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GEOGRAPHY OF TAMIL NADU

The study of one's own region is the first step to become a global citizen. The purpose of studying our local territory is to understand life in our environment. In the last five lessons, you have learnt about various geographical characteristics of our country. In this lesson and those that follow, we shall learn about the geography of Tamil Nadu. You will get to know about the etymology, history of formation, location, size, physical divisions, rivers, climate, soil and natural vegetation of Tamil Nadu in this chapter. Our state Tamil Nadu has a hoary past with a variety of cultural practices and traditions. Its exquisite physiography and climate makes our state unique in India. It has long and sunny beaches, waterfalls, hills, forests and varied flora and fauna.

Formation of Tamil Nadu

During Sangam age, the Tamizham was ruled by three great emperors – Cheras, Cholas and Pandyas – and virtuous kings ruling small kingdoms like Adhiyaman and Pari. For a short time, the Tamil country was ruled by the Kalabras, but not much about their time is recorded or known. After the Kalabras, the Tamil country came under the control of the Pallavas, Cholas, Pandyas, Marathas, Mughals and Vijayanagara empires in succession until the British took administrative control over the entire country, starting from Madras. During the British period, our country was divided into three presidencies, namely Madras, Bombay and Calcutta for political and military purposes. Tamil Nadu and parts of Andhra Pradesh, Kerala, Karnataka and Orissa (Odisha) constituted the Madras Presidency. After independence, following the linguistic division of states, Telugu-speaking areas were bifurcated from the Madras state. After bifurcation, there were only 13 districts in Madras state. The Madras state was renamed as Tamil Nadu by C.N. Annadurai, former Chief Minister of Tamil Nadu, on January 14, 1969.

Location and Size

Tamil Nadu is one of the 29 states of India, located in the southern most part of the country. This landmass extends from 8°4'N to 13°35'N latitudes and from 76°18'E to 80°20'E longitudes. Its eastern and western extremities are defined by the Point Calimere and the hills of Anaimalai respectively. The northern extremity of the state is marked by Pulicat lake and the southernmost point is Cape Comorin. It covers an area of 1,30,058 sq.km and is the 11th largest state in India. It covers 4% of the area of our country.

Boundaries and Neighbours

Tamil Nadu is bounded by Bay of Bengal in the east, Kerala in the west, Andhra Pradesh in the north, Karnataka in the northwest and Indian Ocean in the south. Gulf of Mannar and Palk Strait separate Tamil Nadu from the Island of Sri Lanka, which lies to

the southeast of India. The state has 1,076 km long coastline, the second-longest in India after Gujarat.

Administrative Divisions

Already we have learnt that the state of Tamil Nadu had only 13 districts at the time of its formation. After that, the state was reorganised several times for the purpose of administrative convenience. At present there are 35 districts in Tamil Nadu, including the newly created districts such as Kallakurichi, Tenkasi and Chengalpet. The administrative divisions of the state are given in the following table.

Divisions	Numbers
Districts	35 (32+3)
Revenue Divisions	76
Taluks	226
Firkas	1,127
Revenue Villages	16,564
Municipal Corporations	15
Municipalities	125
Panchayat Unions (Blocks)	385
Town Panchayats	561
Village Panchayats	12,618
Lok Sabha Constituencies	39
Assembly Constituencies	234
Source: maps of india.com 2019	

Activity

- Find out the coastal districts of Tamil Nadu with the help of a map.
- Group the districts of Tamil Nadu which share their boundary with the states of Andhra Pradesh, Karnataka and Kerala separately.

Physiographic Divisions

We have learnt about endogenetic and exogeniec processes in 9th std. Have you ever thought what kind of landforms on which you live? Have you ever noticed the landscapes, you come across while travelling from one place to another? Have you ever wondered how these landforms were formed? Let's see the major physical features of Tamil Nadu and their characteristics. Tamil Nadu is located on the Peninsular Plateau,

known as Deccan Plateau. It is also a part of the ancient Gondwana land that broke away 135 million years ago during Cretaceous Period. Tamil Nadu has many unique land features which include high eroded mountains, shallow deep valleys and plains. The topography of the state slopes towards east. Based on the major differences in relief, Tamil Nadu is divided into the physical divisions of Western Ghats, Eastern Ghats, Plateaus, Coastal and Inland plains.

