

HURRICANES AND COASTAL STORMS

Introduce hurricanes and coastal storms by asking the question below.



ASK QUESTION

What is the difference between a hurricane and a coastal storm?

Allow the participants time to respond before displaying the visual.



DISPLAY VISUAL

A Hurricane Is . . .

A violent area of low pressure forming in the tropical Atlantic Ocean from June to November.

Explain that a hurricane is a violent area of low pressure forming in the tropical Atlantic Ocean from June to November. August and September are peak months. (Similar Western Pacific Ocean storms are called typhoons.) Hurricanes have winds of 75 miles per hour or more and are accompanied by torrential rains and—along coastal areas—a storm surge.

Tell the participants that although coastal storms may have hurricane-force winds and may cause similar kinds and amounts of damage, they are not classified as hurricanes because they do not originate in the tropics. Coastal storms typically form along the east coast from December through March.



DISPLAY VISUAL

HURRICANES AND COASTAL STORMS (CONTINUED)

Risks Posed by Hurricanes and Coastal Storms

Intense winds and rain can:

- Damage or destroy structures.
- Lift and move unstable structures and objects.
- Damage utility lines.
- Be accompanied by tornadoes.
- Cause coastal erosion.
- Cause floods.
- Threaten lives.

Explain that hurricanes and coastal storms pose a risk because powerful and intense winds can:

- Damage or destroy structures.
- Lift and move unstable structures and objects.
- Damage utility lines.
- Be accompanied by tornadoes.
- Cause coastal erosion.
- Cause floods.
- Threaten lives.

The accompanying heavy rains can inundate coastal areas and inland communities, presenting another risk to life and property.



DISPLAY VISUAL

HURRICANES AND COASTAL STORMS (CONTINUED)

Saffir-Simpson Hurricane Scale

- Five categories of storms
- Measures wind speed
- Includes expected barometric pressure and storm surge



PM, P. 1-A-28

Refer the participants to the chart titled, *Hurricane Classifications* in the Participant Manual. Explain that hurricanes are classified according to the Saffir-Simpson Hurricane Scale, which measures wind speed.

Point out that the chart in the Participant Manual also includes the anticipated barometric pressure (in inches) and storm surge for each category of storm.

COMMUNITY EMERGENCY RESPONSE TEAM
APPENDIX 1-A: HAZARD LESSON PLANS



PM, P. 1-A-28

Hurricane Classifications

Category	Barometric Pressure (Inches)	Windspeed (Miles Per Hour)	Storm Surge (Feet)
I - Minimal	Above 28.94	74-95	4-5
II - Moderate	28.50-28.91	96-110	6-8
III - Extensive	27.91-28.47	111-130	9-12
IV - Extreme	27.17-27.88	131-155	13-18
V - Catastrophic	Less Than 27.17	More Than 155	More than 18

HURRICANES AND COASTAL STORMS (CONTINUED)

Point out that the greatest likelihood of a hurricane striking land is along the Gulf Coast and the southeastern seaboard. However, hurricanes have also hit central Pennsylvania and the coasts of New Jersey, New York, and New England.

Explain that each year approximately 10 “storm-strength” weather disturbances are detected in the North Atlantic. Of these, half may grow to hurricane proportion. Two hurricanes are likely to strike the U.S. coast each year.



DISPLAY VISUAL

Hurricane Statistics

Nearly 100 million Americans are at risk:

- 14 million live in the zone where winds over 125 mph have been recorded.
- More than 6 million live in storm surge areas.

Stress that nearly 100 million Americans are at risk from hurricanes. Specifically:

- Almost 14 million live in the area where winds greater than 125 mph have been recorded (i.e., the tip of Florida to the North Carolina coast).
- More than 6 million live in storm surge areas.

Emphasize that although deaths from hurricanes are decreasing as hurricane warning systems improve, property damage is on the rise.



ASK QUESTION

HURRICANES AND COASTAL STORMS (CONTINUED)

How can you prepare for a hurricane or coastal storm?

Allow the group time to respond. Summarize the responses, using the visual.



DISPLAY VISUAL

Preparing for a Hurricane/Coastal Storm

- Know your risk and evacuation routes.
- Develop a plan.
- Secure needed supplies.
- Floodproof property.
- Secure mobile homes and outdoor items.

Point out that many people do not realize the threat that hurricanes can present—even if they live in hurricane-prone areas—because they have not experienced a “major” hurricane.

Stress that there are certain preparations that people who live in high-risk areas should take to prepare for a hurricane or coastal storm before one occurs.

Describe for the group the following preparations:

- Know the risk and evacuation routes. Being aware of the risk and how to get out of the area as quickly as possible should an evacuation order be issued is one of the key preparedness steps to take. Driving the evacuation routes to ensure familiarity before a storm and identifying shelter locations will make an evacuation smoother.

HURRICANES AND COASTAL STORMS (CONTINUED)

- Develop an action plan. When will you begin preparing your home for possible high winds and storm surge? How much time will it take you to evacuate, if necessary? Does your evacuation route change based on the direction of the storm? Will you go to a shelter or a hotel? These are all questions that anyone who lives in a high-risk area should answer as part of hurricane or coastal storm planning.
- Secure needed supplies. Point out that if the participants assemble their disaster supply kits as suggested in this unit, they will have everything that they need for hurricane and coastal storm preparedness.
- Floodproof property. Floodproofing can range from using a water sealer in areas that have basements to sandbagging, to elevating utilities, and to moving furniture to the second floor.



