

Distribution of Oceans and Continents

Introduction

The Earth's surface is made up of **continents and oceans**. About **71%** of the Earth's surface is covered by water, while **29%** is covered by land. The unequal distribution of land and water influences the Earth's climate, weather, ocean currents and human activities.

Continents

Meaning

A **continent** is a large continuous landmass surrounded by oceans or seas.

There are **seven continents**:

- Asia
- Africa
- North America
- South America
- Antarctica
- Europe
- Australia

Asia is the **largest** continent, while Australia is the **smallest**.

Major Oceans

Five Oceans

The Earth has **five major oceans**:

- Pacific Ocean
- Atlantic Ocean
- Indian Ocean
- Southern Ocean
- Arctic Ocean

The **Pacific Ocean** is the largest and deepest ocean, while the **Arctic Ocean** is the smallest.

Distribution of Land and Water

Hemispherical Distribution

The distribution of land and water is uneven across the Earth.

- The **Northern Hemisphere** has more land than the Southern Hemisphere.
 - The **Southern Hemisphere** has more water and is often called the "**Water Hemisphere.**"
 - Most continents are concentrated in the Northern Hemisphere.
 - Oceans occupy a larger area in the Southern Hemisphere.
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Continental Drift

Theory of Continental Drift

The **Continental Drift Theory** was proposed by **Alfred Wegener** in **1912**.

According to this theory:

- All continents were once joined together as a single supercontinent called **Pangaea**.
 - Pangaea was surrounded by a vast ocean called **Panthalassa**.
 - About **200 million years ago**, Pangaea began to break apart.
 - The continents gradually drifted to their present positions.
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Division of Pangaea

Laurasia and Gondwanaland

Pangaea later split into two large landmasses:

- **Laurasia** (Northern part)
- **Gondwanaland** (Southern part)

These landmasses further broke into the present-day continents.

Evidence for Continental Drift

Supporting Evidence

Alfred Wegener gave several evidences to support his theory:

- Matching coastlines of continents
- Similar rock formations
- Fossil evidence
- Glacial deposits
- Similar climatic conditions in different regions

These evidences suggest that the continents were once connected.

Plate Tectonic Theory

Movement of Plates

The modern explanation for the movement of continents is the **Plate Tectonic Theory**.

According to this theory:

- The Earth's lithosphere is divided into several tectonic plates.
 - These plates move slowly over the semi-molten asthenosphere.
 - Plate movements cause earthquakes, volcanic eruptions and mountain formation.
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Ocean Floor

Features of the Ocean Floor

The ocean floor has several important landforms:

- Continental Shelf
- Continental Slope
- Abyssal Plain
- Mid-Oceanic Ridge
- Oceanic Trench

These features are formed by geological processes beneath the oceans.

Importance of Oceans

Functions of Oceans

Oceans:

- Regulate global climate
 - Influence rainfall
 - Support marine life
 - Provide food resources
 - Facilitate international trade
 - Generate energy
 - Absorb carbon dioxide
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Importance of Continents

Functions of Continents

Continents provide:

- Land for human settlements
- Agricultural land
- Mineral resources
- Forests
- Industries
- Transport networks

They support most human activities and economic development.

Effects of Unequal Distribution

Influence on Climate

The unequal distribution of oceans and continents affects:

- Temperature
- Rainfall
- Wind systems
- Ocean currents
- Biodiversity
- Human settlements

Coastal areas usually experience a **moderate climate**, while inland areas often have **extreme temperatures**.

Key Points

- About **71%** of the Earth's surface is covered by water and **29%** by land.
 - There are **seven continents** and **five oceans**.
 - Asia is the largest continent.
 - The Pacific Ocean is the largest ocean.
 - The Northern Hemisphere has more land.
 - The Southern Hemisphere has more water.
 - Alfred Wegener proposed the Continental Drift Theory.
 - Pangaea was the ancient supercontinent.
 - Plate Tectonic Theory explains the movement of continents.
 - Oceans influence climate, rainfall and global trade.
 - Continents provide land and natural resources for human activities.
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Chapter Summary

The Earth is made up of continents and oceans that are unevenly distributed across its surface. About 71% of the Earth's surface is covered by water, while 29% is land. The seven continents and five oceans play an important role in maintaining climate, supporting life and influencing economic activities. Alfred Wegener's Continental Drift Theory explained that all continents were once part of a single landmass called Pangaea. Today, Plate Tectonic Theory provides the scientific explanation for the movement of continents. The unequal distribution of land and water greatly affects weather, climate, ocean currents and human life.