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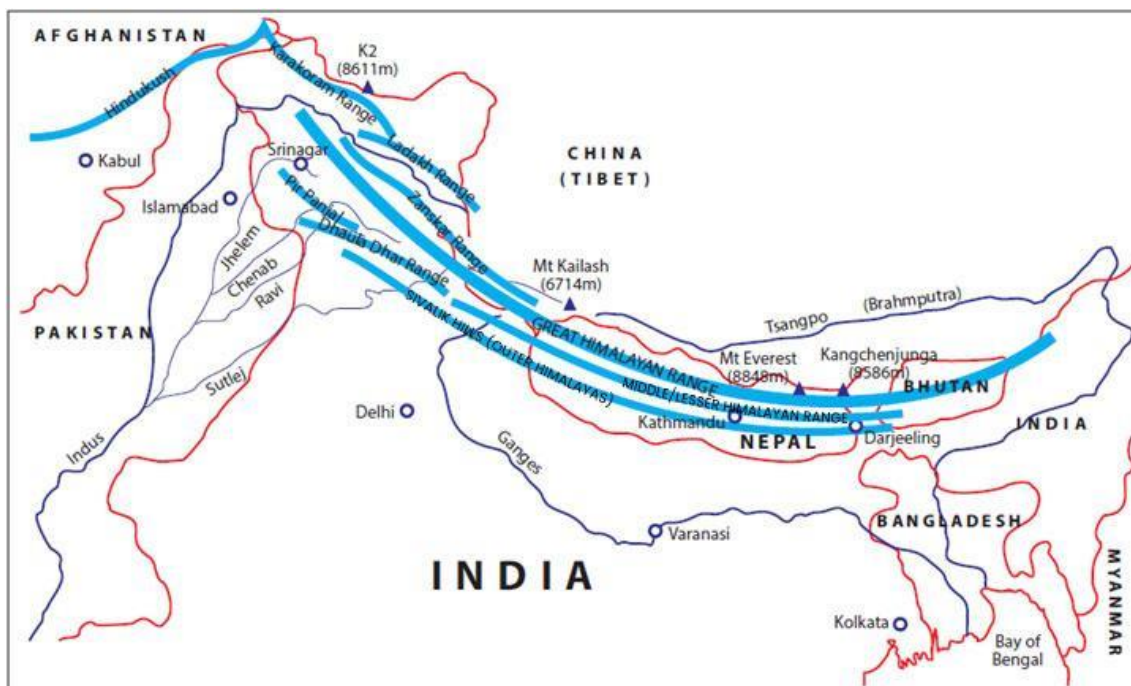
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1. The Himalayas

Himalayas are the young fold mountains. They run from west-east direction from Indus to Brahmaputra covering a distance of 2500 KM. The Himalayas may be divided into three parallel ranges:

- Greater Himalayas or Himadri
- Lesser Himalayas or Himachal
- Outer Himalayas or Shivaliks



Greater Himalayas (Himadri):

- Elevation:** Average of 6,000 meters, with peaks like Mount Everest, Kanchenjunga, Makalu, Dhaulagiri, and Nanga Parbat. Its width varies from 120 to 190 km.
- Features:** Home to key mountain passes such as Bara Lacha-La, Shipki-La, Nathu-La, and Zoji-La. The Ganges and Yamuna rivers originate here.

Lesser/Middle Himalayas (Himachal):

- Elevation:** Ranges from 1,000 to 4,500 meters, with an average width of 50 km.
- Features:** Includes the Pir Panjal, Dhaulagiri, and Mahabharata ranges. Known for hill stations like Shimla, Darjeeling, and Mussoorie. Notable valleys include Kashmir, Kullu, and Kangra.

Outer Himalayas (Shivaliks):

- Elevation:** Ranges from 900 to 1,100 meters, with a width of 10 to 50 km.
- Features:** Forms the foothills with valleys called 'Duns,' such as Dehradun and Kotli Dun.

Beyond the Main Himalayan Ranges:

- Trans-Himalayan Ranges:** North of the Greater Himalayas are the Zaskar and Ladakh ranges, with the Indus River in between. The Karakoram range, home to K2, is further north.
- Purvanchal Hills:** Located in the eastern Himalayas, includes the Mishami, Patkoi, Naga, Mizo hills, and the Meghalaya plateau with Garo, Khasi, and Jaintia hills.

1.1. Western Himalayas vs Eastern Himalayas

Parameters	Western Himalayas	Eastern Himalayas
Extent	Stretch from the Indus River in the west to the Kali River in Nepal, covering the northwestern part of the Himalayas.	Extend from the Tista River in the west to the easternmost reaches of the Himalayas.
Gradient	Features a gradual ascent from the plains, with higher ranges situated further from the plains.	Rises abruptly from the plains, with peaks such as Kanchenjunga situated close to the foothills.
Precipitation	Receives relatively less rainfall, about one-fourth of what the Eastern Himalayas experience.	Receives high rainfall, resulting in dense forest coverage throughout the region.
Vegetation	Predominantly consists of Coniferous Forests and Alpine Vegetation, adapted to drier conditions.	Dominated by Evergreen Forests along the foothills, Temperate Broadleaf Forests, and Alpine Forests, thriving in the moist climate.
Biodiversity	Has lower biodiversity compared to the Eastern Himalayas due to less varied forest types.	Boasts high biodiversity, including Tropical Evergreen Forests, and is recognized as a Biodiversity Hotspot in India.