Western Ghats

Western Ghats extends from the Niligris in the north to Marunthuvazh Malai at Swamithope in Kanyakumari district in the south. Height of the Western Ghats ranges from 2,000 to 3,000 metres. It covers an area of about 2,500 sq.km. Though the Western Ghats is a continuous range, it has some passes. The passes are Palghat, Shencottah, Aralvaimozhi, and Achankoil. The Niligris, Anaimalai, Palani hills, Cardamom hills, Varusanadu, Andipatti and Agasthiyar hills are the major hills of Western Ghats .

Nilgiri Hills

The Nilgiri hills is located in the Northwestern part of Tamil Nadu. It consists of 24 peaks with more than 2,000 metre height. Doddabetta is the highest peak (2,637 metres) of this hills followed by Mukkuruthi (2,554 metres). Ooty and Coonoor are the major hill stations located on this hills. It has more than 2,700 species of flowering plants and the state animal Nilgiri Tahr is found in this hill. Much of the Nilgiris natural montane grasslands and shrublands have been disturbed or destroyed by extensive tea plantations and cattle grazing.

Anaimalai

Anaimalai is located in the border of Tamil Nadu and Kerala. It is located to the south of Palghat Gap. Anaimalai Tiger Reserve, Aliyar Reserved Forest, Valparai hill station, Kadamparai hydroelectric Power Plant are located on this hills. Aliyar and Tirumurthy dams are located at the foothills of this range.

Palani Hills

Palani hills are the eastward extension of the Western Ghats. Except its western part, these hills are located in Dindigul district. Vandaravu (2,533 metres) is the highest peak in the Palani hills. Vembadi Shola (2,505 metres) is its second highest peak. The hill station of Kodaikanal (2,150 metres) lies in the south central portion of the range.

Cardamom Hills

These hills are also known as Yela Mala hills located in the southwestern part of Tamil Nadu. It acquires its name from the cardamom spice, which is commonly grown here. Pepper and coffee are the other crops cultivated over the hills. They meet the

Anaimalai hills in the northwest, the Palani hills in the northeast and Varusanadu and Andipatti hills in the southeast.

Peaks in Western Ghats	Height(m)
Doddabetta	2,637
Mukkuruthi	2,554
Vembadisolai	2,505
Perumalmalai	2,234
Kottaimtalai	2,01

Varusanadu and Andipatti Hills

Another eastward extension of Western Ghats is Varusanadu and Andipatti hills. Megamalai (the highway mountain), Kalugumalai, Kurangani hill station, and Suruli and Kumbakarai waterfalls are found on these hills. Srivilliputhur Grizzled Squirrel Wild life Sanctuary is located in the southern slope of these hills in Virudhunagar district. Vaigai river and its tributaries originate in this region.

Pothigai Hills

Its major part lies in Tirunelveli district with its southern slope in the Kanyakumari district. Pothigai hills are called with different names such as the Shiva Jothi Parvath, Agasthiyar hills and Southern Kailash. These hills feature richest biodiversity in the Western Ghats. This area is known for its rich evergreen forest, waterfalls and ancient temples. Kalakkad Mundanthurai Tiger Reserve is located in this region.

Mahendragiri Hills

This continuous range is situated along the border of Kanyakumari and Tirunelveli districts and is a part of the southern range of the Western Ghats. Its average height is 1,645 metres. ISRO Propulsion Complex, a test facility for Indian Space Research Organisation's launch vehicles and satellite propulsion systems, is situated on the lower slopes of this mountain.

The Eastern Ghats

Unlike Western Ghats, Eastern Ghats is a discontinuous and irregular one. It is dissected at many places by the rivers, which drain into the Bay of Bengal. Its height ranges from 1,100 to 1,600 metres. These hills separate the plains from plateaus. Javadhu, Servarayan, the Kalrayan, Kollimalai and Pachaimalai are the major hills of the Eastern Ghats of Tamil Nadu and are located in northern districts of the state.

