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WELCOME TO VIRTUAL CLASS-IX

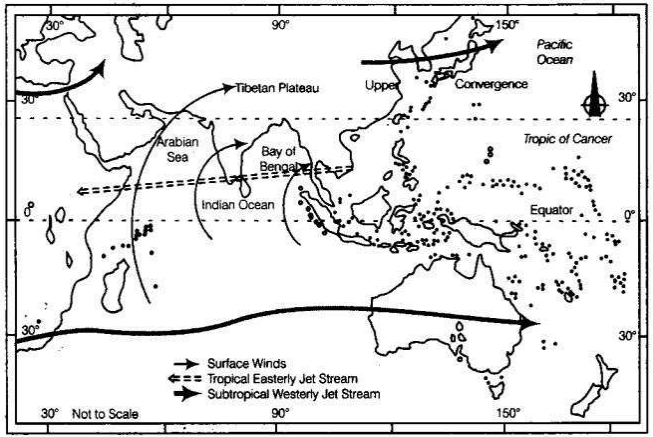
SUBJECT : (GEOGRAPHY)
CHAPTER NUMBER: 4
CHAPTER NAME : CLIMATE

Website: www.odmegroup.org
Email: info@odmps.org
Toll Free: 1800 120 2316
Sishu Vihar, Infocity Road, Patia, Bhubaneswar- 751024

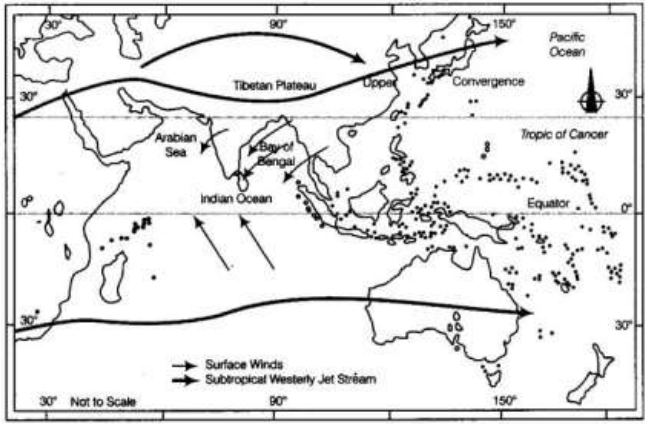
Pressure and Surface Winds

India lies in the region of North-Easterly surface winds. These winds originate during winter from the sub-tropical high-pressure belt of the Northern hemisphere.

- These winds blow South, get deflected to the right due to the Coriolis force and move towards the equatorial-low pressure region. These winds originate and blow over land and hence, carry very little moisture. Therefore, they bring no rain or very little rain. The unique feature of Indian pressure and wind conditions is its complete reversal. During winter, high-pressure areas develop over the areas North of Himalayas. This causes cold dry winds blow from the area towards low-pressure area over the oceans to the South.
- In summer, due to high temperature, low-pressure area develops over interior Asia and over North-Western India. Air from high-pressure areas blow towards this region resulting in complete reversal of wind direction.
- As these winds from high pressure area of Southern Indian ocean crosses the equator and turns right towards low pressure areas of Indian sub-continent. These winds gather large moisture while moving over the warm ocean and bring widespread rainfall over the mainland of India. These winds are known as the South-West Monsoon winds.



