

Ocean Currents

Chapter 5: Ocean Currents · Topic 1

Key Concept

Surface currents are driven mainly by wind patterns, moving warm water from the equator towards the poles and cold water back.

Deep ocean currents are driven by differences in water density, caused by temperature and salinity variations, forming a global circulation pattern.

Ocean currents significantly influence regional climates, like the Gulf Stream warming Western Europe's climate.

Ocean currents also affect marine ecosystems by distributing nutrients, oxygen, and affecting the migration patterns of marine life.

Quick Revision Notes

- Surface currents: driven by wind patterns.
- Move warm water equator to poles, cold back.
- Deep currents: driven by density differences.
- Caused by temperature, salinity variation.
- This forms global circulation pattern.
- Currents influence regional climates.
- Example: Gulf Stream warms Western Europe.
- Currents affect nutrients, marine migration.

Practice Questions

- 1 Research the Gulf Stream and its climate effect.
- 2 Discuss the difference between surface and deep currents.
- 3 Draw a simple diagram of ocean current flow.
- 4 Discuss how currents affect marine ecosystems.
- 5 Research another major ocean current.
- 6 Explain ocean currents in your own words.