Javadhu Hills

Javadhu hills are an extension of the Eastern Ghats spread across parts of Vellore and Tiruvannamalai districts and separate these two districts. Many peaks with the height of 1,100–1,150 metres are located in this range. Melpattu is its highest peak. The

Vainu Bappu Observatory (VBO) Kavalur, which began operations in 1967, is located on these hills. Many parts of this range are covered with bluish grey granites. It is noted for its fruit bearing trees, medicinal herbs and sandalwoods. Due to illegal logging, sandalwood trees are disappeared now.

Kalvarayan Hills

The name 'Kalvarayan' comes from the word 'Karalar', the ancient name of the present tribes. It is another major range of hills in the Eastern Ghats of Tamil Nadu. This range, along with the Pachaimalai, Aralvaimalai, Javadhu and Servarayan hills, separates the river basins of Cauvery and Palar. The height of this hill ranges from 600 to 1,220 metres. These hills have two sections. The northern section is referred as the Chinna Kalvarayan and the southern one the Periya Kalvarayan. The average height of Chinna Kalvarayan is 825 metres and the Periya Kalvarayan is 1,220 metres.

Servarayan Hills

It is a mountain range located near the Salem city with the height ranging from 1,200 to 1,620 metres. The name of the range comes from a local deity, Servarayan. The highest peak in the southern part of the Eastern Ghats is located in this range. The peak is Solaikaradu and its height is 1,620 metres. The hill station Yercaud, which is known as poor man's Ooty, is located on this range. Servarayan temple is its highest point (1623 metres).

Peaks in Eastern Ghats	Height (m)
Shervarayan temple	1,623
Mazhamalai	1,500
Urgamalai	1,486
Kuttirayan	1,395
Muganur	1,279
Valsamalai	1,034

Districts	Hills
Coimbatore	Maruthamalai, Velliangiri and Anaimalai
Dharmapuri	Theerthamalai, Chitteri and Vathalmalai
Dindigul	Pazhamalai and Kodaikanal
Erode	Chenni hills and Sivan hills
Vellore	Javadhu, Yelagiri and Rathinamalai hills
Namakkal	Kolli hills
Salem	Servarayan, Kanjamalai and Chalk hills
Villupuram	Kalvarayan and Gingee hills
Perambalur	Pachaimalai
Kanyakumari	Marunthuvazhmalai
Tirunelveli	Mahendragiri and Agasthiyarmalai
The Nilgiris	Nilgiri hills

Kolli Hills

It is a small mountain range located in Namakkal district. It covers an area of about 2,800 sq.km. It rises up to 1300 metres. This is a mountain range that runs almost parallel to the east coast of South India. Arpaleeswarar temple located on this range is an important pilgrim centre. It has the largest cover of evergreen or shola forest when compared to other parts of the Eastern Ghats. Several coffee plantations, fruits, flowers and silveroak estates are found in this region.

Pachaimalai

It is the lowest hill range, spreads over the districts of Perambalur, Tiruchirapalli and Salem. In Tamil language, pachai means green. The vegetation in this range is greener than the vegetative cover of the other hills in this region. Hence it is named as '**Pachai malai**'. Jackfruit is a popular seasonal agricultural product of this hills.

Plateaus

Plateaus of Tamil Nadu are located between the Western Ghats and the Eastern Ghats. It is roughly triangular in shape and covers an area of about 60,000 sq.km. Its height increases from east to west. Its height ranges between 150 and 600 metres. This plateau is broader in the north and very narrow in the south. It has many subdivisions. Bharamahal plateau is a part of the Mysore plateau situated in the northwestern part of Tamil Nadu. Its height ranges from 350 to 710 metres. Dharmapuri and Krishnagiri districts are located in this region. Coimbatore plateau lies between the Nilgiris and Dharmapuri districts. Its height varies from 150 to 450 metres. This region includes Salem, Coimbatore and Erode districts. The area of this plateau is about 2,560 sq.km. Its height varies from 352 to 710 metres. Moyar river separates this plateau from the Mysore plateau.

