TAMILNADU : GEOGRAPHICAL LOCATION



The Indian state of Tamil Nadu is located in the Northern hemisphere in the hot zone between 8Â° and 13Â° N. latitude and between 78Â° and 80Â° E. longitude. In the north, the state is surrounded by the states of Karnataka and Andhra Pradesh and Kerala is situated in the west of it.

Geographically, the southern tip of Tamil Nadu is in the Indian Ocean and the long eastern coast is encircled by the Bay of Bengal. The easternmost tip is formed by the Point Calimere and the Mudumalai wildlife sanctuary is the westernmost tip. The Pulicat Lake is situated in the northern extreme. The southernmost tip of Tamil Nadu is the Cape Comorin or Kanyakumari.

Tamil Nadu is the eleventh largest state in India. The population of the state has crossed over 6 crores and occupies an area of 130,058 sq. kms. Within the boundaries of Tamil Nadu, the union territory of Pondicherry is a tiny pocket near Cuddalore district; Karaikal. The ancient Tamils divided Tamil Nadu into five major physiographic parts. These five parts include the Kurinji mountainous region, Mullai forest region, Marudham fertile plains, Neidhal coastal region and Palai arid region.

In the Nilgiris of Tamil Nadu, the Western Ghats and the Eastern Ghats meet. Tamil Nadu contains various hill stations called Ooty, Kodaikanal, Kothagiri and Yercaud. Now, the Eastern Ghats is almost broken and appears to be a remaining mountain. But, the Western Ghats stretches along almost as an unbroken chain except for a 25 km gap at Palakkadu and a still lesser gap in Shencottah. These gaps act as the entry points to the state of Kerala.

TAMILNADU : RELIEF AND STRUCTURE

In Tamilnadu, coastal regions, are represented by many geomorphological features such as alluvial plains, cheniers, paleolagoonal plain and strandlines, coastal sand dunes, beaches, beach ridge and ridge plain, sand dune, sandy bar, mudflat etc. identified by many workers. Coastal geomorphology of the study area is represented by the depositional features like beaches, sand dune, tidal flats, sandy bars, mud flats, buried channels, water bodies,

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back waters, rivers and alluvial plains, sand dunes with different types of configurations.

Northern Tamilnadu Coast (Tiruvallur to Cuddalore): The area between Pondicherry and Cuddalore are represented mainly by depositional nature like deltaic alluvial plains, cheniers, paleolagoonal plains and strandlines, coastal sand dunes and beaches. The southern part of the Palk Strait is shallow. It is fully occupied with sand banks, numerous shoals, sand spits and island. It is characterized by the flow of both flood currents and ebb currents acting in opposite direction. The principal rivers in this area are the River Koovam, Adaiyar, Palar, Cheiyar, Ponnaiyar, Gadilam, Uppanar and Vellar. The Koovam and Cheiyar along with some distributaries support a minor irrigation system.

Rivers like Coleroon, Vellar, Uppanar, Gadilam and Ponnaiyar drain this area. Natural levees are found over bank in all these rivers. Abandoned channels formed by both cut-off and avulsion processes are found in different locations. The channel fill deposits in it contain clay and silty clay to a depth of 1 to 3 m with a layer of sand at the bottom.

Deltaic alluvial plain, Cheniers and intervening paleo-lagoonal plains and strandlines form about 90% of the area. Strandlines are prominently well-developed around Vellar and Coleroon river mouths. A maximum number of three strandlines are seen around Porto Novo extending upto 3 km inland. Coastal dunes are prominent in between Porto Novo and Cuddalore. Barchans have also been formed. The beach and strandlines plain are bordered in the west by chaniers with intervening paleo-lagoonal plain. Cheniers are well developed on both sides of Vellar and Coleroon extending upto 12 km inland.

The coastal lowlands of Vellar basin with an elevation upto 20 m from MSL (except Cuddalore sandstone uplands which rise upto 80m) exhibit a wide ranging feature from aeloian, fluvial, fluvio- marine origin. Biogenic and plantation forms are also observed. The shore zone part of the area consists of long sandy Holocence barrier beaches and strandlines interspersed with low beach cliff.

