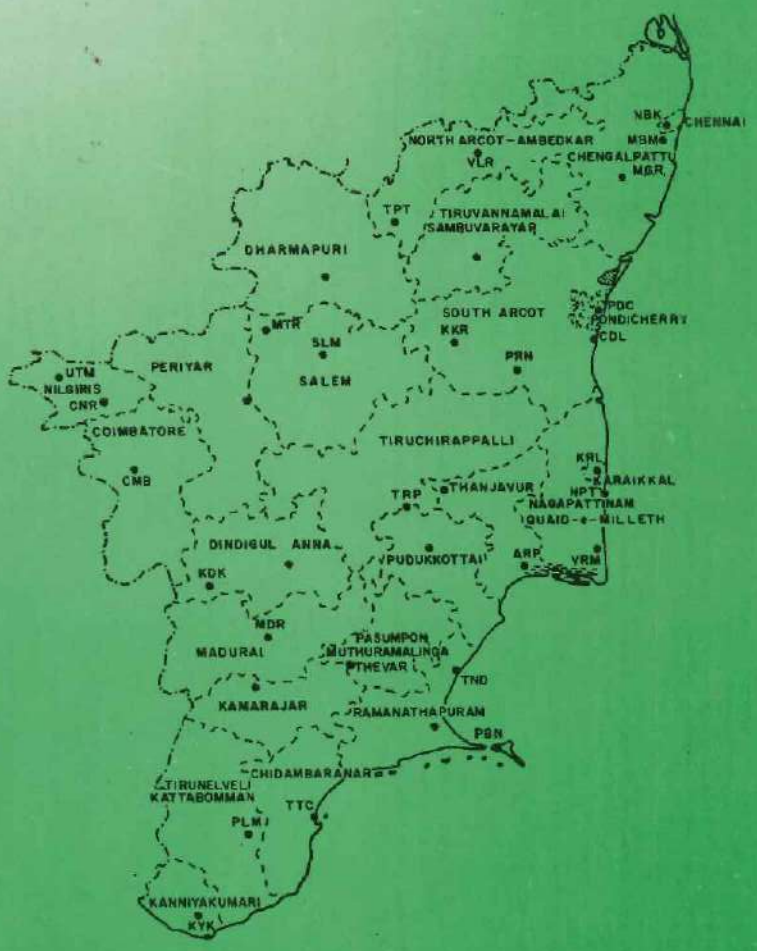
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INDIA METEOROLOGICAL DEPARTMENT

CLIMATE OF TAMILNADU

INCLUDING PONDICHERRY & KARAIKKAL



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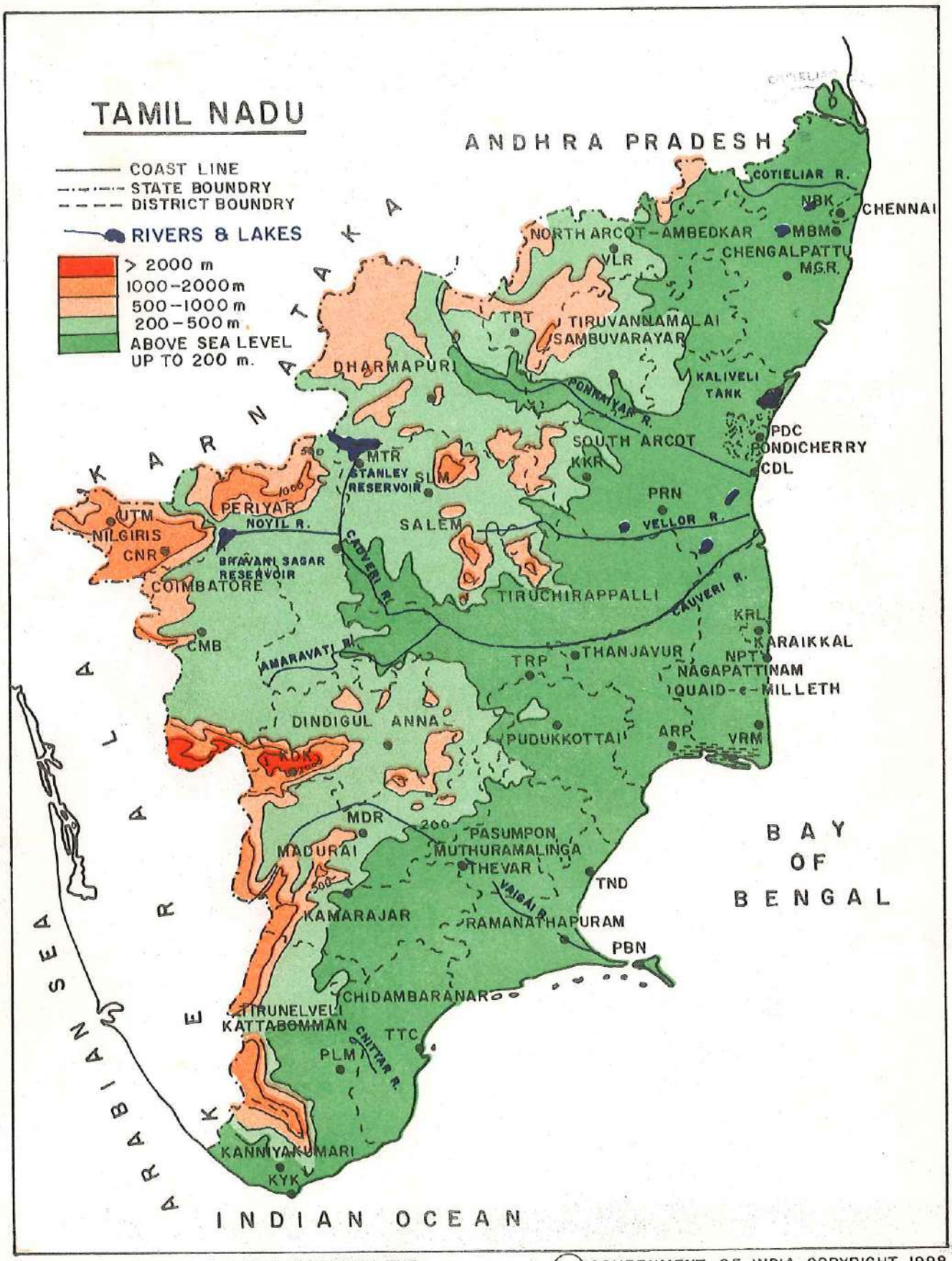
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FIG.I. PHYSICAL FEATURES



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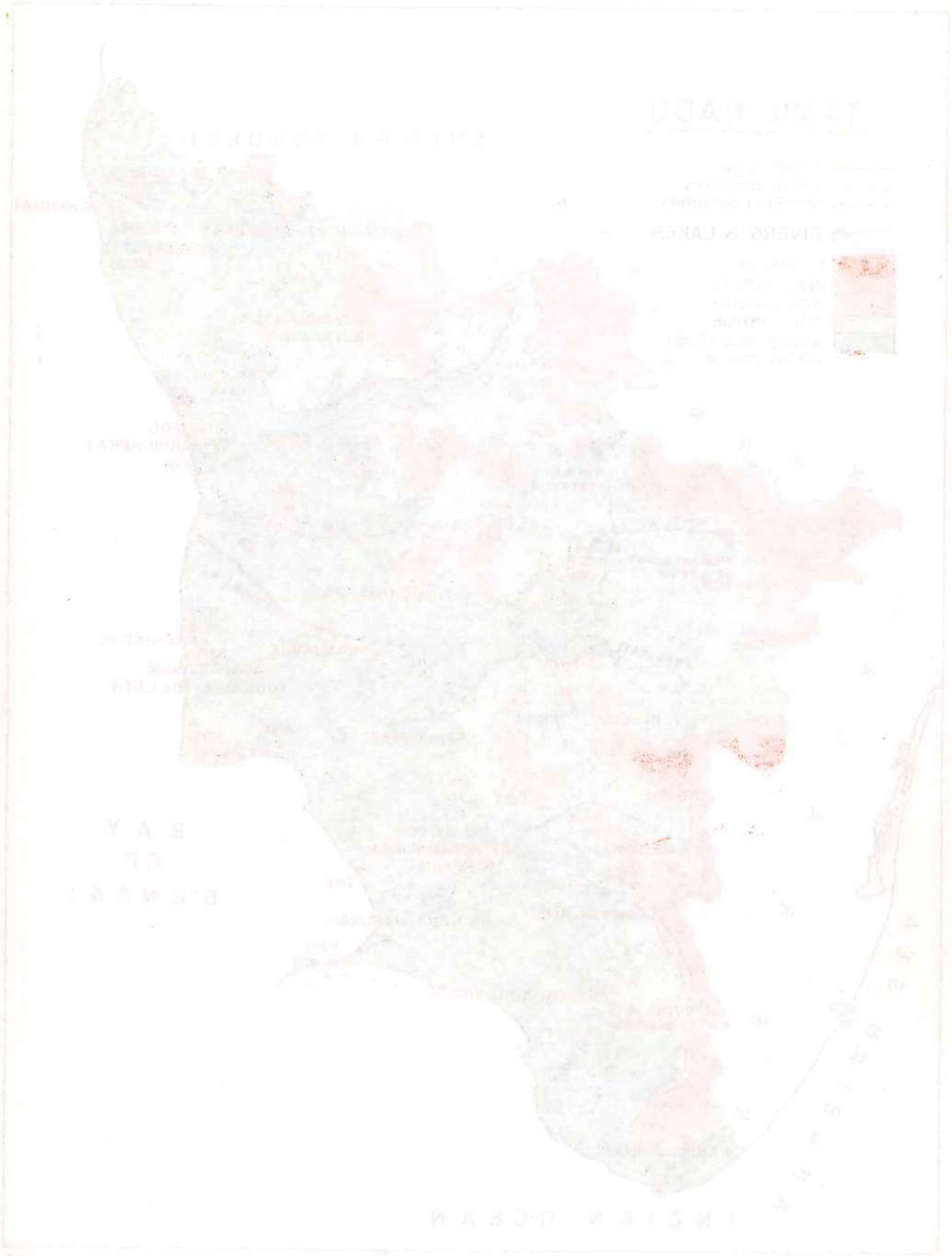
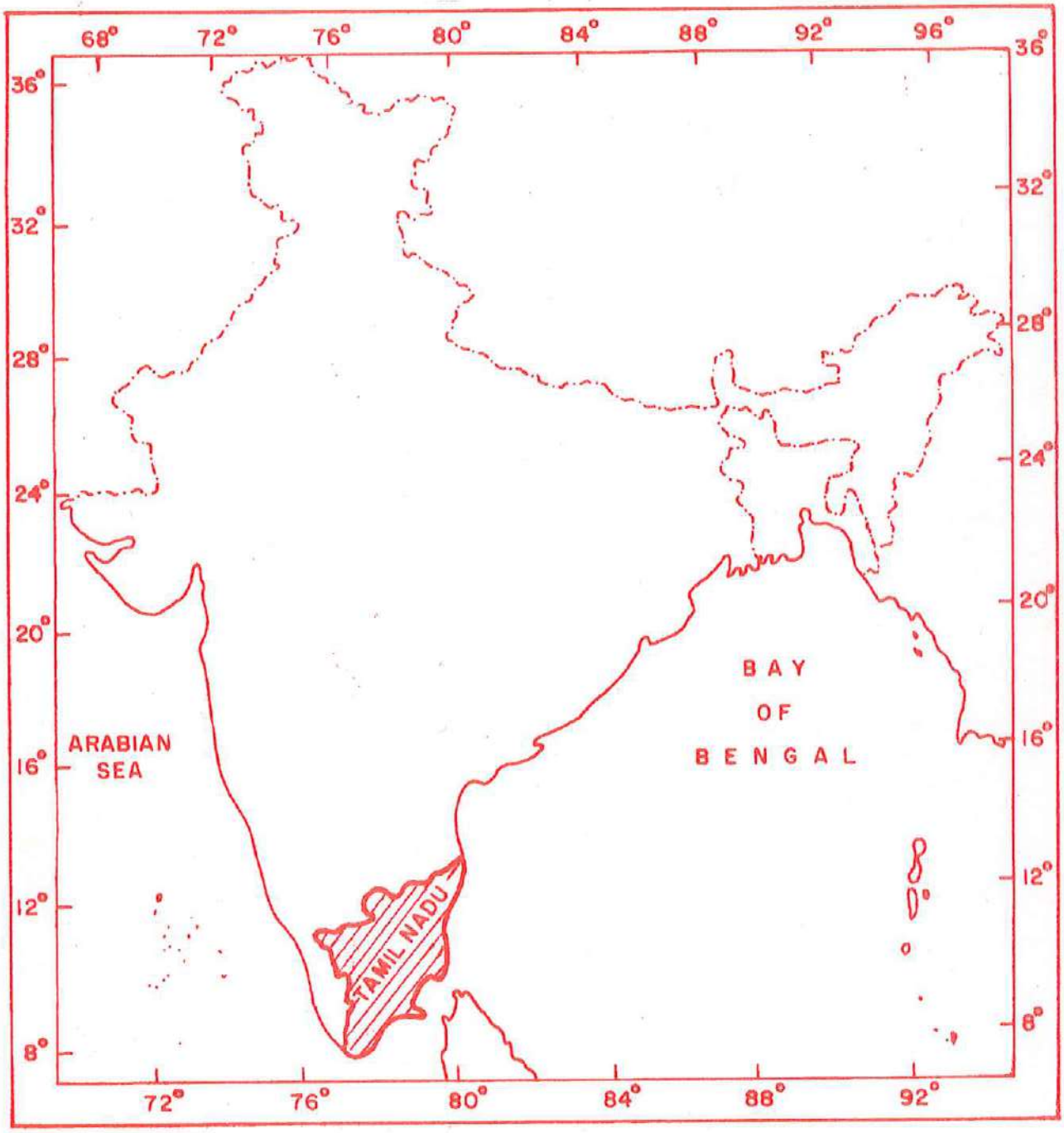
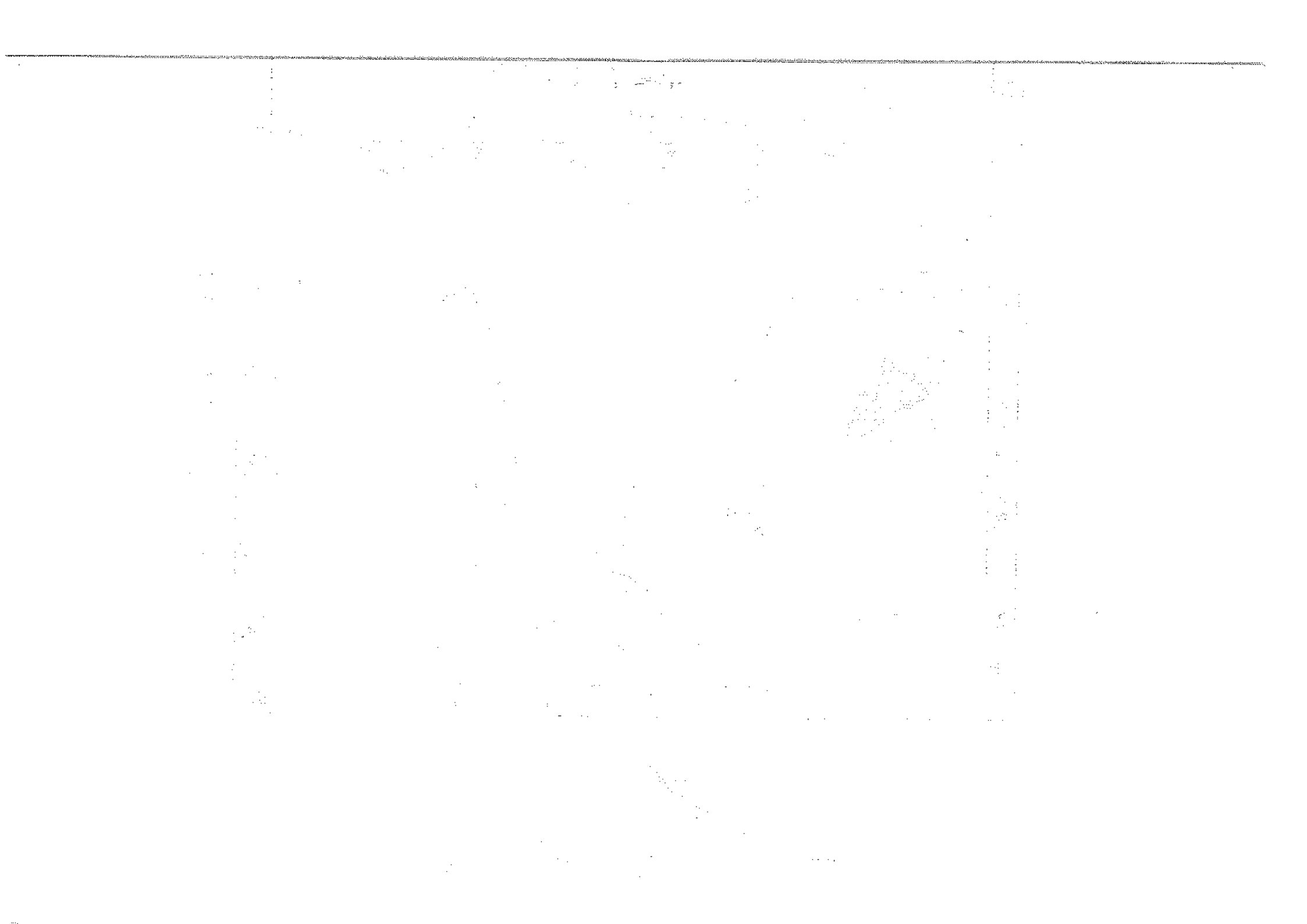


