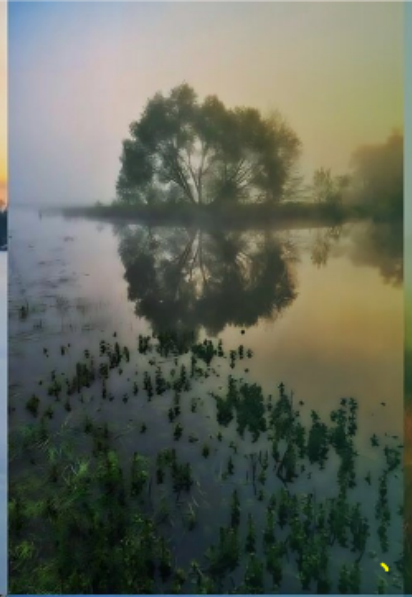
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CLASS – 7

SOCIAL SCIENCE

Exploring Society : India and Beyond

CH –3 : Climates of India

Part – 3

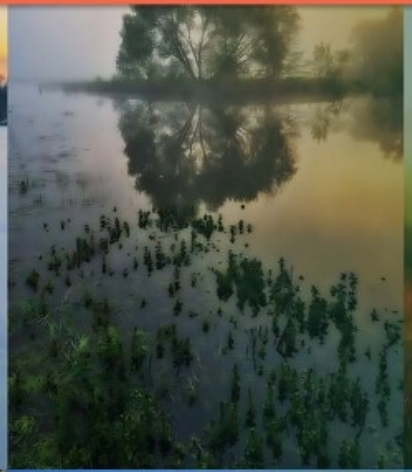
Factors Determining the Climate

Sukhdeep Kaur

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OVERVIEW

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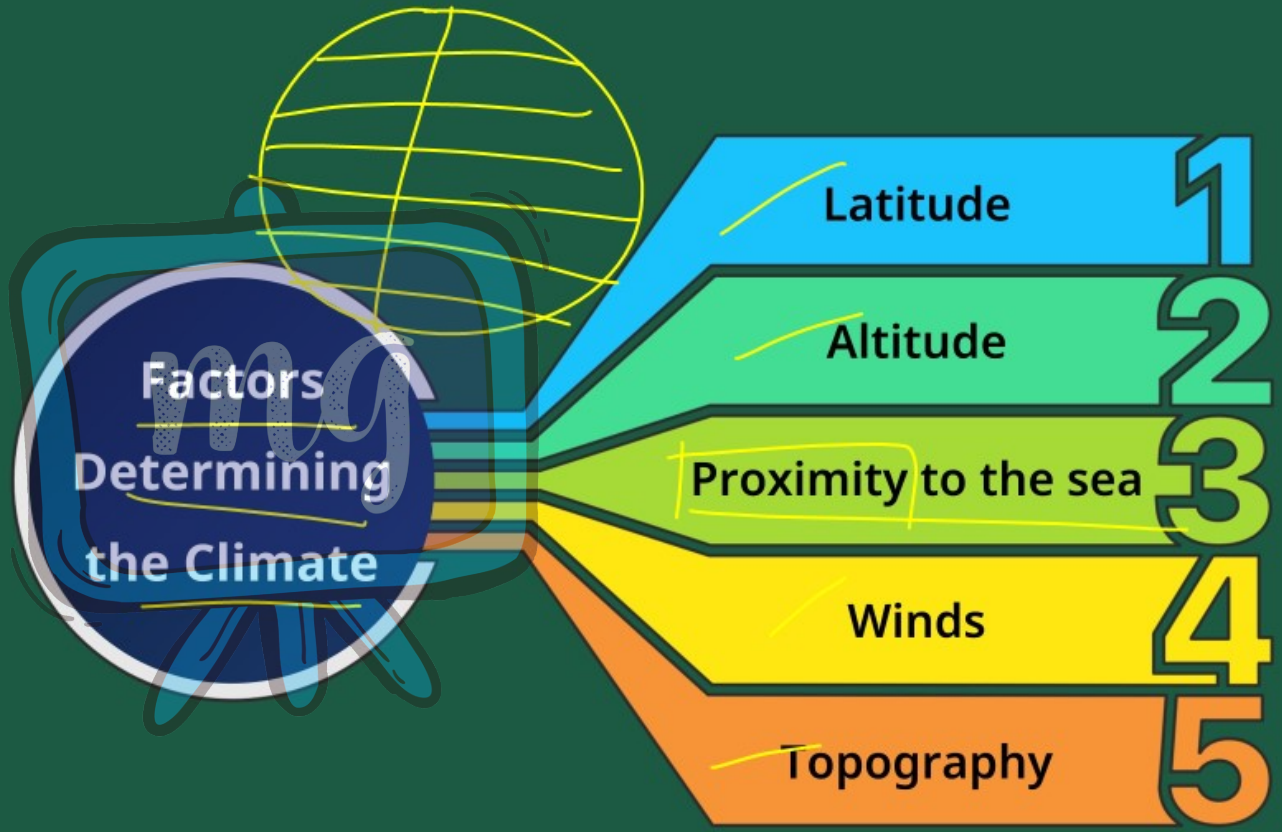





