

Community Disaster Preparedness & Response

How to Prepare, Respond & What to Expect

*A Virtual Training of the Deep South Center
for Environmental Justice, Inc.*



Presented **March 8, 2021**

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A project of



Goal and Learning Objectives

Goal: To increase health and safety awareness in the community and help you prepare for the disaster events along the Gulf Coast as well as any area affected by a water event.

Learning Objectives: Upon the completion of this training, participants will have a better understanding of:

- ❖ Disasters seen on the gulf coast, in particular water-related events;
- ❖ How water events can possibly lead to mold issues;
- ❖ Challenges presented by a disaster;
- ❖ Tips and best practices to address mold when options are limited;
- ❖ Lessons learned from previous disasters; and
- ❖ A community approach to preparedness and how to prepare a disaster response kit or bag.

This community awareness training is...

- ▶ Intended to raise your level of awareness;
- ▶ Not a supplement for work related certifications or requirements imposed by your employer or regulations; and
- ▶ Intended to introduce you to resources that are available as well as NIEHS grantees in your community that may be of assistance to you.

What we are facing...

FLOODING/
SEVERE RAIN
EVENTS



FLOOD ALERT
FLOODING IS POSSIBLE, BE PREPARED



FLOOD WARNING
FLOODING IS EXPECTED, IMMEDIATE ACTION REQUIRED

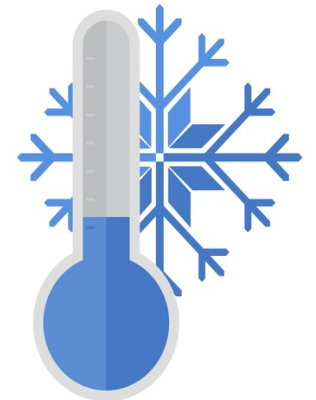


**SEVERE FLOOD
WARNING**
SEVERE FLOODING, DANGER TO LIFE

HURRICANES



COLD
WEATHER
EVENTS



Flooding and Severe Rain Events

FLOODING/
SEVERE RAIN
EVENTS

- ▶ America's #1 natural disaster that accounts for 75 % of the disasters declared by FEMA;
- ▶ They may occur with little or no warning and reach full peak in a few minutes.
- ▶ Most communities have some risk;
- ▶ Damage increases in coastal areas and floodplains; and,
- ▶ Climate change along with water system management and urbanization has increased flooding potential.



New Orleans, June 10, 2020

What We are Facing....