FIG.1(a) INSET


68°
72°
76°
80°
84°
88°
92°
96°
36°
32°
28°
24°
20°
16°
12°
8°
ARABIAN
SEA
BAY
OF
BENGAL
TAMIL NADU



PREFACE

The importance of meteorology and its economic and social benefits are being increasingly realised all over the world. In our country also, various sectors like agriculture, aviation, energy, industry require climatological information pertaining to different regions of the country, for planning and executing projects, with a view to deriving maximum advantage from meteorological and/or climatological conditions. Keeping these requirements in view, it was decided by India Meteorological Department to publish the series Climatological Summaries for each state. The eleventh issue in the series 'State Climatological Summaries' is the ***"CLIMATE OF TAMIL NADU INCLUDING PONDICHERRY AND KARAIKKAL"***.

The present publication contains extensive information on rainfall in various districts in Tamil Nadu and is based on the available rainfall data for the period 1901-1980. The climatological data in respect of temperature, wind, clouds and other weather parameters for the period 1951-1980 are also given. Information relating to the years of severe droughts in the districts of Tamil Nadu State, has been included for the period 1901-1980.

The climatological summary and related maps were prepared in the Revision of Climatological Publications Division of the Office of the Additional Director General of Meteorology (Research), India Meteorological Department, Pune. The contributions of Smt. P.R. Joshi, Smt. U.S. Satpute, Shri A. Philipose and Smt. P.R. Iyer have been very vital.

The publication was prepared by Dr. K.C. Sinha Ray, Director and Shri I.P. Patel, Met. Gr.I and reviewed by Shri M.R. Das, DDGM(C). Dr. U.S. De, Additional Director General of Meteorology (Research), provided the overall guidance for this publication. I appreciate their sincere efforts.

NEW DELHI
30 November, 1999.

R.R. KELKAR
DIRECTOR GENERAL OF METEOROLOGY (LACD)

INTRODUCTION

The meteorological conditions of the Tamil Nadu State as a whole including Pondicherry & Karaikkal are described in the first chapter followed by detailed description of the climate of each district in the succeeding chapters. In this publication, the districts which were in existence as on 1st January, 1992 have been presented alphabetically.

The normals of meteorological elements used for describing the climate are generally based on data for the period 1951-80, except in the case of rainfall, and for all the elements in cases of some stations where data of recent years were only available. For rainfall, normals using the data from 1901 to 1980, as available from National Data Centre, Pune, have been used. The extreme values of temperature and rainfall presented in the summary are based on data updated upto year 1993.

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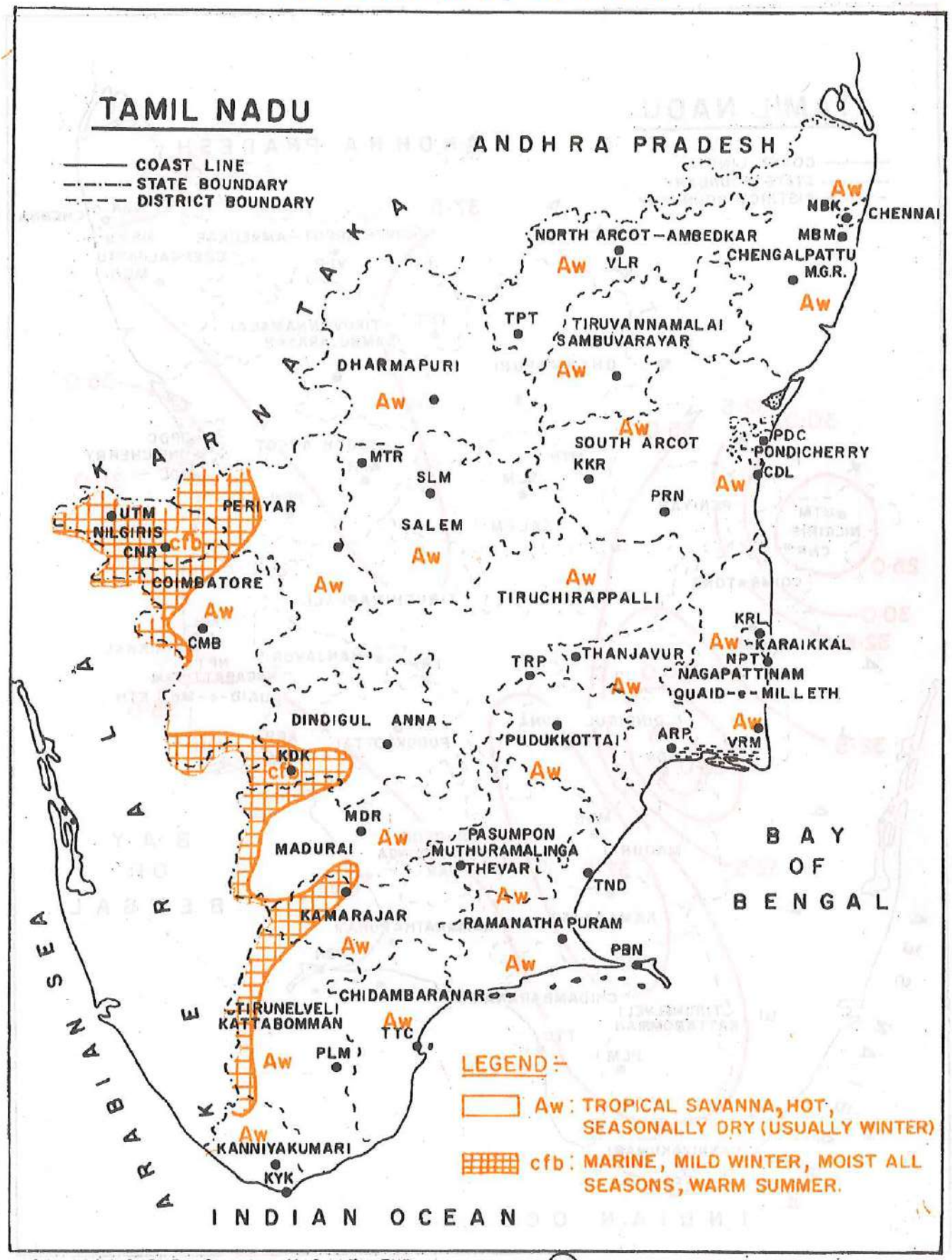
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FIG.2 CLIMATIC CLASSIFICATION

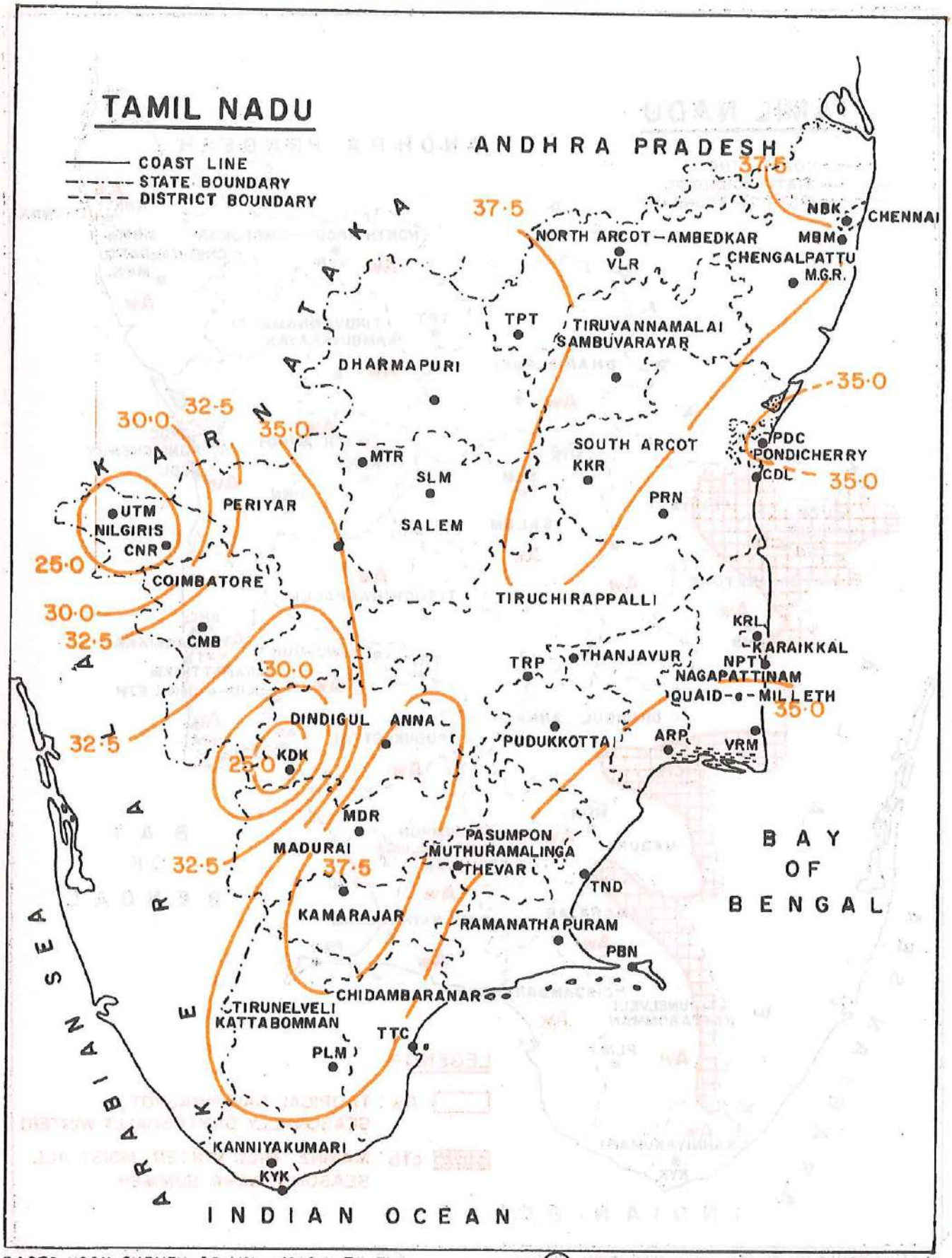


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THE TERRITORIAL WATERS OF INDIA EXTEND INTO THE SEA TO A DISTANCE OF TWELVE NAUTICAL MILES MEASURED FROM THE APPROPRIATE BASE LINE.

FIG.2(a) MEAN MAXIMUM TEMPERATURE (°C) MAY

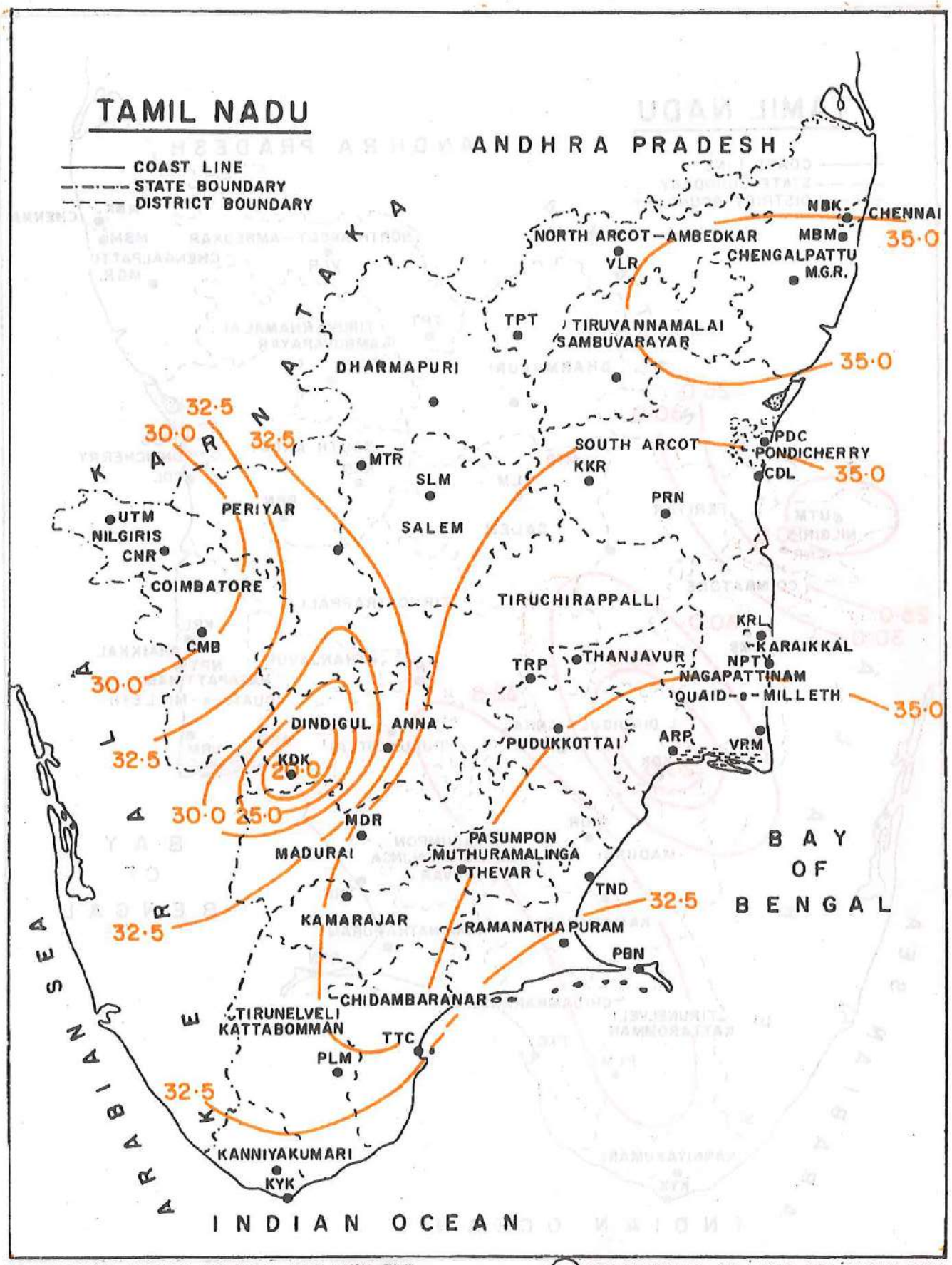


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FIG.2(b) MEAN MAXIMUM TEMPERATURE (°C)
JULY