1. Weather, Seasons and the Climate
2. Types of Climates in India
3. Factors Determining the Climate
4. The Monsoons
5. Climate and our Lives
6. Climates and Disasters
7. Climate Change

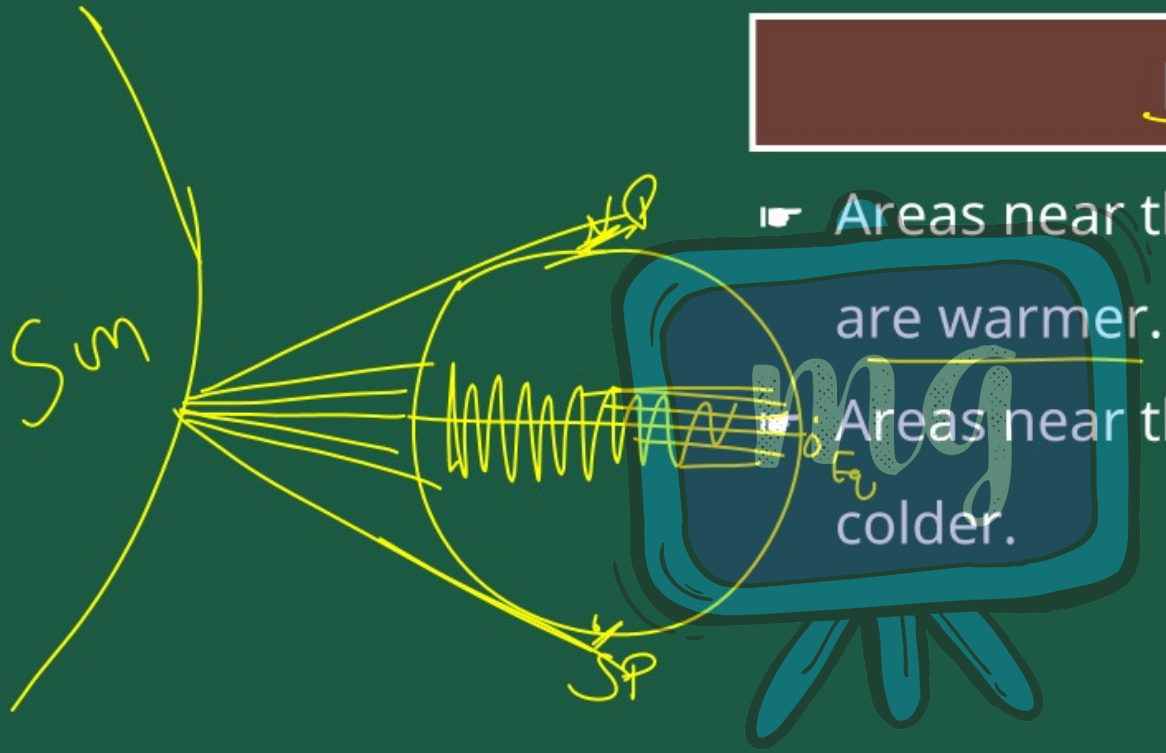