Floods 2020



Miami-Dade County, May 27, 2020

Flooding and Severe Rain Events

FLOODING/
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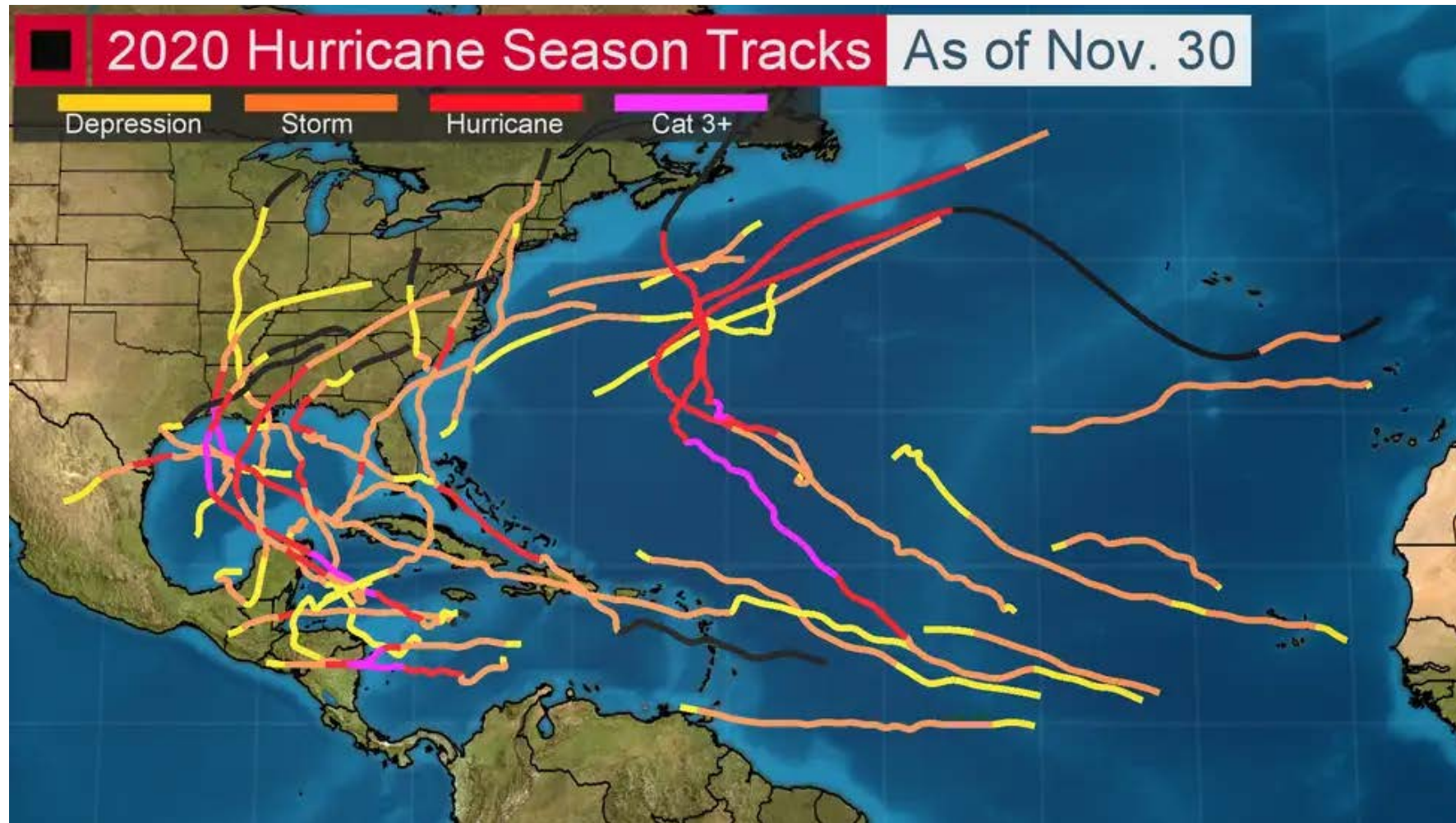
Michigan's Edenville Dam Failure
May 19, 2020

Hurricanes

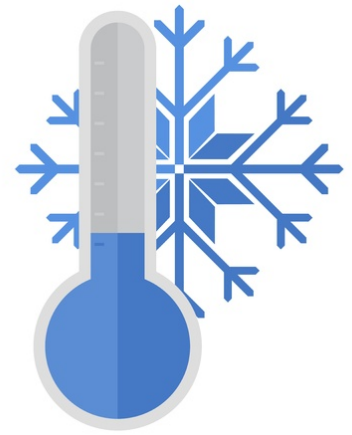


HURRICANE SEASON 2020		2020 ATLANTIC NAMED STORMS		
Tropical Storm		Hurricane		Major Hurricane
 ARTHUR	 GONZALO	 MARCO	 4 TEDDY	 4 DELTA
 BERTHA	 1 HANNA	 1 NANA	 VICKY	 3 EPSILON
 CRISTOBAL	 1 ISAIAS	 OMAR	 WILFRED	 2 ZETA
 DOLLY	 JOSEPHINE	 2 PAULETTE	 ALPHA	 4 ETA
 EDOUARD	 KYLE	 RENE	 BETA	 THETA
 FAY	 4 LAURA	 2 SALLY	 GAMMA	 5 IOTA

Hurricanes



Cold Weather Events



- ▶ February 13-17, 2021 North American winter storm, unofficially referred to as *Winter Storm Uri*



Severe Weather/Floods, Hurricanes, & Cold Weather Events

- ▶ Water and moisture are common among all three.
- ▶ There is the potential for mold growth due to water.
 - ▶ Mold can be harmful to man and destroy building materials; and
 - ▶ While mold is everywhere, the aftermath of a disaster greatly increases its presence and the potential for harm.

Mold Effects to Humans

Remember...

It is true that:

- ▶ Most species of molds are harmless to humans.

