



# Hurricane Preparedness GUIDE



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# Reacting to an Incoming Storm

**T**he one advantage people have in the face of an approaching hurricane is there is usually plenty of time to prepare before the storm hits. Technology has advanced to the point where meteorologists can identify storms early over the warm tropical Atlantic, even before it becomes a tropical depression, then a tropical storm.

Once a cyclone's winds hit 74 mph, it's a hurricane.

If you live in a coastal area, you should have emergency supplies such as food, water, batteries and flashlights ready as soon as hurricane season starts. Below are a few tips from the Department of Homeland Security's Ready campaign about what to expect when a hurricane is expected:

## **36 HOURS FROM IMPACT**

Check your emergency supplies and

review your evacuation plan. Stay tuned to your local news and national weather reports. Pay attention to watches and warnings issued for your area and get your cars ready to leave.

## **18 TO 36 HOURS FROM IMPACT**

High winds are on the way. Bring in lightweight objects and start preparing your property with storm shutters or boarding windows. Your local home improvement store can help you choose the right materials if you don't

have shutters. If you're prone to flooding, take proper precautions. Always listen to local officials and if they tell you to evacuate, leave.

## **6 TO 8 HOURS FROM IMPACT**

If you're under an evacuation order, you should have left by now. If you're choosing to hunker down, preparations to protect life and property should be completed. Make sure your phone has a full charge and don't expect emergency services to respond

during the storm, so make sure you have a first-aid kit handy and that friends and family know where you are.

## **LESS THAN 6 HOURS FROM IMPACT**

While you still have power and water, fill containers for well more than you think you need. Turn your refrigerator and freezer to the lowest settings and avoid opening them to keep your food cold. A well-insulated fridge will keep food cold for about 48 hours if you keep the door shut.

# Build a Preparedness Kit

Families in hurricane-prone regions cannot afford to be without an emergency preparedness kit. The items are inexpensive, kits are easy to build and they can be the difference between life and death. Assemble your kit before hurricane season and keep it at the ready from June 1 until Nov. 30.

In coastal areas, many hardware and big-box stores hold special sales just before hurricane season. Take advantage of these to stock up.

The Federal Emergency Management Agency suggests having enough food, water and supplies to last for at least 72 hours. Depending on the strength of a storm and the amount of damage, it could take days before you receive help.

## WHAT TO PUT IN YOUR KIT

The top of your list should include at least one gallon of water per person for at least three days. Remember, you will need it for more than just drinking, so plan accordingly for sanitation and hygiene needs. There should also be plenty of non-perishable food. Think canned goods, nuts and dehydrated protein. Check expiration dates periodically and rotate with fresh items.

In addition to food and water, don't forget these important items suggested by FEMA:

- A NOAA Weather Radio: Stay alert to the progress your area is making in cleanup efforts and when the power may be restored.

- Electronics: If the power is out for extended periods, you'll be glad you have several



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flashlights, battery-powered radios and backup batteries for your cell phones. Don't forget to pack extra batteries.

- Breathe Safe: A dust mask can help filter out contami-

nants from destroyed homes like asbestos.

When building your kit, don't forget to bring along extra medicines, clothes and cash. If you have young children or

pets, keep their needs in mind.

## WHERE TO STORE YOUR KIT

The supplies you rely on should be kept in a readily

available area of the home. Whether you need to rush out of the home for an evacuation or will be waiting out the storm in your structure, make sure it is easy to gather.

# Reflecting on 2017 Storms

To this date, the deadliest natural disaster in United States history occurred in 1900 when a hurricane ripped through an unprepared Galveston, Texas.

According to the National Oceanic and Atmospheric Association, an estimated 6,000 to 12,000 people lost their lives.

Last year showcased some of the fiercest and most destructive storms in our nation's history. In fact, the National Hurricane Center says last season entered the list as the 17th deadliest hurricane season since the nation began keeping track of statistics. In addition to claiming hundreds of lives, these storms caused damage in the excess of \$200 billion. These numbers are expected to rise as recovery efforts are still underway in places like Puerto Rico.

