

What is a natural hazard?

Give 4 examples of weather hazards.

What is global atmospheric circulation?

Why does low pressure occur at the equator?

Identify the three convection cells that operate as part of the global atmospheric circulation model.

Annotate the cross-section of the tropical storm in the centre of the page. Identify the features shown by A-D below.

A.

B.

C.

D.

Give three effects of tropical storms

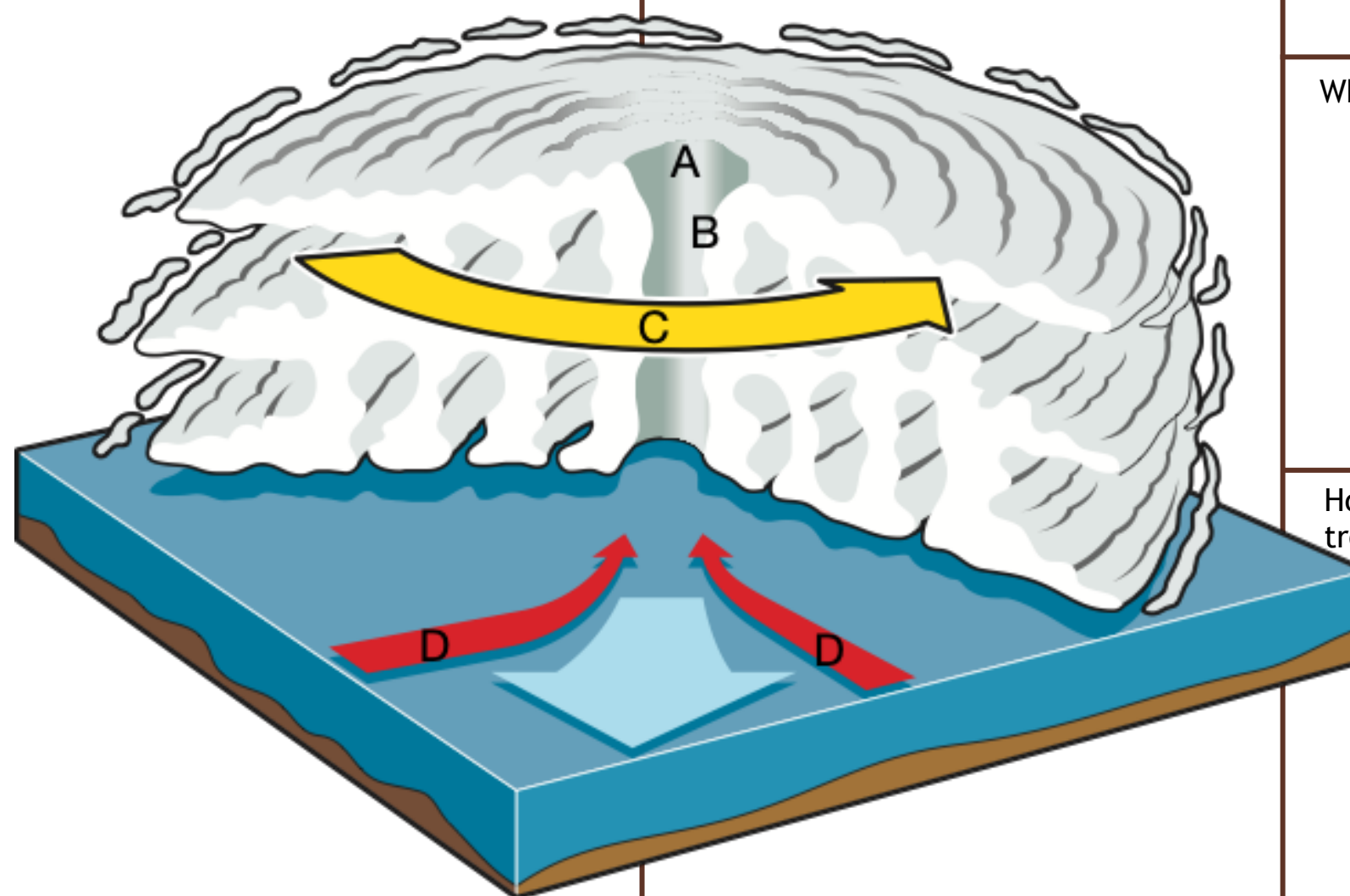
Give two immediate and long term responses to tropical storms.

How do countries prepare for tropical storms?

What is a tropical storm?

How might climate change affect tropical storms?

Give examples of the primary and secondary effects of a tropical storm you have studied, along with the immediate and long term responses.



# Weather Hazards - Tropical Storms

A natural hazard is a natural event (for example flood, volcanic eruption, earthquake, tropical storm) that threatens people or has the potential to cause damage, destruction and death.