INSTRUCTOR'S
NOTE

Review the techniques for floodproofing properties that are included in the Flood Hazard section of this Instructor Guide.

- Secure mobile homes and any outdoor items that could be picked up by the wind or washed away.

Solicit other suggestions from the group. Additional suggestions may include keeping the car's gas tank filled and verifying insurance coverages.



ASK QUESTION

After a hurricane watch has been issued, what should you do to prepare?

Allow the group to respond before displaying the visual.



DISPLAY VISUAL

HURRICANES AND COASTAL STORMS (CONTINUED)

Before a Hurricane

- Board up all windows and glass doors.
- Check batteries.
- Stock up on nonperishable food.
- Listen to EAS.

Summarize for the group the steps that everyone who is at risk should take before a hurricane strikes:

- Board up all windows and glass doors. Studies have shown that if the wind can be kept out of a structure, the structure will withstand high winds relatively well. If wind is allowed inside, however, additional structural and nonstructural damage will occur very quickly. The best way to prevent wind from getting into a structure is to cover all windows and glass doors with plywood or to close hurricane shutters.
- Check batteries. Often electricity is disrupted by hurricanes (and coastal storms) and, depending on the extent of damage, may not be restored immediately. Check batteries for flashlights and portable radios to ensure that they are fresh. Replace old batteries, and have extra on hand.
- Stock up on nonperishable food. A 3-day supply of food and water for each family member is a must.
- Listen to EAS for local emergency information. Local officials will have the most current emergency information about the storm (including watch and warning information from the National Weather Service) and will provide information and instructions via EAS.



ASK QUESTION

HURRICANES AND COASTAL STORMS (CONTINUED)

What should you do during a hurricane?

Allow the group time to respond. Then, summarize their responses, using the visual.



DISPLAY VISUAL

During a Hurricane

- If not advised to evacuate, stay indoors.
- Be aware of the “eye.”
- Be alert for tornadoes.

Be sure to make these points:

- Stay indoors. If advised to evacuate, do so. However, do not assume that because an evacuation order is not issued that the situation is safe. Even Category 1 hurricanes are dangerous. Stay indoors and listen to EAS for up-to-date information.

If advised to shelter in place:

- Take the family disaster supply kit.
- Go to an interior “safe” room, if possible.
- Stay in the safe room and listen to EAS for additional instructions.
- Be aware of the “eye.” The “eye” of a hurricane is typically 20 to 30 miles wide in relation to the storm, which may have a diameter of 400 miles. During the “eye,” there are very few clouds, but it is important to remember that the storm is not over.
- Be alert for tornadoes. Tornadoes are frequently associated with hurricanes, and are most common in the right-front quadrant of the storm.



INSTRUCTOR'S
NOTE

HURRICANES AND COASTAL STORMS (CONTINUED)

If you live in an area that is away from the coast but subject to inland flooding, you should include some discussion on inland flooding that accompanies decaying hurricanes and tropical storms and the risk of cascading events, such as landslides and mudflows. You should also emphasize that hurricane- and tropical storm-force winds can extend well inland from the coast, and that the strongest sustained winds from a hurricane usually occur in the right front quadrant of the storm.



ASK QUESTION

What precautions should you take after a hurricane or coastal storm?

Allow the participants time to respond. Summarize the discussion, using the visual.



DISPLAY VISUAL

After a Hurricane or Coastal Storm

- Do not reenter the area until it is safe.
- Use a flashlight to inspect for damage.
- Stay away from downed power lines.
- Turn off utilities, if necessary.
- Reserve telephones for emergencies.
- Listen to EAS.

HURRICANES AND COASTAL STORMS (CONTINUED)

Be sure to make these points:

- Do not re-enter the area until it is declared safe. Reentry to the area too soon may cause unnecessary risk—and may keep first responders and utility workers from doing their jobs.
- Use a flashlight to inspect for damage. Do not assume that utilities are undamaged following a hurricane or coastal storm. Checking for damage with a flashlight reduces the risk of injury, especially from a damaged electric supply.
- Stay away from downed power lines. The only sure way to limit risk from downed power lines is to avoid them completely.
- Turn off utilities, if necessary. If there is a gas smell or a fire, turn off the gas valve. If there is damage to electric lines or supply, shut off the electricity by turning off small circuit breakers (or unscrewing fuses) first, then turning off the main breaker (or fuse).



INSTRUCTOR'S
NOTE

Remind the group that if they turn off the gas valve, only the gas company can restore the service.

- Reserve the telephone for emergency use. Telephone lines are invariably overloaded following a disaster or emergency. Reserving telephone use (both landline and cellular) for emergency use helps to ensure that those calls that must go through do so.
- Listen to EAS for updated information. Local officials will use EAS extensively to provide emergency information and instructions. Be sure to tune in often for updates.

Ask the participants if anyone has additional questions, comments, or concerns about hurricanes or coastal storms.

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