1.2. Major Land Use Changes in the Himalayas in Recent Years

- **Deforestation:** Forests, particularly at lower altitudes, have been significantly reduced. For example, the Kumaon region in Uttarakhand, India, has lost much of its forest cover due to timber extraction and land conversion.
- **Agricultural Expansion:** Forests have been cleared for terraced farming. In Himachal Pradesh, India, areas like Kullu and Mandi have seen forest loss for agricultural use.
- **Urbanization:** Towns and cities have expanded into previously undeveloped areas. Dharamshala, India, is a case where urban growth has encroached on forest land.
- **Infrastructure Development:** Roads, hydroelectric projects, and tourist facilities have altered land use. In Sikkim, India, projects like the Teesta hydroelectric plant have impacted land patterns.
- **Pasture Degradation:** Overgrazing has led to pasture loss. In Uttarakhand, India, high-altitude meadows like Bugyals are suffering from soil erosion and vegetation loss.
- **Abandonment of Traditional Agricultural Lands:** Economic changes and outmigration have led to the neglect of traditional farmlands. Sikkim, India, shows how remote villages are seeing abandoned agricultural areas.

Tea Plantation Success: Himachal to Darjeeling vs. Northeastern Himalayas

Himachal to Darjeeling:

Favorable Conditions: Adequate water from Himalayan streams, fertile soil rich in potassium and phosphorus, high altitude with a suitable cool climate, and manageable slopes for cultivation.

Northeastern Himalayas:

Challenges: Unsuitable terrain with steep slopes and difficult soil conditions, local tribal resistance, and challenging transportation routes hindered tea plantation development.

How do the Himalayas influence the monsoon patterns in South Asia?

Barrier Effect

- **Obstruction of Winds:** The Himalayas block the northward movement of monsoon winds, causing them to rise and cool, leading to heavy rainfall in the Indian subcontinent.
- **Protection from Cold Air:** They block cold Central Asian winds, maintaining warmer temperatures that support monsoon circulation.

Seasonal Wind Patterns

- **Differential Heating:** Temperature contrasts between the Himalayas and the Indian Ocean influence the reversal of wind patterns, crucial for monsoon onset and retreat.
- **Jet Streams Influence:** The Himalayas affect the subtropical jet streams, impacting the timing and intensity of the monsoon.

2. Northern Plains of India

The northern plain Located between south of the Himalayas and north of the Peninsular plateau. These are Formed by the **deposition of the sediments brought by three main river systems** namely: the Indus, the Ganga and the Brahmaputra.

- It is one of the largest and most fertile plains of the world. Major crops such as wheat, rice, sugarcane, pulses, oil seeds and jute are grown here.



Regional Divisions:

1. Categorization based on the dominant river systems:

- **Punjab Plains:** The western section is shaped by the Indus River and its tributaries—Jhelum, Chenab, Ravi, Beas, and Sutlej—featuring fertile "doabs" between confluent rivers.
- **Ganga Plains:** This vast central region stretches between the Ghaggar and Tista rivers, covering Haryana, Uttar Pradesh, Delhi, Bihar, parts of Jharkhand, and West Bengal.

- **Brahmaputra Plains:** The easternmost section in Assam is shaped by the Brahmaputra River.

2. Sub-regions of northern plains based on Relief Features:

The northern plains can be further distinguished based on their unique topographic features:

- **Bhabar:** As rivers descend from the Himalayas, they shed coarse pebbles in a narrow belt close to the foothills. This zone, **typically 8-16 kilometers wide**, is known as the Bhabar. Notably, streams tend to disappear within the Bhabar region.
- **Terai:** South of the Bhabar lies the Terai, a region where the vanished streams reappear, creating a characteristically wet, marshy, and swampy area.
- **Bhangar:** This region forms the most extensive part of the northern plains, consisting of the oldest alluvial deposits. Bhangar lies above the floodplains, resembling elevated terraces. The soil here, known locally as "kankar," is rich in calcium carbonate.
- **Khadar:** The fertile floodplains formed by younger alluvium are called Khadar. The soil in this region is renewed periodically by floods, leading to its exceptional fertility.