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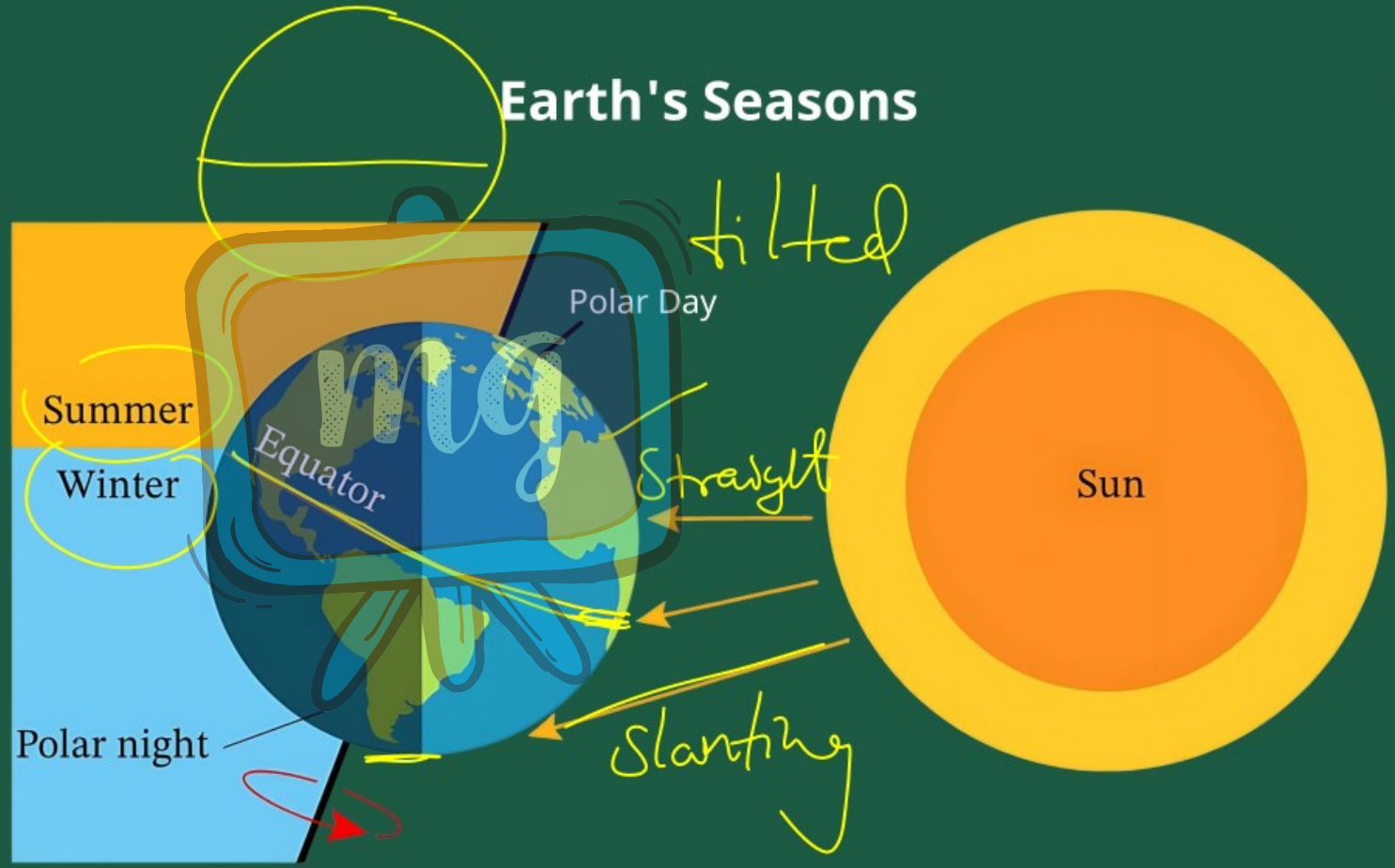


LATITUDE

- Areas near the Equator (low latitude) are warmer.
- Areas near the Poles (high latitude) are colder.

