



“बेटी बचाओ, बेटी पढ़ाओ”

JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR
Faculty of Education & Methodology

Faculty Name	-	JV'n Dr. Rabindra Nath (Assistant Professor)
Program	-	1 st Semester / Year
Course Name	-	Physical Geography
Session No. & Name	-	1.1 (Name of the Session)

Academic Day starts with –

- Greeting with saying ‘**Namaste**’ by joining Hands together following by 2-3 Minutes Happy session, Celebrating birthday of any student of respective class and **National Anthem**.

Lecture Starts with - Review of previous Session-

- Topic to be discussed today- Today We will discuss about **Continental drift theory by Vegener**

The Continental Drift Theory is a scientific concept that suggests that the Earth's continents were once part of a single supercontinent called Pangaea and have since drifted apart over millions of years to their current positions. The theory was proposed by the German meteorologist and geophysicist Alfred Wegener in the early 20th century.

Key points of the Continental Drift Theory include:

1. **Pangaea:** According to the theory, around 335 million years ago, most of Earth's landmasses were united as a single supercontinent called Pangaea. This supercontinent was surrounded by a vast ocean called Panthalassa.

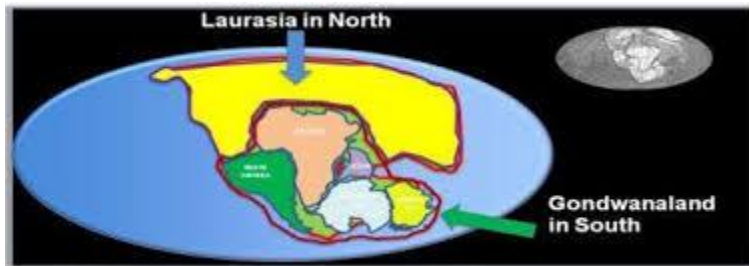


2. **Continental Movement:** Wegener proposed that Pangaea began to break apart around 175 million years ago. The process of continental drift involved the gradual movement of the continents across the Earth's surface.
3. **Fit of the Continents:** One of the pieces of evidence Wegener used to support his theory was the remarkable fit of the coastlines of continents on opposite sides of the Atlantic Ocean, particularly South America and Africa. He argued that these coastlines seemed to fit together like pieces of a jigsaw puzzle.



4. **Fossil Evidence:** Another important piece of evidence was the presence of identical or closely related fossil species on continents that are now separated by oceans. For example, similar fossils of plants and animals were found on both sides of the Atlantic Ocean.

5. **Geological Evidence:** Similar rock formations and geological structures were found on continents that were now distant from each other, suggesting that these formations were once connected.
6. **Climate Evidence:** Wegener also used evidence from ancient climate indicators, such as glacial deposits and coal beds, to suggest that the continents were once located in different positions relative to the poles.



Despite the compelling evidence presented by Wegener, his theory faced significant skepticism and criticism during his time because he couldn't provide a plausible mechanism to explain how continents could move through solid oceanic crust. The theory also lacked a solid understanding of the underlying geological processes, such as plate tectonics.

It wasn't until the 1960s that technological advancements and further research led to the development of the theory of plate tectonics, which provided a comprehensive explanation for the movement of Earth's lithospheric plates. Plate tectonics theory integrated Wegener's ideas with the concept of the Earth's crust being divided into large, rigid plates that float on the semi-fluid asthenosphere beneath them. These plates interact at plate boundaries, leading to various geological phenomena like earthquakes, volcanic activity, and the creation of new crust.

In retrospect, Wegener's Continental Drift Theory laid the foundation for the modern understanding of plate tectonics, and his ideas have greatly contributed to our knowledge of the Earth's dynamic geological history.

continental drift theory of Wegener

It seems there might be a slight typo in your question. I believe you're referring to Alfred Wegener and his theory of continental drift. Let me provide you with more information about Alfred Wegener's Continental Drift Theory.

Alfred Wegener was a German meteorologist and geophysicist who proposed the theory of continental drift in the early 20th century. His theory suggested that the Earth's continents were once connected as part of a single supercontinent called Pangaea, and over time, they drifted apart to their current positions.

Wegener's Continental Drift Theory included several key ideas:

Around 335 million years ago, Wegener proposed that all the continents were joined together in a supercontinent called Pangaea. This supercontinent was surrounded by a vast ocean called Panthalassa. Wegener suggested that the continents moved slowly over the Earth's surface. He proposed that the continents "drifted" due to the forces of the Earth's rotation and other internal processes.

1. **Evidence:** Wegener presented various lines of evidence to support his theory:
 - **Fit of the Continents:** He noticed that the coastlines of continents, particularly those of South America and Africa, seemed to fit together like pieces of a puzzle.

- **Fossil Evidence:** Similar fossil species were found on continents that are now separated by oceans. This suggested that these continents were once connected.
 - **Geological Evidence:** Similar rock formations and geological features were found on continents that are now far apart.
 - **Climate Evidence:** Evidence from ancient climates, such as glacial deposits and coal beds, supported the idea that continents were once located in different positions relative to the poles.
2. **Criticism and Acceptance:** While Wegener's theory presented compelling evidence, it faced skepticism and criticism, largely because he couldn't provide a satisfactory mechanism for the movement of continents through solid oceanic crust. Many scientists of his time found the idea of continents plowing through oceanic crust implausible.
 3. **Legacy:** Despite the initial resistance, Wegener's ideas laid the foundation for the development of plate tectonics theory. In the 1960s, advancements in geological understanding led to the acceptance of plate tectonics, which provided a more comprehensive explanation for the movement of Earth's lithospheric plates.
 4. **Modern Understanding:** Plate tectonics theory, which incorporates and builds upon Wegener's ideas, explains how the Earth's lithospheric plates move and interact at plate boundaries, leading to earthquakes, volcanic activity, and the creation of new crust.

Alfred Wegener's Continental Drift Theory was a significant step in understanding the dynamic nature of the Earth's surface. While his specific mechanism for continental movement wasn't accurate, his insights and evidence were crucial in shaping the development of modern geology and plate tectonics.

- Small Discussion About Next Topic-
- Academic Day ends with- National song 'Vande Mataram'