2.1. Significance of the Northern Plains

- **Agricultural Productivity:** The Great Plains have fertile alluvial soil, making them a prime agricultural region. For instance, around 50% of India's wheat and more than 90% of its rice are grown in these plains.
- **High Population Density:** This region is one of the most densely populated in India, with states like Punjab, Haryana, Uttar Pradesh, Bihar, and West Bengal having large populations due to the fertile land and abundant water resources.
- **Economic Significance:** The Great Plains support a variety of industries, including textiles and food processing. Their flat terrain and navigability make it easier to develop infrastructure like roads and railways, which further enhance economic growth.
- **Cultural and Historical Importance:** The plains have been central to Indian civilization, with cities such as Delhi and Kolkata having historical significance. The sacred Ganges River enhances the region's cultural and religious importance.

2.2. Why is the Eastern Northern Plain Wider than the Western Plain?

- **River Systems and Sediment Load:** The Ganga-Brahmaputra river system in the east carries more water and sediment because these rivers have longer courses. This results in extensive sediment deposition, forming a broad floodplain in the east.
- **Himalayan Topography and Tectonic:** In the Himalayas, the western side has a steep slope, making rivers flow faster and deposit less sediment, leading to a narrower plain. Meanwhile, the eastern Himalayas have experienced more tectonic uplift, creating more sediment, which helps form a wider plain.
- **Climatic Factors:** Additionally, the eastern region receives more rainfall, which increases erosion and the amount of sediment rivers can transport and deposit, further expanding the plains.

2.3. Floods in the Northern Plain

Flooding is a recurring issue in the Great Northern Plain, especially in states like Bihar, Uttar Pradesh, and Assam. Several factors contribute to flooding in this region:

1. **Monsoonal Rains:** The heavy monsoon rains significantly increase the water levels in rivers, leading to overflow and flooding.
2. **Sediment Deposition and River Dynamics:**
 - a. Major rivers like the Ganga, Brahmaputra, and their tributaries often carry high sediment loads, which form sandbars and raise riverbeds.

- b. This reduces the rivers' capacity to hold water, causing them to overflow, change course. This leads to widespread flooding and displacement, as seen with the Kosi River in Bihar.

3. Anthropogenic causes:

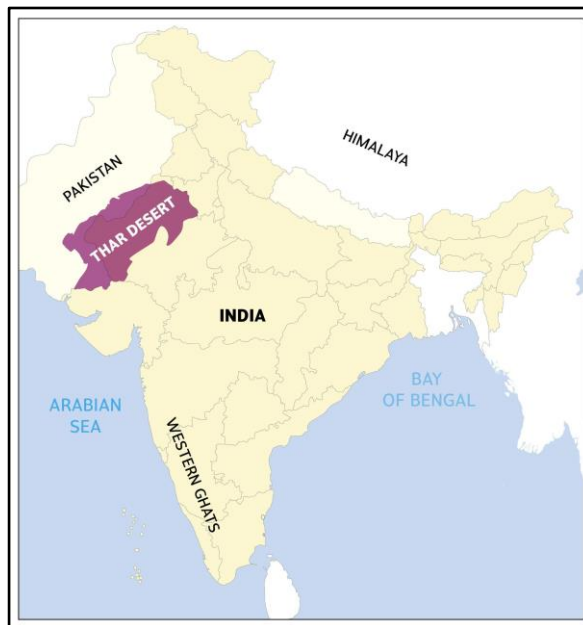
- Unscientific River Management:** Lack of proper river management, including inadequate dredging and embankment maintenance, contributes to flooding.
- Deforestation:** In the catchment areas, deforestation reduces the land's ability to absorb rainwater, increasing runoff into rivers.
- Encroachment on Riverbeds:** Construction and settlements on riverbeds obstruct the natural flow of water, aggravating floods.
- Urbanization:** Rapid urbanization leads to increased impervious surfaces, reducing infiltration and accelerating runoff.

3. Thar Desert

The Thar Desert, also known as the Great Indian Desert, is located along the western margins of the Aravalli Hills. Characterised by shifting sand dunes and barchans, the desert extends into the Indian states of Rajasthan and Gujarat.

The region has a semi-arid to arid climate, with annual rainfall of less than 150 mm. Vegetation is sparse, primarily consisting of thorny bushes and shrubs, with the Luni River as the main river system.

3.1. Features Contributing to the Formation of the Thar Desert



The location of the Thar Desert in the western part of India is primarily influenced by several geographical factors:

- Rain Shadow Effect:** The Aravalli Mountains run in a southwest to northeast direction, blocking the moisture-laden winds coming from the southwest monsoon. This results in very little rainfall reaching the Thar region.
- Proximity to the Tropic of Cancer:** The Thar Desert is situated close to the Tropic of Cancer, which results in high temperatures and low humidity. This geographical position contributes to the high evaporation rates and limited precipitation, both characteristic of desert climates.
- Atmospheric Circulation:** The prevailing wind patterns in the region, which include the northeast trade winds and dry westerlies, contribute to the arid conditions by bringing dry air and limiting moisture.

3.2. Thar Desert's Expanding Boundaries and Associated Land Degradation

Several studies have predicted that sandstorms from the Thar Desert will eventually reach the National Capital Region (NCR).

