

# I. Hurricanes

## A. A hurricane is

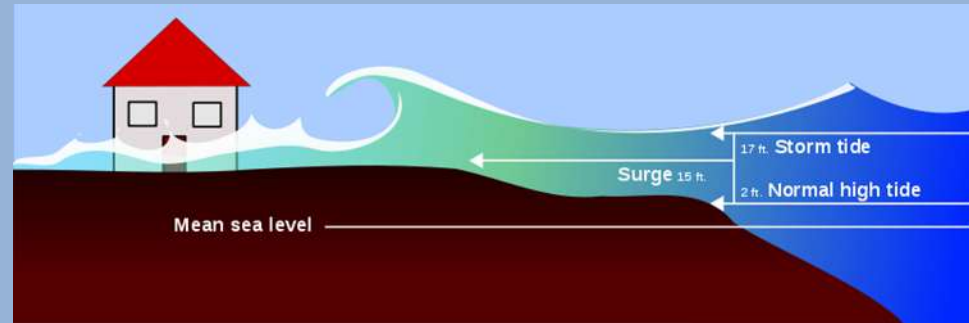
1. The largest, most powerful storm
2. An intense area of tropical, low pressure
3. A storm with winds of at least, 120 km per hour
4. A hurricane in the Pacific Ocean is called a typhoon

## B. Formation of a hurricane

1. Hurricanes form over tropical oceans where two opposing winds meet and begin to swirl
2. A low pressure area develops in the middle of the swirl and this begins to rotate counterclockwise
3. The hurricane needs warm water to provide energy for the storm



4. Once the storm reaches land it loses its energy source and the storm will lose its power
5. The most intense part of the storm is the uppermost right quadrant – this is where the tornadoes can be located.



### C. A hurricane brings

1. Strong winds that spiral counterclockwise
2. Heavy precipitation
3. Storm surges – a storm surge is where
  - a. Water gets piled up by the storm, along the shore and then,
  - b. The storm blows the water inland

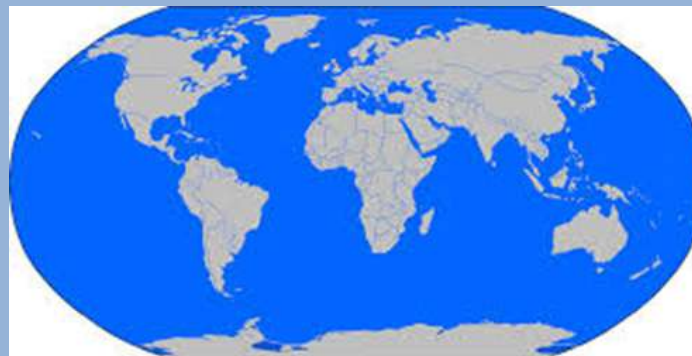
## D. The Eye



1. The center of the hurricane
2. Where all of the moist, warm, rising air sinks
3. Usually 15 to 50 km in diameter
4. Has few clouds, sometimes you can see blue sky or stars
5. No rain, calm winds
6. Surrounded by intense thunder storms called the eyewall
7. The storm that follows the passing of the eye is much more intense than what initially passed over the land

## E. Path of the storm

1. The storms travel across the ITCZ (Intertropical Convergence Zone)- an area of warm moist air that runs near the equator
2. The storms get their strength from warm water
3. Atlantic hurricanes start in waters near West Africa
4. The storm grows strength as it enters the warm water of the western Atlantic, the Caribbean or the Gulf of Mexico



## F. Naming the storms

1. Before 1953 hurricanes were identified by dates
2. 1953 to 1979 hurricanes were given only female names
3. After 1979 male names were added
4. The National Hurricane Center has two lists of names- one for the Atlantic storms and one for the Pacific storms- the two lists contain enough names for a six year cycle and then the names are repeated.
5. If a storm is considered to be exceptional (meaning tremendous devastation) then the name gets retired
6. The names are taken each year from the main list- arranged alphabetically, alternating male and female
7. The storm receives its name once it becomes a tropical storm- winds 65 km per hour or greater

