



NASA

## Hurricanes —The Basics

■ In this satellite photo from September 14, 1999, Hurricane Floyd stalls off the coast of Florida. In the following days, Floyd paralleled the coast eventually making landfall in the Carolinas. Floyd weakened slightly during this time, but caused extensive flooding in several Atlantic coast states, especially North Carolina and Pennsylvania. Damage due to Floyd was estimated at 3 to 6 billion dollars. In addition, 57 deaths were attributed to Floyd in several states.

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**The sustained winds of a hurricane** can reach speeds of 74 to 160 miles per hour. The highest sustained winds in a hurricane were recorded in 1969 in Hurricane Camille. With winds of 190 miles per hour, Camille may be the most intense storm of any kind to strike the American mainland.

Hurricanes develop at sea, but their damaging winds can extend hundreds of miles inland. In addition to intense winds, hurricanes can spawn tornados and cause extensive floods due to torrential rain. Following a hurricane, inland streams and rivers can flood and trigger landslides. More dangerous still is the storm surge that piles up in front of an approaching hurricane. This dome of ocean water can be 20 feet at its peak and 50 to 100 miles wide. The surge can devastate coastal communities as it sweeps ashore. Nine out of 10 hurricane fatalities are attributable to the storm surge. The tremendous power of a hurricane can cause incredible damage to property and loss of life.

The National Weather Service predicts the path of hurricanes and tropical storms five days in advance. Residents in areas that may be affected should “prepare to prepare” by gathering materials to protect homes and assemble disaster kits. Waiting until the last minute only guarantees frayed nerves and shortages.

When the chances of a hurricane striking are significant, a **hurricane watch** will be issued. When a hurricane is expected to strike within 24 hours, the watch will be upgraded to a **hurricane warning**. When a watch is issued, the best response is to protect your property by boarding up windows, bringing in outside items, and being prepared to evacuate the area as soon as officials advise.

### Danger Zones

Areas in the United States vulnerable to hurricanes include the Atlantic and Gulf coasts from Texas to Maine, the territories in the Caribbean, and tropical areas of the western Pacific, including Hawaii, Guam, American Samoa and Saipan.

## What is a Hurricane?

A hurricane is a tropical storm with winds that have reached a constant speed of 74 miles per hour or more. Hurricane winds blow in a large spiral around a relatively calm center known as the “eye.” The eye is generally 20 to 30 miles wide, and the storm may extend outward 400 miles. As a hurricane approaches, the skies will begin to darken and winds will grow in strength. Near land, a hurricane can bring torrential rains, high winds, and storm surges. A single hurricane can last for more than 2 weeks over open waters and can run a path across the entire length of the eastern seaboard. August and September are peak months during the hurricane season, from June 1 through November 30.

## Help Your Community Get Ready

There are many activities that can help raise community awareness. Examples include:

- Publish a special section in your local newspaper with emergency information on hurricanes. Print phone numbers of local emergency services, American Red Cross, and hospitals.
- Provide hurricane tracking charts to local schools.
- Work with local emergency services and American Red Cross officials to prepare special reports for people with mobility impairments on what to do if an evacuation is ordered.
- Stage a simulated evacuation to show your community what can happen.
- Host an informational expo at a mall or shopping center. Area media, emergency services, Extension, utilities, and other agencies and organizations can participate.

## Did You Know...

In a 4-week period in 1992, two major hurricanes hit the U.S., leaving an unprecedented array of devastation. First, Hurricane Andrew pounded Florida and Louisiana, becoming one of the most expensive natural disasters in U.S. history with damage estimated at \$26.5 billion. Three weeks later, Hurricane Iniki struck Hawaii, resulting in over \$1 billion in damage, particularly in Kauai. In 2004, Florida was impacted state-wide by Hurricanes Charley, Frances, Ivan and Jeanne.

Eighteen of the 54 direct deaths attributed to Hurricane Andrew occurred during the recovery phase. Of those identified, eight were stress-induced heart attacks, three were either people falling in damaged buildings or hit by debris while cleaning up, and two were children who died in fires in damaged homes.

On average, 10 tropical cyclones develop in the North Atlantic each year. Of these, six may strengthen to hurricanes, of which two are likely to strike the coast of the United States.

Hurricane winds in the northern hemisphere circulate in a counterclockwise motion around the hurricane’s center or eye; hurricane winds in the southern hemisphere circulate clockwise.

The Galveston, Texas hurricane in 1900 resulted in an estimated 8,000 deaths, the most deaths attributed to a hurricane in United States history.