- Destruction of Aravali Ranges**
 - Unchecked Mining Activities:** Extensive mining in the Aravali hills has led to their gradual destruction. The Aravalis act as a natural barrier, preventing the spread of desert sands towards the east.
 - Deforestation:** Clearing trees for fuel, timber, and agriculture reduces soil stability.

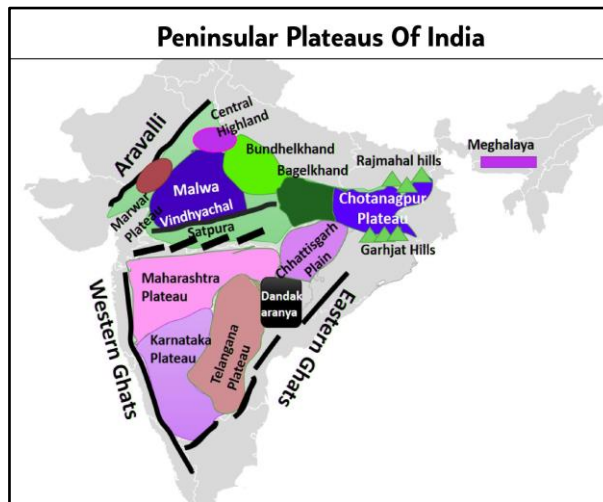
- **Changing Rainfall Patterns:** Alterations in rainfall distribution have resulted in less precipitation in the region, exacerbating arid conditions.
- **Agricultural Practices:**
 - Unscientific and intensive agricultural practices degrade the soil quality and lead to the loss of vegetation cover.
 - **Overexploitation of Groundwater:** Depletion of water resources causes land to become arid.
- **Spread of Sand Dunes**
 - **Uncontrolled Movement:** Lack of mechanisms to control the spread of sand dunes allows them to encroach upon fertile land, furthering desertification.

4. The Peninsular Plateau

Peninsular plateau is a triangular shaped table land. It is part of ancient land mass called Gondwana level. It covers an area of nearly 5 lakh sq.km. It is spread over the states of Gujarat, Maharashtra, Bihar, Karnataka and Andhra Pradesh.

River Narmada divides the peninsular plateau into two parts:

- The central highlands and
- Deccan Plateau



Formation and Features of the Meghalaya Plateau

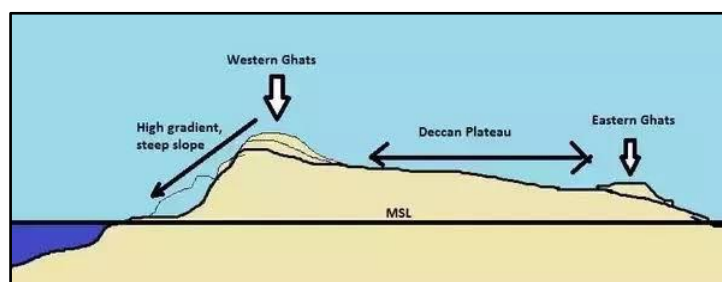
- The Meghalaya Plateau extends from the Deccan Plateau and was shaped by the north-eastward movement of the Indian plate during the formation of the Himalayas.
- This movement created a **fault** between the Rajmahal Hills and the Meghalaya Plateau, forming the **Malda Gap**, which is a significant lowland area that allowed for the depression to be filled by river sediments.
- Like the Chotanagpur Plateau, the Meghalaya Plateau is rich in minerals such as coal, iron ore, sillimanite, limestone, and uranium.

4.1. Deccan Plateau's Stability Compared to the Himalayas

1. **Less Tectonic Activity:** The Deccan Plateau is made of ancient, solid volcanic rock, which makes it stable, whereas the Himalayas are still forming due to ongoing tectonic collisions.
2. **No Major Fault Lines:** The Deccan plateau lacks major active fault lines, while the Himalayas have significant fault zones that cause frequent seismic activity.
3. **Thicker Crust:** The Deccan Plateau has a thicker, more rigid crust, whereas the Himalayas have a thinner and more dynamic crust.

4.2. Differences between Eastern Ghats and Western Ghats:

- **Elevation and Continuity:** The Western Ghats are higher and more continuous compared to the fragmented and lower Eastern Ghats.
- **Climate and Rainfall:** The Western Ghats receive heavy



rainfall, leading to lush vegetation, while the Eastern Ghats have a drier climate with less rainfall.

- **Biodiversity:** Western Ghats are richer in biodiversity with numerous endemic species, while the Eastern Ghats have fewer endemic species and less diverse flora and fauna.
- **Geology and Age:** The Eastern Ghats are older and mainly composed of metamorphic rocks, whereas the Western Ghats are younger with basaltic lava flows.
- **Human Settlement and Land Use:** The Eastern Ghats are more densely populated with significant urban centers, while the Western Ghats have fewer densely populated areas, with major cities on the periphery.