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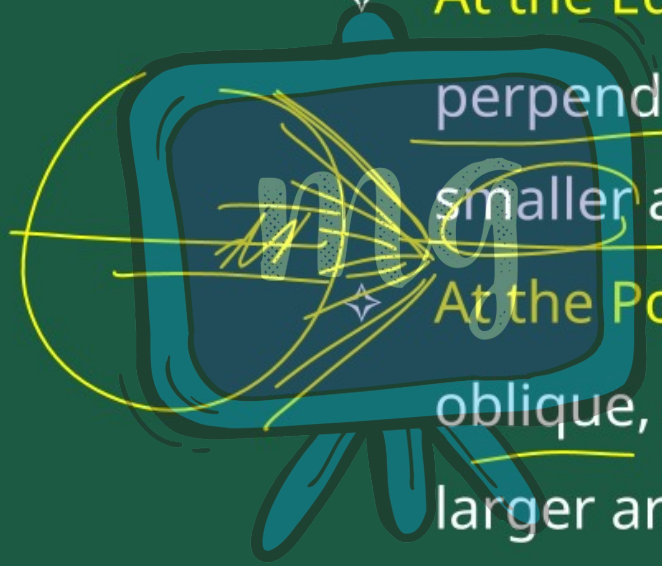
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☛ Sun's Rays:



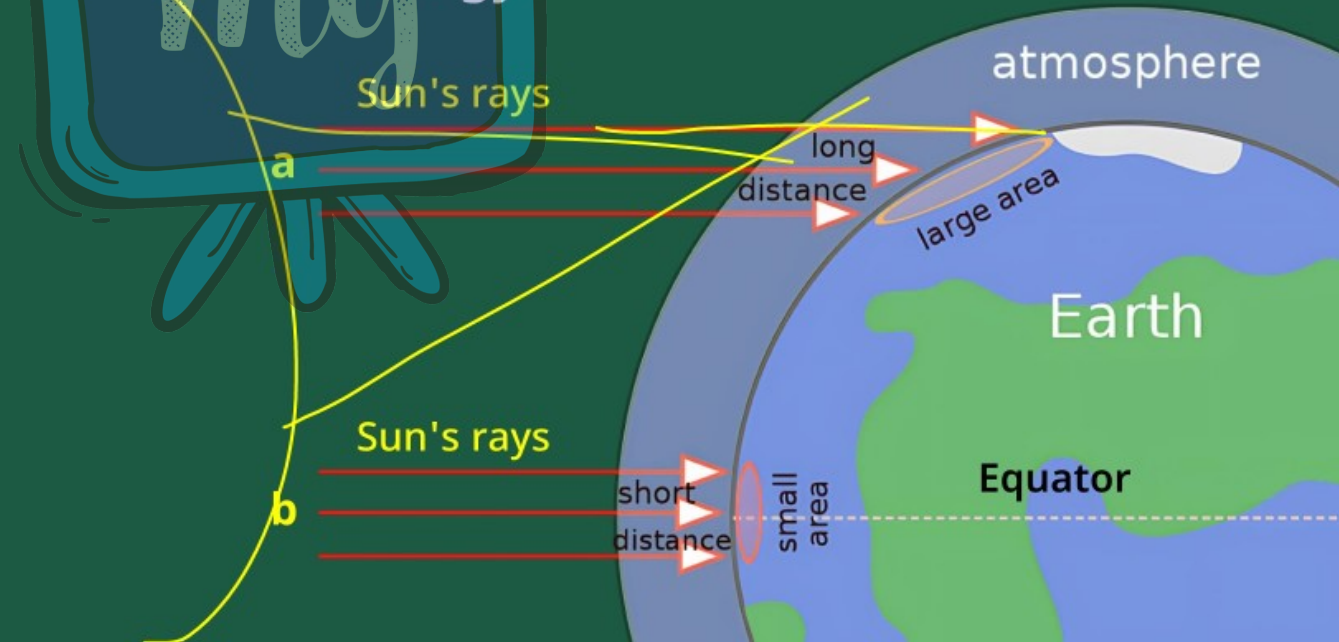
- At the Equator : Sun's rays are perpendicular, focusing heat on a smaller area.
- At the Poles : Rays are inclined/ oblique, spreading heat over a larger area.

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☛ Atmosphere Effect:

✧ Sunlight at the poles travels through more atmosphere, losing more energy.

