

Hurricanes are gigantic tropical storms that can be hundreds of kilometres wide. They bring along very strong winds and a lot of rainfall. They often cause flooding near the coasts and sea levels rise.

Hurricanes occur in many parts of the world. In the Pacific Ocean they are called typhoons and in Australia they are willy-willies. In the Atlantic Ocean and the Caribbean Sea they are called hurricanes.

How Hurricanes start

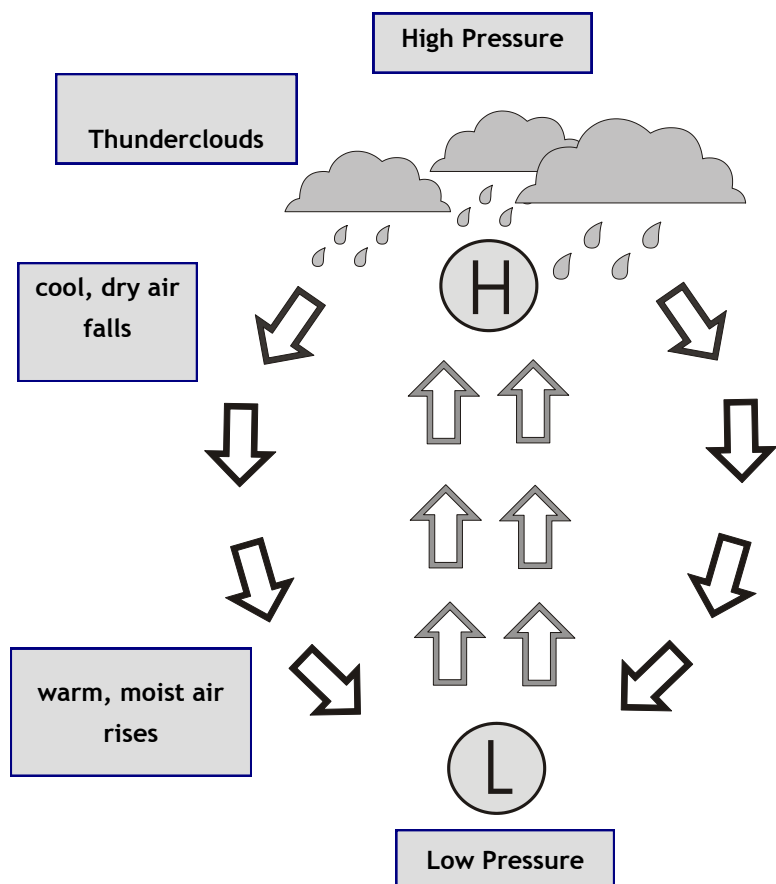
Hurricanes are born over tropical oceans, usually during late summer and early autumn. They need two things to get them started: heat and moist air.

During the summer the ocean surface heats up and warm moist air starts to rise. Cool air sinks down to replace it. This creates an area of low pressure.

The rotation of the earth creates winds around the centre of such a low pressure area. In the northern hemisphere the air moves counterclockwise, in the southern part clockwise. Such a system is called a cyclone.

When warm air rises it cools and creates clouds. Soon, thunderstorms form and it starts to rain.

All hurricanes begin as cyclones but not all cyclones become storms or hurricanes. Some die out a few days after they start. They don't have enough energy to become a hurricane. When winds are stronger than 119 km an hour a storm officially becomes a hurricane.



Words

cause = lead to

counterclockwise = in the opposite direction of the way that the hands of a clock move

create = make

flooding = when land is covered by water because of rainfall

hemisphere = half of the earth

high pressure = place where air is

very heavy; it goes down

low pressure = place where the air is not very heavy ; it goes up

moist = wet

officially =formally, publically

occur = happen

replace = to take something's place

rise = go up

sea level =the average height of the sea ; it is the basis for measuring other heights like mountains etc..

