

Sun's energy transferred to the Earth's Systems, Hadley Cell Processes

1. The Sun's energy is directed toward and received by the ocean water. The energy is most direct/intense along the Equator.
2. Water molecules warm, get excited and begin to evaporate.
3. Air rises, creating an area of low pressure along the equator.
4. As the warm **moist** air rises it cools, condenses and forms clouds.
5. These equatorial clouds release tremendous amounts of rainfall, creating rain forests and a tropical belt from 0 to 12 degrees N and S latitude.
6. The air continues to move N and S, to 30 degrees where it becomes dry, 'cool' and dense, so the air sinks creating a zone of High Pressure and the desert belt.

Convection between the Earth's Oceans and atmosphere leads to the Hadley Cell. Hadley Cells (differing air pressures) and the Earth's rotation (Coriolis Force) work to create surficial then deep ocean currents – distributing the Sun's energy through out the Earth's systems.