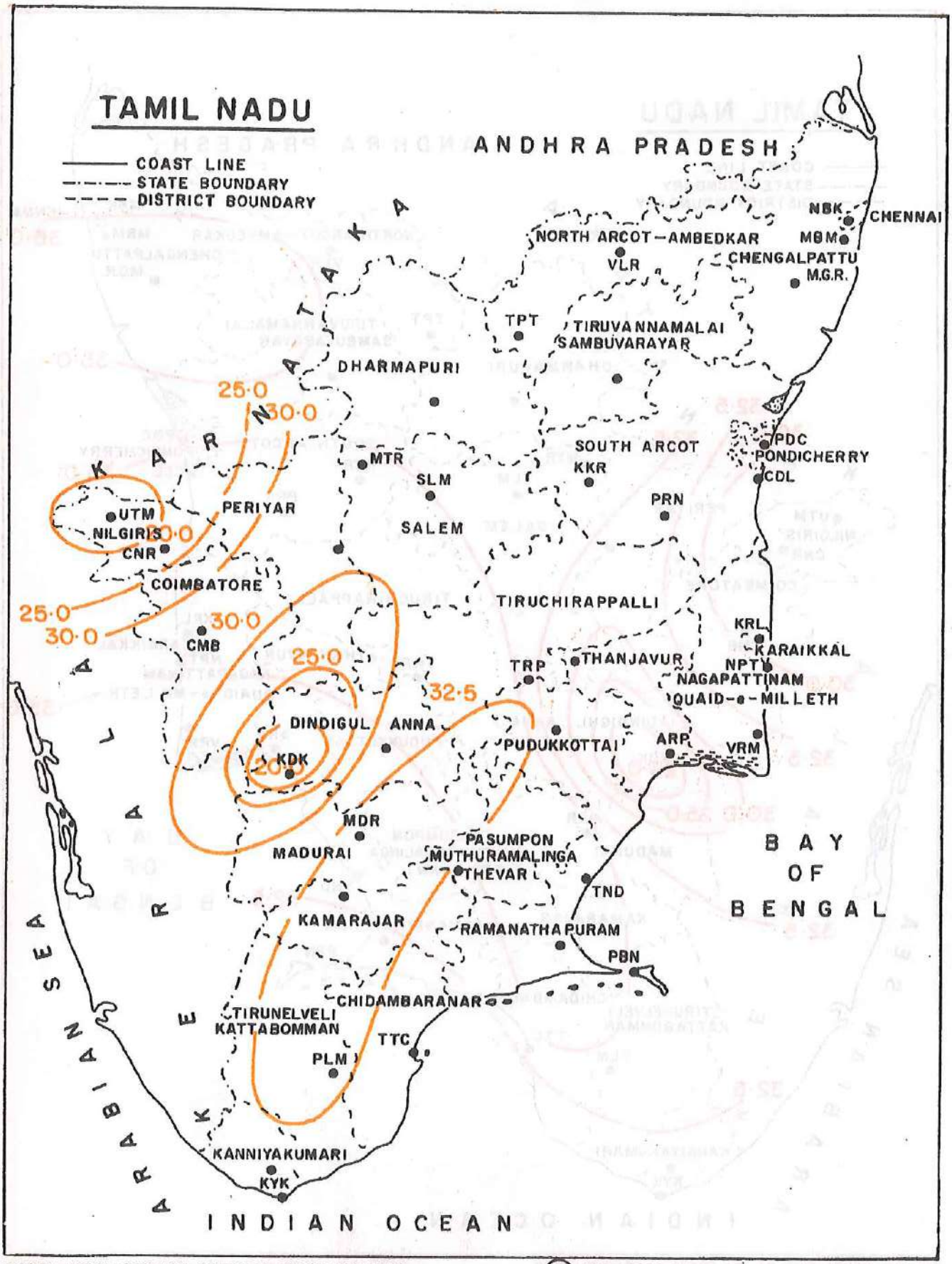
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FIG.2(c) MEAN MAXIMUM TEMPERATURE (°C) OCTOBER

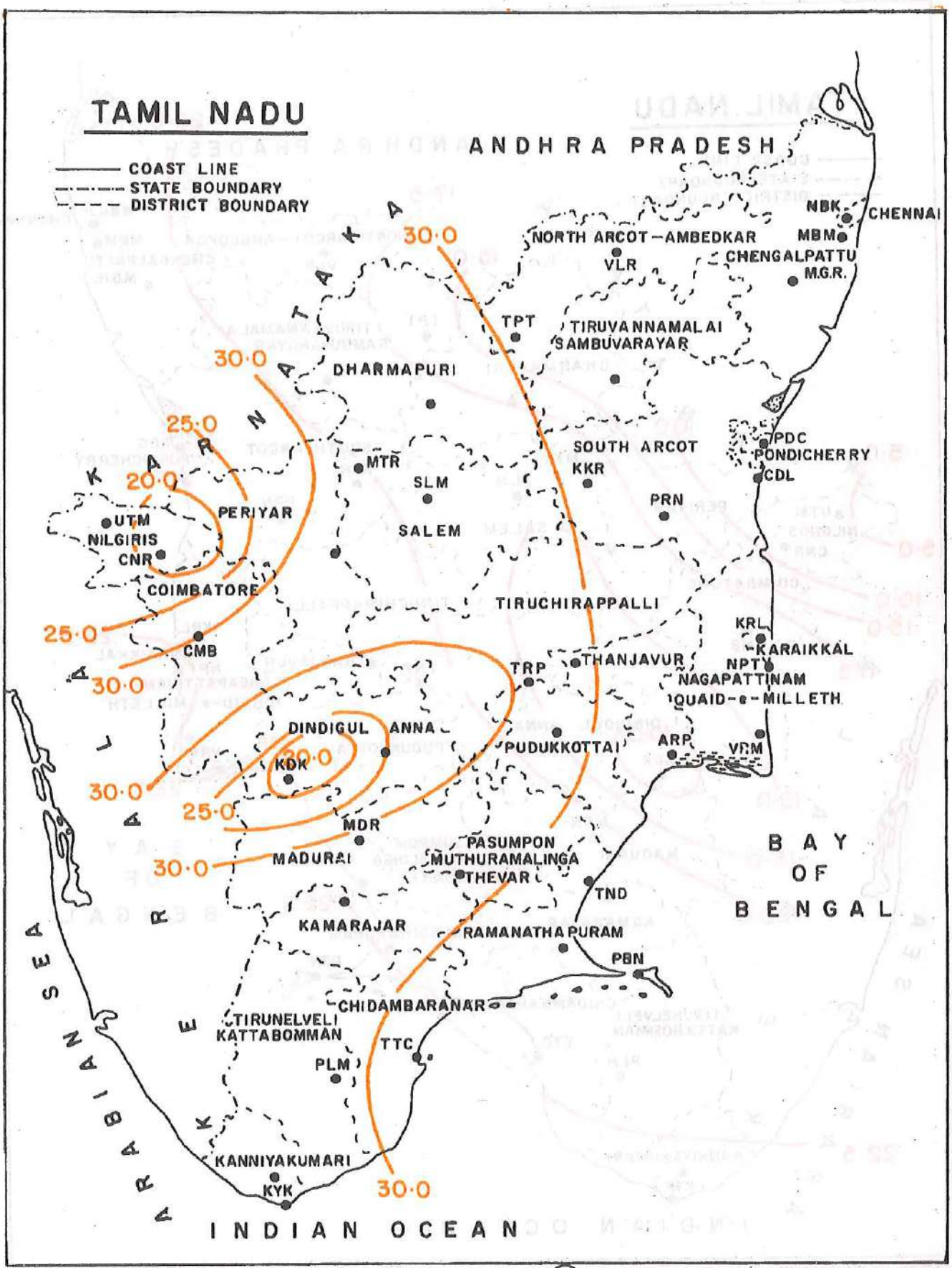


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FIG.2(d) MEAN MAXIMUM TEMPERATURE (°C) JANUARY

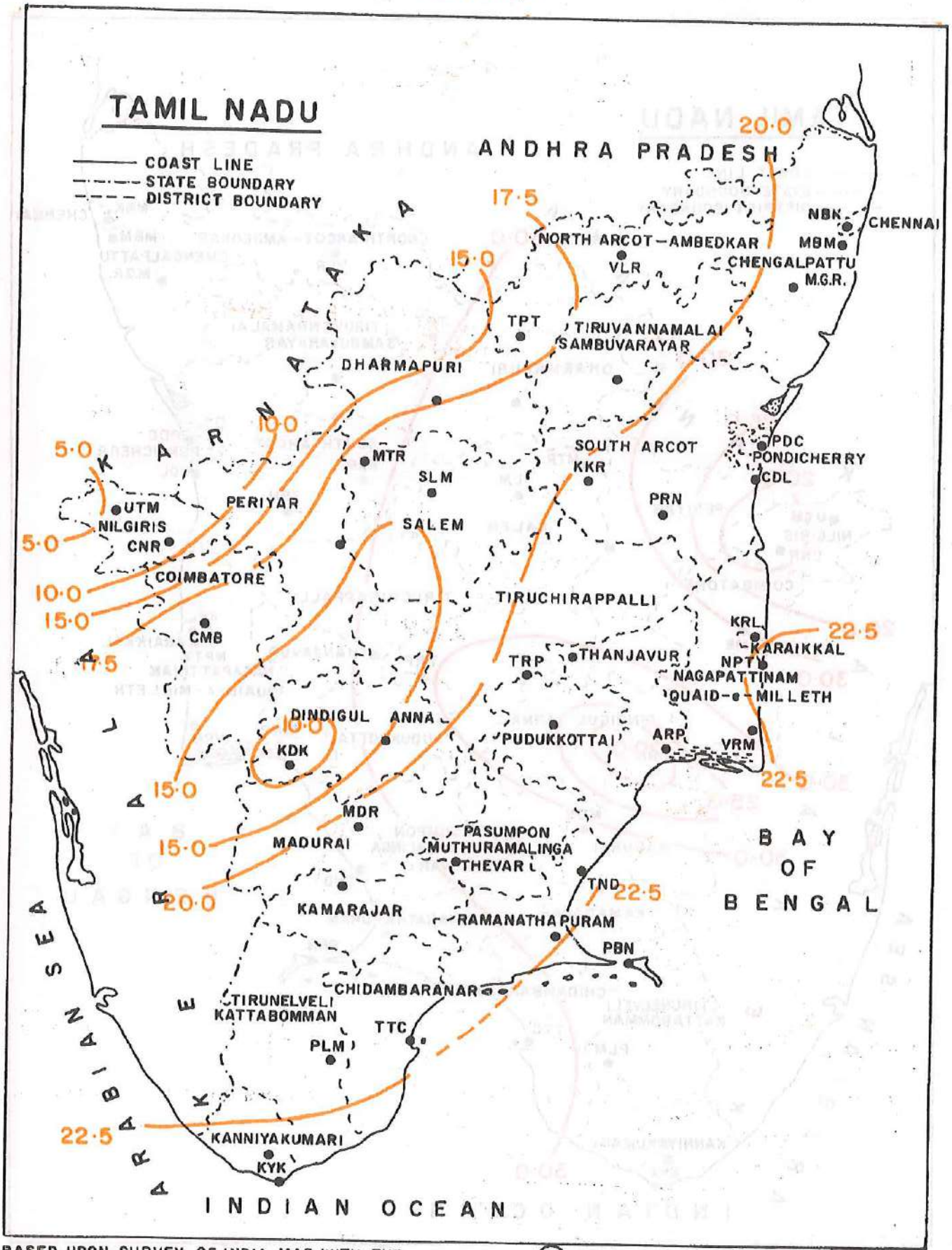


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FIG.3(a) MEAN MINIMUM TEMPERATURE (°C) JANUARY



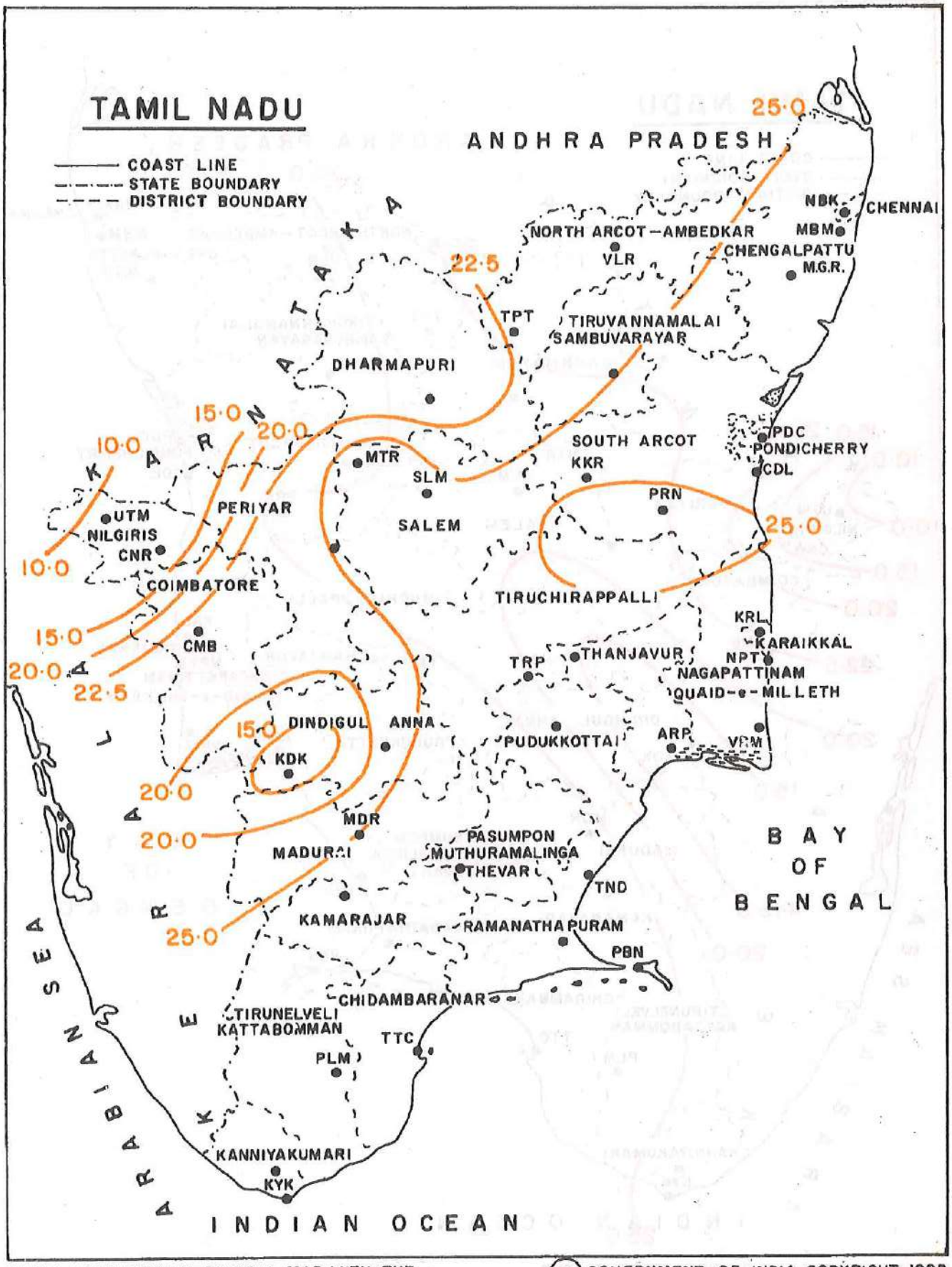
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FIG.3(b) MEAN MINIMUM TEMPERATURE (°C) APRIL