surface =the top part of something

thunderclouds = clouds that form in thunderstorms

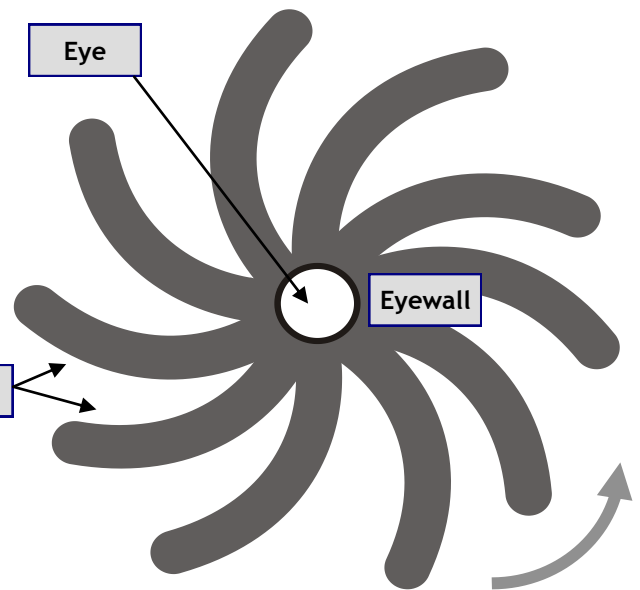
wide =broad

Structure of a hurricane

The centre of a hurricane is called the eye, a calm area with little rainfall. It is about 30 to 50 km wide. Inside the eye the sea can rise up to one metre because the air moves up.

The eyewall is around the eye . This is an area of thunderstorms, rain and the strongest winds—up to 300 km an hour.

Then come long bands of rain clouds that are curved towards the centre of the hurricane.



How Hurricanes Move

In the northern hemisphere hurricanes normally move in a westward direction and then they turn north and northeast. Their path takes them away from the warm tropical water of the equator.

When hurricanes move over colder water or over land they lose a lot of their energy. They slow down and as time goes on, they disperse . In the southern hemisphere their path leads them to the south and southeast.

Hurricane Names

When a tropical storm forms over the Caribbean Sea it gets a name. Every year the first storm of the season is given a name that starts with the letter A, the second storm gets a name starting with B and so on.

Years ago only women's names were used for tropical storms. Today male and female names alternate -for example, the first storm is named Alexandra, the second one Billy, then Catherine etc..

Each year new names are used so that you can connect a storm to a certain year.

Words

alternate = change

calm = quiet, smooth

certain = here: special

connect =link to

curved =bent , rounded

disperse =break up, go away

female = a woman's ...

hemisphere = half of the earth

little = not very much

male = a man's ...

path = route, direction

rise = go up

thunderstorm = a storm with thunder, lightning and sometimes a lot of rain

towards = in the direction of ..

wide =broad

Hurricane Categories

| | | |
|------------|---------------------|---|
| Category 1 | 119–153 km/ h | Winds cause only small <u>damage</u> to houses and building |
| Category 2 | 154–177 km/ h | Storms can <u>tear</u> away roofs , <u>damage</u> doors and windows. Boats often break away from <u>docks</u> . |
| Category 3 | 178–209 km/ h | Winds can <u>destroy</u> mobile homes. Areas lower than 1.5 metres above <u>sea level</u> may be <u>flooded</u> . |
| Category 4 | 211–249 km/ h | Areas lower than 3 m above <u>sea level</u> are flooded . <u>Coastal</u> areas (up to 10 km) are <u>evacuated</u> . |
| Category 5 | more than 249 km /h | These are the most powerful hurricanes. Places within 15 km of the coast are <u>evacuated</u> . |

Hurricane Damage

Hurricanes can cause a lot of damage. They bring along strong winds and heavy rainfall. In 2005, Hurricane Katrina hit the Gulf Coast and destroyed New Orleans . Many people died and hundreds of thousands had to leave the city. When a hurricane reaches land the winds can knock down small buildings, tear off roofs of houses and uproot trees. Waves produce floods around the coast. The surface water can rise up to 5 metres. This is called a storm surge.

Preparing for a Hurricane

Hurricanes are causing more and more damage throughout the Gulf Region, mainly because the population is constantly growing.