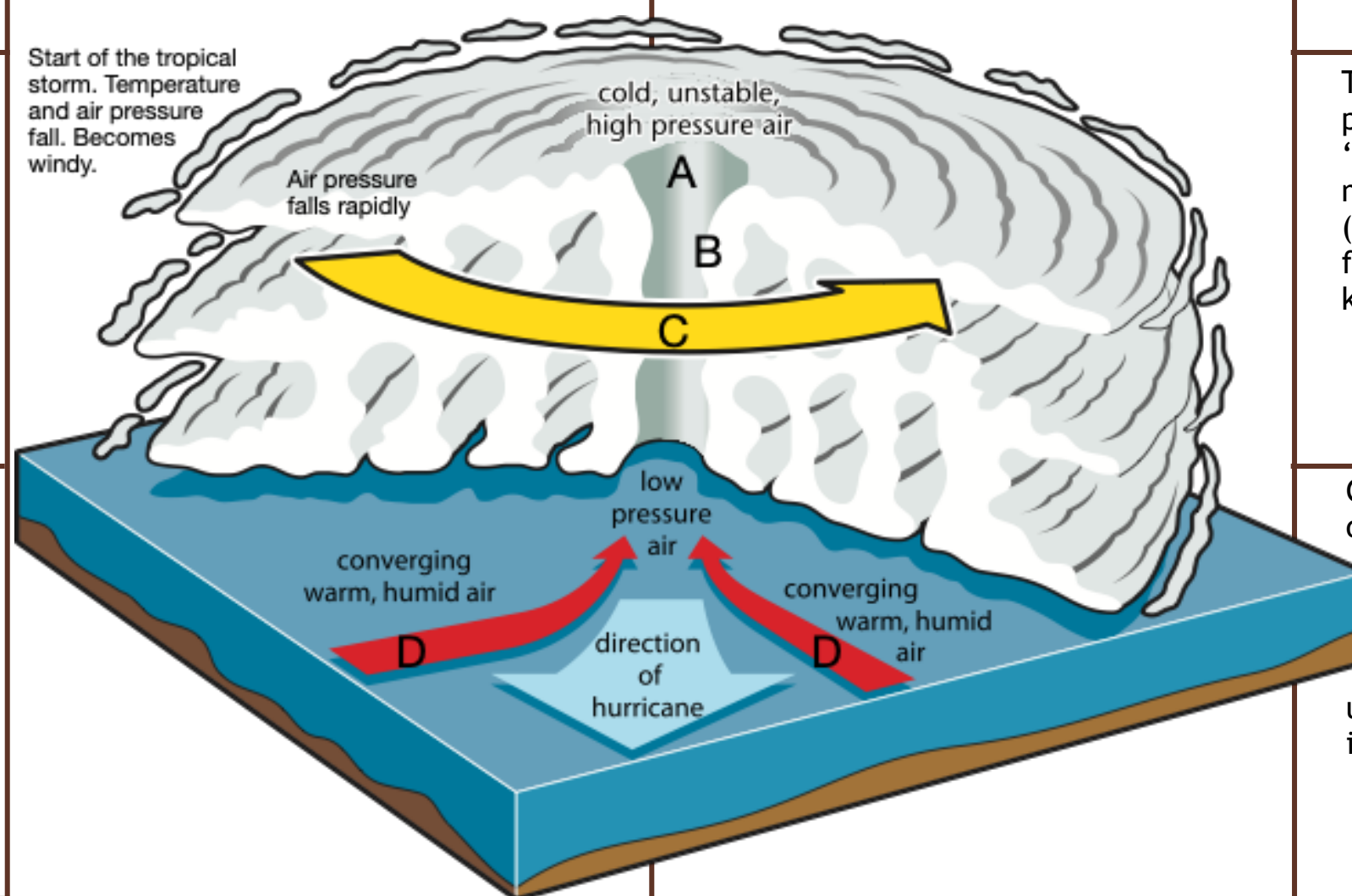
Landslides due to rain  
Tropical storms  
Droughts  
Tornadoes  
Storm surges and floods

Global atmospheric circulation is the worldwide system of winds, which transport heat from the tropics to the polar latitudes. In each hemisphere, air also circulates though the entire troposphere which extends up to 15km.

Air at the equator is heated by the sun, it becomes less dense and rise. This creates a global climate zone of low pressure. When the air has risen it begins to flow towards the north and south pole.

Hadley, Ferrel and Polar cell.

Start of the tropical storm. Temperature and air pressure fall. Becomes windy.



Tropical Storms are areas of extreme low pressure. This means air is rising, causing 'low pressure' on the earth's surface. The maximum sustained surface wind speed (using the U.S. 1-minute average) ranges from 34 knots (39 mph or 63 kph) to 63 knots (73 mph or 118 kph).

Annotate the cross-section of the tropical storm in the centre of the page. Identify the features shown by A-D below.

A. Eye

B. Eye wall

C. Anticlockwise winds

D. Warm, moist air above ocean 27°C

Greater storm intensity due to warmer oceans. Frequency expected to stay the same, though more severe (cat 4+) expected to increase. There is considerable uncertainty about the impact. Though a growing population and urbanisation in coastal locations has increased the potential risk to life.

Strong winds - destroy properties, infrastructure and crops  
Storm surges - cause flooding of property and farm land  
Landslides - caused by heavy rain  
Tornadoes - formed during tropical storms can cause devastation to property and infrastructure  
Aid - hampered due to communications being destroyed

Immediate - evacuation, preparing properties, use of emergency storm shelters, distributing emergency aid

Longterm - rebuilding properties, construction of buildings to withstand the impact of strong winds and storm surges, development of early warning systems.

- Monitoring - use of satellites and aeroplanes to monitor weather systems
- Prediction - monitoring changes in the formation and path of the tropical storm
- Protection - constructing buildings that can withstand the impact of tropical storms
- Planning - evacuation plans, education and creating exclusion zones.

Your answer will depend on the case study you have covered. However, you should ensure you identify appropriate primary and secondary effects. Primary effects are those things that happen immediately as the result of a tropical storm whereas secondary effects are the things that happen in the hours, days and weeks after the storm.



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