

GRADE 10 | 2024

Geography: Climate and Weather

Geography

CAPS ALIGNED

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1. Weather vs Climate

FORMULA: Weather: short-term atmospheric conditions in a specific area

Climate: average weather conditions over a long period (30+ years) for a large area

2. Factors Affecting Climate

- Latitude: areas near the equator are warmer (sun is more direct)
- Altitude: temperature decreases by 6.5 degrees C per 1000 m increase
- Ocean currents: warm currents raise temperatures; cold currents lower temperatures
- Distance from the sea: coastal areas have moderate, moist climates; inland areas have extreme, dry climates
- Prevailing winds: carry moisture or dryness from their source area

3. South African Climatic Regions

- Western Cape: Mediterranean climate (wet winters, dry summers)
- Summer rainfall region: most of South Africa (summer thunderstorms)
- Cape south coast: year-round rain
- Semi-arid interior: low rainfall (Karoo, Kalahari)
- Subtropical east coast: warm and humid (KZN)

4. Clouds and Precipitation

Types of Rainfall

- Convectional: heated air rises, cools, forms cloud, rain (common on Highveld)
- Orographic (relief): moist air rises over mountains, cools, rains on windward side
- Frontal: warm and cold air masses meet; rain along the front (Cape winter rain)

5. Synoptic Weather Maps

Synoptic maps use symbols to show weather conditions. Key features: isobars (lines of equal pressure), fronts (warm front: red semicircles, cold front: blue triangles), H (high pressure), L (low pressure).