



read

Natural Hazards

Global Atmospheric Circulation



quiz



The Big Picture

natural hazards

tectonic hazards

Weather Hazards

*weather hazards**

climate change



GAC

Global atmospheric circulation is a simplified version of how air moves across the planet. It is used to help explain weather patterns and climatic regions. The global atmospheric circulation model is based around atmospheric cells. These cells are regions where the air moves from low pressure to high pressure.



Key Terms



Convection cell – Differences in air temp create high and low pressure areas.



Differential heating – Difference in how land and water surfaces absorb heat.



High pressure – Occurs when air is descending in the atmosphere.



Insolation – The amount of solar radiation (sunlight) an area receives.



Low pressure – Occurs when air is rising in the atmosphere.

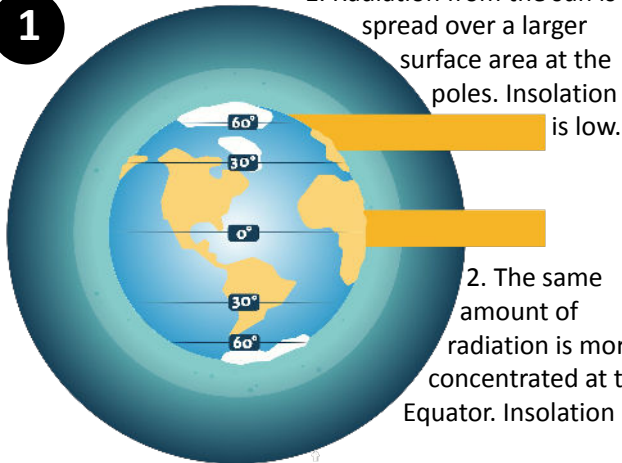


Westerlies – Winds that move air from high to low pressure areas.



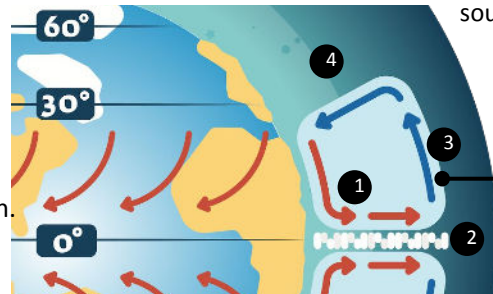
Global Atmospheric Circulation Model

1

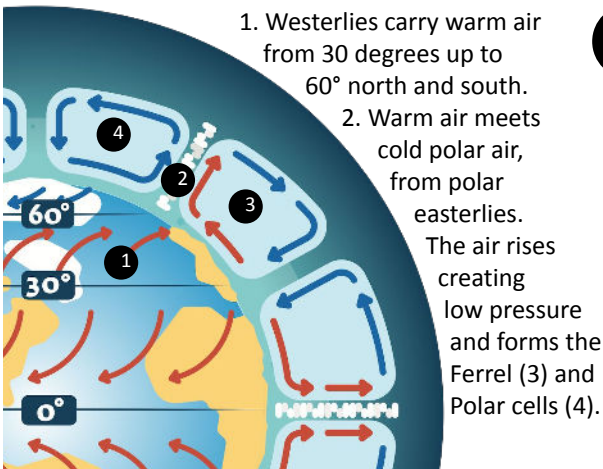


2

1. Warm air rises at the equator
2. This creates an area of low pressure. As the air rises it cools, condenses and forms clouds.
3. The air travels north and south high above the surface.
4. The air sinks at 30° N&S creating high pressure. The air begins to warm and travels north and south at 30°.



3



1. Westerlies carry warm air from 30 degrees up to 60° north and south.
2. Warm air meets cold polar air, from polar easterlies. The air rises creating low pressure and forms the Ferrel (3) and Polar cells (4).

4