Rivers like Bhavani, Noyyal and Amaravathi, which originate from Western Ghats, form valleys in this region. Many intermontane plateaus are found in the region of the Nilgiris. Sigur plateau is one such plateau. Madurai plateau found in Madurai district extends up to the foothills of the Western Ghats. Vaigai and Thamirabarani basins are located in this zone.

Plains

The plains of Tamil Nadu may be divided into two, namely inland plains and coastal plains. Inland plains are drained by the rivers Palar, Ponnaiyar, Cauvery and Thamirabarani. Cauvery plains is one of the most important fertile plains of the state. The plains of Cauvery is found in Salem, Erode, Karur, Tiruchirapalli, Pudukottai, Thanjavur, Tiruvarur and Nagapattinam districts.

Coastal plains of Tamil Nadu are also called Coromandel or Cholanmandalam (land of Cholas) plain, which extends from Chennai to Kanyakumari. It is formed by the rivers

that flow towards east drain in the Bay of Bengal. It is more than 80 kilometres wide at some places. Though it is an emerged coast, some parts are submerged into the sea. The sand dunes formed along the coast of Ramanathapuram and Thoothukudi districts are called **Teri**. Coral rocks are found at the head of Gulf of Mannar in the east coastal plain.

Bleaches

The Coromandel Coast along the Bay of Bengal consists of many beautiful and exotic beaches. The golden sands of Tamil Nadu beaches are scattered with palm and casuarinas groves. Marina and Elliot beaches of Chennai, Kovalam and Silver beaches of Kanyakumari are some of the famous beaches in Tamil Nadu.

Drainage

Rivers of Tamil Nadu are its lifeline. Though it has many rivers, the rivers of Cauvery, Palar, Ponnaiyar, Vaigai and Thamirabarani are the notable ones. Most of the rivers of Tamil Nadu originate from Western Ghats and flow towards east and drain into the Bay of Bengal. All the rivers of the state are non-perennial except Thamirabarani. It is perennial as it is fed by both the southwest and northeast monsoons.

Cauvery

The river Cauvery originates at Talacauvery in the Brahmagiri hills of Kodagu(coorg) istrict of Karnataka in the Western Ghats. About 416 km of its course falls in Tamil Nadu. It serves as the boundary between Karnataka and Tamil Nadu for a distance of 64 km. It forms Hogenakkal waterfalls in Dharmapuri district. Mettur Dam, also called as the Stanley Reservoir, is located across this river in Salem district. A tributary called Bhavani joins Cauvery on the right bank about 45 km from the Mettur Reservoir. Thereafter, it takes easterly course to enter into the plains of Tamil Nadu. Two more tributaries, Noyyal and Amaravathi, confluence the river on the right bank at Thirumukkudal 10 km from Karur. The river is wider in this region, where it is called as 'Agandra Cauvery'.

In Tiruchirappalli district, the river branches into two parts. The northern branch is called Coleroon or Kollidam and the southern branch remains Cauvery. From here, the Cauvery delta begins. After flowing for about 16 km, the two branches join again to form the '**Srirangam Island**'. The Grand Anaicut, also called as Kallanai was built across the river Cauvery. After Kallanai, the river breaks into a large number of distributaries and forms a network all over the delta. The network of distributaries within the delta of Cauvery in the coast is called as the '**Garden of Southern India**'. It merges into Bay of Bengal to the south of Cuddalore.

Palar

The Palar river rises beyond Talagavara village in the Kolar district of Karnataka. The Palar drains an area of 17,871 sq.km, out of which nearly 57% lies in Tamil Nadu

and the rest in the states of Karnataka and Andhra Pradesh. Ponnai, Goundinya Nadhi, Malattar, Cheyyar and Kiliyar are its major tributaries. Its total length is 348 km, out of which 222 km of its course falls in Tamil Nadu. It flows through the districts of Vellore and Kancheepuram before entering into Bay of Bengal near Kuvattur.