4.3. Why Chotanagpur Plateau is Rich in Minerals?

- **Rock Composition:** The area is dominated by metamorphic and igneous rocks. These rock types are often associated with various mineral deposits.
- **Geological History:** It has undergone multiple cycles of geological activities, including metamorphism and magmatism, which are conducive to mineral formation.
- **Weathering and Erosion:** Long periods of weathering and erosion have exposed mineral-rich rock layers. This process has also led to the concentration of certain minerals in placer deposits.
- **Coal Formation:** During the Carboniferous period (359-299 million years ago), dense forests in the Chotanagpur region were buried under sediments. Over millions of years, heat and pressure transformed this plant matter into the coal deposits found today.

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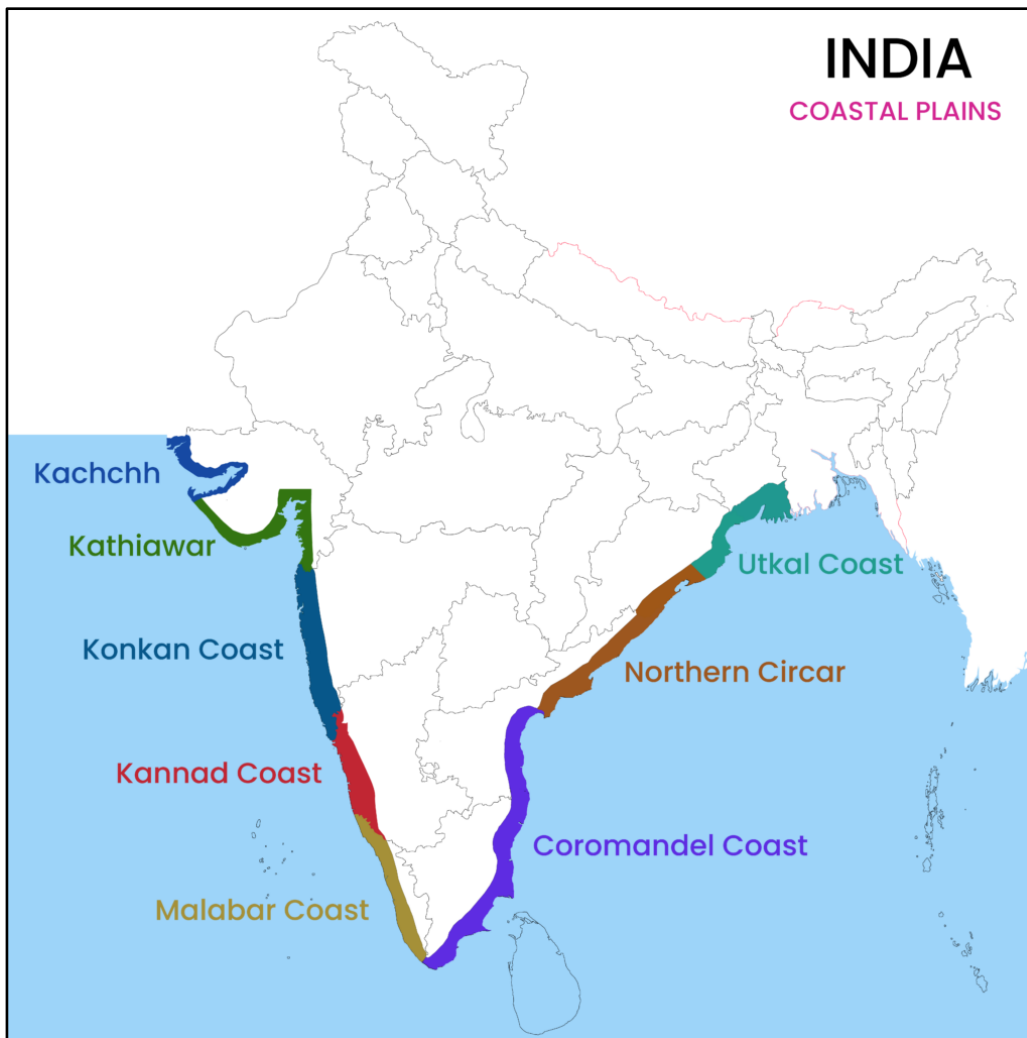
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5. Coastal Plains of India

Student Notes:

The coastal plains in India run parallel to the Arabian Sea & Bay of Bengal along the Peninsular Plateau.



