and maintain a statewide inventory of redundant back-up power at critical facilities and buildings where institutionalized vulnerable populations reside and establish a long-term funding mechanism for new systems and repairs.

Extreme Events Recommendations (cont.):

- Create an updated Hurricane and Storm Evacuation Plan for the State.
- Develop water conservation measures and communication guidelines manage droughts.
- Update water supply planning guidelines, drought triggers, and drought response protocols at least once per decade.
- Develop GIS database and framework for updates to locate critical facilities and identify which public water systems they are served by, and which are served by their own public water systems.

Extreme Events Recommendations (cont.):

- Develop emergency interconnections between public water systems to ensure that multiple sources are available for mutually beneficial sharing of water during emergencies.
- Use source water protection and the Drinking Water Quality Management Plans to encourage resiliency; and increase funding and support for investments in watershed protection.

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EXTREME EVENTS AND WATER-BORNE ILLNESSES

Water-borne Illnesses subtopic team:

Co-Lead: Diane Mas, PhD, REHS/RS Vice President | Chief Resilience Officer Fuss & O'Neill, Inc.

Co-lead: Steven Walleth, Sanitary Engineer, DPH

Members:

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Water-Borne Illness Recommendations:

- Develop statewide GIS database and framework for continued updates that locate private wells and decentralized sewage disposal systems.
- Use Clean Water State Revolving Funds for statewide subsurface sewage disposal systems management and upgrades.
- Identify and improve wells located within flood zones to reduce risk of flooding and increase resilience.
- Track harmful cyanobacteria algal bloom data and provide technical assistance to community water suppliers to prevent and address algal blooms.

Water-Borne Illness Recommendations (cont.):

- Incorporate resiliency into new laws, regulations, and policies; and promote education of public water systems on the importance of resiliency.
- Develop an energy audit program for water and wastewater systems to increase energy efficiency and reduce greenhouse gas emissions across the industry.

Water-Borne Illness Recommendations (cont.):

- Assess vulnerabilities of recreational freshwater and marine beaches to climate change impacts and prioritize adaptation options to reduce vulnerabilities.
- Develop a monitoring system for water quality parameters critical to the shellfishing industry in real-time to forecast potentially high-risk events.

BREAKOUT SESSION **OPEN** DISCUSSION:
EXTREME EVENTS AND
WATER-BORNE ILLNESSES

OR

BREAKOUT SESSION **SCENARIO** DISCUSSIONS:
EXTREME EVENTS AND
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BREAKOUT SESSION SCENARIO

“Super Storm”

- Widespread power outages; numerous critical care facilities without power.
- Power restoration may take 13 days in some areas.
- Communication is a nightmare.
- Severe coastal and inland flooding.
- Many residences are reporting well and septic system failures.
- Several large water systems are at risk of losing pressure.
- Extended forecast: another tropical storm is moving up the east coast. Evacuation notices have been issued for upcoming storm.



“Super Storm”



Brown-Arnold, W. (2012)



Brown-Arnold, W. (2011)

BREAKOUT SESSION SCENARIO

“Extreme Rain Event”

- Severe flooding from long-duration rain event across New England resulted in several releases of untreated sewage.
- Communities in low-lying areas reporting flooding of wells and septic systems.
- Untreated wastewater has been released into major Long Island Sound tributaries.
- Small beachfront community adjacent to release is utilizing shallow private wells.
- Health districts issue notices to swimming and fishing, but many challenges in communicating with subsistence fishing and accessing cooling centers in lieu of access to local swimming areas.
- Extended forecast: hot and dry....



BREAKOUT SESSION SCENARIO



“Mega Drought”

- 4-month long drought.
- Some large water systems are estimating only 3 weeks of water left in reservoirs; spending \$100,000 or more on “temporary fixes” and implementing restrictions.
- Many small water systems and private wells are experiencing loss of pressure and mechanical failures.
- Health districts are reporting a rapid upswing in applications for new wells.
- Extended forecast: hot and dry....



**BREAKOUT SESSION OPEN DISCUSSION:
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