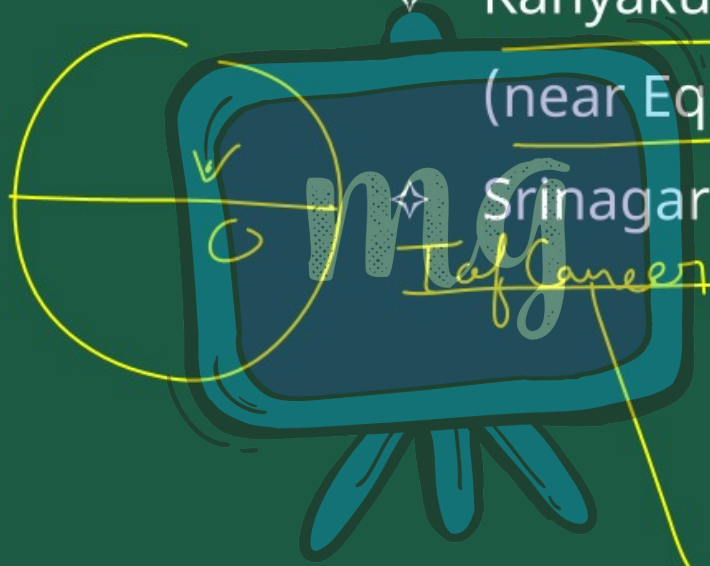


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☛ Example (India):

- ✧ Kanyakumari & Nicobar Islands (near Equator) : Hot, year-round.
- ✧ Srinagar (far north) : Cooler climate.



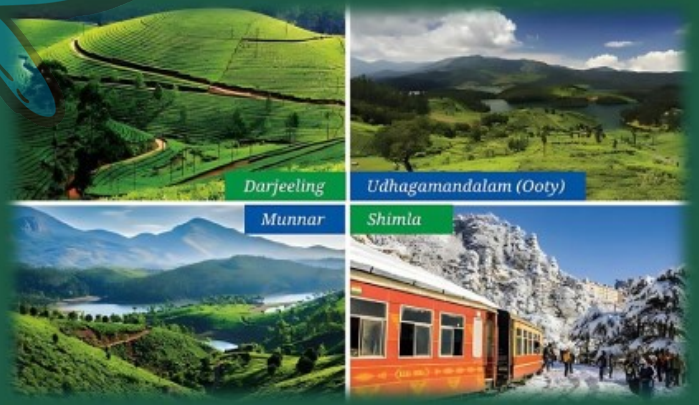
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ALTITUDE