The sheer destruction of this epic hurricane season should encourage you to take preparedness seriously. Here are the largest storms from 2017:

## HURRICANE HARVEY

This Category 4 storm crashed into the United States with sustained winds estimated at 132 miles per hour. Harvey stalled with its eye over or near the Texas coast, leaving behind the historic amount of over 60 inches of rain of the southwestern portion of the state. The torrential downpour caused disastrous flooding to both residential and commercial properties. Harvey was directly responsible for claiming the lives of at least 68 people.

## HURRICANE IRMA

This disastrous storm developed from a tropical wave off the west coast of Africa on Aug. 27. On Sept. 9, it struck Cuba as a Category 5 hurricane, the first of this size to hit the country since 1932. It was the next day when it crossed into Marco Island, Florida, with estimated wind speeds of around 141 miles per hour. Seven deaths were directly caused by the exceptionally

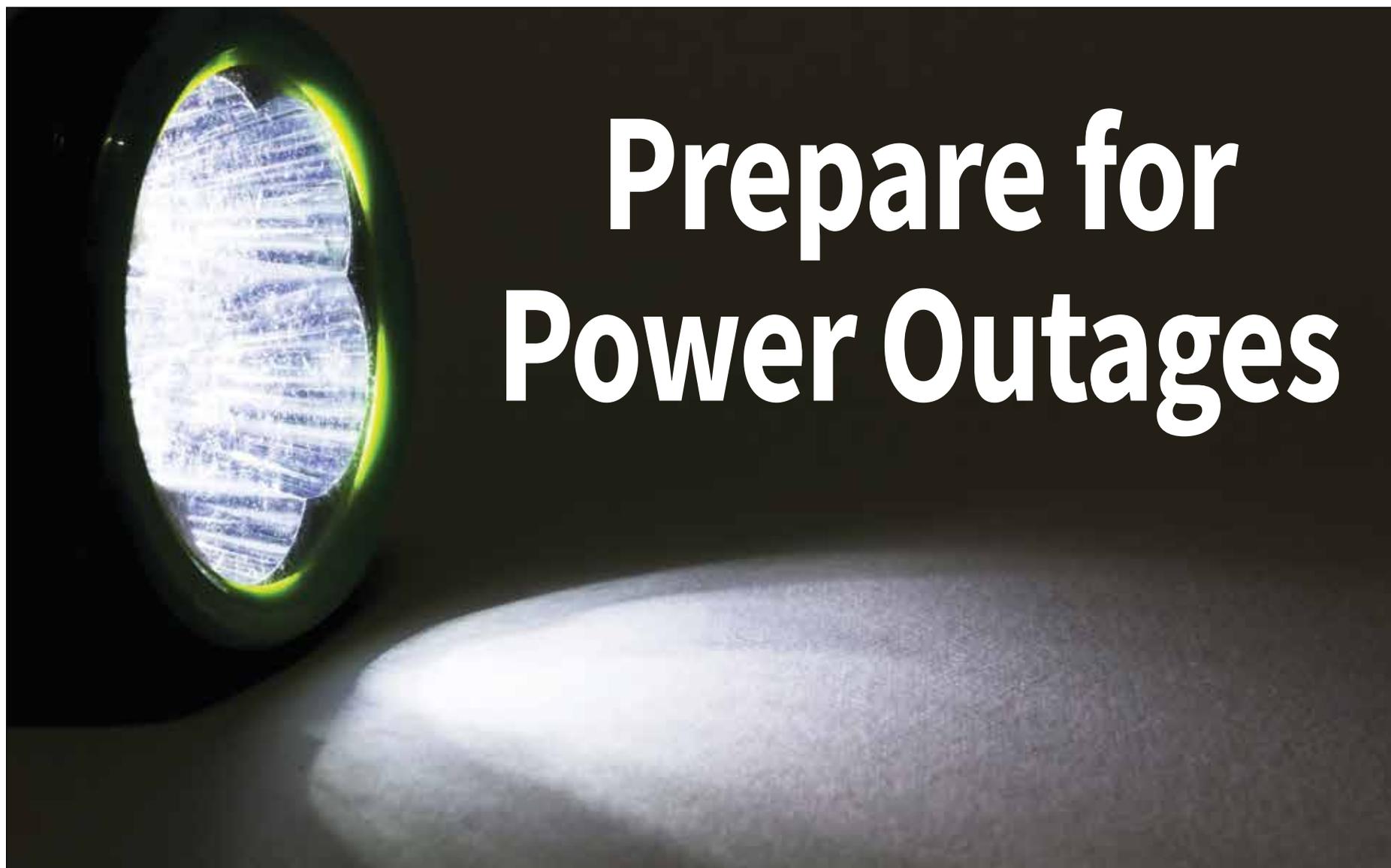
high winds, excessive rainfall and high surf that Irma brought to the United States. The storm was indirectly responsible for 85 deaths in the country, 80 of those being in Florida.

