

## **AREA OF STUDY - CENTRAL KERALA**

---

### **Physiography**

The study area, Kerala is located at the extreme south-western tip of the Indian subcontinent, blocked between the Arabian Sea to the west and the Western Ghats to the east. Politically the north and northeast side of Kerala are bounded by Karnataka state, and the south and southeast sides are bounded by Tamil Nadu state. Geographically Kerala is bounded by the Western Ghats on the east and the Arabian Sea on the west. The Western Ghats runs primarily north-south for a length of 1600km from the Tapti River to Kanyakumari, thus forming continuous chain along the eastern side of the state. In Kerala, the Western Ghats have an average height of 950m, with the highest elevations reaching 2600m (Anamudi). The presence of the Western Ghats, combined with the northeast and southwest monsoons, provide a subtropical climate and seasonally flooded mountainous rivers – ideal condition for Podostemaceae. Most of the 44 rivers in Kerala originate in the Western Ghats.

The coastal state that extends a length of 580 km varies between 35 and 120 km in width. Kerala state has a latitude of 8° 28' 12" N and longitude of 76° 57' 00" E (Fig. A). Though Kerala is a small strip of land wide range of variation can be observed in physical features.

Though small in size, Kerala is a land affluent in water sources. 44 rivers water the land, of which 41 are west flowing and 3 flow east. Apart from these 44 main rivers, their tributaries and distributaries and a countless number of streams and rivulets crisscross the land making it green and fertile and also serves as inland waterways. Aside from these rivers, Kerala is bestowed with a number of lakes and backwater lagoon which add to the beauty of the land.

### **Temperature**

Although Kerala lies close to the equator, its proximity with the sea and the presence of the fort like Western Ghats, provides it with an equable climate which varies little from season to season. The period from March-May is the hottest in the state with

temperature reaching more than 32°C. Temperature is minimum in July when state receives maximum rainfall. The temperature varies from 27 °C to 32 °C.

### **Humidity**

Humidity denotes the amount of moisture content in the atmosphere. The annual mean relative humidity varies from 79-84% in the morning to 73-77% in the evening along coastal areas. In the Palghat gap it is 79% and 63% respectively. During the months of January to March afternoon humidity reduces to 60-63%.

### **Rainfall**

The state falls within the realm of tropical climate and the dominant feature experienced is monsoon. Southwest Monsoon and Retreating Monsoon (Northeast Monsoon) are the main rainy seasons. Kerala receives an average rainfall of 118 inches (3,000 millimeters) annually.

Maximum rainfall is recorded with the state in the areas where Western Ghats have high elevations and farther from the sea. Southern most districts of Thiruvananthapuram receive the least where Western Ghats are lower in elevations and sea is very close years.

**South West Monsoon in Kerala:** Southwest monsoon is the main rainy season in Kerala. This season (*Edavappathi* - as the rain starts by the middle of the Malayalam month, Edavam) begins by the end of May or early June with the outset of the southwest monsoon winds. The next few months are periods of torrential rain. Lying on the windward side of the Western Ghats and being the first state to be hit by the monsoon winds, Kerala receives copious rainfall. Almost 85% of the rains received in Kerala is contributed by the monsoons. The slopes of the Western Ghats are among the places in India which receives the highest amount of rain. Most of the rivers of Kerala are fed by the monsoons. The southwest monsoon in Kerala lasts till the end of September

**North East Monsoon in Kerala:** Also known as the Retreating Monsoon or the Reverse monsoons, northeast monsoon hits Kerala during the return of the southwest monsoon winds. These rains (*Thulavarsham* - as it rains during the Malayalam month

of Thulam) are in the months of October and November and sometimes last till December. Heavy afternoon rains accompanied by thunder and lightning are the main characteristic of the season. Days are warm and humid but there is not much variation in temperature.

**Table No. 3. Average rainfall in Kerala in the year 2008-2011 for the months June-Sept. The values are in ‘mm’.**

<b>Year Month</b>	<b>June</b>	<b>July</b>	<b>August</b>	<b>September</b>
<b>2008</b>	478.0	508.7	347.8	343.9
<b>2009</b>	433.6	927.6	270.3	327.6
<b>2010</b>	669.1	630.0	358.3	273.8
<b>2011</b>	790.5	538.4	495.3	391.9