Location and Geographical Extent of Punjab 2
Physiographic Divisions of Punjab 5
Climate and Weather Patterns of Punjab 6
Soil Types and Distribution of Punjab 9
Major Rivers of Punjab 11
Canal Irrigation System of Punjab 14
Groundwater Resources of Punjab 16
Agriculture and Crop Patterns of Punjab 19
Natural Vegetation and Forest Cover of Punjab 20
Biodiversity of Punjab 23
Wildlife Sanctuaries and National Parks of Punjab 25
Wetlands in Punjab 28
Land Use and Land Cover of Punjab 31
Mineral Resources in Punjab 35
Industrial Geography of Punjab 36
Demographic Features and Population Distribution of Punjab 39
Urbanization and Urban Geography of Punjab 40
Rural Settlements and Villages of Punjab 44
Transport and Communication Networks of Punjab 46
Environmental Issues and Challenges of Punjab 49
Soil Erosion and Land Degradation of Punjab 51
Impact of Green Revolution of Punjab 55
Climate Change Impacts on Punjab 56
Floods and Flood Management of Punjab 59
Water Resource Management and Challenges of Punjab 61
Renewable Energy Potential of Punjab 65
Geographical Role in Punjab's Economy 66
Tourism Geography of Punjab of Punjab 69
Cultural Landscape and Heritage Sites of Punjab 70
Sustainable Development in Punjab 73

Location and Geographical Extent of Punjab

Punjab, often referred to as the "Land of Five Rivers," is a region of immense geographical, historical, and cultural significance. Located in the northwestern part of India, Punjab's strategic position and fertile plains make it one of the most important states in the country. This article explores in detail the location, geographical extent, and key features of Punjab.

---

1. Geographic Coordinates

Punjab lies between:

- **Latitudes**: 29°30'N to 32°32'N
- **Longitudes**: 73°55'E to 76°50'E

These coordinates place Punjab in the northern hemisphere, primarily in the subtropical zone.

---

2. Location

- **Northern India**: Punjab is part of northern India, sharing its boundaries with multiple states and countries.
- **Bordering States**:
  - **North**: Jammu and Kashmir (now UTs of Jammu & Kashmir and Ladakh).
  - **East**: Himachal Pradesh.
  - **South**: Haryana and Rajasthan.
- **International Border**:
  - **West**: Punjab shares a 553-km-long international border with Pakistan, defined by the Radcliffe Line.

---

3. Area

Punjab covers an area of **50,362 square kilometers**, making it the 20th largest state in India in terms of size. It accounts for approximately 1.54% of the total geographical area of the country.

---

4. Topographical Features

Punjab is part of the **Indo-Gangetic Plain**, which extends across northern India and Pakistan. Its geographical extent is defined by the following natural features:

4.1. Plains

- Most of Punjab's landscape comprises flat and fertile alluvial plains, ideal for agriculture.
- The plains are traversed by the five rivers of the Indus system, namely:

    - Sutlej
    - Beas
    - Ravi
    - Chenab (in historical Punjab, now in Pakistan)
    - Jhelum (in historical Punjab, now in Pakistan)

4.2. Shivalik Hills

- The northeastern part of Punjab is characterized by the Shivalik Hills, a part of the outer Himalayas.
- These hills are found in districts like Hoshiarpur, Gurdaspur, and Pathankot.

4.3. Bist Doab

- The area between the rivers Sutlej and Beas is called the Bist Doab.
- This region is one of the most agriculturally productive areas in Punjab.

4.4. Malwa Plateau

- The southern region of Punjab, known as Malwa, includes a semi-arid plateau that extends into Rajasthan.

---

5. Climatic Influence

Punjab's geographical extent significantly impacts its climate:

- **Tropical Steppe Climate**: Punjab has a continental climate with hot summers, cold winters, and a monsoon season.
- **Monsoon Winds**: The southwest monsoon brings most of the state's annual rainfall, influencing the Kharif crop season.
- **Temperature Extremes**: The state experiences temperatures ranging from sub-zero in winter to over 45°C in summer due to its inland location.

---

6. Rivers and Water Systems

Punjab's name, derived from the Persian words "panj" (five) and "aab" (water), highlights its association with rivers:

- **Rivers**: The rivers Sutlej, Beas, and Ravi are crucial for Punjab's irrigation and agriculture.
- **Canal System**: Punjab has an extensive canal network, making it one of the most irrigated regions in the world.