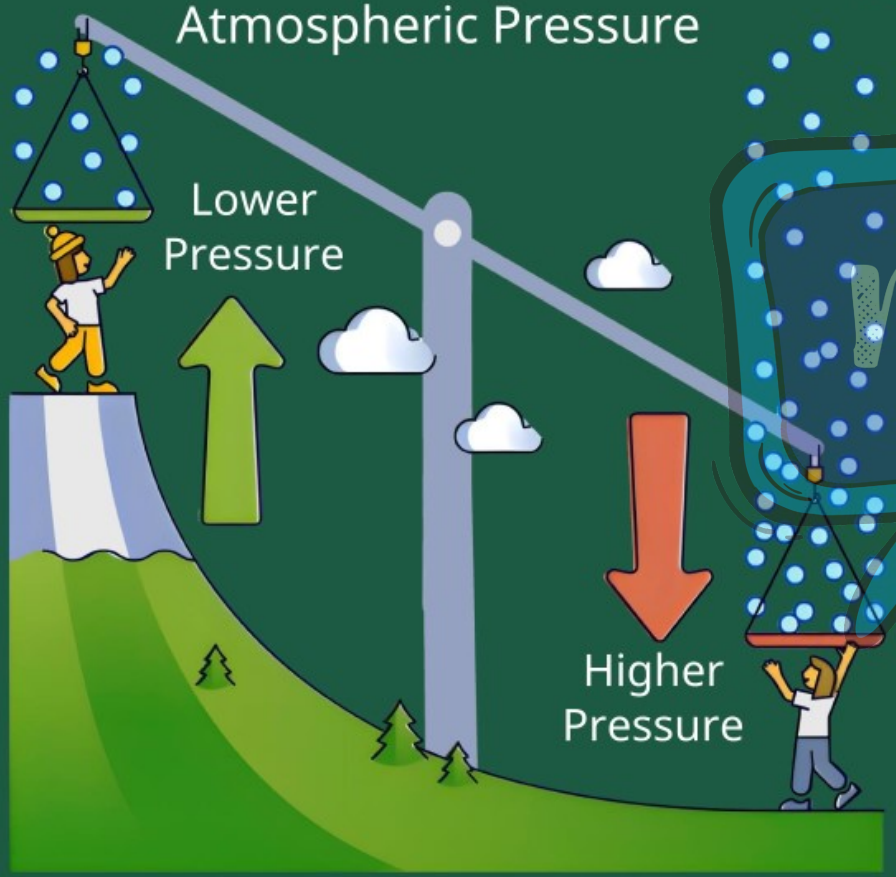
☛ Cooler Climate in Hill Stations

Hill stations like Ooty, Shimla, Darjeeling, etc., are cooler because they are at a higher altitude.



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☛ Reasons for Lower Temperature at High Altitudes

- ✧ Less Atmospheric Pressure & Air Density : As altitude increases, air becomes thinner and cooler.
- ✧ Distance from Earth's Surface : Sun heats the Earth's surface; air farther from the surface gets less heat.

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☛ Example – Himalayas

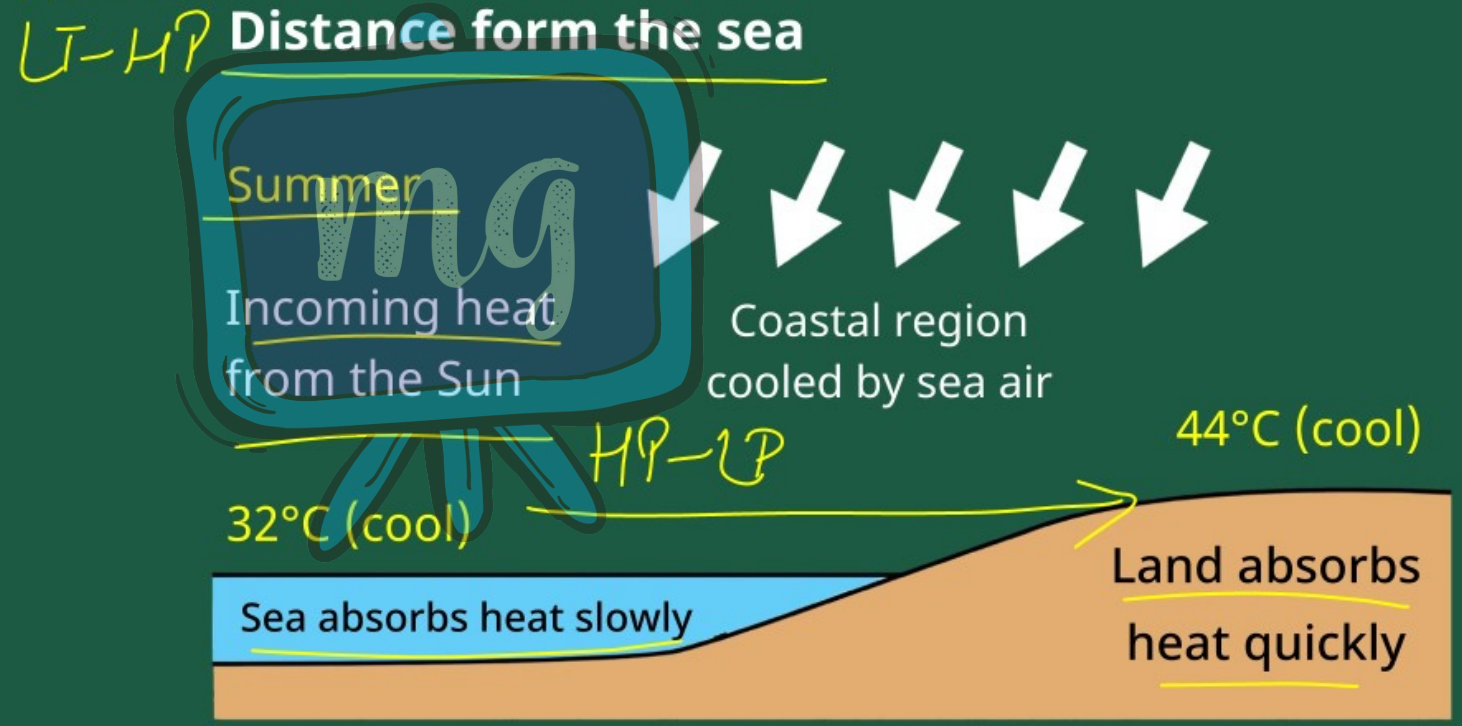
- ✧ Extremely high altitude causes freezing temperatures.
- ✧ Many peaks remain snow-covered year-round.