## G. Forecasting a hurricane

1. If the storm can be detected early then we can minimize the loss (property and life)
2. Meteorologists are constantly on guard during hurricane season- from June 1 to November 30
3. Meteorologists monitor:



a. Weather satellite and monitor the size and strength of a new storm



b. Data received from weather reconnaissance aircraft which fly through hurricanes



c. Radar, when the storm gets into range and can be detected

4. National Hurricane Center in Miami, Florida will issue hurricane watches and warnings

# The Saffir-Simpson Scale

**MEMORIZE!!!**



Category	Wind Speed
1	74-95 mph
2	96-110 mph
3	111-129 mph
4	130-156 mph
5	157 mph or greater

<http://www.nhc.noaa.gov/aboutsshws.php> Saffir-Simpson Wind Scale and Animations

<http://www.nhc.noaa.gov/surge/> Storm Surge Overview and Animations

# IMPORTANT:

**Hurricane Watch** – means that hurricane conditions are likely in the watch area within **36 hours**

**Hurricane Warning** – means that hurricane conditions are likely in the warning area within **24 hours**

## Journal: Hurricane Names

**Create a list of your own hurricane names using every letter of the alphabet and alternating male and female.**

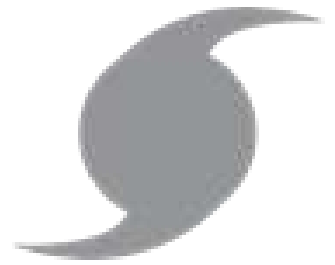
## Journal: Hurricane Review

1. When is hurricane season? Why?
2. Explain what the eye of a hurricane is in detail.
3. Define a hurricane warning and a hurricane watch.
4. What is a storm surge?
5. What three things do meteorologists use to help monitor hurricanes?
6. What do you think causes many hurricane related deaths?
7. List some basic items you should include in your family disaster supply kit.

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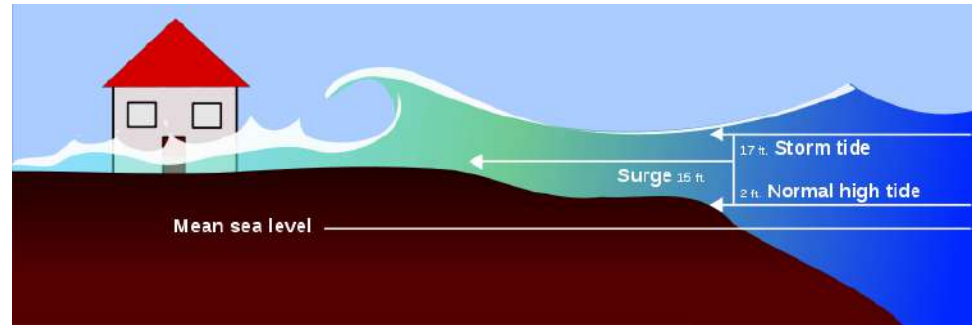
1. The \_\_\_\_\_
2. An intense area of \_\_\_\_\_
3. A storm with winds of at least, \_\_\_\_\_
4. A hurricane in the \_\_\_\_\_ is called a \_\_\_\_\_



## B. Formation of a hurricane

1. Hurricanes form over \_\_\_\_\_ where two opposing winds \_\_\_\_\_
2. A \_\_\_\_\_ area develops in the middle of the swirl and this begins to rotate \_\_\_\_\_
3. The hurricane needs \_\_\_\_\_ to provide \_\_\_\_\_ for the storm

4. Once the storm reaches \_\_\_\_\_ it loses its energy source and \_\_\_\_\_
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\_\_\_\_\_  
\_\_\_\_\_ – this is where the  
\_\_\_\_\_ can be located.



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\_\_\_\_\_ - winds \_\_\_\_\_ per hour or greater

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b. Data received from \_\_\_\_\_ which fly through hurricanes

c. \_\_\_\_\_, when the storm gets into range and can be detected

4. \_\_\_\_\_ will issue hurricane \_\_\_\_\_ and \_\_\_\_\_



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