Then Pennaiyar/Then Ponnaiyar

It originates from the eastern slope of Nandi Durga hills in eastern Karnataka. It drains an area of 16,019 sq.km, of which nearly 77% lies in Tamil Nadu. It flows for a distance of 247 km in the southeasterly direction in the districts of Krishnagiri, Dharmapuri, Vellore, Tiruvannamalai, Cuddalore and Villupuram. It branches into two, viz. Gadilam and the Ponnaiyar near Tirukoilur Anaicut. Gadilam joins the Bay of Bengal near Cuddalore and Ponnaiyar near the Union Territory of Puducherry. Chinnar, Markandanadhi, Vaniar and Pambar are its tributaries. Heavy rain at the river's source cause sudden but short-lived floods. The river is extensively dammed for irrigation, especially in Tamil Nadu. There are reservoirs at Krishnagiri and Sathanur across this river. The **Ponnaiyar** is considered sacred by Hindus and festivals are held during the Tamil month of Thai (January–February).

Vaigai

Vaigai river rises from the eastern slopes of the Varusanadu hills of Western Ghats of Tamil Nadu. It drains an area of 7,741 sq.km, which lies entirely in the state of Tamil Nadu. It flows through the districts of Madurai, Sivaganga and Ramanathapuram. Its length is 258 km. It discharges its water into the Ramnad Big Tank and some other small tanks. The surplus water from the tanks is finally discharged into Palk Strait near Ramanathapuram.

Thamirabarani

The name is interpreted as Thamiram (copper) and Varuni (streams of river). The water of this river gives a copper like appearance due to the presence of dissolved suspended red soil. It originates from a peak in Pothigai hills on the Western Ghats above Papanasam in the Ambasamudram taluk. The origin of the river is associated with Sage Agasthiyar. It courses through the districts of Tirunelveli and Thoothukudi and finally flow into the Bay of Bengal near Punnaikayal in Thoothukudi district. Karaiyar,

District	Waterfalls
Dharmapuri	Hogenakkal
Thirunelveli	Kalyanatheertham, Courtallam
Theni	Kumbakkarai and Suruli
Namakkal	Agayagangai
The Nilgiri	Catherine and Pykara
Salem	Kiliyur
Virudhunagar	Ayyanar
Coimbatore	Vaideki, Sengupathi, Siruvani and Kovaikutralam
Tiruppur	Tirumurthy
Madurai	Kutladampatti
Kanyakumari	Tirparappu, Kaalikesam, Ulakkai and Vattaparai

Servalar, Manimuthar, Gadanathi, Pachaiyar, Chittar and Ramanathi are its main tributaries.

Climate

You have already learnt that the Tropic of Cancer divides India roughly into two equal parts and the state Tamil Nadu lies to the south of Tropic of Cancer, which is near the Equator. As it receives vertical sunrays, the temperature of the state is relatively high throughout the year. Though the state falls within the hot climatic zone, the east coast of Tamil Nadu enjoys tropical maritime climate. The Bay of Bengal and Indian Ocean influence the climate of the coastal regions. The annual temperature ranges from 18° to 43° and the annual rainfall is 958.5 mm.

While the east coast experiences tropical maritime climate, the western region of the state enjoys the mountainous climate. This climate prevails over the Blue Mountains, Anaimalai and the Kodaikanal hills. Thick forests and high altitude make the climate of these areas cool and pleasant. Thus stations in this region attract thousands of people during the summer season. Low altitude and distance from the sea are the reasons for high temperature and dry conditions in the central part of Tamil Nadu. The migration of vertical sun's rays leads to the formation of different seasons in Tamil Nadu as follows.

Seasons of Tamil Nadu	
Season	Period
Winter Season	January-February
Summer Season	March- May
Southwest Monsoon	June-September
Northeast Monsoon	October –December

Winter Season

During January and February, the vertical rays of the sun fall between the Tropic of Capricorn and the Equator. Hence, Tamil Nadu and India on the whole receive slanting rays from the sun. So, the weather is slightly cooler during these months. The difference between summer and winter temperature is not very high. Winter temperature in Tamil Nadu varies from 15°C to 25°C. However, in the hill stations, the winter temperature drops below 5°C occasionally. Some valleys in the Nilgiris record even 0°C. This drop in temperature leads to the formation of thick mist and frost. This season is practically dry.