5.1. West Coast Plains vs East Coast Plains

West coast plains	East coast plains
- The Western Coastal Plains are Formed by rivers like Narmada, Tapi, and Sabarmati. - It is Divided into Kachchh, Kathiawar, and Konkan coast.	- The Eastern Coastal Plains are formed by Ganga, Brahmaputra, Mahanadi, Godavari, Krishna, Kaveri. - It is Divided into Utkal, Northern Circars, and Coromandel Plains.
Submerged coastal plains can be found throughout the western coast as steep gradients and subsidence of western part of deccan plateau which can lead to faster erosion and less sediment accumulation along the shore.	The eastern coastal plain is broader and represents an emerging coast as rivers flowing from the interior of the continent deposit sediments along the coast, building up broad alluvial plains.
Except for the Malabar Coast in the south, the Western Coastal Plain is unsuitable for agriculture.	Due to the alluvial soil, the Eastern Coastal Plain is quite fruitful.
Less Vulnerable to coastal erosion and cyclones as compared to the east coast.	Vulnerable to tropical cyclones and flooding

5.2. Geographical Reasons for Fewer Natural Harbours on the Eastern Coast

Student Notes:

1. Coastal Configuration

- The eastern coast along the Bay of Bengal is relatively straight and smooth, limiting natural harbors like Chennai's artificial port, which needs extensive infrastructure.
- In contrast, the western coast has natural indentations and estuaries, with Mumbai's port benefiting from these geographic features.

2. Continental Shelf

- The eastern coast has a wide, gently sloping continental shelf, resulting in shallower waters that require extensive dredging for deep-water harbors like Kolkata.
- The western coast has a narrower shelf that quickly drops into deeper waters, allowing natural harbors like Mormugao in Goa to accommodate large ships closer to shore.

3. River Mouths and Sedimentation

- The eastern coast, with major rivers like the Ganges and Godavari, deposits large amounts of sediment into the Bay of Bengal, creating extensive deltas and shallow waters, causing silting issues at ports like Kolkata.
- On the other hand, the western coast has fewer large river deltas, resulting in less sediment and deeper waters, which benefits ports like Cochin.

4. Cyclonic Activity

- The eastern coast is highly vulnerable to cyclones from the Bay of Bengal, which cause erosion and damage, making it difficult to maintain natural harbors, as seen with the Odisha coast.
- In contrast, the western coast experiences fewer cyclones, resulting in more stable natural harbors, such as the port of Mangalore, which faces fewer disruptions.

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6. Drainage system of India

Student Notes:

The movement of water through well-defined channels is referred to as drainage. The geological history, type, and structure of rocks, as well as the terrain, slope, and other factors, all affect how a river drains.



6.1. Himalayan vs Peninsular Drainage System

Feature	Himalayan Rivers	Peninsular Rivers
Origin	Originate from glaciers and snow-capped peaks of the Himalayan and Karakoram ranges (e.g., Ganges, Yamuna)	Originate from lower elevations of the Western Ghats, Vindhya-Satpura ranges, and central highlands (e.g., Godavari, Krishna)
Flow	Perennial, with substantial water flow year-round due to melting snow and glaciers	Seasonal, primarily dependent on monsoon rains, often drying up partially in summer (e.g., Tapi, Mahi)

Nature of Valley	Deep, V-shaped valleys with steep gradients, often forming gorges (e.g., Rishikesh-Gangotri)	Broad, U-shaped valleys with gentle slopes and mature profiles (e.g., Godavari Basin)
Drainage Pattern	Typically dendritic (tree-like) or trellis patterns (e.g., Ganges Basin)	Often rectangular, trellis, or radial patterns (e.g., Krishna Basin)
Sediment Load	High sediment load, carrying large amounts of silt and sand (e.g., Brahmaputra)	Lower sediment load, mostly carrying finer sediments (e.g., Tapi)
River Course	Long courses, traveling great distances across the Indo-Gangetic plains.	Shorter courses, often flowing into the Bay of Bengal or the Arabian Sea.

6.2. Why do the Western Ghats have more estuaries and fewer river deltas?

The predominance of estuaries over deltas in the Western Ghats is primarily due to the unique geological and climatic conditions of the region.

- **Nature of rivers:** The rivers that originate in the Western Ghats do not have a long course to travel, and they quickly reach the sea. As a result, they do not have enough time to deposit sediments and form a delta.
- **Coastline:** The coastline of the Western Coastal Plain is characterised by a steep gradient, and there are no shallow bays where rivers can deposit their sediments. The steep coastline also results in strong wave action, which prevents the formation of a delta.
- **Tidal influence:** The Arabian Sea experiences a high tidal range, which prevents the formation of a delta by constantly moving the sediments away from the river mouth.
- **Geological factors:** The Western Coastal Plain is a region that is characterised by hard rocks that do not erode easily. As a result, there are no loose sediments available for the rivers to deposit and form a delta.

Transboundary Water Disputes in Himalayan Rivers

1. Strategic Importance of Himalayan Rivers

- **Major source of water:** Indus, Ganges, and Brahmaputra originate in the Himalayas and are vital for India's water supply.
- **Economic Significance:** Support agriculture, hydropower, and livelihoods for millions.

2. Key Disputes

- **Indus (India-Pakistan):**
 - Indus Waters Treaty (1960) governs water sharing.
 - Disputes over water use and dam projects affect bilateral ties.
- **Ganges (India-Bangladesh):**
 - 1996 Ganges Water Sharing Treaty aims to manage dry season flows.
 - Ongoing concerns about equitable distribution.
- **Brahmaputra (India-China):**
 - China's upstream dam projects raise concerns for India.
 - Potential impacts on downstream water flow and availability.