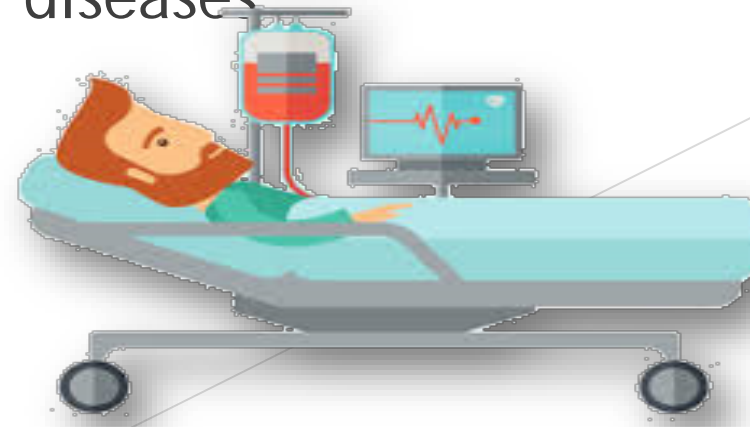
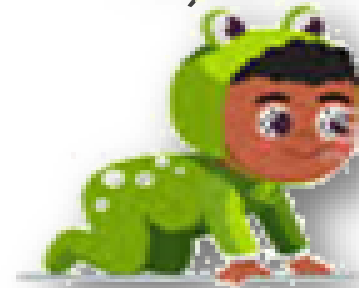
However:

- ▶ A few species can cause serious harm to some humans.

Those at Highest Risk of Adverse Reactions to Mold

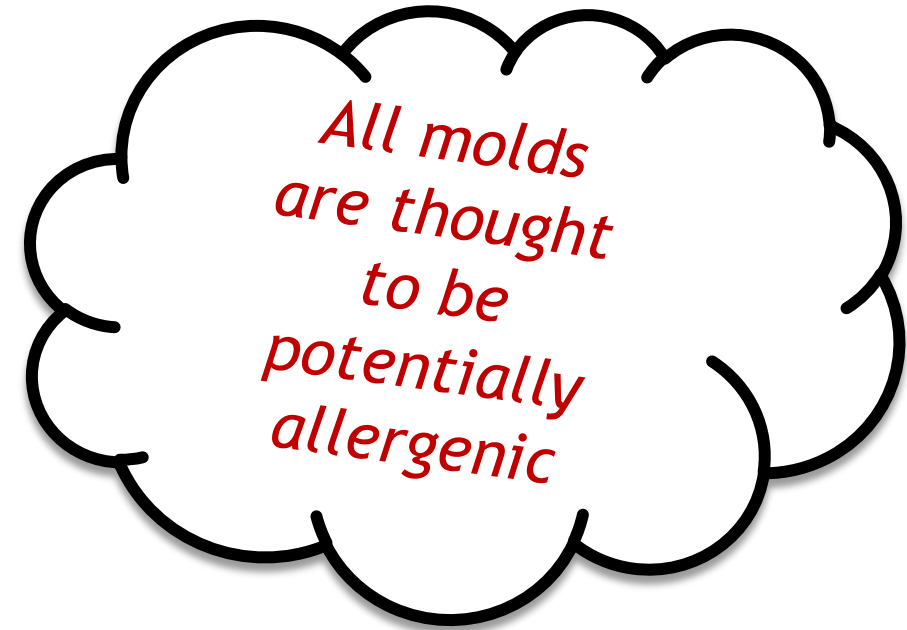


- ▶ Children (especially infants, babies & toddlers)
- ▶ The Elderly
- ▶ Sensitive individuals
- ▶ Pregnant Women (especially in the 1st trimester)
- ▶ People with immune deficiency diseases
 - ▶ Hepatitis
 - ▶ AIDS
 - ▶ Chemotherapy
 - ▶ Transplant Recipients

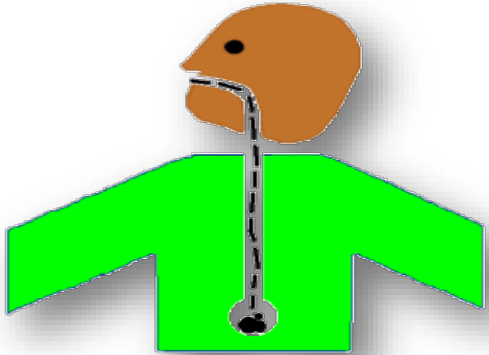


Possible Symptoms of Mold Exposure:

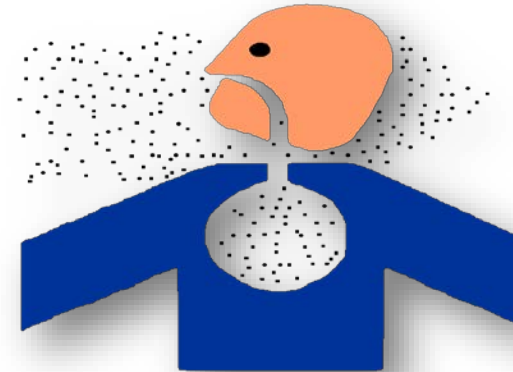
- ▶ Watery Eyes
- ▶ Runny nose
- ▶ Headache
- ▶ Sore throat
- ▶ Respiratory Problems
- ▶ Sinus Irritations