## HURRICANE MARIA

Citizens of Puerto Rico are still reeling from the effects of this powerful hurricane, which was a Category 5 storm when it hit Dominica and a

Category 4 as it barreled into Puerto Rico. Bringing winds nearing 155 miles per hour, the island is still suffering from massive power outages as it rebuilds. As of April 2018, the official death count in PR is at 65. Unfortunately, this number is expected to rise. The United States mainland was spared as Irma changed paths before her expected arrival in North Carolina.





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**T**he high-speed winds associated with hurricanes are notorious for destruction of buildings and causing widespread power outages. To protect yourself and loved ones, it have a plan in place in case your electricity is out for a long period of time.

#### **PREPARE FOR THE WORST**

Even when a minor storm blows through your town and temporarily

knocks out power, it may take hours or days to be restored. Keep in mind that others in your area may not have been so lucky; utility companies will typically send most of their team to areas with catastrophic damage.

Before the event, take these tips from the United States Food and Drug Administration to protect your supplies while power is being restored:

**Freeze water:** Create an ample ice supply in sanitized containers. Ice cubes can be used to cool the food in your fridge or cooler and, as they begin to melt, can be used as clean drinking water.

**Freeze food:** If you have items in

your fridge you won't need immediately, they will last much longer during a power outage if you freeze them pre-storm.

**Turn down the fridge:** Before a hurricane, set your freezer thermostat to or below 0 degrees and your fridge to 40 degrees or less. If your appliances are equipped with thermometers, you can use the displayed temperatures as a guide to determine how safe food is.

#### **WHILE POWER IS OUT**

Hopefully, you took the time to build a suitable hurricane-preparedness kit which makes dealing with a power shortage much easier. If you are heading into the event

without emergency supplies, you must take certain measures to ensure the food available remains safe.

These include:

- Keeping the refrigerator and freezer doors closed as much as possible to maintain safe temperatures.
- Buying dry or block ice from a store that is open to the public. The FDA states 50 pounds should keep an 18-cubic-foot freezer cold for two days.

Keep in mind you may find it difficult to find ice in your community. Once power is restored, check your appliance temperatures and food for sign of spoilage before consuming.

# Children and Hurricanes

The stress associated with an incoming hurricane affect both parents and their children, who can tell when mom and dad are full of worry. Be considerate of the fine line between educating and terrifying impressionable kids about the dangers of these natural disasters.

## KEEP THE FAMILY TOGETHER

The American Academy of Pediatrics stresses to parents that children should not be separated from their families or caregivers during any major pre-planning events. This includes evacuation, transport, sheltering or the delivery of other services. The Academy suggests that if separation is unavoidable, a reunion should occur as soon as it is safe to do so.

A great way to avoid this instance is to have a plan in place for the possible scenarios that may play out. Luckily, hurricanes give plenty of warning before their arrival is expected. Create a family plan that draws out where you will go, how to communicate if a separation persists and where to meet up once it is safe.

## DURING THE STORM

If your city is under a mandatory evacuation, don't risk waiting out the storm. When you have evacuated your home, explain to your children about the importance of following orders of their public officials and why they will be safer by leaving until the storm subsides.