Summer Season

The apparent migration of the sun towards north during March, April and May results in the reception of vertical sun's rays by South India. Thus there is a steady rise in temperature from the equator. Hence, Tamil Nadu located to the south of Tropic of Cancer, experiences high temperature. Generally the temperature varies from 30°C to more than 40°C. During this season particularly in the month of May, southern part of the state receives some rainfall from pre-monsoon showers (Mango/Blossom showers) and some parts experience convectional rainfall.

Southwest Monsoon

The intense heating of the landmass of the north by the sun during March to May creates a well-developed low pressure in North India, which draws wind from the Indian Ocean. This results in the formation of southwest monsoon. During this season, Tamil Nadu is located in the rain shadow region for the wind, which blows from the Arabian Sea. As a result, Tamil Nadu receives only a meagre rainfall from this monsoon. Rainfall during this season decreases from west to east. Coimbatore plateau receives an average of 50 cm rainfall. However, the southern districts like Kanyakumari, Tirunelveli and The Nilgiris record 50–100 cm rainfall during this period. The rainfall is scanty in the eastern part of the state.

Northeast Monsoon

The northeast monsoon season commences from the month of October and lasts till mid-December. The high pressure created over Central Asia and northern part of India becomes the source for the northeast monsoon winds. The apparent migration of the sun from Tropic of Cancer to the Tropic of Capricorn causes a change in receiving temperature and air pressure during this season. It makes the wind to blow towards Bay of Bengal from North India. After reaching Bay of Bengal, the wind gets deflected by Coriolis force and takes the northeast direction. Hence it is known as northeast monsoon. As the northeast monsoon is a part of returning of southwest monsoon wind, it is also called as the retreating monsoon. This is the main rainy season for Tamil Nadu, accounting for its 48% of annual rainfall. Coastal districts of the state get nearly 60% of their annual rainfall and the interior districts get about 40–50% of the annual rainfall during this season.

Tropical cyclones are common during this season. Cyclone originating from the Bay of Bengal bring heavy rainfall to the east coastal regions of Tamil Nadu. More than 50% of the state's rainfall is received from tropical cyclones during this period and east coastal region receives 100 to 200 cm of rainfall. The rainfall received by the central and north western parts is 50–100 cm. The cyclones sometimes disturb the cultivation of crops and cause severe damage to life and property.

Soils of Tamil Nadu

Soil is the loose material mainly formed by the weathering and erosion of rocks. It forms an important element of agriculture. It provides essential minerals and nutrients for the growth of vegetation. Soil is one of the important non-renewable resources in the world. It takes 300–1,000 years to form two inches of soil. The soil of a place depends on the factors like climate, parent rocks and vegetative cover of the respective places. The soils in Tamil Nadu are broadly classified into five types according to their characteristics. They are alluvial, black, red, laterite and saline soils.

Alluvial Soil

Alluvial soils are formed by the deposition of silt by the rivers. Alluvial soils are generally fertile as they are rich in minerals such as lime, potassium, magnesium, nitrogen and phosphoric acid. It is deficient in nitrogen and humus. It is porous and loamy. Paddy, sugarcane, banana and turmeric are cultivated in this soil. It is found in the river valley regions and the coastal plains of Tamil Nadu. Generally this type of soil is found in the districts of Thanjavur, Tiruvarur, Nagapattinam, Villupuram, Cuddalore, Tirunelveli and Kanyakumari. It is also found to a small extent along the river valleys in few interior districts.

Black Soil

Black soils are formed by the weathering of igneous rocks. It is also known as regur soil. As cotton grows well in this soil, it is also called as black cotton soil. This soil is developed over the Deccan lava granite region under semiarid conditions. It is fine textured and clayey in nature. It is poor in phosphoric acid, nitrogen and organic matter. Chief minerals found in this soil are calcium, magnesium, carbonates, potash and lime. Cotton, sorghum, cumbu and fodder crops are the major crops cultivated in the black soil regions of Tamil Nadu. Black soils are found extensively in the districts of Coimbatore, Madurai, Virudhunagar, Tirunelveli and Thoothukudi.

