

Physical Features and Characteristics of Rajasthan

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Abstract : The shape of Rajasthan resembles a rhomboid or an irregular lozenge. The state features plains formed by lakes and seasonal streams. Its land is mostly sandy with a rich mixture of minerals and salts. Vegetation is sparse, mainly consisting of thorny shrubs and dry deciduous trees. Rajasthan spans approximately 342,239 sq. km., which is about 10.74% of India's total area. Often called the "Land of Kings," its festivals reflect the region's culture, heritage, and nature.

Introduction - Rajasthan, in northwestern India, is the largest state by area. It lies between 23°30'2 – 30°12' N and 69°29'2 – 78°17'2 E. It shares an international border of about 1,070 km with Pakistan and internal borders with Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, and Gujarat. Jaipur is the capital. Its location and borders result in rich geographical diversity.

The state is divided into four major physical regions based on geography and population distribution:

Region	Area (%)	Population (%)
Northwestern Desert Region	61%	40%
Aravalli Hill Region	9%	10%
Eastern Plains	23%	39%
Southeastern Plateau	7%	11%

Physiographic Divisions of Rajasthan

1. Western Sandy Desert Region – approx. 61%
2. Aravalli Mountain Range & Hilly Region – approx. 9.8%
3. Eastern Plains – approx. 23.6%
4. South-Eastern Plateau – approx. 6.9%

Physiographic Structure: Based on Alfred Wegener's theory (1912), Rajasthan's landforms are remnants of ancient continents like Angaraland and Gondwanaland, with the Tethys Sea's traces forming the present-day Thar Desert.

Major Physical Regions of Rajasthan

1. Western Sandy Desert (Thar Desert):

- i. Known as the "Great Indian Desert"
- ii. Covers ~62% of Rajasthan, and ~85% of the desert lies in India
- iii. Hot summers (up to 52°C) and cold winters (below freezing)
- iv. Frequent sandstorms and dry winds ("Loo") contribute to desertification
- v. Main livelihood: animal husbandry (camel, sheep, goat,

cattle)

2. Subregions:

- i. Arid Desert Region
- ii. Luni-Jawai Basin
- iii. Shekhawati Region
- iv. Ghaggar Plain

3. Aravalli Hills and Mountain Region:

- i. Ancient fold mountains, part of Gondwana land
- ii. Stretch from Gujarat (Palampur) to Delhi; 550 km in Rajasthan
- iii. Divides the state into eastern and western regions
- iv. Subregions based on elevation:
 - a. Southern Aravallis
 - b. Central Aravallis
 - c. Northern-Eastern Aravallis

Aravali Parvatiya Pradesh: The Aravalli is the oldest fold and residual mountain range in the world. It stretches from southwest to northeast, but its width increases from northeast to southwest. The Aravalli Range is known as India's Great Watershed Line, as it divides the rivers flowing towards the Arabian Sea and the Bay of Bengal.

Extent:

1. From Palanpur (Gujarat) to Raisina Hill (Delhi)
2. In Rajasthan, it extends from Sirohi to Khetri (Neem ka Thana)

Districts Covered: Udaipur, Salumber, Sirohi, Chittorgarh, Rajsamand, Dungarpur, Pratapgarh, Bhilwara, Shahpura, Sikar, Neem ka Thana, Jhunjhunu, Ajmer, Beawar, Alwar, Jaipur, Kotputli-Behror, Khairthal-Tijara, and Didwana-Kuchaman

Key Facts:

1. Total Length: 692 km
2. Length in Rajasthan: 550 km
3. Average Elevation: 930 meters
4. Geological Age: Pre-Cambrian Era

5. Remnant of: Gondwana Land
6. Covers: 9% of Rajasthan's area
7. Population: 10% of Rajasthan's population
8. Slope Direction: From southwest to northeast

Special Characteristics:

1. Aravalli is also called the "Lifeline of Rajasthan" and the "Daughter of the Arabian Sea"
2. It is referred to as the "Appalachians of India"
3. The Aravalli mountain range stretches from Palanpur (Gujarat) to Raisina Hill (Delhi)
4. In Rajasthan, it extends from Sirohi to Khetri (Neem ka Thana)
5. 80% of the Aravalli Range lies within Rajasthan
6. It acts as a 50 cm rainfall dividing line, separating eastern Rajasthan from western Rajasthan
7. The highest elevation is in Sirohi district, and the lowest in Jaipur district
8. The widest spread is in Udaipur, and the narrowest in Ajmer
9. Maximum rainfall occurs in the southern part of the range
10. Though the range runs southwest to northeast, its width increases from northeast to southwest
11. Known as India's Great Watershed Line, as it separates rivers flowing to the Arabian Sea and the Bay of Bengal
12. The highest point is Guru Shikhar (Sirohi), and the lowest is Pushkar Valley (Ajmer)
13. The central part of the range in Rajasthan lies in Ajmer
14. The climate is sub-humid, with average rainfall between 50–90 cm
15. Vegetation is tropical dry deciduous
16. Northern and central parts are made of quartzite rocks, while the southern part consists of granite
17. It is the oldest fold and residual mountain range in the world
18. It prevents the eastward expansion of the western desert
19. It is the region with the most wildlife sanctuaries in Rajasthan
20. It is the origin point of the maximum number of rivers in the state
21. It has the densest vegetation cover
22. It has the largest forest area and serves as a refuge for wildlife
23. It has the lowest population density in Rajasthan
24. It is richest in mineral resources, especially metallic

minerals due to the abundance of igneous rocks

25. Aravalli is a very ancient folded and crumpled mountain range

4. Eastern Plains:

1. Located east of the Aravallis and part of the southeast plateau
2. Covers ~23.3% of area and supports ~39% of the population
3. Formed by riverine deposits; irrigation mainly via wells
4. Key districts: Jaipur, Alwar, Dholpur, Karauli, Sawai Madhopur, etc.

5. Subregions:

1. Banas–Banganga Basin
2. Chambal Basin
3. Middle Mahi Basi

6. south-Eastern Plateau Region:

1. Covers ~9.6% of area; home to ~11% of the population
2. Key districts: Kota, Bundi, Baran, Jhalawar
3. Major rivers: Chambal and its tributaries (Parbati, Kali Sindh, etc.)
4. Rainfall: 80–100 cm annually; Jhalawar is the wettest district
5. Hadoti Plateau
6. Vindhyan Escarpment Area (between Chambal and Banas rivers)

Climate Characteristics

1. Hot and dry (tropical arid)
2. Higher rainfall in the southeast, decreasing northwestward
3. Rainfall is erratic and unreliable

Seasons:

1. Summer: March–mid-June
2. Rainy: mid-June–September
3. Winter: November–February

Conclusion:

1. Rajasthan is ~1.5x larger than Germany, 5x Sri Lanka, and 17x Israel
2. Its shape is a rhomboid or kite-like, according to V.H. Handley
3. Vegetation is mostly xerophytic

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