

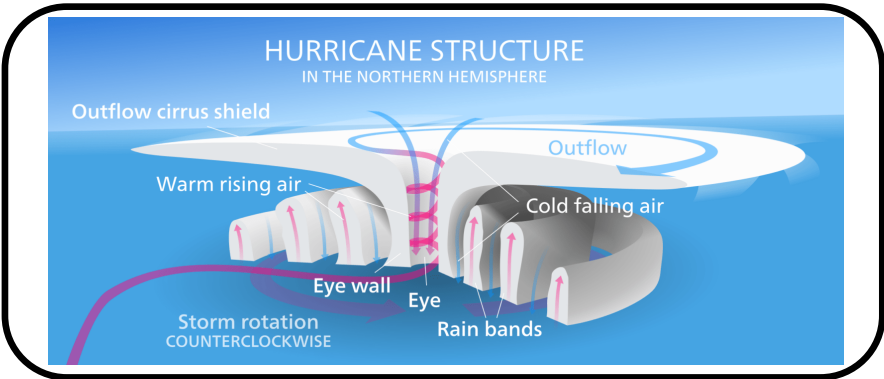
Key words

Atmospheric circulation: The movement of air within the Polar, Ferrel and Hadley Cells controlled by radiation from the sun.

High Pressure: The "weight" of sinking air exerts more pressure on the ground and an area of high pressure is formed causing areas to become arid.

Low Pressure: The warmth of the Earth's surface causes air to rise, exerting less pressure on the ground forming low pressure causing rainfall.

Tropical cyclones: Large-scale, rotating storms that form over oceans (26.5°C) in tropical areas. They are also known as hurricanes and typhoons.



Tropical Storms start between 5° and 30° north and south of the equator where surface sea temperatures reach at least 26.5°C. Air is heated above the surface of these warm tropical oceans. The warm air rises rapidly under low-pressure conditions. The rising air draws up more airing large volumes of moisture from the ocean, causing strong winds. he Coriolis effect (spinning movement of the Earth) causes the air to spin upwards around a calm central eye of the storm. As the air rises, it cools and condenses to form large, towering cumulonimbus clouds which generate torrential rainfall. The heat is given off when the air cools powers the tropical storm. Cool air sinks into the eye, therefore, there is no cloud so it is drier, clear and much calmer. The tropical storm travels across the ocean by the prevailing wind. When the tropical storm meets land it is no longer fuelled by the source of the moisture and heat from the ocean so it loses power and weakens.

The weather system generates heat which powers the storm, causing wind speeds to increase. This causes the tropical storm to sustain itself. Tropical storms rely on plenty of warm, moist air from the sea – this is why they die out over land.

Further Learning



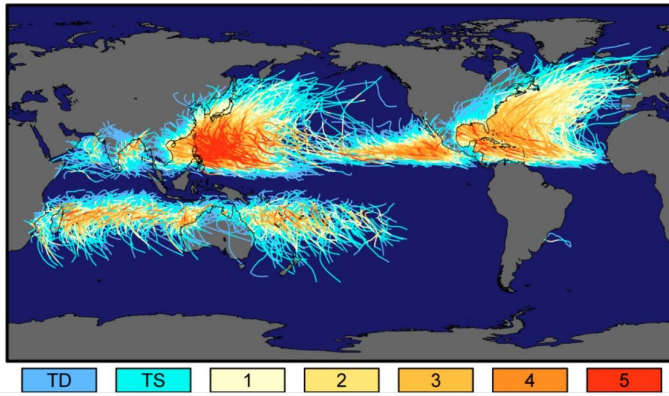
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Tracks and Intensity of All Tropical Storms



Key words

Low pressure: Rising air which leads to periods of rainfall.

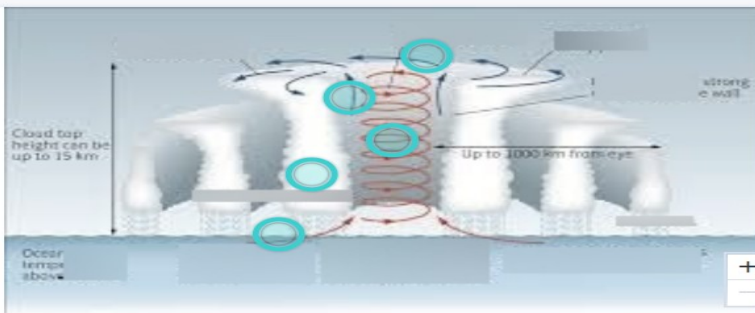
High pressure: Descending air leading to periods of dry weather.

Tropical Cyclone: rotating system of clouds and storms that form and develop over the tropics.

Saffri-Simpson scale: Uses wind speed to measure strength of a tropical storm. Ranges from 1-5, 5 being the strongest.

Coriolis force: A strong force created by the earth's rotation.

Tropics: Lines of latitude that run at 23.5* North and South. Tropic of Cancer in North and Tropic of Capricorn in South.



Stage 1 Warm currents rise from the ocean. As the warm air rises, more air rushes in to replace it, then it too rises, drawn by the draught above.

Stage 2 Updraughts of air contain huge volumes of water vapour from the oceans, which condense to produce clouds. Condensation releases heat energy stored in water vapour, which powers the cyclone further

Stage 3 Coriolis force causes rising air to spiral around the centre of the tropical cyclone, so it resembles a whirling cylinder. It rises and cools, and some of it descends to form the clear, cloudless, still eye of the storm.

Stage 4 As the tropical cyclone tracks away from its source, it is fed new heat and moisture from the oceans enlarging as it does so,

Stage 5 Once it reaches a landmass, it loses its energy sources from the ocean. Air pressure rises as temperature falls, winds drop, rainfall decreases, and it decays to become a mere storm.

Further Learning