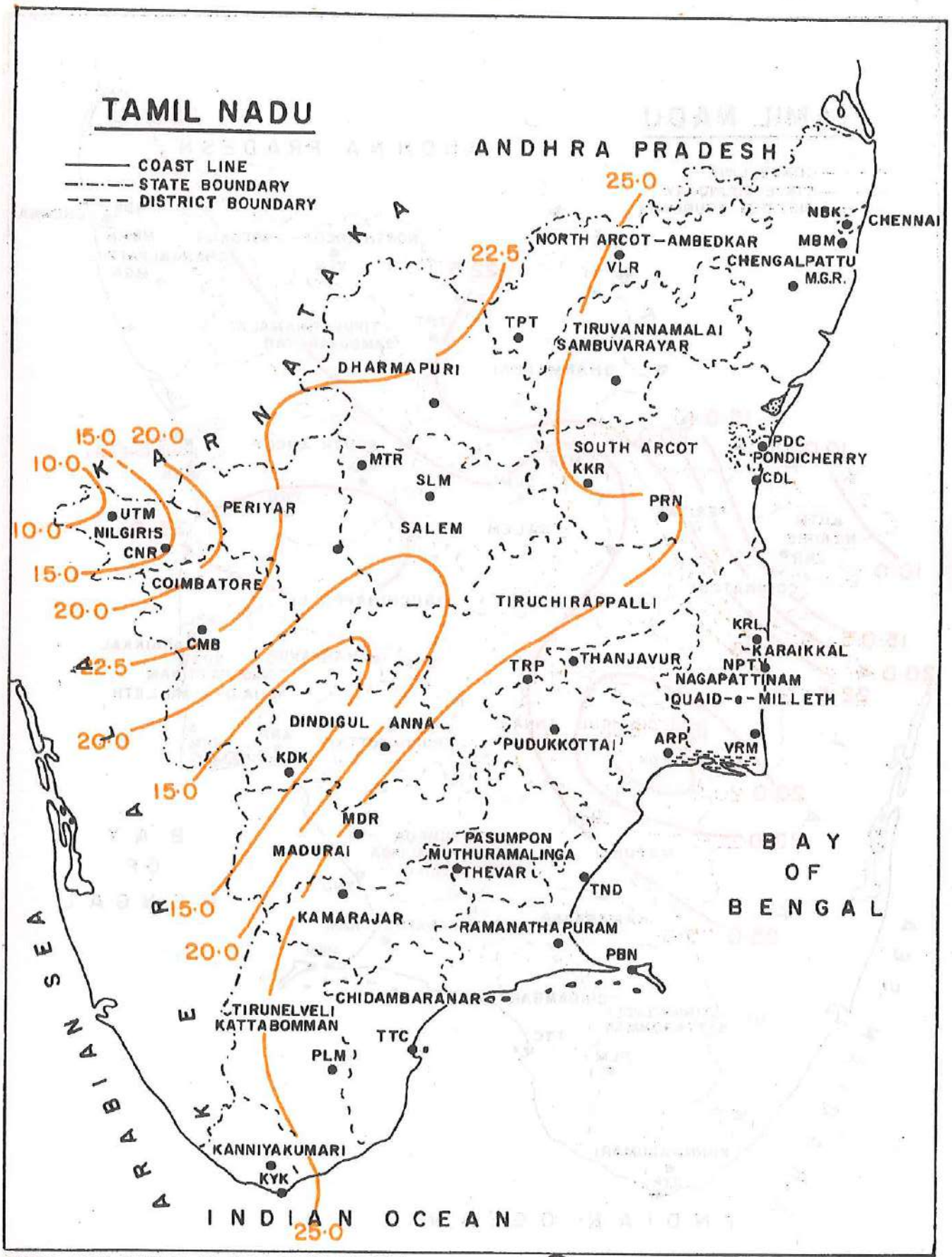


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FIG.3(c) MEAN MINIMUM TEMPERATURE (°C) JULY

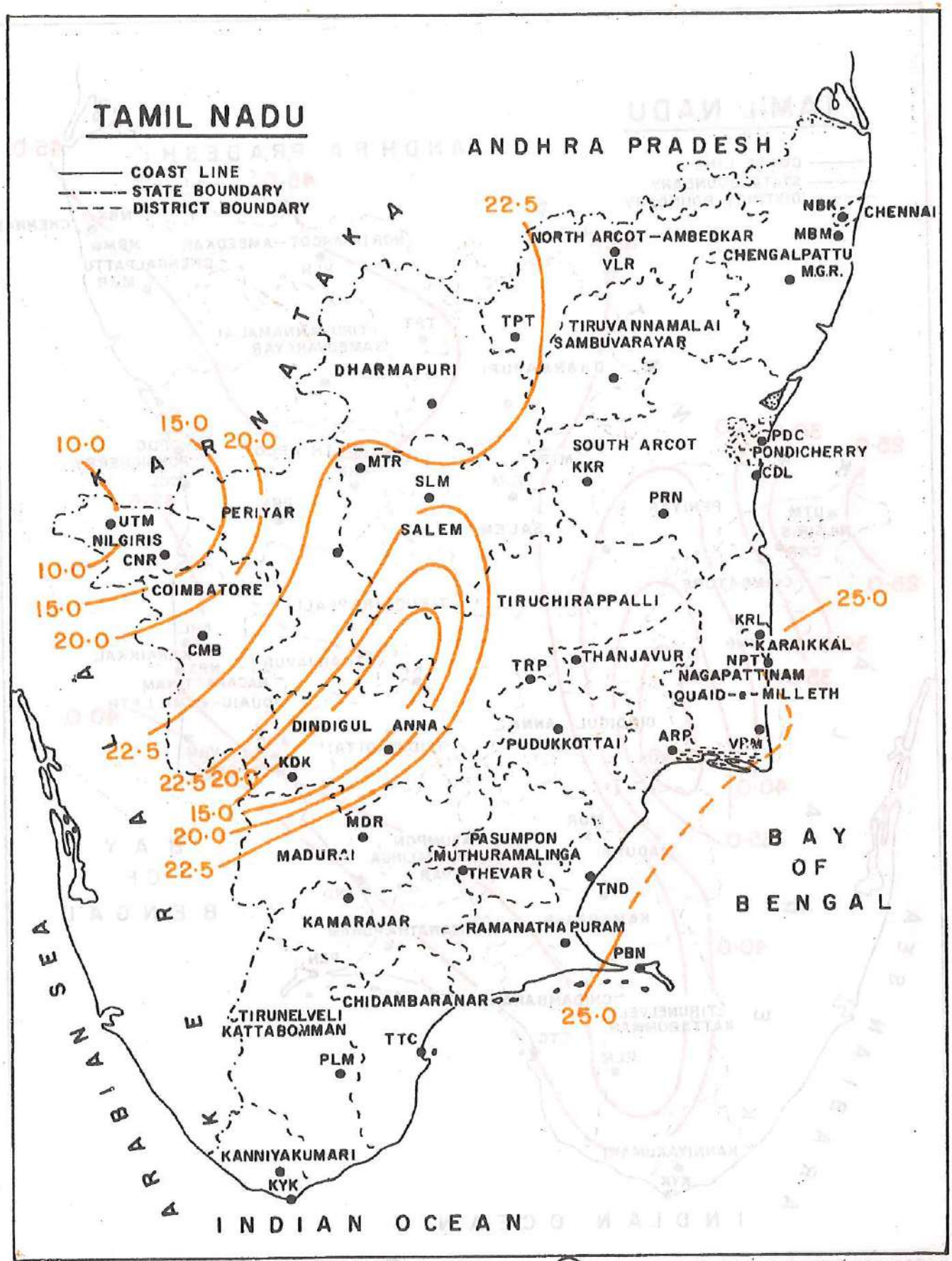


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FIG.3(d) MEAN MINIMUM TEMPERATURE (°C) - OCTOBER