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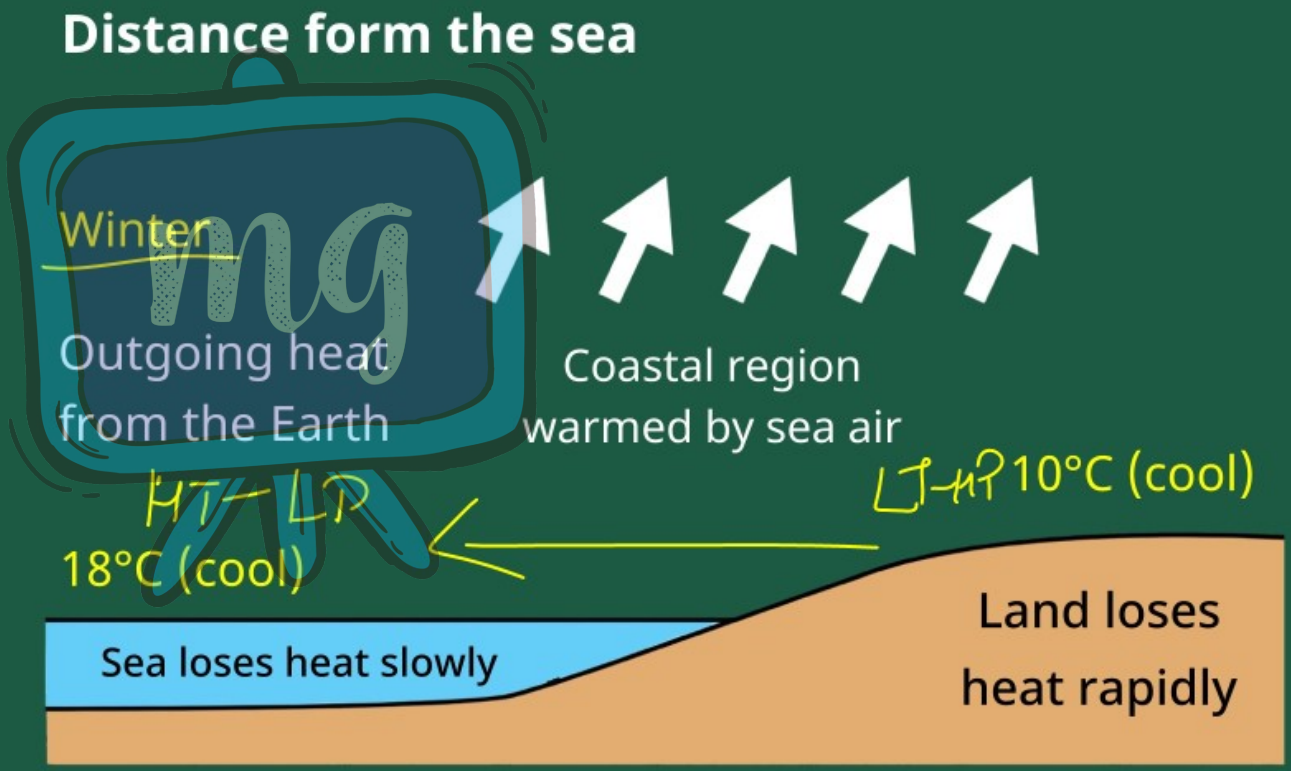
PROXIMITY TO THE SEA

HT–LP
LT–HP



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Coastal Areas

- Mild climate - Summers are not too hot, winters not too cold.
- Sea acts as a temperature moderator (due to slower heating/cooling of water).
- Temperature range is small.

