Hurricanes are among the most dramatic, damaging and potentially deadly weather events. The force of hurricane winds alone can cause tremendous devastation, toppling trees and power lines and undermining weak areas of buildings.

During a hurricane, homes, businesses, public buildings, roads and power lines may be damaged or destroyed by high winds and floodwaters. Debris can break windows and doors and block roads and bridges, and flash flooding can cause extensive damage.

Fortunately, individuals and communities can take some measures to prevent and offset hurricane damage.

For example, simple construction measures — such as placing storm shutters over exposed glass or installing hurricane straps on roofs — have proven effective in lessening hurricane damage.

In addition, communities can adopt and enforce building codes for wind and flood resistance and adopt sound land-use planning standards to ensure that structures are not built in high-hazard areas. Building disaster-resistant communities requires action by individuals, businesses and local governments working together — and it can help save lives and prevent property and business damage when a hurricane strikes.

The hurricane warning system provides time for people to move inland when a storm is approaching. But it is becoming more difficult to evacuate people from densely populated areas. Roads can become clogged, especially during summer tourist season. The problem is compounded by the complacency of people who do not understand the power of hurricanes. Delayed action can result in loss of life and damage to property.

This publication features detailed information that can help reduce the risks you face from hurricanes. More information is available at www.fema.gov.

Hurricanes Are Powerful

A hurricane is a tropical weather system with winds that have reached a sustained speed of 74 mph or more. Hurricane winds blow in a large spiral around a relatively calm center, known as the “eye.” The eye is generally 20-30 miles wide, and the storm may extend outward from the eye for 400 miles.

Hurricanes wield incredible power. As they near land, they can bring torrential rains, high winds, floods and flash floods and spawn tornadoes.

Even more dangerous is the storm surge — a dome of water that, at its peak, can be 20 feet high and 50-100 miles wide. Surges can devastate coastal communities.

A single hurricane can last more than two weeks over open waters and can run along the entire length of the eastern seaboard. The 74-160 mph winds can extend inland for hundreds of miles.

Hurricanes are classified by five categories according to wind velocity. Category 1 is the mildest and Category 5 is the strongest.

The hurricane season lasts from June 1 through November 30. August and September are the peak months.

Before a Hurricane Strikes

Learn hurricane warning signals and your community’s alert signals.

Prepare your family disaster plan and supply kit (see page 4 for details).

Plan and practice an evacuation route that will take you 20-50 miles inland.

Check into flood insurance. Homeowners policies do not cover damage from
floods that often accompany hurricanes. (see page 3).

Teach everyone in your home how to turn off gas, electricity and water.

When a Hurricane Watch or Warning Is Issued

Listen to a battery-operated radio for hurricane progress reports.

Store drinking water in clean bathtubs, sinks and jugs, in case the local water supply becomes contaminated.

Bring in outdoor furniture and objects such as toys and garden tools; anchor items that cannot be brought inside but could be tossed by winds.

Secure your home by closing or installing window shutters.

Fuel your car. If you have a boat, moor it securely or move it to a safe place.

If you are instructed to do so by local authorities, turn off all utilities at the main valve switch and close the main gas valve.

Be prepared to evacuate.

If You Must Evacuate

If officials order you to evacuate, leave as soon as possible.

If there is time to do so safely, secure your home. Unplug appliances and turn off electricity and the main water valve.

If time permits, elevate furniture to protect it from flooding or move it to a higher floor.

Take your emergency supplies and warm protective clothing when you leave.

Avoid flooded roads and watch for washed-out bridges.

After the Hurricane Passes

Return home only after authorities say it is safe to do so.

Beware of downed or loose power lines. Report them immediately to the power company, police or fire department.

Enter your home with caution. Open windows and doors to ventilate or dry out your home.

Check for gas leaks. If you smell gas or hear a blowing or hissing noise, leave the building immediately and leave the doors open. Call the gas company.

Look for electrical system damage. If you see sparks or frayed wires, turn off electricity at the main fuse box. If you have to step in water to reach the electric box, first call an electrician for advice.

Check for sewage and water-line damage. If you suspect damage, call the water company and avoid using water or toilets until they are inspected.

Take photos of the damage for insurance claims.

Don’t Forget Your Pets

In planning for hurricane season, don’t forget your pets. If you evacuate, do not leave them behind.

Make sure you have take their identification tags, a pet carrier and a leash.

Most emergency shelters will not accept pets. Make alternative arrangements for someone to take care of them, possibly a friend, relative or a kennel in a safe location. Send medicine, food and feeding information for your pet.

More information about your pets and livestock during and after a disaster is available from the American Humane Association web site at www.americanhumane.org.

Weather Terms for Hurricanes

Advisory: Hurricane and storm information is disseminated to the public every six hours.

Special Advisory: Information is disseminated when there is a significant change in storm-related weather conditions.

Gale Warning: Sustained winds of 39-54 mph and strong wave action are expected.

Storm Warning: Sustained winds of 55-73 mph are expected.

Hurricane Watch: A hurricane may threaten, but is not imminent.