---

7. Soil and Land Use

Punjab's soils are predominantly alluvial, deposited by its rivers. The state can be broadly divided into three soil types:

- **Alluvial Soil**: Found in the plains, suitable for wheat and rice cultivation.
- **Loamy Soil**: Found in the central and eastern parts, also highly fertile.
- **Sandy Soil**: Found in the southern districts, less fertile but used for horticulture.

---

8. Strategic Importance

Punjab's location plays a significant role in India's defense and economy:

- **International Border**: Its border with Pakistan has both strategic and historical importance.
- **Economic Gateway**: Punjab serves as a gateway to northern India for trade and connectivity.

---

9. Administrative Divisions

Punjab is administratively divided into **23 districts**, grouped into **5 divisions**:

- **Majha**: Includes Amritsar, Gurdaspur, Pathankot, and Tarn Taran.
- **Malwa**: The largest region, covering districts like Ludhiana, Patiala, and Bathinda.
- **Doaba**: Comprising Jalandhar, Hoshiarpur, Kapurthala, and SBS Nagar.
- **Puadh**: Smaller southern region, overlapping with Haryana.

---

10. Biodiversity and Natural Vegetation

- **Vegetation**: Punjab has scant forest cover (about 3.52% of its area), primarily in the Shivalik Hills.
- **Wildlife**: Home to blackbucks, jackals, and peacocks, Punjab's biodiversity is concentrated in wildlife sanctuaries like Harike Wetlands.

---

11. Economic Significance

- **Agriculture**: Punjab is the **breadbasket of India**, contributing significantly to the nation's wheat and rice production.
- **Industry**: The state hosts industries like textiles, hosiery, and sports goods, leveraging its strategic location for trade.

---

12. Connectivity

Punjab is well-connected through:

- **Roads**: Extensive road network with national and state highways.
- **Railways**: Key junctions like Ludhiana and Amritsar.
- **Airports**: International connectivity via Amritsar and Chandigarh airports.

Physiographic Divisions of Punjab

Punjab, the land of five rivers, is characterized by a diverse landscape shaped by its unique geological history and the powerful forces of nature. The state can be broadly divided into four major physiographic divisions:

1. The Shivalik Hills

- **Location:** Occupying the northeastern part of Punjab, forming the foothills of the Himalayas.
- **Characteristics:**
    - **Elevation:** Ranges from 300 to 1000 meters above sea level.
    - **Composition:** Primarily composed of unconsolidated sedimentary rocks like sandstone and conglomerate.
    - **Topography:** Characterized by rugged terrain, steep slopes, and narrow valleys.
    - **Drainage:** Dissected by numerous seasonal streams called "chos".
    - **Vegetation:** Supports a variety of subtropical vegetation, including scrub forests and grasslands.
- **Economic Significance:**
    - **Forestry:** Provides timber and other forest products.
    - **Agriculture:** Limited to terraced farming on gentler slopes, primarily for growing fruits and vegetables.
    - **Tourism:** Offers opportunities for hiking, trekking, and wildlife viewing.

2. The Kandi Area

- **Location:** Lies between the Shivalik Hills and the plains, forming a transition zone.
- **Characteristics:**
    - **Topography:** Undulating terrain with low hills, valleys, and ravines.
    - **Soil:** Mostly composed of gravel and clay, making it less fertile than the plains.
    - **Drainage:** Characterized by seasonal streams and gullies.
    - **Vegetation:** Supports a mix of scrub forests, grasslands, and cultivated fields.
- **Economic Significance:**
    - **Agriculture:** Primarily rain-fed, with crops like maize, millets, and pulses being cultivated.
    - **Animal Husbandry:** Provides grazing land for livestock.

3. The Alluvial Plains

- **Location:** Constitutes the largest and most important physiographic division, covering the central and southern parts of Punjab.
- **Characteristics:**
    - **Topography:** Flat and fertile plains formed by the deposition of alluvium by the Indus River system.
    - **Soil:** Rich in alluvial deposits, making it highly fertile and suitable for agriculture.
    - **Drainage:** Well-drained by the major rivers of Punjab - Sutlej, Beas, Ravi, and their tributaries.
    - **Vegetation:** Primarily agricultural land, with major crops like wheat, rice, and cotton being cultivated.
- **Economic Significance:**