Atmospheric conditions over the Indian Sub-continent in the month of June



Atmospheric conditions over the Indian Sub-continent in the month of January

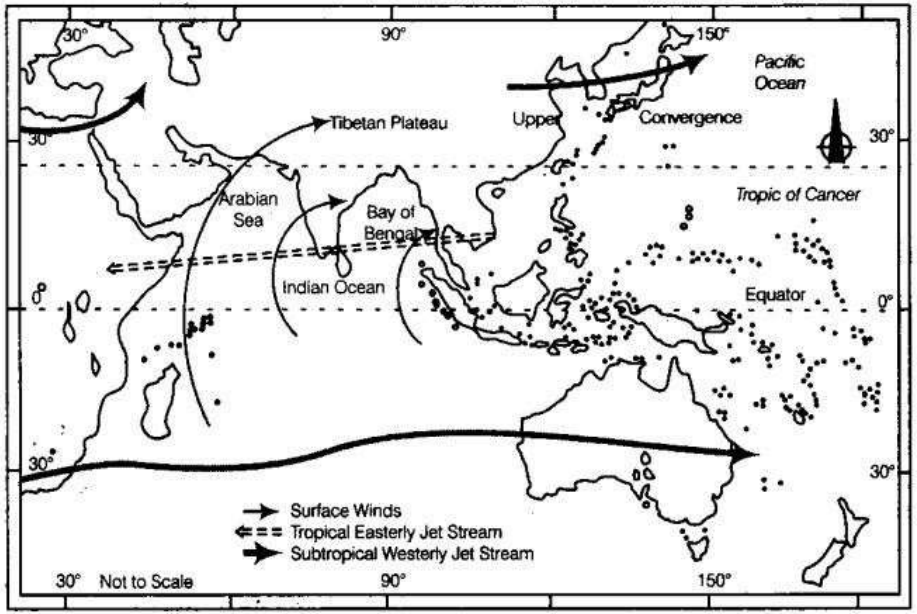
- **Upper Air Circulation and Western Cyclonic Disturbances**

  The upper air circulation of the region (Indian subcontinent) is dominated by a westerly flow which is governed by Jet stream. Due to their location over 27°-30° N latitude, these jet streams are known as sub-tropical westerly jet streams. They blow South of the Himalayas, throughout the year except in summer.

- **Western Cyclonic Disturbances and Tropical Cyclones**

  The Western cyclonic disturbances are weather phenomena of the winter months brought in by the **westerly flow from the Mediterranean region**. **They usually influence the weather of the North and North-Western regions of India. Tropical cyclones occur during the monsoon as well as in October-November and are part of the easterly flow.** These disturbances affect ti e coastal regions of the country.

- The westerly flow brings the Western cyclonic disturbances in the North and North-Western India. In summer, the sub-tropical westerly jet stream moves North of the Himalayas due to apparent shifting of the sun. An easterly jet stream, called sub-tropical easterly jet stream, blows over peninsular India approximately over 14° N during the summer months.



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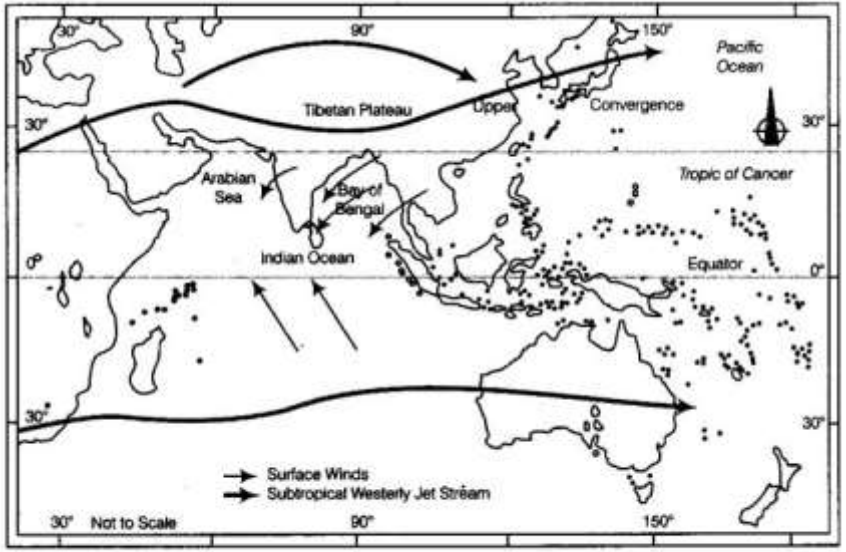

Atmospheric conditions over the Indian Sub-continent in the month of January

THANKING YOU

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