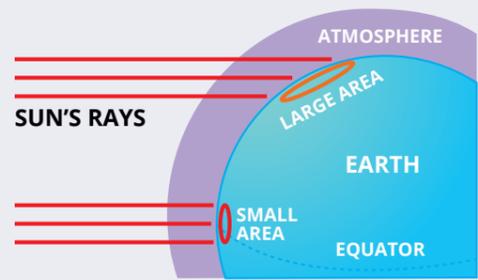


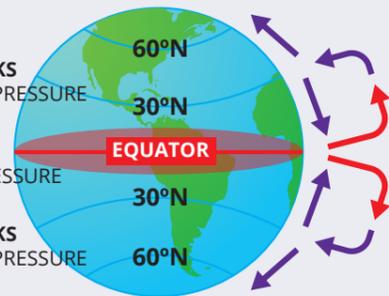
5.2.1a Distribution, changing patterns, causes and consequences of low pressure weather hazards



AIR SINKS
= HIGH PRESSURE

AIR RISES
= LOW PRESSURE

AIR SINKS
= HIGH PRESSURE



At the Equator the sun's energy is concentrated on a smaller area causing it to be hotter. Hot, less dense air at the equator rises

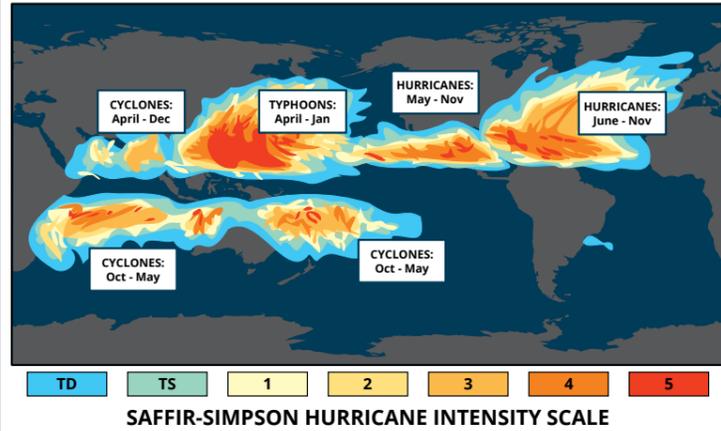
causing a low-pressure band called the **Intertropical Convergence Zone (ITCZ)**. This air then gradually cools higher in the atmosphere, becomes denser, and falls back down at the tropics causing a high-pressure band around 30 degrees north and south of the Equator.

As tropical storms are powered by warm oceans, **global warming** is likely to mean these storms will...

1. Become **more powerful** (warmer temperatures = more evaporation)
2. Become **more frequent** (oceans will be over 26°C for longer so storm seasons will be longer) and
3. **Occur in more places** (larger areas of ocean will be over 26°C).

A **storm surge** is a secondary effect caused by many tropical storms. They cause sea levels to rise due to the strong winds of tropical storms pushing water into the shore **and** low pressure causing a bulge of water to rise in the storm centre.

SEASONS, MOVEMENTS AND INTENSITY OF TROPICAL STORMS



The Earth's seasons means ocean temperatures reach above 26°C at different times of the year creating tropical storm seasons around the world. These storms form over the oceans between 5° and 30° north and south of the Equator, never on it, and quickly lose strength over land and as they travel further north or south over cooler waters.

Fill in the specifics for your detailed study of a low pressure hazard (e.g. Cyclone Pam 2015)

Low pressure hazard case study name and date: _____

Locate your case study on the world map then describe its location/movement. Include air pressure figures, compass direction and other places in your description.

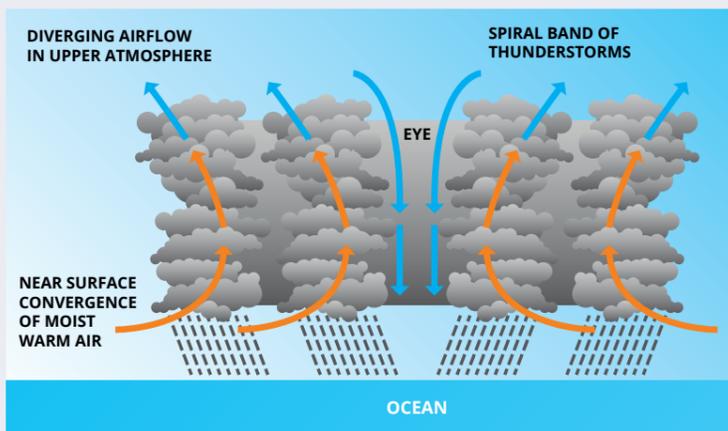


Were there any secondary effects such as storm surges?

*What impacts did it have on both the **human and physical environment**?*

*What consequences did these impacts have on people both in the **short and long term**? This might include responses such as aid.*

*How did these consequences and impacts affect the **economy**?*



Tropical storms form over warm oceans (above 26°C). Huge amounts of water vapour evaporate and rise causing very low pressure systems. As it rises it cools, condenses and forms huge cumulonimbus clouds which produce vast amounts of rain.

Air rushes in to fill the low pressure, creating strong winds. The **Coriolis effect** deflects these winds, causing them to spin around the **eye**, the calm centre of a tropical storm surrounded by the **eye wall** where wind speeds and rainfall are highest.

these winds, causing them to spin around the **eye**, the calm centre of a tropical storm surrounded by the **eye wall** where wind speeds and rainfall are highest.

In your exam, all these impacts and consequences should be linked together. Try putting them together in sentences using these connectives...

...this caused...

...this meant...

...consequently...

...so...

...as a result of...

...due to...

...therefore...

...because...