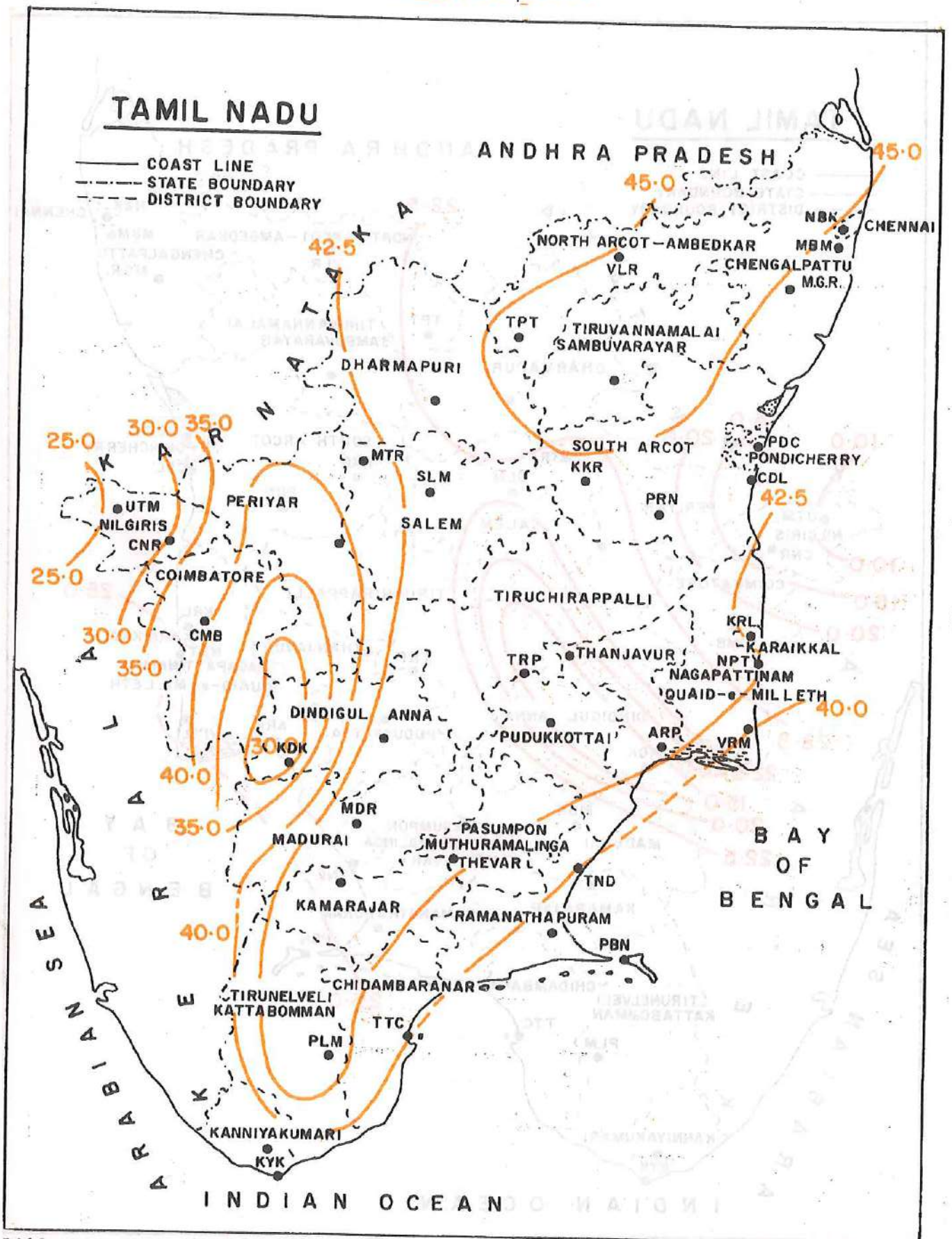


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FIG.4 HIGHEST MAXIMUM TEMPERATURE (°C) EVER RECORDED

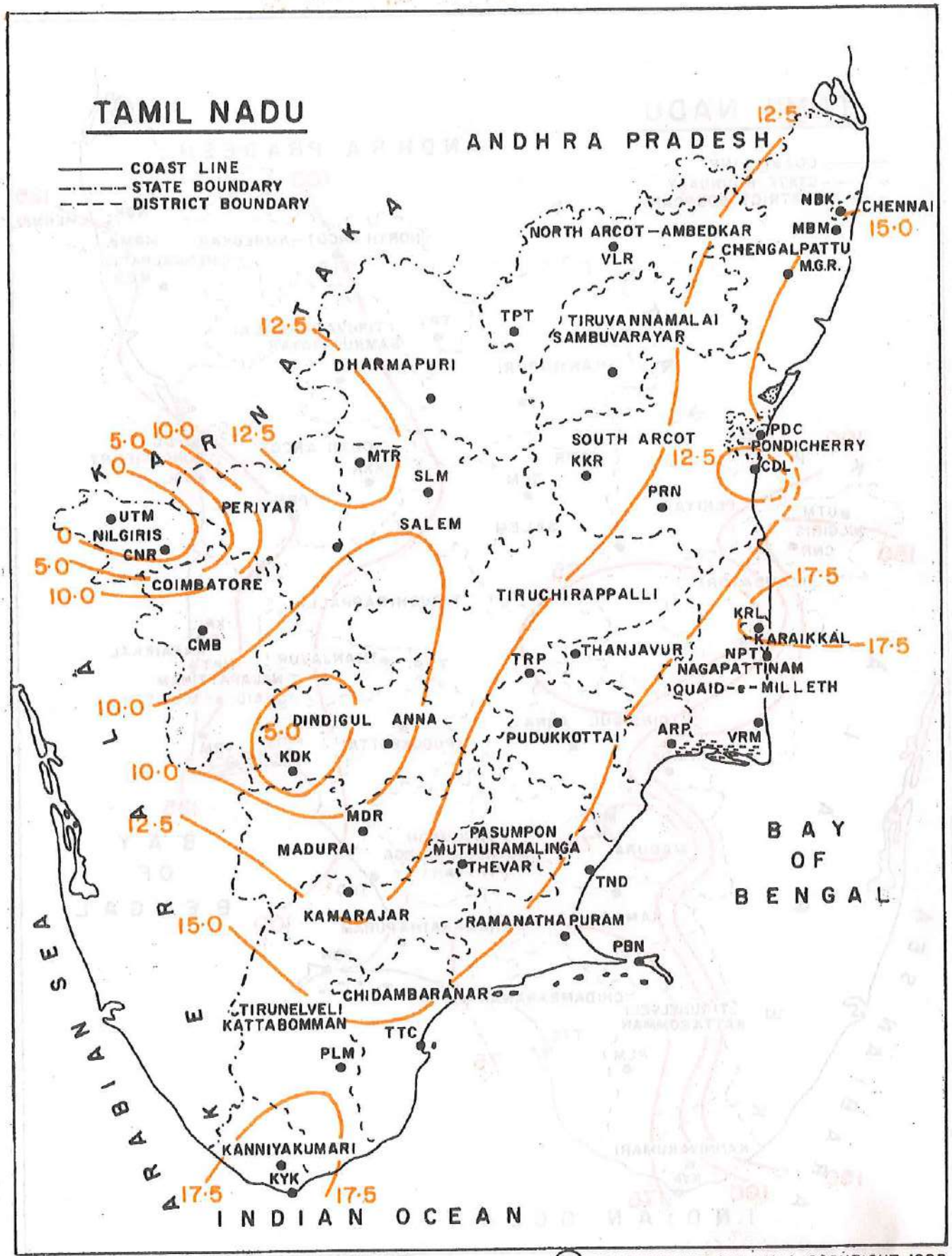


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FIG.5 LOWEST MINIMUM TEMPERATURE (°C) EVER RECORDED

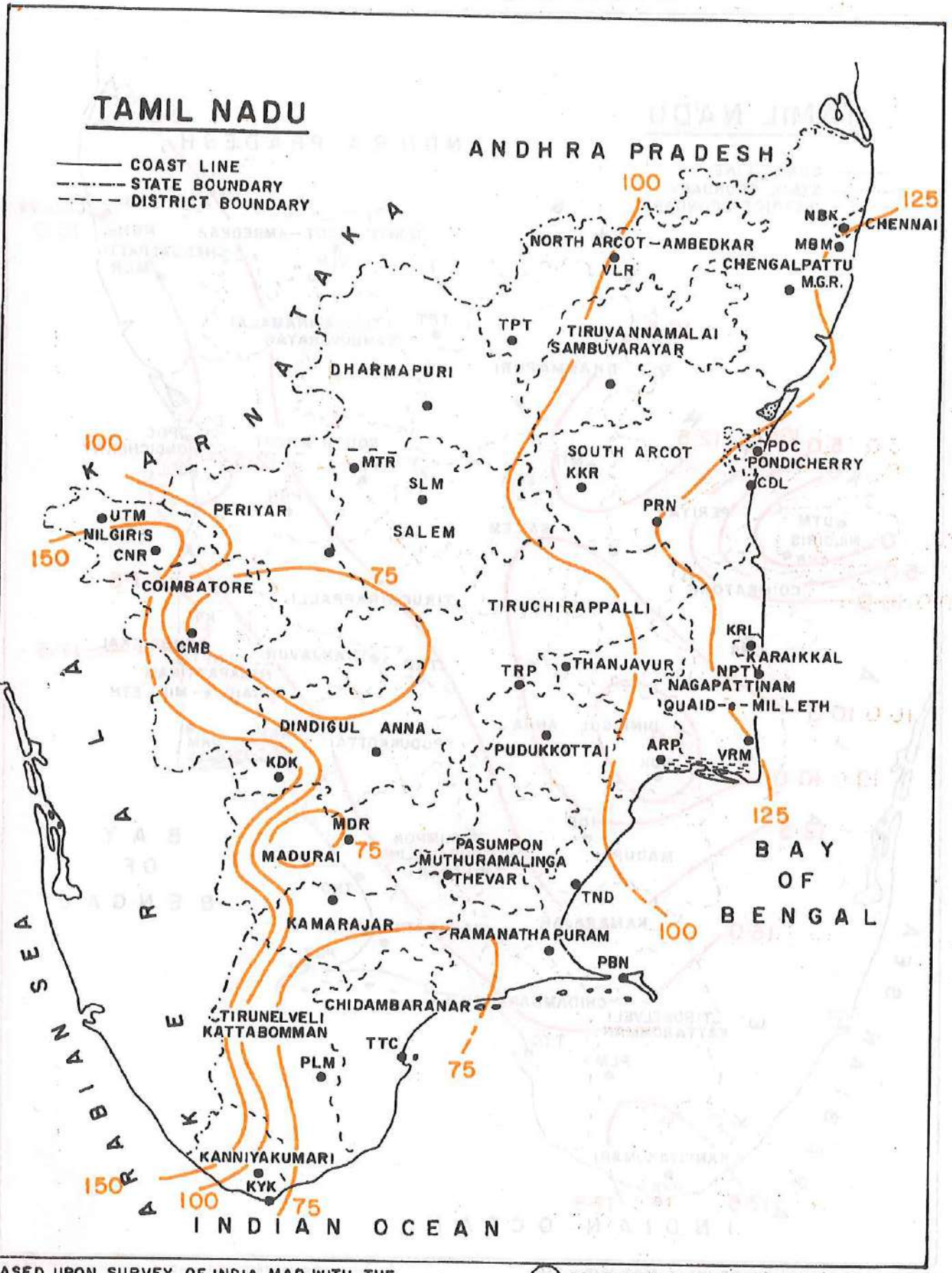


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FIG.6 RAINFALL (cm) ANNUAL

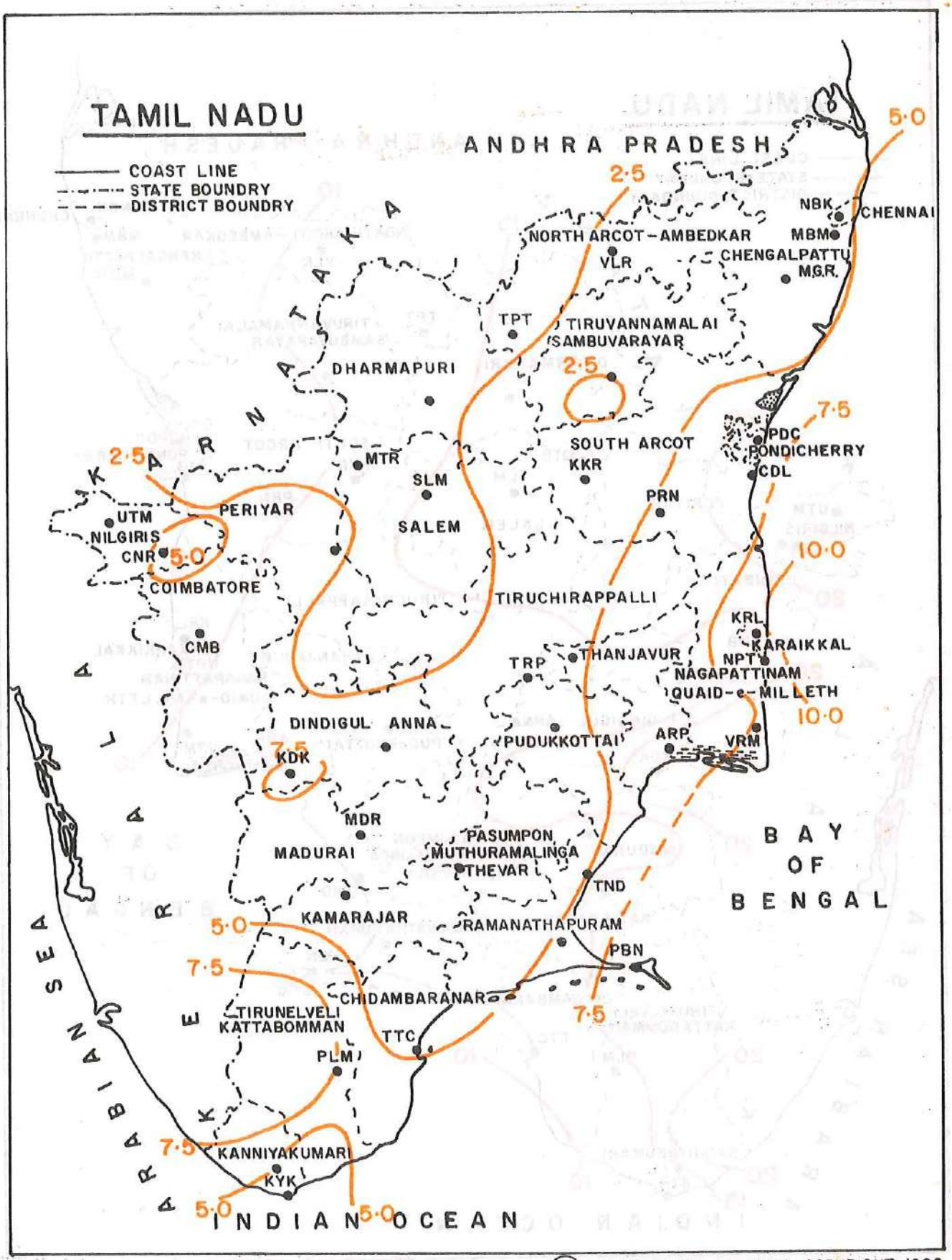


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FIG.6(a) RAINFALL (cm) - JANUARY - FEBRUARY

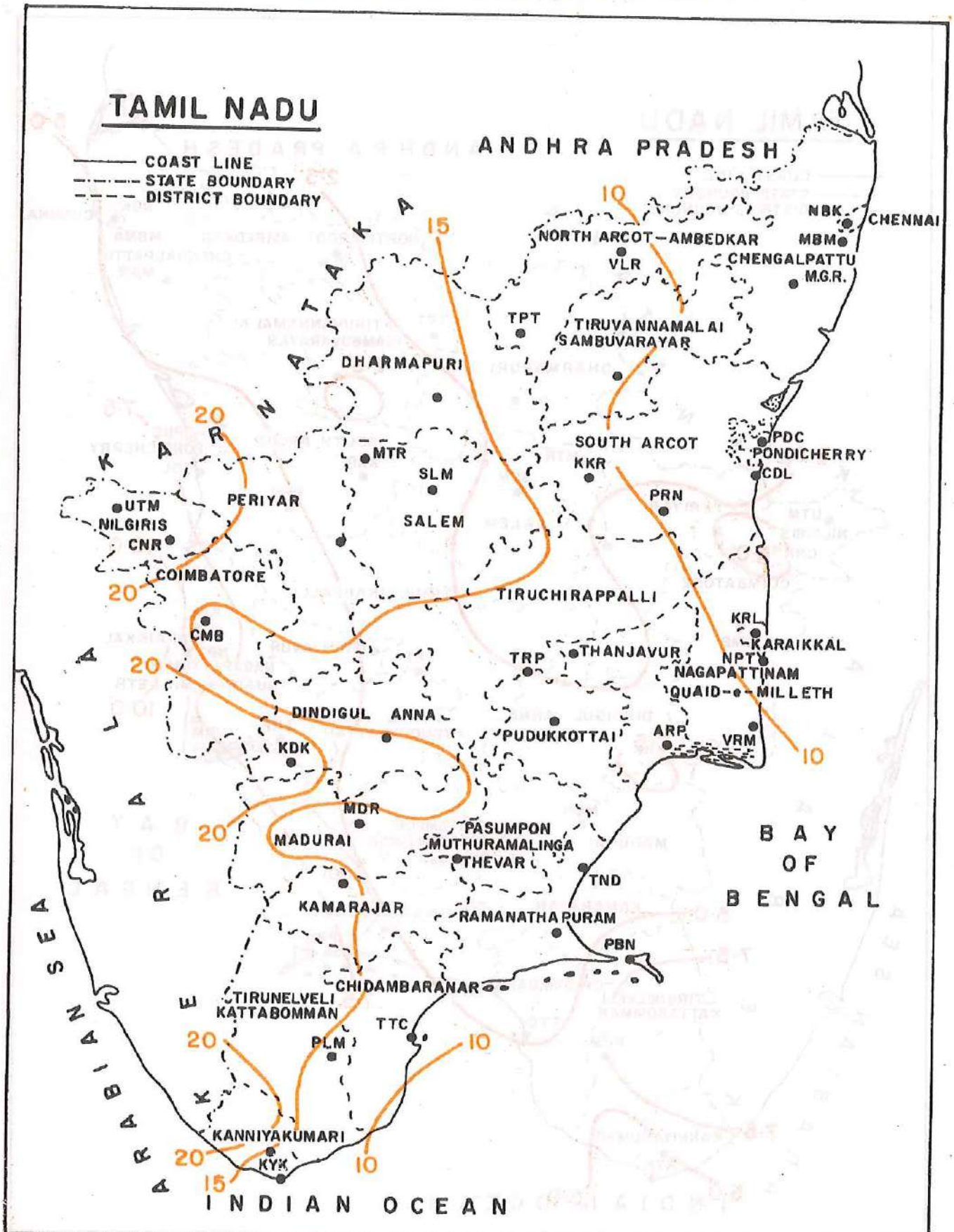


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FIG.6(b) RAINFALL (cm) - MARCH - MAY

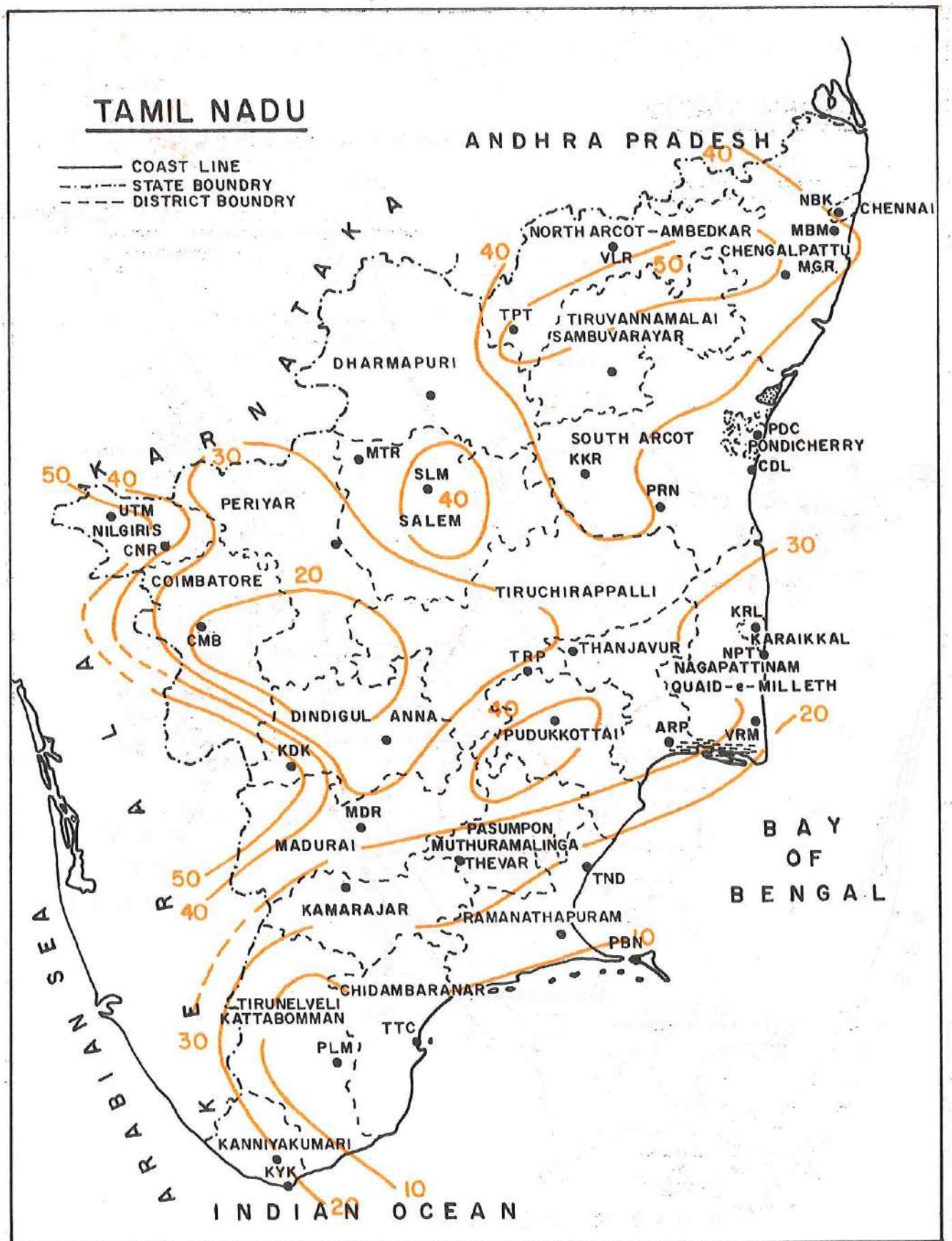


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FIG.6(c) RAINFALL (cm) - JUNE - SEPTEMBER