When a hurricane is sighted , television and radio stations may broadcast a hurricane watch. This means that a hurricane may hit the area in the following 36 hours. If the weather gets worse there is a hurricane warning, which means that a hurricane is expected in the area in the following 24 hours.

Many things can be done to protect yourself and your property during a hurricane:

- ➔ Keep emergency supplies of food and water.
- ➔ Keep a battery-powered radio ready in case the power goes out. Listen to the instructions you get.

Words

broadcast = to send out a radio or TV programme

cause = to make

coastal = place where land and water come together

constantly = all the time, very often

damage = destruction

destroy = wipe out, damage, ruin

dock = a place where a ship or boat is fixed to land

emergency = if something unexpected happens

evacuate = to bring people away from a dangerous place to where it is safe

expect = to think that something will happen

flood = when water covers land

in case = if something happens

knock down = to hit something very hard

loose = movable, free, not fixed

nail = to put metal into something with a hammer

plywood = a material made of many layers of wood that makes it strong

property = your house and the land that it is on

protect = guard , defend

sea level = the average height of the sea ; it is the basis for measuring other heights like mountains etc..

sight = see, observe, notice

supplies = food and other things you need to survive

surface = the top layer of something

tear away = destroy

tie = bind together, fix

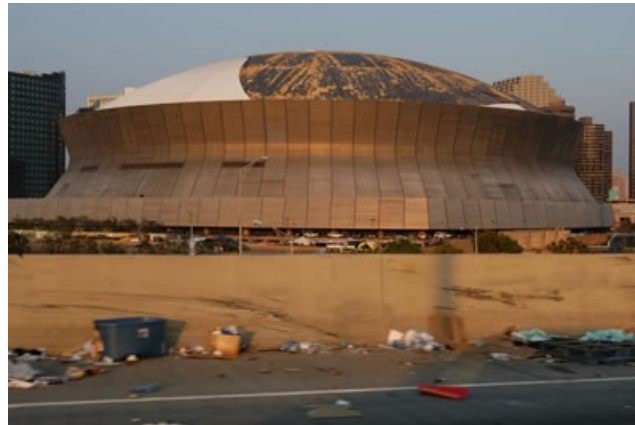
uproot = to pull a tree and its roots out of the ground

Hurricane Katrina

On Monday, August 29, 2005 Hurricane Katrina hit the American coast near New Orleans. The storm had formed over the Caribbean Sea almost a week earlier. As it moved on towards the American coastline it grew more and more powerful. It became a Category 5 hurricane and the fourth largest storm that has ever been re-corded in the Atlantic Ocean. Winds reached speeds of over 340 km an hour. Although the centre of the hurricane did not pass directly over New Orleans most of the city was flooded by the storm.

New Orleans is located in a really dangerous area. It lies above the Gulf of Mexico where many storms and hurricanes pass through. The Mississippi River also runs through the middle of the city. Because most of New Orleans lies below sea level, high banks of earth, called levees, were built around the city to pro- tect it from flooding. Thousands of pumps have been installed to drain the water away.

Katrina brought along heavy rainfall and parts of the levee broke. About 80 % of the city



The government and the city authorities were not very well prepared for such a disaster. There were no plans for getting people out of the city. President Bush waited for four days before he visited the region. Thousands of people died in one of the biggest catastrophes in American history.

The Superdome in New Orleans

was flooded. Shortly before the storm hit New Orleans about 20,000 people were able to escape to the Superdome, one of the town's largest stadiums.

Most of the city's population was evacuated, but about one hundred thousand had to stay behind, mostly poor people and blacks who had no cars and couldn't get out. They were trapped in the floods for days without power and water.

In the days after the disaster chaos spread throughout New Orleans. People broke into shops and stole things they needed, like food and water. Violence increased and gun shots could be heard throughout the city. Many people were trapped on rooftops for days before they got any help.

