

Climate change is a prevalent issue that is only growing faster with time. We aimed to further our understating of Earth's natural cycles and their role on Climate change.

Astronomical Cycles



The change in Earth's orbit, tilt, and wobble also known as Milankovitch Cycles effect the severity of seasons and difference in temperature between hemispheres. Change in sunspots, known as Solar Cycles have an effect on the strength of Earth's ozone

The Carbon Cycle (Fast and Slow)



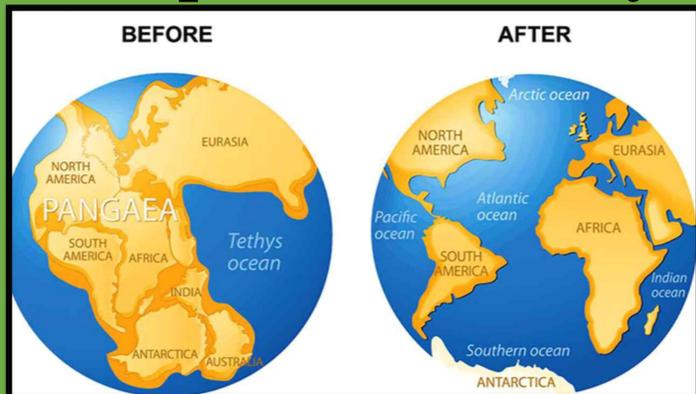
The fast carbon cycle moves carbon through plants and animals on a yearly basis. The slow carbon cycle is the movement of carbon through Earth's rocks, oceans, and atmosphere. When more carbon is in the atmosphere, the global average temperature is higher and vice versa.

Vegetation



Vegetation, consisting of both terrestrial plants and aquatic phytoplankton, alter climate and weather variability by as much as 30%. Increases in vegetation result in a lowering of atmospheric carbon and reduce reflection of solar radiation, therefore reversing the green house effect.

The Supercontinent Cycle



The Supercontinent Cycle is the 500 million year process of continents separating and rejoining. As continents separate oceans levels rise, ocean currents change, and volcanic activity increases causing more carbon to transferred to the atmosphere. The most recent supercontinent, Pangea, split roughly 160 million years ago.

Ocean Oscillations



Oceans play a large role in the distribution of solar radiation absorbed from the sun. Ocean oscillations such as ENSO and NMO show positive trends, the global temperature increases and vice versa. Much is still to be learned about oceans and their influence on Earth's climate.

Green House Gases



The greenhouse gases CO₂ and H₂O play crucial roles in Earth's atmosphere. An increase in CO₂ results in more absorbed infrared radiation, increasing the green house gas effect. H₂O is the most abundant green house gas in the atmosphere. H₂O either cools or warms Earth's surface based on the abundance of CO₂ in the atmosphere.