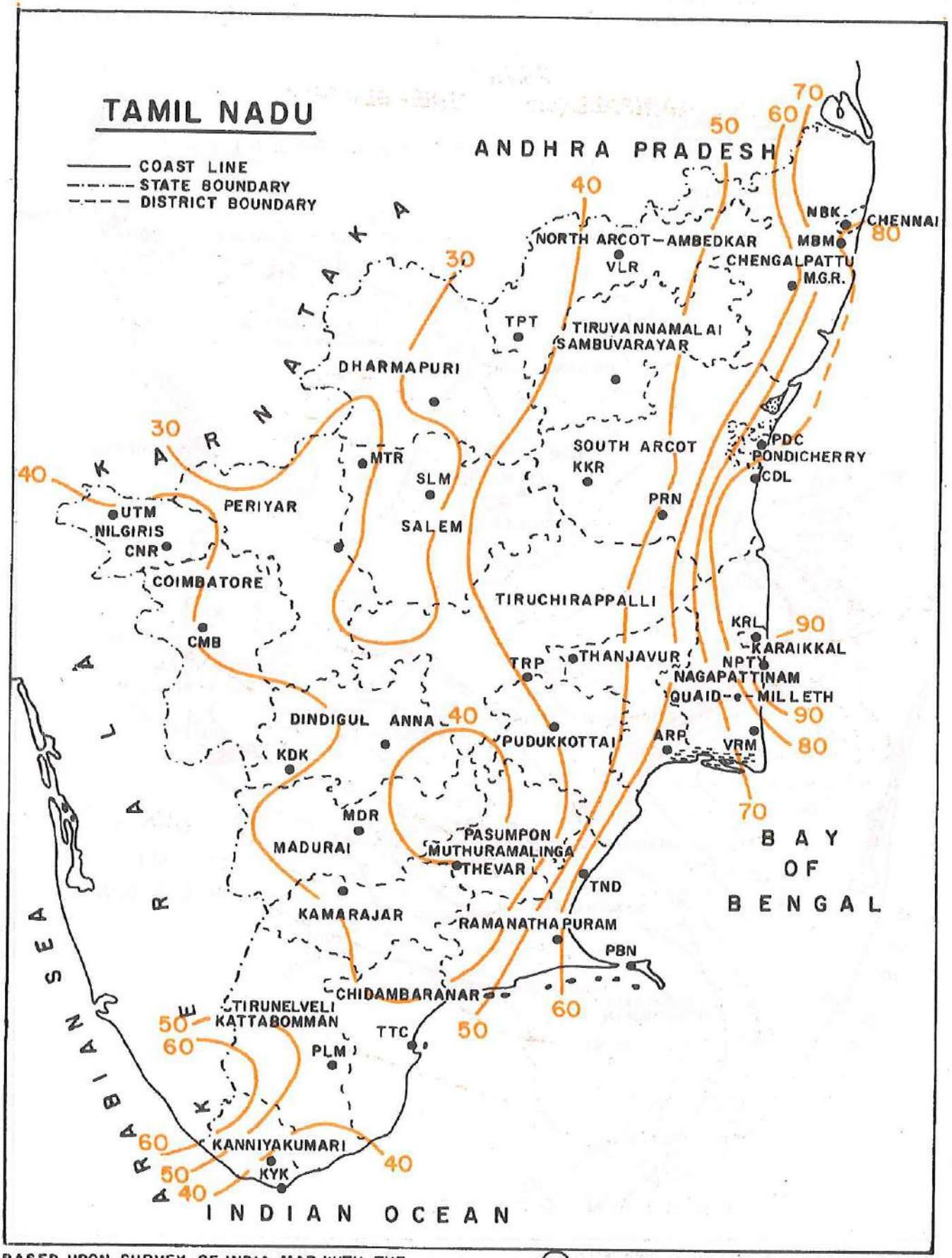


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FIG.6(d) RAINFALL (cm)- OCTOBER - DECEMBER



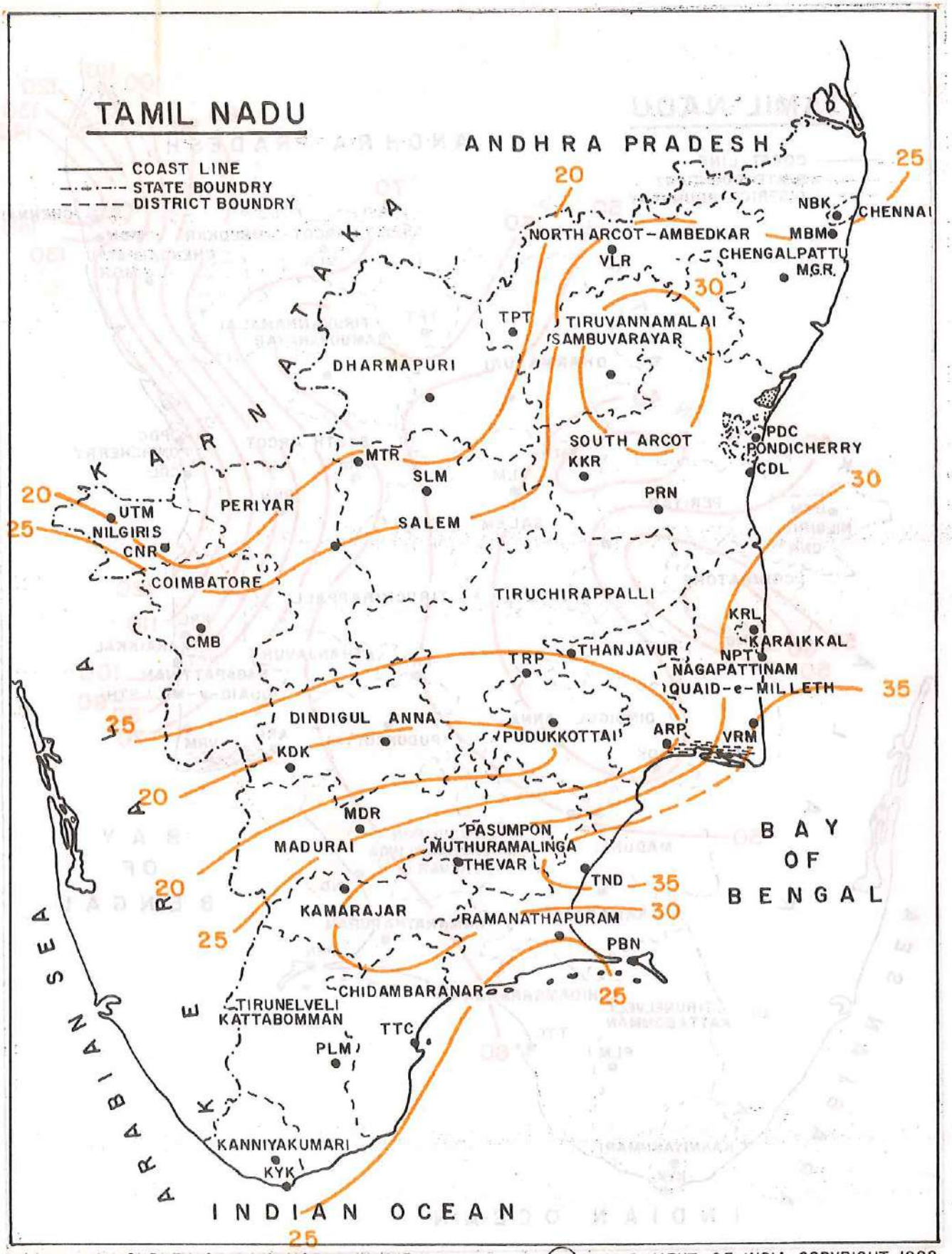
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XXIX

FIG.7 COEFFICIENT OF RAINFALL VARIATION ANNUAL

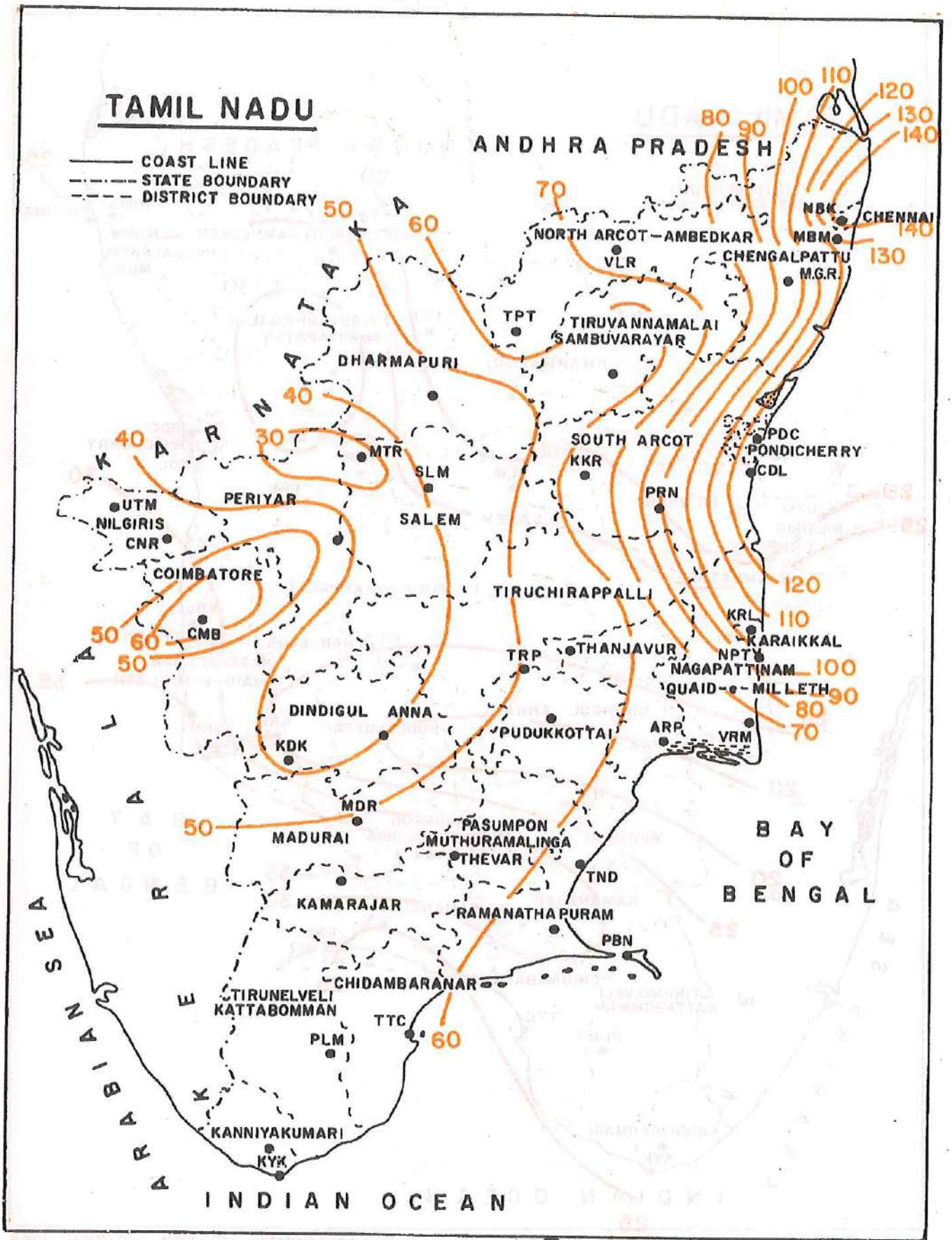


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FIG.7(a) COEFFICIENT OF RAINFALL VARIATION PREMONSOON (MARCH–MAY)

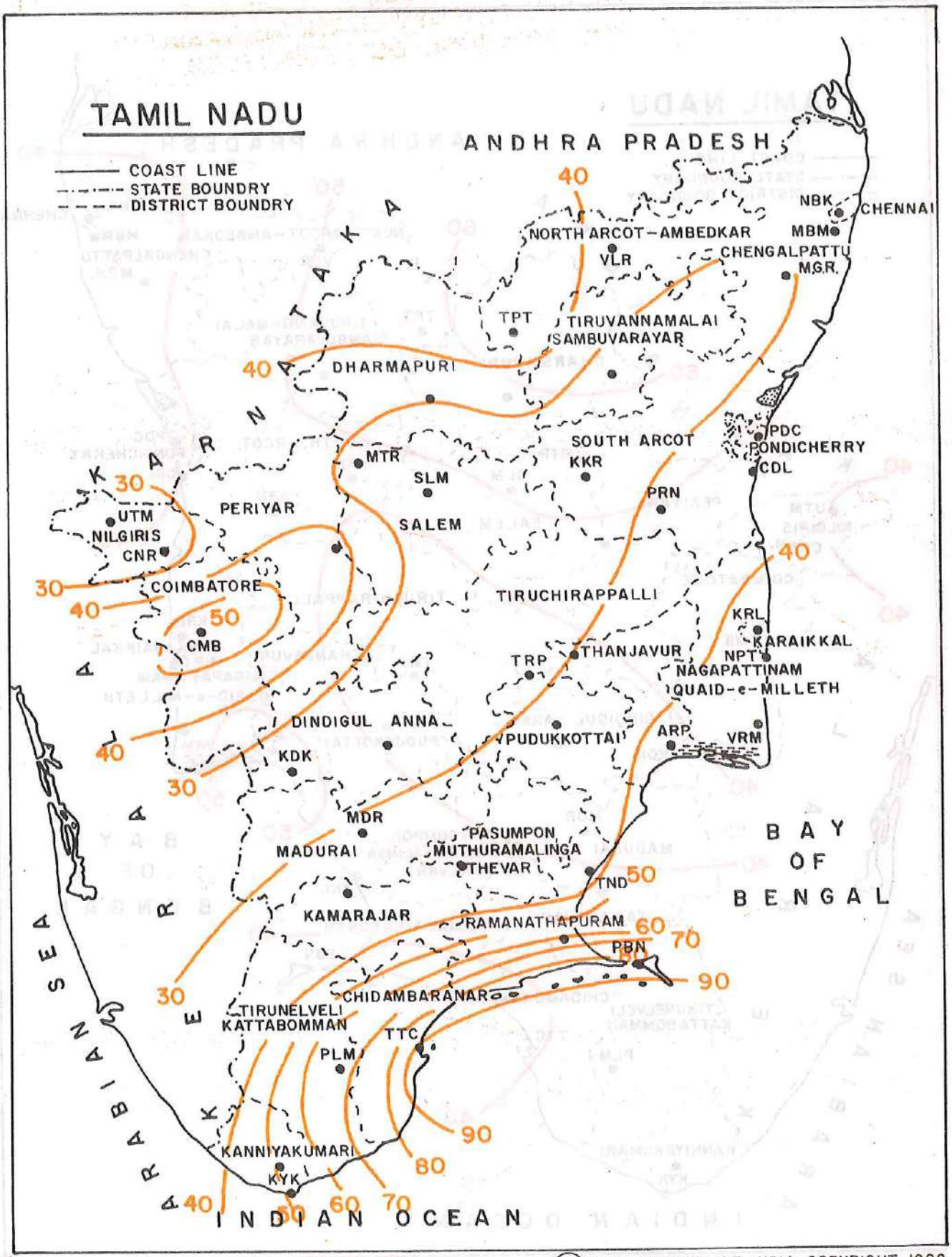


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FIG.7(b) COEFFICIENT OF RAINFALL VARIATION SOUTHWEST MONSOON (JUNE–SEPTEMBER)