3. Geopolitical Implications

- **Rivalries:** Water disputes intensify India's strategic concerns with Pakistan and China.
- **Diplomacy:** Water-sharing agreements influence regional cooperation and negotiations.
- **Security:** Control over water resources tied to national security and stability.

5. Environmental and Social Impact

- **Climate Change:** Affects water availability and increases flood and drought risks.
- **Population Pressure:** Rising demand exacerbates competition for water resources.

Resolving transboundary water disputes over Himalayan rivers requires regional cooperation, sustainable management practices, and international mediation. Investing in water-efficient infrastructure and engaging communities in conservation will help ensure equitable resource use and regional stability.

Student Notes:

6.3. Barriers to the Growth of Water-Based Transport in India's River Systems

1. **Geographical Limitations:** Many Indian rivers have a variable flow, with significant seasonal variations due to the monsoon. This makes navigation unpredictable and challenging.
2. **Silting and Sedimentation:** Many rivers in India are prone to silting and sedimentation, which can obstruct navigation channels and require regular dredging. This maintenance is costly and often neglected.
3. **Competition from Road and Rail:** India's road and rail networks are more developed and widely used for freight and passenger transport. These modes are often faster and more reliable, reducing the demand for water transport.
4. **Infrastructure Deficiency:** There is a lack of adequate infrastructure, such as ports, docks, and navigation aids, which are necessary for efficient water transport.
5. **Environmental Concerns:** Preserving river ecosystems is often prioritized over developing navigation channels.

6.4. Interlinkage of Rivers

The interlinking of rivers in India aims to **balance water distribution** by redirecting excess water from flood-prone areas to drought-affected regions, **addressing both floods and droughts**.



Benefits of the Interlinking of rivers

- **Water and Agriculture Benefits:** River interlinking balances water availability by transferring surplus water to drought-prone areas, enhancing agricultural productivity. For example, the Ken-Betwa link aids Bundelkhand, and the Indira Gandhi Canal has turned desert land in Rajasthan into fertile farmland.
- **Hydroelectric Power:** Building dams and reservoirs as part of the project can produce hydroelectric power. This can help reduce the use of fossil fuels and support clean energy initiatives.
- **Economic Growth through Waterways:** Creating inland waterways can improve the movement of goods and boost trade, especially in areas with limited road and rail access. For example, the Ganga-Bhagirathi-Hooghly river system is already used for transporting goods and could be expanded with interlinking.
- **Environmental and Flood Control:** The project can help manage floods and reduce water pollution and salinity, benefiting local ecosystems. Projects like the Polavaram Dam are designed to prevent flooding while also supporting irrigation and water supply.
- **Job Opportunities and Rural Development:** Building and maintaining canals and infrastructure can create many jobs, especially in rural areas. This can improve living standards, reduce migration to cities, and support the economic development of rural communities.

Challenges in the River Interlinking:

- **Massive Cost and Effort:** The project requires a huge amount of money (estimated at Rs. 5.6 lakh crores) and significant engineering expertise to build the canals and structures needed. This raises questions about affordability and feasibility.
- **Social Impact and Displacement:** Large dams and reservoirs often displace communities living near the rivers. These people would need to be resettled and adequately compensated, causing social disruption.
- **Environmental Concerns:** Building dams and canals can disrupt ecosystems, harm wildlife habitats, and potentially reduce the flow of freshwater into oceans, impacting marine life. National parks and sanctuaries along the rivers could be affected.
- **Flood Control Doubts:** While the project aims to control floods by diverting excess water, some experts question its effectiveness. Past experiences with large dams in India suggest they may not always prevent flooding.
- **Interstate and International Disputes:** States with surplus water may be hesitant to share it with others, leading to conflicts. Additionally, the Himalayan component of the project could impact neighboring countries like Bangladesh, requiring international agreements.

National River Linking Project

Plan envisages the transfer of water from water surplus basins where there is flooding to water-deficit basins.

The two components of the project are:

1. Himalayan Component
2. Peninsular Component

Himalayan Component has 14 projects in the pipeline:

- Storage dams are to be constructed on the **rivers Ganga and Brahmaputra** and their tributaries.
- Linking of **ganga and Yamuna**
- Connecting **Brahmaputra and ganga basins** to the Mahanadi basin.
- Connecting eastern tributaries of the Ganga with the Sabarmati and Chambal river systems.

