

Follow That Hurricane!

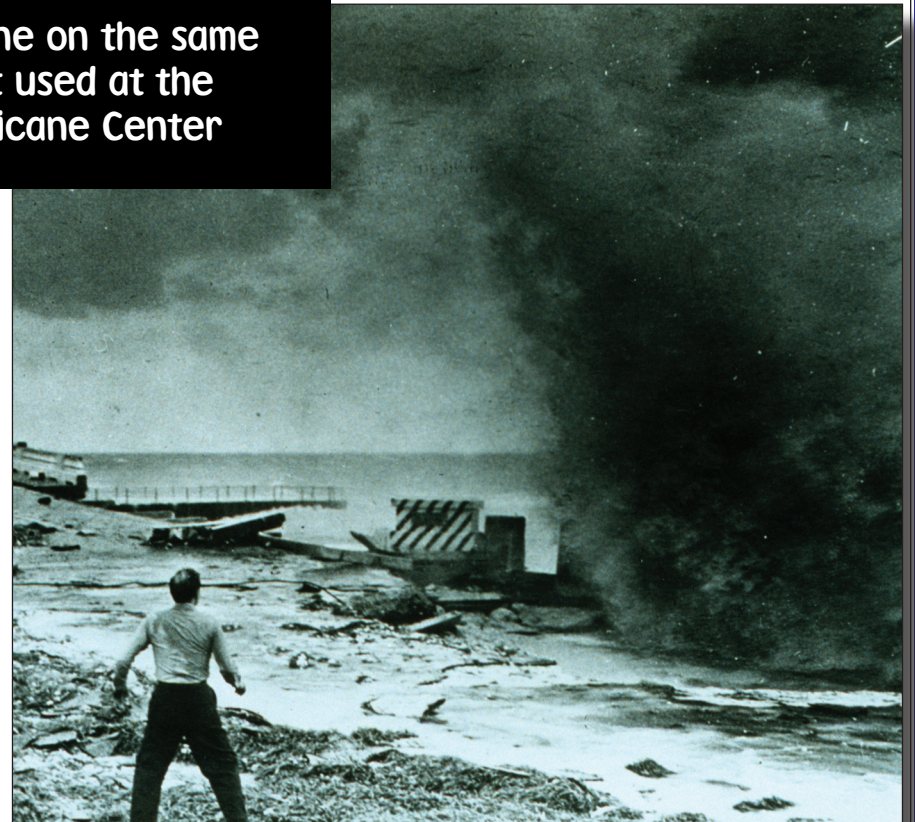
What You Will Do

Track a hurricane on the same type of chart used at the National Hurricane Center

“Devastating damage expected... A most powerful hurricane with unprecedented strength... Most of the area will be uninhabitable for weeks, perhaps longer... At least one half of well constructed homes will have roof and wall failure... all wood framed low rising apartment buildings will be destroyed... High rise office and apartment buildings will sway dangerously, a few to the point of total collapse... airborne debris will be widespread... persons, pets, and livestock exposed to the winds will face certain death if struck...”

~ from Urgent Weather Statement issued by Robert Ricks, Meteorologist, National Weather Service, New Orleans/Baton Rouge Office, August 28, 2005

This weather statement, warning of Hurricane Katrina’s approach, probably saved many lives. Providing weather forecasts and warnings is one of the ways the National Weather Service carries out its mission to protect life and property and enhance the national economy. The National Hurricane Center (part of the National Weather Service) tracks tropical storms and hurricanes, and issues hurricane watches and warnings when the storms get close to the U.S. Here’s how you can track the approach of tropical storms and hurricanes.



Startled man ready to run after a hurricane driven wave smashes into seawall
Historic NWS Collection. Courtesy NOAA.

What You Will Need

- Copy of the “Western Atlantic Hurricane Tracking Chart.” To download one yourself, go to <http://www.nhc.noaa.gov>, scroll down the page to the blank tracking charts and click on the Western Atlantic one.
- Pencil and eraser
- A record of hurricane locations from the National Hurricane Center, or from historical hurricane records; records from four famous hurricanes are found on the following pages.