While in your safe spot, try to keep your routine as normal as possible. Encourage children to bring along com-



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fort items like board games for the family. Talk to them about feelings they have about the storm. It's likely that they have heard horror stories from their peers or through media exposure. Reassure them that the most

important thing is keeping everyone safe throughout the event.

## AFTER THE STORM

Involve your children in small cleanup projects around their neighborhood.

Always ensure they are safe and not around environments with deep water or downed electrical wires — even if the power is out.

Nemours Children's Health System recommends keeping an eye on your child's behav-

ior after a storm. Watch for signs of stress, nightmares or excessive clinginess. These emotions are common in children who have went through a traumatic experience. Talk to a pediatrician about your concerns.

# Reverse-Storm Surge

**H**urricanes are known for their fierce winds, dangers of flooding and the ability to hover over an area, wreaking havoc for long periods of time.

Storm surge is another substantial contributing to the destruction.

The National Oceanic and Atmospheric Administration defines storm surge as an abnormal rise of water generated by a storm over and above the predicted astronomical tide. This sudden rush of water is common during hurricanes and can create dangerous flooding conditions to coastal communities.

Hurricane Irma showcased the unique damage these natural disasters are capable of producing.

While not an unprecedented event, a reverse storm surge is achieved when a mighty storm moves at a certain path, temporarily reshaping the ocean.

## WHAT CAUSES WATER TO RECEDE

Experts from the National Hurricane Center says Hurricane Irma drained parts of the Florida coast because the shore is on a parallel track. Typically, winds will push a storm surge toward the shore. During this powerful 2017



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storm, winds were blowing offshore pushing the water away from land.

While a reverse storm surge was witnessed in superstorm Sandy in 2012, it was the vast area affected by Irma that made it such a national spectacle.

## REMAIN SAFE DURING A REVERSE STORM SURGE

If you live near a coastal area where this phenomenon occurs, it can be tempting to witness the event for yourself. Keep in mind, it is inevitable that the water will return

once a storm has passed. Don't find yourself on the ocean floor when the storm surge comes back unexpectedly and with a fury.

There are many dangerous risks associated with hurricanes and surges should be taken just as seriously as

wind damage. Listen to local officials when they call for a mandatory evacuation or when to remain indoors as the storm approaches. It's not worth risking your life to experience the features these natural wonders sometimes create.

# Hurricane Season 2017

**T**he Atlantic hurricane season runs from June 1 through Nov. 30. The explosive storms of 2017 were fierce, fatal and record setting, so this time period should be on your radar if you live in a hurricane zone.

Experts at National Geographic report that the United States suffered more than \$200 billion worth of damage from 17 named storms during the season. The previous record was attributed to 2005, when Hurricane Katrina and 27 other hurricanes caused an estimated \$159 billion.

Take a look at these troubling statistics from the 2017 season, as reported by the Federal Emergency Management Agency.

- Once Hurricane Harvey made landfall, there were 30 presidential

declarations (14 emergency declarations and 16 major disaster declarations), as well as 25 Fire Management Assistance grants deployed.

- The country's largest sustained air mission for food and water occurred after Irma and Maria.

- More than \$2 billion of disaster assistance was paid to survivors.

- Nearly 8 percent of the United States population was affected by a hurricane during the 2017 season.

- There were 133,000 flood insurance claims. Approximately \$6.3 billion has been paid out to assist in

rebuilding efforts.

- More than 4.7 million survivors registered for individual disaster assistance from FEMA. This is more than hurricanes Rita, Wilma, Katrina and Sandy combined.

- Hurricanes Harvey and Irma marked the first time that two Category 4 hurricanes made landfall in the United States.

- Irma was the longest-lived hurricane since Ivan in 2004. The storm lasted for 11 days and winds peaked at 185 mph.

- Hurricane Harvey set a record for the most rainfall from a United States tropical cyclone, with more than 60 inches of rain in some areas.

- Hurricane Maria was the first Category 4 hurricane to make landfall on the main island of Puerto Rico in 85 years.