Student Notes:

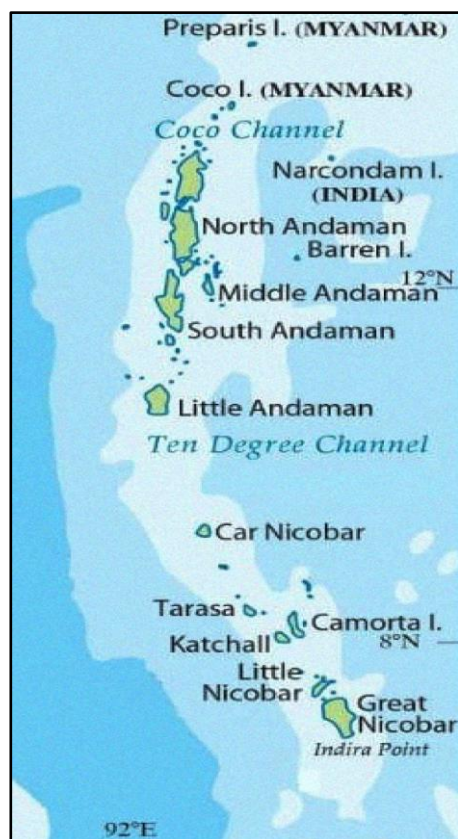
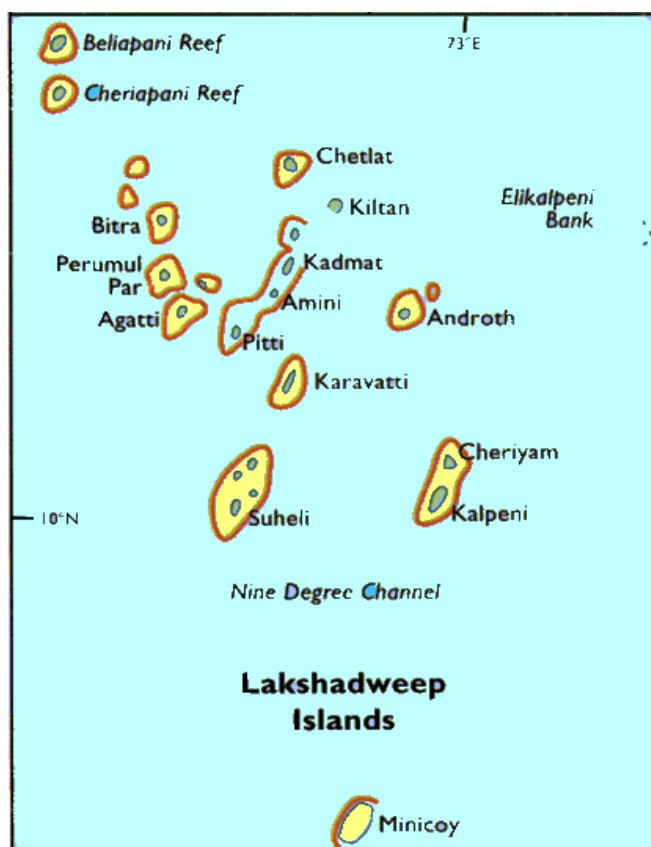
Peninsular Component projects linking 16 rivers in southern India:

- Surplus water from Mahanadi and Godavari will be transferred to Krishna, Kaveri, Pennar, and Vaigai rivers.
- Linking **Mahanadi and Godavari river** basins to Kaveri, Krishna, and Vaigai river systems.
- The project connects the Ken and Betwa Rivers and links the Parbati and Kalisindh Rivers to the Chambal River to enhance water distribution in these areas.

7. Islands of India

India has two main group of islands:

1. **Andaman and Nicobar archipelago in the Bay of Bengal** - Andaman and Nicobar Islands were formed due to a **collision between the Indian Plate and Burma Minor Plate**.
2. The **Lakshadweep Islands in the Arabian Sea** - Lakshadweep Islands are coral islands. These islands are part of reunion hotspot volcanism.



7.1. Andaman and Nicobar Group of Islands vs Lakshadweep Islands

Andaman and Nicobar group of islands	Lakshadweep group of islands
Part of a submerged mountain range.	Coral atolls formed on submerged volcanic tops.
Mixture of sandy beaches and rocky shores.	Predominantly sandy beaches and clear lagoons.
Greater terrestrial biodiversity with dense forests and endemic species.	Richer marine biodiversity but limited terrestrial flora and fauna.
Hilly and mountainous topography	Flat and low-lying topography

8. UPSC Previous Years Questions

1. There is no formation of deltas by rivers of the Western Ghats. Why? (2013)
2. Whereas the British planters had developed tea gardens all along the Shivaliks and Lesser Himalayas from Assam to Himachal Pradesh, in effect they did not succeed beyond the Darjeeling area. Explain. (2014)
3. In what way can floods be converted into a sustainable source of irrigation and all-weather inland navigation in India? (2017)

Student Notes:



फाउंडेशन कोर्स सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा 2025

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन
- सीसेट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसेट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

DELHI: 22 अगस्त, 1 PM | 18 जुलाई, 1 PM **BHOPAL: 23 जुलाई**

LUCKNOW: 18 जुलाई **JAIPUR: 16 अगस्त** **JODHPUR: 11 जुलाई**

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Rathore**



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Prajapati**

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