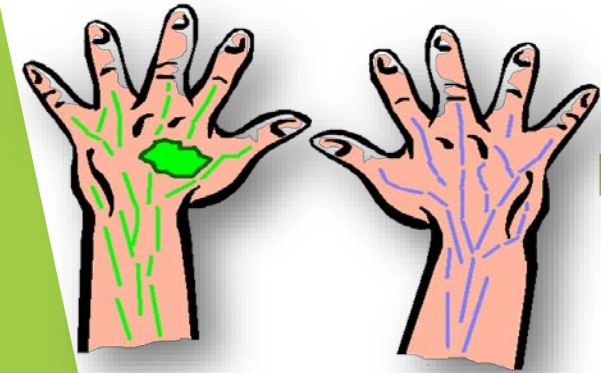
Routes of Exposure



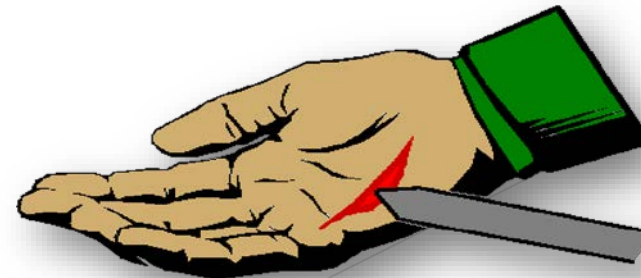
- ▶ Ingestion (most common due to mold on foods)



- ▶ Inhalation (easiest)



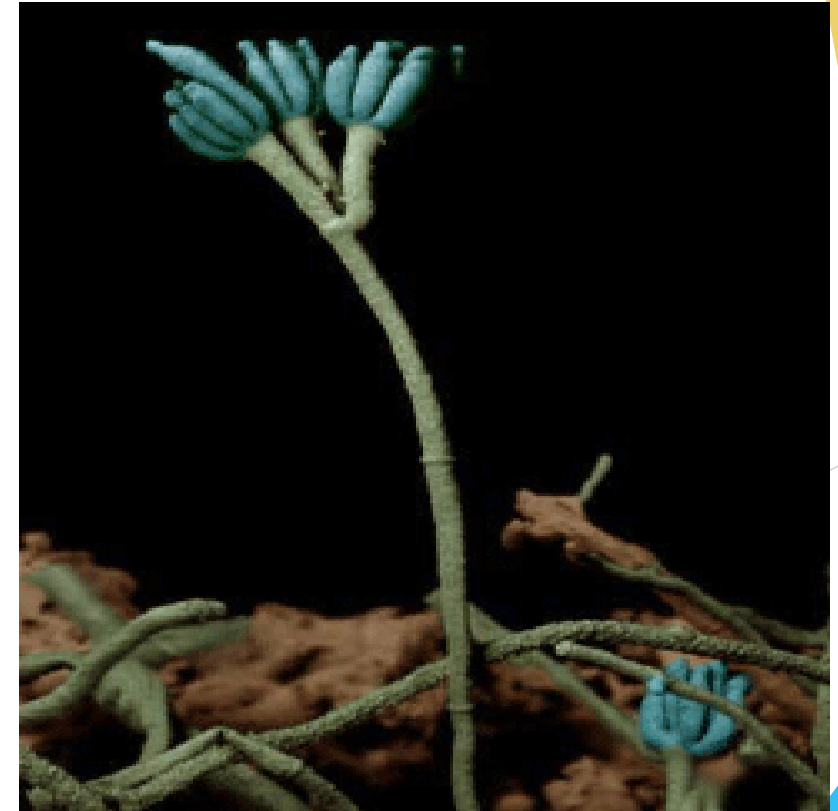
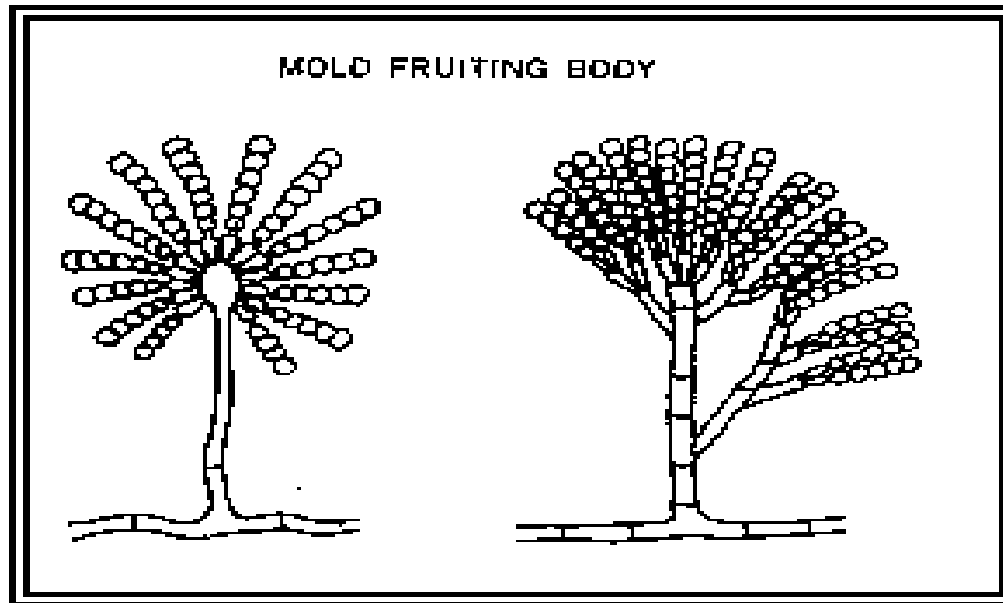
- ▶ Contact