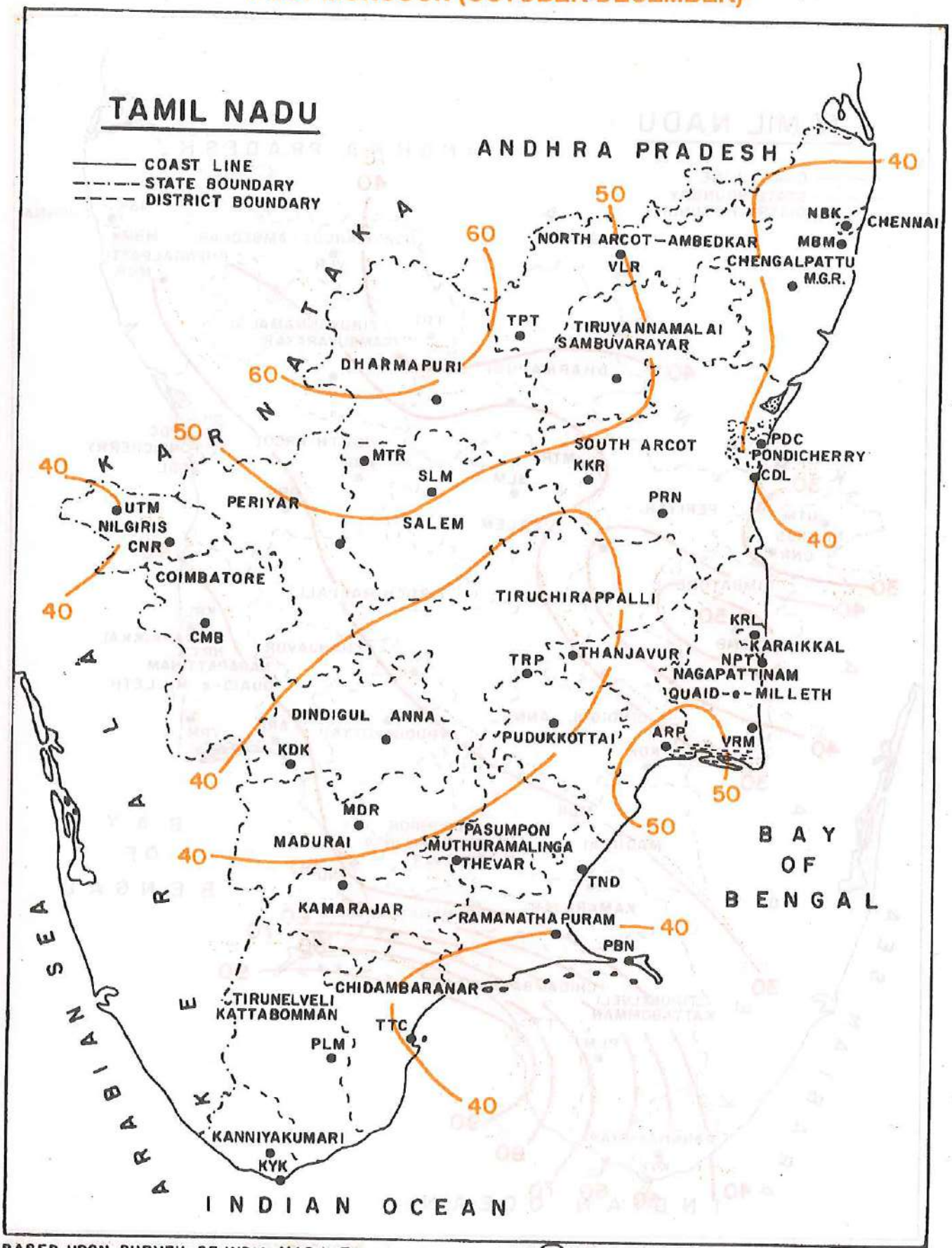


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FIG.7(c) COEFFICIENT OF RAINFALL VARIATION POST MONSOON (OCTOBER-DECEMBER)

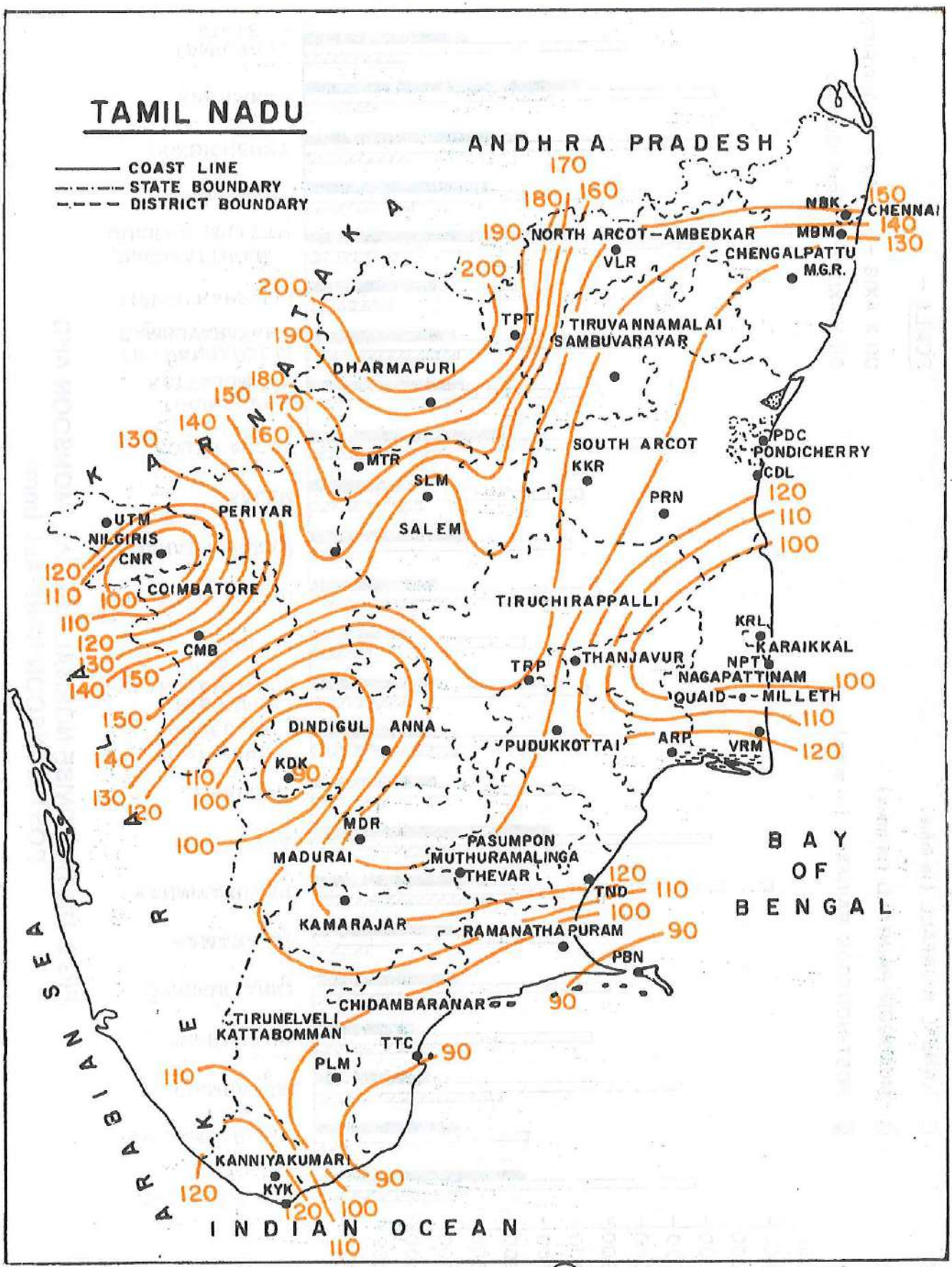


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FIG.7(d) COEFFICIENT OF RAINFALL VARIATION DRY SEASON (JANUARY-FEBRUARY)



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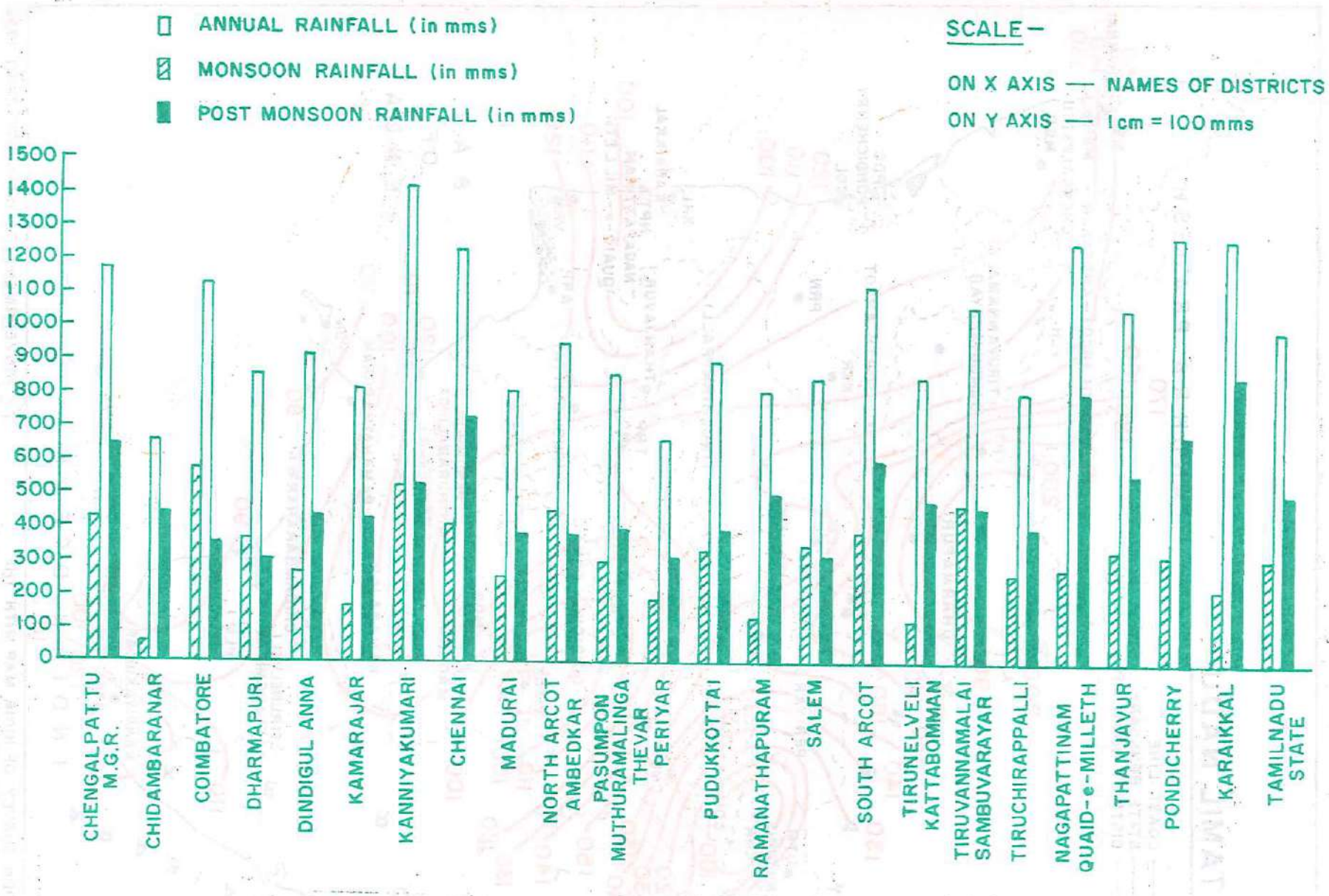
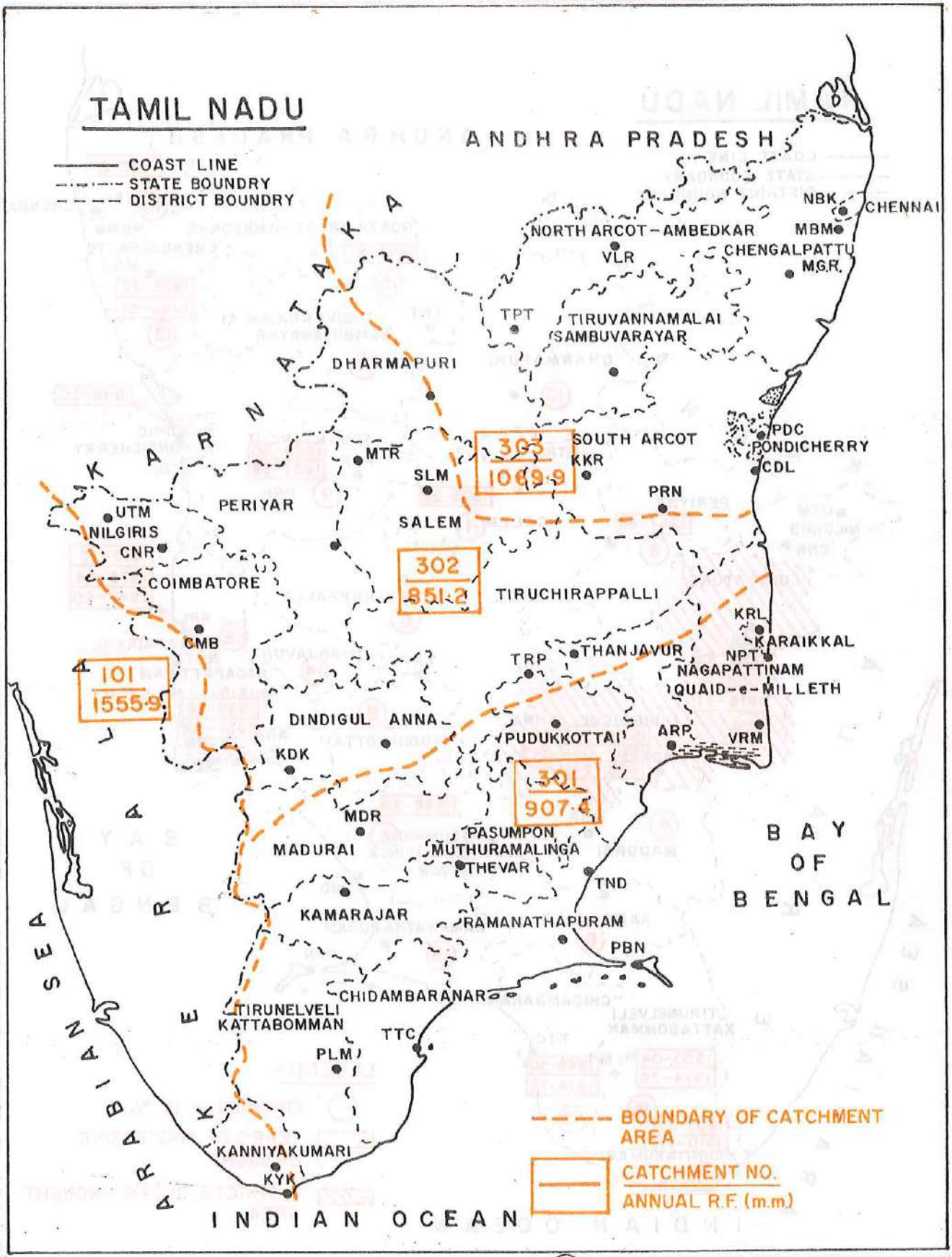


