

1. Introduction

The **Western Ghats**, also known as the **Sahyadri Hills**, is a mountain range that stretches **1,600 km (1,000 mi)** along the west coast of India. This ancient mountain chain is older than the Himalayas and represents one of the most important geomorphic and ecological features of the Indian peninsula.

The range covers an area of approximately **160,000 km²** and traverses six Indian states: Gujarat, Maharashtra, Goa, Karnataka, Kerala, and Tamil Nadu.

2. Key Facts at a Glance

Attribute	Details
Length	1,600 km (990 mi)
Area	160,000 km ² (62,000 mi ²)
Average Elevation	~ 1,200 m (3,900 ft)
Highest Peak	Anamudi: 2,695 m (8,842 ft)
States Covered	Gujarat, Maharashtra, Goa, Karnataka, Kerala, Tamil Nadu
UNESCO Status	World Heritage Site (since 2012)
Age	Older than Himalayas (~ 500 million years)

3. Geographical Features

3.1 Location and Extent

- Starts from the **Satpura Range** south of the Tapti River in the north
- Runs to **Swamithoppe** in Kanyakumari district at the southern tip
- Runs parallel to the Arabian Sea coast, approximately 30-50 km inland
- Interrupted only by the **30 km Palghat Gap** at around 11°N

3.2 Topographical Sections

Section	Elevation	Location
Northern	900-1,500 m	North of Goa
Middle	< 900 m	South of Goa
Southern	> 2,000 m peaks	Kerala & Tamil Nadu

4. Geological Significance

- Formed during the **break-up of the supercontinent Gondwana**
- Arose during the **late Jurassic and early Cretaceous periods** when India separated from Africa

- The Western Ghats are the mountainous, faulted, and eroded edge of the **Deccan Plateau**
- Made of **basalt rocks** from volcanic activity

5. Climate and Monsoon Influence

The Western Ghats play a crucial role in India's climate system:

5.1 Monsoon Mechanism

- **Intercepts rain-laden monsoon winds** from the Arabian Sea
- Causes **orographic precipitation** along the western coast
- Creates a **rain shadow region** on the leeward side (Deccan Plateau)
- Essential for the **Southwest Monsoon** system

5.2 Climate Characteristics

Parameter	Details
Climate Type	Warm, humid tropical climate
Mean Temperature	20°C (south) to 24°C (north)
Annual Rainfall	100 cm to 900 cm (average: 250 cm)

6. Biodiversity Hotspot

The Western Ghats is one of the **world's eight "hottest hotspots"** of biological diversity.

6.1 Global Importance

- Contains nearly **30% of all flora and fauna species** found in India
- At least **325 globally threatened species** occur here
- Exceptionally high level of **endemism** (species found nowhere else)

6.2 Endemic Species Statistics

Taxonomic Group	Total Species	Endemic Species	% Endemic	Endangered
Amphibians	121	94	78%	43
Reptiles	156	97	62%	5
Fishes	218	116	53%	1
Trees	645	352	54%	-
Mammals	120	14	12%	31
Birds	508	19	4%	15

6.3 Flagship Species

- **Lion-tailed Macaque** (endangered, endemic)
- **Nilgiri Tahr** (endangered, endemic) - ~ 3,122 individuals
- **Nilgiri Langur** (endangered, endemic)
- **Asian Elephant** - ~ 11,000 individuals (largest wild population)
- **Tiger** - ~ 985 individuals (2022 estimate)
- **Malabar Civet** (critically endangered)

7. Sirumalai Hills - A Part of Western Ghats Region

7.1 Location

- Sirumalai (Tamil: சிறுமலை) is located in Dindigul District, Tamil Nadu
- Situated 25 km from Dindigul and 90 km from Madurai
- Area: 60,000 acres (200 km²)
- Altitude: 1,600 metres above sea level

7.2 Features

- Dense forest region with **moderate climate** throughout the year
- Diversified **flora and fauna**
- 18 **hairpin curves** leading to the hill station
- Weekend getaway for people in Dindigul and Madurai
- Mythological relevance and lush green forests

8. Paliyar Tribe - Western Ghats Indigenous People

8.1 Background

The **Paliyar (or Paliyan)** are a small Dravidian-speaking tribe inhabiting the south-western slopes of the Western Ghats in Tamil Nadu and Kerala.

8.2 Traditional Lifestyle

- Traditionally **nomadic hunter-gatherers** and honey hunters
- Lived in **caves and rock shelters**
- Way of life revolved around gathering **tubers, fruits, and honey**
- Used deep **forest knowledge** to survive in ecologically fragile landscape

8.3 Current Practices

- Many have transitioned to **settled agriculture** (bananas, millet, minor millets)
- Collect **non-timber forest produce**: honey, resins, medicinal plants
- **Beekeeping** has become an important income source
- Practice **communal sharing** of food and resources

8.4 Challenges

- **Deforestation** and commercial agriculture encroaching on traditional territories
- **Plantations, mining, and tourism** threaten their land and livelihood
- Many work as **wage labourers** on tea and cardamom estates
- **Loss of forest access** erodes traditional knowledge and identity

9. UNESCO World Heritage Site

9.1 Recognition

- **Declared**: 2012
- **Component Parts**: 39 sites grouped into 7 sub-clusters
- **Reason**: Outstanding Universal Value for biodiversity conservation

9.2 UNESCO Criteria

Criterion	Description
Criterion (ix)	Demonstrates speciation from Gondwanaland breakup; "Evolutionary Ecotone"
Criterion (x)	Exceptional plant/animal diversity and endemism; habitat for endangered species

10. Conservation and Protection

10.1 Protected Areas

- 2 Biosphere Reserves
- 13 National Parks
- Several Wildlife Sanctuaries
- Many Reserve Forests

10.2 Largest Protected Area

- **Nilgiri Biosphere Reserve**: 5,500 km² (largest contiguous protected area)

10.3 Legal Protection

- **Wildlife (Protection) Act, 1972**
- **Indian Forest Act, 1927**

- **Forest Conservation Act, 1980**
- **Forest Rights Act, 2006** (for local communities)

11. Why UNESCO Recognized the Western Ghats

The Western Ghats earned UNESCO World Heritage status for two primary reasons:

1. **Impact on Monsoon Patterns:** Intercept moist winds from Arabian Sea, causing orographic rainfall essential for Indian agriculture and water resources
2. **Rich Biodiversity:** One of the world's eight "hottest hotspots" with:
 - 325+ globally threatened species
 - High endemism (78% amphibians, 62% reptiles, 53% fishes)
 - Endangered species: Malabar Civet, Nilgiri Tahr, Lion-tailed Macaque

12. Quick Summary

The **Western Ghats (Sahyadri Hills)** is an ancient mountain range older than the Himalayas, running 1,600 km along India's west coast. As a **UNESCO World Heritage Site** (2012), it represents one of the planet's best examples of tropical monsoon systems and harbors exceptional biodiversity with 78% endemic amphibians and 325+ globally threatened species. This critical watershed feeds major rivers draining 40% of India's land while moderating the tropical climate and supporting millions of people through agriculture, water, and ecological services.

References

1. UNESCO World Heritage Centre - Western Ghats
2. Wikipedia - Western Ghats
3. PIB - Bio-Diversity of Western Ghats
4. Indian Eagle - Western Ghats UNESCO Heritage
5. Testbook - UNESCO Recognition Reasons
6. Down to Earth - Sirumalai Hills Biodiversity Park
7. Clarity UPSC - Paliyar Tribe