Hurricane Warning: A hurricane is expected to strike within 24 hours or less, with sustained winds of 74 mph or more and dangerously high water and waves.

Tropical Disturbance: A moving area of thunderstorms is in the tropics.

Tropical Depression: An area of low pressure, rotary circulation of clouds and winds up to 38 mph is identified.

Tropical Storm: A storm characterized by counterclockwise circulation of clouds and winds 39-73 mph is brewing.

For hurricane-related and other disaster information, visit www.fema.gov
Test Your Knowledge of Flash Floods

Did you know?

- Nearly one-half of all flash flood fatalities are auto-related.
- Two feet of water will carry away most cars.
- Water weighs 62.4 lbs. per cubic foot and typically flows downstream at 6 to 12 mph.
- When a vehicle stalls in water, the water’s momentum is transferred to the car. For each foot the water rises, 500 lbs. of lateral force are applied to the car.
- The biggest factor in flash floods is buoyancy. When a foot of water rises up the side of a car, the car displaces 1,500 lbs. of water. That is, a car weighs 1,500 lbs. less for each foot the water rises.

Protect Yourself with Flood Insurance

Many people find out after a flood disaster that their home and business insurance policies do not cover flood damage. A National Flood Insurance policy is one of the most effective ways to protect yourself from the financial devastation following a flood of your home or business.

Some people refuse to buy flood insurance in the belief that the government will bail them out if they are flood victims. But federal disaster assistance is available only if a flood is so large and widespread that it warrants a formal disaster declaration from the president. Most floods are not declared, and in the majority of cases flood victims are on their own—unless they have flood insurance.

National Flood Insurance is backed by the federal government and is available to any homeowner, renter or business owner whose property is located in a community that participates in the National Flood Insurance Program (NFIP).

To participate, communities must adopt and enforce local floodplain ordinances designed to reduce the risk of future flood losses. If your community is an NFIP participant, you may purchase a policy from most licensed insurance agents or companies. Or you can call the NFIP toll-free for an agent referral.

If your home or business is substantially damaged by a flood, you may have to meet certain building requirements in your community to rebuild. The cost may be covered in your flood insurance policy. Flood insurance policyholders may be eligible to get up to $20,000 to help pay the costs of bringing their home or business into compliance with their community’s floodplain ordinance.

If your community officials determine that your home or business has been heavily damaged by the flood, contact your insurance company or agent to file a claim.

Additional information can be obtained by calling the NFIP toll-free at 1-800-720-1090.

Strengthen Your Home

Experts who have examined homes that were destroyed or survived hurricanes have found four areas where weaknesses occur: the roof, windows, doors and garage doors.

Here are some measures you can take to protect your home:

- Use trusses and rafters to brace the roof. A building professional can use metal connectors to attach the roof to wall plates or to a masonry wall.
- Install storm shutters over all exposed windows and other glass surfaces.
- Find out what kind of bolt system will secure your entry doors.
- Strengthen garage doors with retrofit kits available at building supplies stores.
Personal Preparedness Info & Resources

Make a Family Disaster Plan.

Your household emergency plans should be simple, easy to remember and applicable to any type of disaster you may encounter.

Identify family meeting places for use if you become separated from each other. Choose a place in a building or park outside your neighborhood. Make sure every member of the family knows where to meet.

Develop an emergency communication plan in case family members are separated. Ask an out-of-state relative or friend to be the family’s contact.

Be familiar with escape routes from your neighborhood. Plan several routes in case your normal route is blocked.

Keep a battery-operated radio and extra batteries on hand. Make sure all family members know where the supplies are kept.

Post emergency phone numbers (fire, police and ambulance) by the phone.

Teach children how to call 911 for help.

Compile a Disaster Supply Kit containing the following:

- Water - at least one gallon daily per person for 3 to 7 days
- Food - at least enough for 3 to 7 days. Include non-perishable packaged or canned food/juices, food for infants or the elderly, snack foods, non-electric can opener, cooking utensils/fuel, paper plates and plastic utensils.
- Blankets/pillows, etc.
- Clothing - seasonal, rain gear, sturdy shoes
- Medical supplies - first aid kit, medicines, prescription drugs
- Special items for infants and the elderly
- Toiletries - hygiene items
- Moisture wipes
- Flashlight with extra batteries
- Portable, battery-operated radio and weather radio
- Cash - Banks and ATMs may not be open
- Important documents in a waterproof container - insurance, medical records, bank account numbers, Social Security card, etc.
- Keys
- Toys, books and games
- Tools - Keep a set with you during the storm.
- Keep vehicle fuel tanks filled.
- Pet care items— proper identification, immunization records, ample supply of food and water, a carrier or cage, medications, muzzle and leash

Resources:

Visit www.Ready.gov, and www.FEMA.gov for more information on disaster preparedness and a more detailed list of emergency supplies.

www.Ready.gov/kids is an excellent resource for information on how to involve children in the preparedness process.

Visit www.godirect.org to sign up for direct deposit so that Social Security and SSI payments and other federal benefits will be easily accessible after a disaster.