Red Soil

Red soils cover over two-thirds of the total area of Tamil Nadu. They are found particularly in the central districts of the state. This soil is sandy and loamy in texture. However, the characteristic features of the red soil vary according to its formation and climatic condition under which the soil was formed. Red soil is porous, friable and non-retentive of moisture. The colour of the soil is due to the presence of high content of iron oxides. This soil is poor in nitrogen, phosphorus, acids and humus. paddy, ragi, tobacco and vegetables are the chief crops grown in this soil. Almost all types of crops can be grown in this soil with the application of manure and irrigation facilities. It is dominantly found in Sivagangai and Ramanathapuram districts.

Laterite Soil

This soil is formed by the process of intense leaching. Laterite soils are found in some parts of Kancheepuram, Tiruvallur and Thanjavur districts and some patches over the mountainous region in the Nilgiris. Crops grown in this soil are paddy, ginger, pepper and plantains. It is also suitable for the cultivation of tea and coffee plants.

Saline Soil

Saline soils in Tamil Nadu are confined to the Coromandel coast. Vedaranyam has a pocket of saline soil. However, the tsunami waves on December 26, 2004 brought a lot

of sand and deposited it all along the east coast of Tamil Nadu. The tsunami made the coastal areas unsuitable for cultivation to a considerable extent.

Soil Erosion

Soil is a non-renewable resource. It is very difficult to replace the soil once it gets degraded. Deforestation, overgrazing, urbanisation and heavy rain are responsible for soil erosion in Tamil Nadu. Soil erosion reduces the fertility of soils, which in turn reduces agricultural productivity. So, it is necessary to take intensive care to conserve the soil resources.

Natural Vegetation

Natural vegetation refers to the forest cover. Landforms, nature of soil, temperature and rainfall are the major factors that control the distribution of natural vegetation. As per National Forest Policy, 1988, a minimum of one-third of the total geographical area must be under forest cover. The total forest cover of Tamil Nadu is far lower than this. According to the Tamil Nadu State of Forest Report - 2017 assessment, the area under forest in the state is 26,281 sq.km, which constitutes 20.21% of the total area. Tamil Nadu constitutes 2.99% of India's forest cover. The forest types in the state varies from wet evergreen to scrub forests. The Western Ghats, the longest hill range in the state, is one of the 25 global hotspots of bio-diversity and one of the three mega centres of endemism in India. The following table shows the categories of forest and their areal extent classified under the provision of Indian Forest Act.

Forest Types

The forest in the state is broadly divided into five types as follows

Tropical Evergreen Forest

This forest type is found in the regions that receive heavy rainfall. It is a dense, multilayered forest. It is found in the upper slopes of Western Ghats of Tirunelveli, Kanyakumari, the Nilgiris and Coimbatore districts. The major tree species of this forest are cinnamon, Malabar ironwood, panasa, java plum/jamun, jack, kindal, ayani and crape myrtle. The semievergreen type of forest in the state is found over the regions of sub-tropical climate over the Eastern Ghats. The prominent regions are Seravarayan, Kollimalai and Pachaimalai. Species of Indian mahogany, monkey teak, woolly cassia, jack and mango trees are common in this region.

Montane Temperate Forest

It is found in sheltered valleys of Anaimalai, Nilgiris and Palani hills over a 1000 metres altitude. They are known as

Forest Type	Area(sq.km)
Reserved Forest	19,459
Protected Forest	1,782
Unclassified Forest	1,266
Total	22,507
Source: Tamil Nadu statistical Handbook - 2016	

‘**Sholas**’. The trees in this forest are evergreen and usually short. Nilgiri champa, wights litsea and rose apple are the common trees found in this forest.

Tropical Deciduous Forest

This type of forest lies in the margin of semi-evergreen and evergreen forests. The trees in this forest shed their leaves during the dry season. The trees reach up to a height of 30 metres. Some trees of this forest are silk cotton, kapok, kadamba, dog teak, woman's tounge, axlewood and siris. Bamboos are also common in this type of forests. Some trees of this forest are economically important.

Mangroves

This type of forest is found in the coastal areas, river deltas, tails of islands and over sea faces where accretion is in progress. The vegetation is typically evergreen, moderate in height and has leathery leaves. The vegetation of this forest is adapted to survive in tidal mud and salt water. Asiatic mangrove, white mangrove, wild jasmine/Indian pivot etc. are some of the notable trees of this forest. Pichavaram, Vedaranyam, Muthupet, Chatram and Thoothukudi are the places in Tamil Nadu where the mangrove forest is found to a considerable extent.