- ▶ Injection (rare)

All Parts of Mold Can Cause Harm

- ▶ Spores
 - ▶ Viable (Living)
 - ▶ Non-viable (Dead)



Mold Growth On Building Materials...

...Just About Everything

Loves porous building materials and items.

- ▶ Primarily porous building materials
- ▶ Ceiling tiles
- ▶ Drywall
- ▶ Wood
- ▶ Upholstered items



Also thrives on non-porous items.

- ▶ Glass
- ▶ Metal
- ▶ Concrete block
- ▶ Plastic

Mold Growth On Building Materials...

Will:

- ▶ Discolor
- ▶ Destroy
 - ▶ Break down materials so they will need to be removed and replaced



Mold Growth

**Mold spores
only need
3 things to
live and
grow:**



Water



Food



**Favorable
Conditions**

READY to Return Home: Caution!

- ▶ Expect the worse and take precautions to assure safety.
- ▶ Stay out of dangerous areas.
- ▶ Do not interfere with rescue and recovery workers and stay off of the roads and areas that are dangerous.
- ▶ Beware of your surroundings.
- ▶ Open windows and doors to ventilate your home allowing it to dry out.



READY to Return Home:

Other Conditions that Matters

- ▶ Length of time materials were wet
- ▶ Water
 - ▶ Clean vs Dirty

Removing Moldy Items

- ▶ If sick, do not attempt
- ▶ Protect yourself
 - ▶ Eyes, nose, hands, and body
- ▶ Stay vigilant on when to return home
 - ▶ Clean vs. dirty water
 - ▶ Water may have collected inside containers and pots
 - ▶ Other hazards present



Keys to Mold Prevention & Successful Cleaning

- ▶ Determine all sources of moisture/water intrusion and **REPAIR**.
- ▶ **DRY OUT!**
- ▶ Remove any additional items present with excess water
 - ▶ Discard and/or clean items















Personal Protective Equipment (PPE) – IDEAL SITUATION!

Depending on the type of water and work to be done, any of the following PPE may be used:

- Protective clothing ranging from standard coveralls to a chemical resistant suit with hood and booties.
- Respirator ranging from an N-95 to a full face depending upon exposure and work.
- Work boot or protective footwear with steel toe.
- Gloves

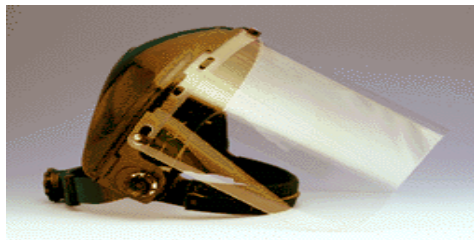
Examples of Personal Protective Equipment



Safety glasses



Safety Goggles



Face Shield



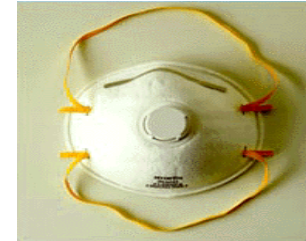
Level C PPE with tyvek splash suit and APR respirators



Example of Leather gloves
Courtesy Kirkwood



Example of Nitrile gloves
Courtesy Kirkwood



N-95 respirator

½ face APR



Full face APR

PAPR



What We Wore

WHAT TO WEAR

BEFORE ENTERING A HOME OR BUILDING WITH

MOLD DAMAGE

N-95 respirator
or one that provides
even more protection
(check packaging
for "N-95")

Goggles or eye
protection

Long-sleeved shirt

Protective
gloves

Long pants

Waterproof boots

CAUTION!