How to Do It

1. The location of a hurricane on a particular date and time is described by the latitude and longitude of the storm’s center, called the “eye.” Latitude measures how far north or south a location is from the equator, and longitude measures how far east or west a location is from a line that goes from the North Pole to the South Pole, passing through Greenwich, England. On the “Atlantic Basin Hurricane Tracking Chart,” latitude is shown by horizontal lines and longitude is shown by vertical lines. Latitude and longitude are measured in degrees. Hurricane coordinates are given in pairs, with latitude written before longitude. So, the location of Bermuda would be written as: 32.3°N, 64.7°W. The “N” means that the location is north of the equator, and the “W” means that the location is west of Greenwich, England.

2. To plot the location of a storm:
 - (a) Find the latitude of the storm (the first coordinate in the pair), and locate the horizontal line on the map that matches this latitude.
 - (b) Find the longitude (the second coordinate in the pair, usually followed by a W or E), and locate the vertical line on the map that matches this longitude.
 - (c) Find the place on the map where the two lines intersect. This is the location of the storm eye. Draw the symbol for a hurricane or a tropical storm (depending upon the kind of storm you are tracking) at this spot, and write the date and time next to the symbol. (See above right).
3. Try plotting the track of one or more famous hurricanes. You are now ready to plot real storms during the next hurricane season! You can get coordinates from NOAA WeatherRadio-All Hazards, newspapers, or from <http://www.nhc.noaa.gov>.



Hurricane Katrina Satellite View. Courtesy NOAA

Hurricane Symbol:



Tropical Storm Symbol:



Is It a Tropical Depression, Tropical Storm, or Hurricane?

Tropical Depressions, Tropical Storms, and Hurricanes are all cyclones, which are areas of low pressure in the atmosphere that have a spiraling inward pattern of air movement. In the Northern Hemisphere, the spiral turns counterclockwise, while cyclones in the Southern Hemisphere have spirals that turn clockwise.

A Tropical Depression is a tropical cyclone in which the maximum sustained wind speed is 38 mph or less.

A Tropical Storm is a tropical cyclone in which the maximum sustained wind speed ranges from 39 mph to 73 mph.

Hurricanes are tropical cyclones with maximum sustained wind speeds of 74 mph or greater. Hurricanes are classified into five categories:

- Category One: Winds 74-95 miles per hour
- Category Two: Winds 96-110 miles per hour
- Category Three: Winds 111-130 miles per hour
- Category Four: Winds 131-155 miles per hour
- Category Five: Winds greater than 155 miles per hour

Is Your Family Disaster-Ready?

Visit <http://www.fema.gov/kids/dizkit.htm> for information about how to make a Disaster Supply Kit.



Courtesy FEMA

Want to Do More?

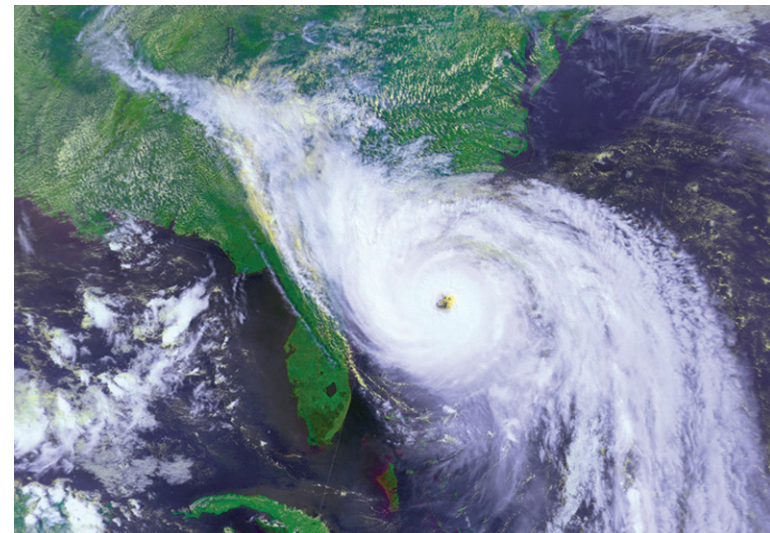
Check out these Web sites:

- <http://www.nhc.noaa.gov/HAW2/english/intro.shtml> – Hurricane Awareness from the National Hurricane Center
- www.nhc.noaa.gov/aboutnames.shtml – The list of World-Wide Tropical Cyclone Names
- www.nhc.noaa.gov/aboutsshs.shtml – Information about the Saffir-Simpson Hurricane Scale
- http://www.weather.gov/os/hurricane/pdfs/Hurricane_unleashing06.pdf – “Hurricanes, Unleashing Nature’s Fury,” a booklet about hurricanes and why they happen
- <http://www.nhc.noaa.gov/pastall.shtml> – Historical Hurricane Tracks Web site, with information about dozens of hurricanes in the Atlantic and East-Central Pacific Ocean Basins

Track Coordinates of Some Famous Storms

Hurricane Hugo Location and Windspeed at 0000 GMT

Date	Latitude (North)	Longitude (West)	Wind Speed (knots)
9/11/1989	13.2	23.7	30
9/12/1989	12.5	31.0	40
9/13/1989	12.6	38.2	55
9/14/1989	12.9	44.9	70
9/15/1989	13.8	50.5	100
9/16/1989	14.8	56.1	135
9/17/1989	16.1	60.4	120
9/18/1989	17.2	64.1	130
9/19/1989	19.7	66.8	100
9/20/1989	23.5	69.3	90
9/21/1989	27.2	73.4	100
9/22/1989	31.7	78.8	120
9/23/1989	42.2	80.2	35
9/24/1989	52.0	62.0	40
9/25/1989	54.0	57.0	40



Courtesy NOAA



Three views of Hurricane Andrew on 23, 24, and 25 August 1992 as the hurricane moves East to West. Time lapse satellite image courtesy NASA.

Hurricane Andrew
Location and Windspeed at 0000 GMT

Date	Latitude (North)	Longitude (West)	Wind Speed (knots)
17/8/1992	11.2	37.4	30
18/8/1992	13.6	46.2	40
19/8/1992	16.3	53.5	45
20/8/1992	19.8	59.3	40
21/8/1992	23.2	62.4	45
22/8/1992	25.3	65.9	55
23/8/1992	25.6	71.1	110
24/8/1992	25.4	77.5	125
25/8/1992	26.2	85.0	115
26/8/1992	28.5	90.5	125
27/8/1992	31.5	91.1	35
28/8/1992	34.4	86.7	20

Hurricane Floyd
Location and Windspeed at 0000 GMT

Date	Latitude (North)	Longitude (West)	Wind Speed (knots)
8/9/1999	15.0	46.9	30
9/9/1999	16.7	52.6	45
10/9/1999	18.3	57.2	60
11/9/1999	20.8	60.4	80
12/9/1999	22.7	64.1	85
13/9/1999	23.4	68.7	125
14/9/1999	24.5	74.0	115
15/9/1999	27.1	77.7	115
16/9/1999	32.1	78.7	90
17/9/1999	40.6	73.5	50
18/9/1999	44.8	67.3	40
19/9/1999	48.0	56.3	35

Hurricane Katrina
Location and Windspeed at 0000 GMT

Date	Latitude (North)	Longitude (West)	Wind Speed (knots)
24/8/2005	23.4	75.7	30
25/8/2005	26.0	77.7	45
26/8/2005	25.9	80.3	70
27/8/2005	24.6	83.3	90
28/8/2005	24.8	85.9	100
29/8/2005	27.2	89.2	140
30/8/2005	32.6	89.1	50
31/8/2005	38.6	85.3	30