Tropical Thorn Forest

Thorn forest in Tamil Nadu is found where there is a little rainfall. These forests are found from plains up to 400 meters altitude. The common trees of this forest are rusty acacia, wheel, neem and palm. Shrubs are common vegetation in this type of forest. This type of forest is found in the districts of Dharmapuri, Ramanathapuram, Virudhunagar and some parts of interior districts.

Districts with prominent forest cover in Tamil Nadu

District	Area (sq km)
Dharmapuri	3,280
Coimbatore	2,627
Erode	2,427
Vellore	1,857
The Nilgiris	1,583
Dindigul	1,662

Wild life

Animals and birds live in forests constitute the wild life. Tamil Nadu has a variety of wild animals, birds and reptiles. hills are an ideal refuge for elephants, bisons, tigers, deer and monkeys. Several Wildlife sanctuaries and National Parks have been set up to protect the animal life in the state. The hills of the state provide an ideal condition for a variety of animals and plants life. The list of Wild life Sanctuaries, National parks and Biosphere Reserves of Tamil Nadu are listed in the following tables.

Tamil Nadu is a state with varied climate, landforms and resources. This makes our state a distinct one among the Indian states. In Tamil Nadu, If the available resources are utilised rationally, it may continue to be at top in the country. So, it is the duty of the every individual to strive towards achieving this goal.

S.No	Wildlife Sanctuaries in Tamil Nadu	District	Year of Establishment
1	Mudumalai Wildlife Sanctuary	The Nilgiris	1940
2	Mundanthurai Wildlife Sanctuary	Tirunelveli	1962
3	Point Calimere Wildlife Sanctuary	Nagapattinam	1967
4	Indira Gandhi Wildlife Sanctuary	Coimbatore	1976
5	Kalakad Wildlife Sanctuary	Tirunelveli	1976
6	Vallanadu Black Buck Sanctuary	Thoothukudi	1987
7	Grizzled Giant Squirrel Wildlife Sanctuary	Virudhunagar	1988
8	Kanyakumari Wildlife Sanctuary	Kanyakumari	2007
9	Sathyamangalam Wildlife Sanctuary	Erode	2008
10	Megamalai Wildlife Sanctuary	Theni and Madurai	2009
11	Point Calimere Wildlife Sanctuary - Block A and Block B	Thanjavur and Tiruvarur Nagapattinam	2013
12	Kodaikanal Wildlife Sanctuary	Dindigul and Theni	2013
13	Gangaikondan Spotted Deer Sanctuary	Tirunelveli	2013
14	Cauvery North Wildlife Sanctuary	Dharmapuri and Krishnagiri	2014
17	Nellai Wildlife Sanctuary	Tirunelveli	2015

S.No	Bird Sanctuaries in Tamil Nadu	District	Year of Establishment
1	Vettangudi Birds Sanctuary	Sivaganga	1977
2	Pulicat Lake Birds Sanctuary	Tiruvallur	1980
3	Karikili Birds Sanctuary	Kancheepuram	1989
4	Kanjirankulam Birds Sanctuary	Ramanathapuram	1989
5	Chitrangudi Birds Sanctuary	Ramanathapuram	1989
6	Koonthankulam-Kadankulam Birds Sanctuary	Tirunelveli	1994
7	Vellode Birds Sanctuary	Erode	1997
8	Vedanthangal Birds Sanctuary	Kancheepuram	1998
9	Udayamarthandapuram Birds Sanctuary	Tiruvarur	1998
10	Melaselvanur-Keelselvanur Birds Sanctuary	Ramanathapuram	1998
11	Vaduvoor Birds Sanctuary	Tiruvarur	1999
12	Karaivetti Birds Sanctuary	Ariyalur	2000
13	Theerthangal Bird Sanctuary	Ramanathapuram	2010
14	Sakkarakottai Tank Birds Sanctuary	Ramanathapuram	2012
17	Oussudu Lake Birds Sanctuary	Villupuram	2015