A lagoon occurring in the area at Pichavaram has been segmented into three smaller oval shaped lagoons. The lagoon is associated with mangrove swamps. Cuddalore sandstone upland is observed near its type area Cuddalore. The height raises upto 80 m.

The geomorphic setting of Pichavaram lagoon, with Coleroon in the south and Vellar in the north and connecting tidal channels between these two rivers with a lagoon, has favored the development of mangrove swamps.

Central Tamil nadu Coast (Cuddalore to Rameshwaram): In the Central Tamilnadu sector, prominent beach rocks along with cliffed coasts have been observed in the neighborhood of Mandapam. The coastal plain contains various coastal morpho-units like sand complexes, mud flats and backwaters. The southern side of the sector

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is fringed by a chain of islands numbering about 16 and shoals extending to a distance of 5 to 9 km offshore. Coastal dunes are widely distributed throughout the sector. Sandy ridges are noticed mainly in the northern part of Manamelkudi region where it is more abundant even in the land region. Mudflats are also noticed in the north of Manalmelkudi region, especially near Kodiyakkarai where a complex of series of mudflats distinctly observed. Generally, the beaches along the Palk Strait are sheltered at Thondi and Sethubavchattiram the gradient is gentle and the intertidal zones are wide.

The area between Cuddalore and Rameswaram are represented by both depositional and erosional nature like deltaic alluvial plains, cheniers, paleolagoonal plains and strandlines, coastal sand dunes, beaches, beach cliffs, paleo-barrier, paleo-tidal flats and mud flats, river mouth bars, abandoned river channels and natural levees. Pichavaram region represents on of the most beautiful mangrove formations. The Vennar, Vellar, Arasalar, Thirumalarajanar, Villar, Mullaiyar are some of the other distributaries supporting the minor irrigation system. Among these rivers Cauvery is the most dominant. The major distributary of the Cauvery is the broad and braided channel system of the Coleroon River.

The typical example for this is seen in Manalmelkudi. Here, a spit is developed due to anticlockwise moving current pattern on the northern 59 side and clockwise current pattern on the southern side. The coastline between Kodiayakkarai and Rajamadam indicates the seaward migration. This swampy coastline is provided with two major creeks. Beach ridges have been recognized along the coast between Rajamadam and Devipattinam. Beach ridges have been recognized along the coast between Rajamadam and Devipattinam. Beach ridges are arranged in triangular pattern between Rajamadam and Nagapattinam coastal sector. The inland beach ridge is located about 32.5 km from coastline trending NE-SW direction. Later stages of beach ridges have changed their deposition to E-W and N-W directions. The beach ridge pattern has revealed that there is every possibility to believe that the ancient Cauvery River must have confluence near Vedaranniyam through Tiruthuraipoondi area. Coral terraces are observed around Mandapam region.

Southern Tamilnadu Coast (Rameshwaram to Kanyakumari): Coastal geomorphology of the Southern sector is represented by depositional landforms like strandlines, spits, beaches, sand dunes, mudflats and erosional landforms like marine terrace, wave cut platform and sea caves. There are eight series of beach ridges, in curvi- linear pattern between Mandapam and Valinokkam with two or three well developed sub-ridges. All these continuous ridges are in disposition parallel to each other and to the coastline. Swales of linear depressions with clay and silty clay deposits are commonly noticed between the beach ridges.

Almost all the strandlines in the study region are parallel 60 and cover and area of about 155.49 km2 . A longer (28km) and wider

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(2.5km) swale system divides the coastal region of Sippikulam-Punnakayal into two parts. In the coastal sector of Tirchendur-Kulasekerapatnam swales are converted into dry tanks. The swale system makes an exit from NavaladiKanyakumari coastal plains. The adjacent low lying area, as a part of swale zone, is used at present for salt production.