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Inland Areas

- Experience more extreme temperatures.
- Hotter summers and colder winters.



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Example : Mumbai vs Nagpur:







Mumbai (coastal)

- Summer : ~32°C,
- Winter : ~18°C
- Range : 14°C

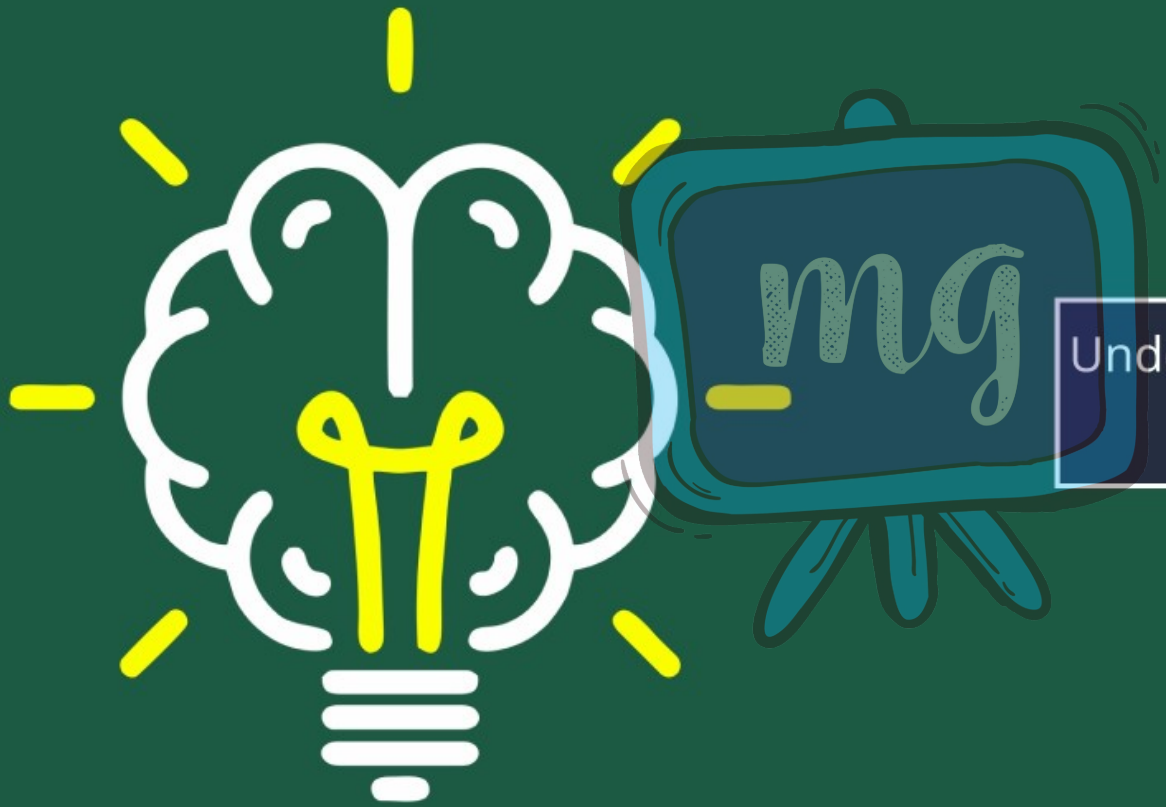
Nagpur (inland)

- Summer: ~44°C
- Winter: ~10°C
- Range: 34°C

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LEARNING OUTCOME

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Understanding the factors that determine climate

ASSESSMENT



1 Why is the temperature lower at higher altitudes?

A More sunlight is received.

B The air is thicker and warmer.

C The Earth's surface is closer.

D Air is thinner and absorbs less heat.



2 What is the main reason coastal areas have a milder climate?

A Less humidity

B Strong winds

C Sea moderates the temperature

D Higher elevation