If you have a breathing problem like asthma, do not enter a building with mold damage. Mold can make asthma symptoms worse.

If you have a weakened immune system (such as from cancer treatment or medicines that suppress the immune system), do not enter a building with mold damage. People with a weakened immune system are more likely to get a serious illness from mold.

Children should also not enter buildings with mold damage.

MORE INFORMATION ON REMOVING MOLD:

www.cdc.gov/mold/cleanup-guide.html

MORE INFORMATION ON WEARING RESPIRATORS:

www.cdc.gov/disasters/disease/respiratory.html



Personal Decontamination Kit

- ▶ Gallon jug of water
- ▶ Detergent, i.e., Dawn dishwashing liquid
- ▶ Long handle brush
- ▶ Floor mat or pieces of plastic
- ▶ Bar of soap
- ▶ Hand sanitizer

Prevent the spread of contamination to your family and home

- ▶ Wash clothes separately
- ▶ Never bring home contaminated work clothes or items and place your family at risk
- ▶ Keep a clean change of clothes with you
 - ▶ Get additional clothes from an organization providing clothes after a disaster

OTHER HAZARDS YOU MAY EXPERIENCE

- ▶ Slips, trip, fall hazards
- ▶ Roads damaged and debris
- ▶ Structural integrity of home
- ▶ Electrical hazards
- ▶ Hazardous materials/chemicals
- ▶ Insects, pests, animals
- ▶ Overhead and falling hazards
- ▶ Heat stress
- ▶ Cold stress
- ▶ Ergonomic/Lifting issues

Plan for Disasters

- ▶ Know the risks based upon the disaster
- ▶ Keep essentials supplies
- ▶ Know where you are going, evacuation route, & emergency shelter locations
- ▶ Make provisions for elderly, pets
- ▶ Recognize warnings and alerts
 - ▶ Pay attention to local officials
- ▶ Be prepared to shelter in place
- ▶ Review and safeguard important documents
- ▶ Ensure family notifications and communications
- ▶ Strengthen your home
- ▶ Get 'tech' ready
- ▶ Help your neighbors

Early preparation is key to effective response

Community Resources

Become familiar with resources in your area

- ▶ Faith Based Organizations
- ▶ Community Organizations
- ▶ Daughters of Charity
- ▶ Volunteers thru churches and other organizations
- ▶ FEMA
- ▶ Goodwill
- ▶ Red Cross
- ▶ Others

Post-Disaster Reactions

- ▶ Cascade of losses and stressors
 - ▶ Relocation
 - ▶ Loss of peer network
 - ▶ Academic failure
 - ▶ New social network
 - ▶ Financial stresses
 - ▶ Parental stress, mental health problems
 - ▶ Marital conflict or domestic violence
- ▶ Don't focus solely on post-traumatic losses and stressors from the events immediately surrounding the disaster
- ▶ Explore how to cope now in light of current stressors

Mental Health and Stress Relief

Consider the following steps:

- ▶ Use your smart phone to stay connected to family and close friends and co-workers. Shift from texting to voice or video calling to feel more connected.
- ▶ Try to keep comfortable as best possible.
- ▶ Practice stress relief whenever you feel anxiety building - do some deep breathing, exercise, read, whatever works for you.
- ▶ Avoid unhealthy behavior such as excess drinking or illicit drug use - that will just increase your anxiety afterwards.
- ▶ Keep looking forward. Think about plans you'd like to make down the road.

Self-Care and Stress Management

- ▶ Actions you can take to increase resiliency should be holistic and should include:

- ▶ Mind
- ▶ Body
- ▶ Soul





Take Action

- ✓ Develop a plan!
- ✓ Keep a plan!
- ✓ Never stop working on your plan!

Deep South Center for Environmental Justice

The Deep South Center for Environmental Justice was founded by Dr. Beverly Wright in 1992 in collaboration with community environmental groups and other universities within the southern region to advance environmental justice. Since that time, the center has become a powerful resource for environmental justice research and education as well as health and safety training for environmental careers.



Questions

For further information:

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THANK YOU