In Mandapam and Vedalai regions, prominent partially stablilsed inland longitudinal dunes of 15-30 m height and 75 m in length are seen uncovered by any vegetation. From Valinokkam-Sippikulam area, the partially stabilized sandy dunes are covered by vegetations like thorny bushes. In Tuticorin, Ovari and Karikoil areas, complex dune systems are seen.

Relief in Tamilnadu

Relief refers to the highest and lowest elevation points in an area. Mountains and ridges are typically the highest elevation points, while valleys and other low-lying areas are the lowest.

Highest peak in Tamilnadu is Doddabetta. It is located in the Nilgiri Hills at 2,637 metres (8,650 feet). There is a reserved forest area around the peak. It is 9 km from Ooty, on the Ooty-Kotagiri Road in the Nilgiris district of Tamil Nadu, India. It is a popular tourist attraction with road access to the summit. It is the fourth highest peak in South India next to Anamudi, Mannamalai and Meesapulimala. The peaks Hecuba (2375 m), Kattadadu (2418 m) and Kulkudi (2439 m) are the three closely linked summits in the west of the Doddabetta range near to Udagamandalam (Ooty).

Important valleys in Tamilnadu

- Hiddden valley, Coonoor
- Silent valley, kodaikanal
- Bison valley, Bellikkal
- Ketty valley (The valley is the last major valley en route to Ooty along the Ooty-Coonoor highway. However, due to the extensive development of the valley in the recent years, the fauna present here has dwindled to a select few .)

TAMILNADU : TRANSPORT

Tamil Nadu has a well established transportation system that connects all parts of the state. This is partly responsible for the investment in the state. Though the present transportation system is substantial, it needs to be developed further to keep pace with the rapid increase in use.

The whole transportation system of Tamilnadu can be divided into 4 ways:

1. Roadways

2. Railways

3. Airways

4. Waterways

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Roadways in Tamilnadu

Tamil Nadu has an extensive road network. The state road network covers about 153 km per 100 km^2 area, which is higher than the country's average road network coverage of 103 km per 100 km^2 area. A separate Highways Department (HD) was established in April 1946 and the same has been renamed as Highways & Minor Ports Department (HMPD) on 30 October 2008. HMPD of Tamil Nadu is primarily responsible for construction and maintenance of roads including national highways, state highways and major district roads in Tamil Nadu. It operates through 7 wings namely National Highways Wing, Construction & Maintenance Wing, NABARD and Rural Roads Wing, Projects Wing, Metro Wing, Tamil Nadu Road Sector Project Wing, Investigation and Designs Wing geographically spread across the state in 31 districts with about 120 divisions and 450 subdivisions.

Roads in Tamilnadu are broadly divided into three categories:

A.National Highways

Road stretches which have heavy traffic intensity of more than 30,000 Passenger Car Units (PCUs) connecting different state capitals, major ports, large industrial areas and tourist centers are designated National Highway by Government of India. In Tamil Nadu, National Highways Wing of Highways & Minor Ports Department was established in the year 1971 to look after the works of improving, maintaining and renewing of National Highways laid down by National Highways Authority of India (NHAI). National Highways wing exercises central government funds from Ministry of Road Transport and Highways for improvement works. Out of 25 National Highways in Tamil Nadu, 12 highways completely lie within the state.

B. State highways

Road stretches with heavy traffic intensity of more than 10,000 PCUs but less than 30,000 PCUs which connects district headquarters, important towns and the National Highways in the State and neighboring States are declared as State Highways. Construction & Maintenance wing of Highways Department looks after Construction, Maintenance of all the State Highways (SH), Major District Roads (MDR), Other District Roads (ODR). Tamil Nadu State Highways network has 7 circles .

C. Districts roads : Major District Roads provide linkage between production and marketing centers within a district. It also provides connectivity for district and taluk headquarters with state highways and national highways. Construction and Maintenance wing of Highways Department executes construction and maintenance of MDRs along with State Highways. These roads have a minimum width of 15 metres (49 ft).

2. **Railways network in Taminadu**

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