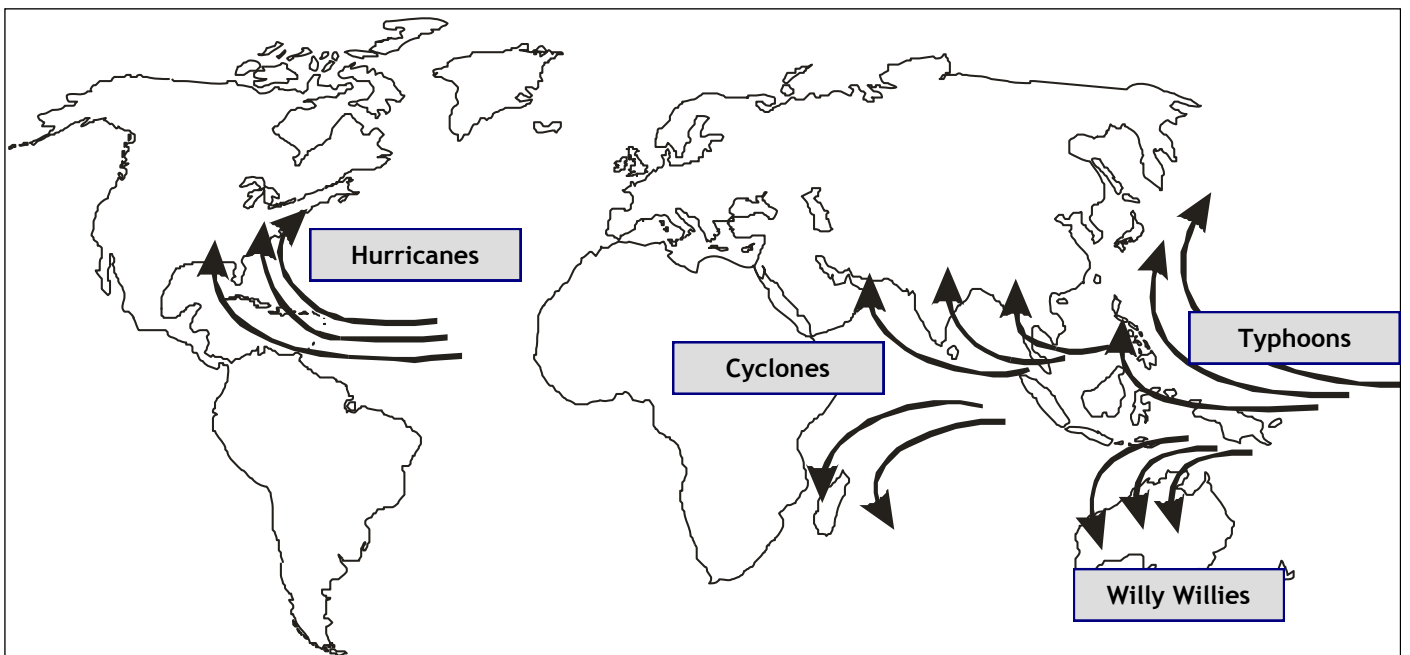
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Words

| | | |
|--|---|--|
| <u>although</u> =while | <u>escape</u> = to get away from a dangerous place | <u>protect</u> =defend, guard |
| <u>authorities</u> = the people or organisations that have the power to make decisions | <u>evacuate</u> = to bring people away from a dangerous place to where it is safe | <u>record</u> = write down information |
| <u>bank</u> = a high area | <u>flood</u> = when land is covered by water | <u>sea level</u> =the average height of the sea ; it is the basis for measuring other heights like mountains etc.. |
| <u>catastrophe</u> = disaster, tragedy in which many people are killed | <u>increase</u> = to become bigger and larger | <u>speed</u> =how fast something is |
| <u>coastline</u> = place where water and land come together | <u>install</u> = set up, make ready to work | <u>spread</u> = to move to other places |
| <u>disaster</u> = something that happens by surprise and causes a lot of damage | <u>levee</u> = a special wall that is built to stop flooding from a river | <u>throughout</u> = in all of |
| <u>drain</u> = to make the water move away from something | <u>locate</u> =lie | <u>trap</u> = to be in a bad and dangerous place where you cannot get out |
| | <u>pass</u> = travel over or by | <u>violence</u> =aggression, fighting |
| | <u>population</u> = the people of a city or town | |



Hurricane Katrina's path



Hurricane Paths