FIG.8 DISTRICTWISE NORMAL ANNUAL, MONSOON AND POST MONSOON RAINFALL (mm)

FIG.9 CATCHMENT AREAS (101, 301, 302, 303) WITH ANNUAL RAINFALL (mm)

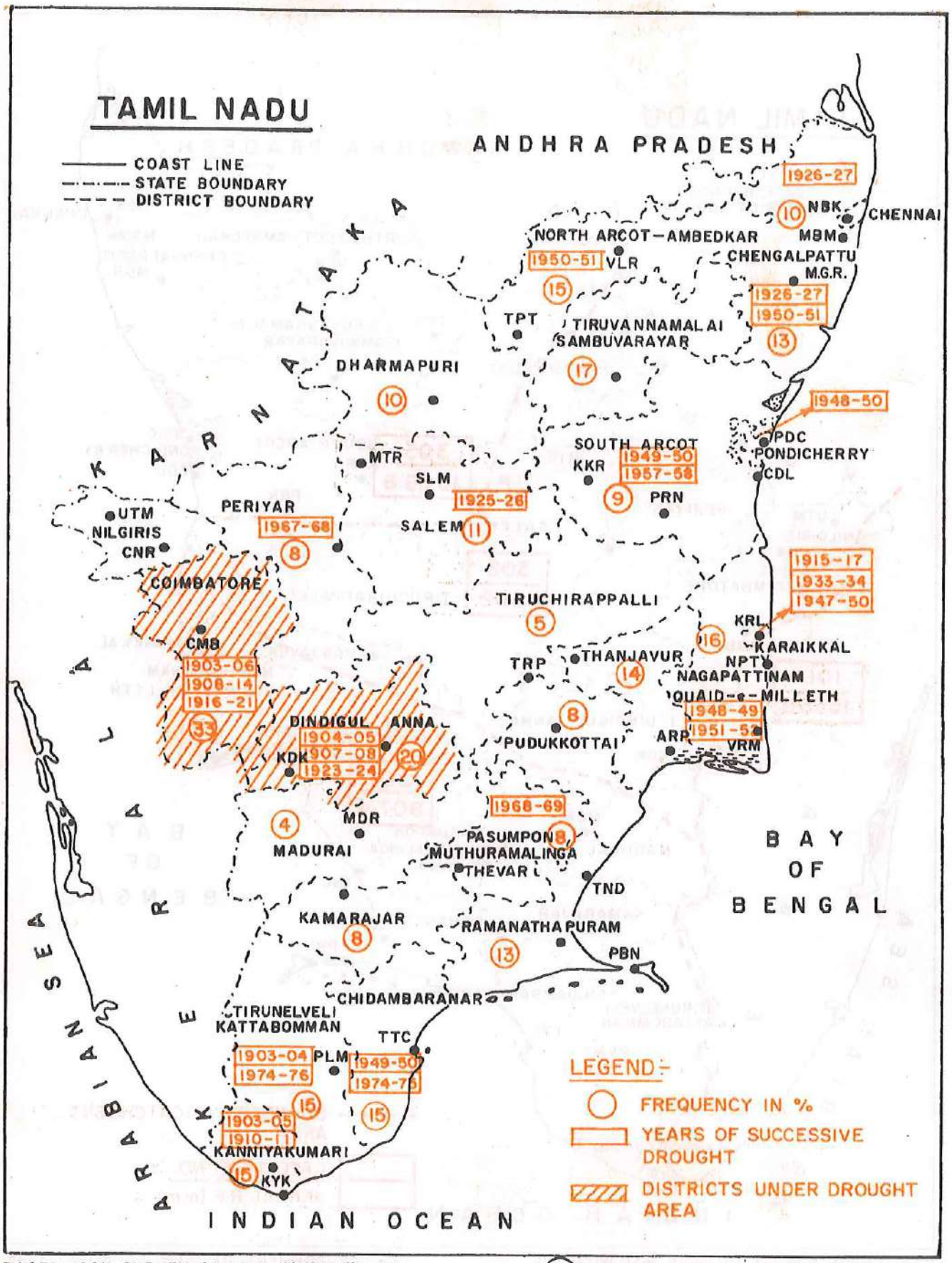


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THE TERRITORIAL WATERS OF INDIA EXTEND INTO THE SEA TO A DISTANCE OF TWELVE NAUTICAL MILES MEASURED FROM THE APPROPRIATE BASE LINE.

FIG.10 DROUGHT AFFECTED AREA



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THE TERRITORIAL WATERS OF INDIA EXTEND INTO THE SEA TO A DISTANCE OF TWELVE NAUTICAL MILES MEASURED FROM THE APPROPRIATE BASE LINE.

CLIMATE OF TAMIL NADU
(Including Pondicherry and Karaikkal)

General Description:

Tamil Nadu lies roughly to the south of latitude 13°30'N. It is one of the southern-most states of the country and is bounded by the Bay of Bengal on its east, Western Ghats on its west, Indian Ocean on its south, and Nellore and Chittoor districts of Andhra Pradesh, on north and Kolar, Bangalore and Mysore districts of Karnataka on its northwest. The physical features of the state are shown in Fig. 1. The inset (Fig.1(a)) indicates its position in the country.

The Western Ghats run along the whole length of the west coast at distances from the sea varying between 80 and 160 km. The height of the Ghats average 1200 m and rise to even more than 2500 m at some places. There is only one break, known as Palghat gap, 26 km wide in Kerala. Along the eastern coast runs the chain of the Eastern Ghats with average height of 600 m. Its distance from the coast increases as one goes southwards. They encompass a stretch of low country from about 160 to 240 km wide between their easternmost spurs and the east coast. On their way southwards, these two ranges meet and at the point of junction they rise into a striking upheaval known as the Nilgiri hills, on which stands the hill station of Ooty (Uthagamandalam) at 2100 m.a.s.l., whose loftiest peaks are Dodabetta (2600 m.a.s.l) and Makurti (2400 m.a.s.l.).

Immediately south of this plateau, the range which now runs between the districts Palghat (in Kerala) and Coimbatore is interrupted by the remarkable Palghat gap. South of this gap, the ghats rise abruptly and at this point they are known as Anaimalais and a continuation of the same hills in Dindigul Anna district is called Palanis. Thereafter, the ghats run down to Cape Comorin through the states of Kerala and Tamil Nadu. There are several isolated peaks of hills which are not directly connected with the ghats. Some of these are the Shervaroys in Salem, the Pachamalais and Kollimalais in the same district and Tiruchirappalli district and Javadi hills in the North Arcot-Ambedkar and South Arcot districts.

The flow of the river system in the state is mainly governed by the conformation of its hills. The trend of drainage is from west to east into the Bay of Bengal. The Cauvery, one of the great rivers in south India rises from the Brahmagiri hill in Coorg district of Karnataka and passes eastwards across the peninsula into the Bay of Bengal. The Ponnaiyar (also called the southern Pennar), a less important river of southern India, rises from Kolar district of Karnataka, runs through Bangalore, Dharmapuri and South Arcot districts and finally falls into the sea to the north of

Cuddalore. The Vaigai originates in two streams draining respectively the beautiful Kambam and Varushanad Valleys belonging to western ghats. These unite and run receiving much of the drainage from Palani hills, through Madurai district and finally reaches the Bay of Bengal 16 km east of Ramnad.

The proximity of sea influences the climate of the eastern and southern parts of the state whereas hilly orography and inland location play important roles in modifying the climate over the rest of the state. The state consists of 22 districts as on 1st January 1992 namely Chengalpattu M.G.R., Chennai, Chidambaranar, Coimbatore, Dharmapuri, Dindigul Anna, Kamarajar, Kanniyakumari, Madurai, Nagapattinam Quaid-e-Milleth, Nilgiris, North-Arcot Ambedkar, Pasumpon Muthuramalinga Thevar, Periyar, Pudukkottai, Ramanathapuram, Salem, South Arcot, Thanjavur, Tiruchirappalli, Tirunelveli Kattabomman, and Tiruvannamalai Sambuvarayar. While describing the climate of Tamil Nadu, the union territory of Pondicherry and Karaikkal has been taken as a part of this area. The whole of the state comes under one meteorological subdivision namely Tamil Nadu (including Pondicherry).

I. Climate:

Areas in the state under each climatic pattern based on Koppen's classification are shown in Fig.2. This broad classification is based on the variation of temperature and rainfall. The western portions of the state where the Nilgiris, Anaimalais and Palani hills are situated (that is Nilgiris district and the areas of Periyar, Coimbatore, Dindigul Anna and Madurai districts), Kamarajar and Tirunelveli Kattabomman districts bordering Kerala state, fall under the climate type: Marine, mild winter; moist all seasons; warm summer (Cfb) and the remaining areas of the state have only one climatic type: Tropical Savanna, Hot; seasonally dry (usually winter), (Aw).

The year may be divided into four seasons. The cooler period from January to February is followed by the pre-monsoon season (or hot weather period) from March to May. The period from June to September constitutes the southwest monsoon and the period October to December, forms the post-monsoon period (or retreating southwest monsoon). The period from October to December is locally known as northeast monsoon season for a long time as the period is the main rainbearing season in the southeast peninsula. However, in this report we shall refer the above period as post-monsoon season.

The period from January to February is comparatively pleasant due to lower temperatures. In the period October to December a series of cyclonic systems crossing the east coast influence the weather of the state. This is the main rainfall

season for the state and the air is very much humid all throughout the year under coastal maritime influence.

II. Sea-level Pressure and Winds:

The seasonal variation of atmospheric pressure over the state takes place in a systematic manner with maximum pressure in the northeast monsoon and minimum in the southwest monsoon season. The pressure gradient over the state generally remains weak except during the summer. During winter the highest pressure is to the north. In April, the pressure is minimum towards northwest and it increases southwards and eastwards. The mean wind speed and predominant wind direction are shown in Table - I. Winds are mainly from northeast in January, turn gradually clockwise and are replaced by southerly to southeasterly winds by April. With the advance of the summer, the pressure gradient increases particularly in the south and correspondingly the winds from south to southwest particularly over the southern parts, also strengthen reaching their maximum strength in June/July. In July, the pressure decreases mainly from south to north over the state and winds blow with a southerly component. With the progress of the southwest monsoon, winds become more and more westerly. October is the month of transition, with weakest pressure gradients. From October onwards, the change over of the pressure and wind to the winter pattern commences and winds blow generally from northeast and are light and variable over the state as a whole.

III. TEMPERATURE:

Table - II gives the mean daily maximum and mean daily minimum temperatures. Fig. 2(a,b,c,d) and 3(a,b,c,d) show the distribution of mean maximum and mean minimum temperatures respectively for selected months. Fig. 4 and Fig. 5 show the distribution of the extremes of temperatures ever recorded based on data upto 1993.

Day temperatures are more or less uniform over the plains except during the cool period and southwest monsoon when temperatures increase southwards and northwards respectively.

In general both day and night temperatures are lower over the plateau and at high level stations than over the plains.

May is the hottest month with the mean daily maximum temperature of 35.8°C in the plains, hilly regions in the west recording about 13°C lower.

The highest temperature ever recorded at an individual station in the plains is 46.3°C at Tiruppattur on 7th May 1976 which is 9.3°C higher than the normal for the warmest month. Uthagamandalam, a hill station registered the highest maximum temperature of 28.5°C on 29th April 1986 which was 5.8°C higher than the normal for the warmest month.

January is the coldest month when the mean daily minimum temperature for the state as a whole is 20.6°C varying from about 16.0°C in the north to about 24.0°C in the south.

The lowest temperature ever recorded at an individual station in the plains is 10.2°C at Tiruppattur on 15th December 1974 which is 5.9°C lower than the normal of the coldest month, while Uthagamandalam registered the lowest minimum temperature of -2.1°C on 7th January 1976 which is 7.3°C lower than the normal of the coldest month.

Both the maximum and minimum temperatures rise rapidly respectively, from December and January onwards till May. The increase in maximum temperature from December to May ranges from about 3°C to 10°C at individual stations as we proceed from south to north of the state. From the beginning of October to the end of December the maximum temperature falls by about 2°C to 4°C and also the minimum temperature falls by about 2°C to 4°C from October to January. Both the night and day temperatures start falling rapidly after October and attain lowest value by January and December respectively. In both the cases the fall increases from southern parts of the state to the northern parts. In February, a slight rise in the maximum temperature is experienced due to increased insolation.

November and December have the smallest diurnal range of temperature (about 7° - 8°C) in the state. The diurnal range increases rapidly after the weakening of the northeast monsoon in the month of January. During the period from January to May the diurnal range is of the order of 9° to 10°C, being greatest in March.

The mean hours of bright sunshine in different months for some of the observatory stations in the state are shown in Table IV (b).

IV. Humidity:

Table - III gives the mean relative humidity at 0830 and 1730 hours IST for individual stations and the state. The relative humidity is generally high in the morning during the period from October to March. It is about 80% in October to December. It is

generally low in the evening during the period from February to March and is about 56%. The diurnal variation in relative humidities is maximum during January to March and lie in the range of 17-19%. It is the least during the period May to October, being of the order of 7-8%. It is the least for the hilly areas in the western part of the state.

V. CLOUDINESS:

In all months of the year, sky is more or less clouded. The period January to March is least clouded. However, the forenoons are comparatively more clouded than the afternoons in this period. Cloudiness is minimum in March and goes on increasing from April to July. July is the month of maximum cloudiness. It decreases gradually thereafter till March. During the southwest monsoon season (June to September) skies are heavily clouded especially during July and August, when almost 6 oktas of the skies are covered with clouds. On an average, in July, the sky remains overcast for more than 10 days towards evening and 7 days towards morning and does not remain clear at all towards evening. In the rainshadows of the ghats where the southwest monsoon is not the main rainfall season, the depth of the moist air over Deccan plateau is about 6 km. This perhaps contributes to the heavy cloudiness of the state during the southwest monsoon.

Table IV and IV(a) give the mean monthly total cloud amount and mean number of days with clear and overcast skies at 0830 and 1730 hours IST respectively.

VI. RAINFALL:

Table V gives districtwise and statewise mean monthly and mean annual rainfall and number of rainy days (i.e. days with rainfall of 2.5 mm or more). Table - V(a) gives mean monthly and mean annual rainfall and number of rainy days for hill stations. Fig. 6 and 6(a) to 6(d) show the annual and seasonal distribution of rainfall.

The total annual rainfall is maximum over the southernmost part of the state (as for example Kanniyakumari district) where the hills of the Western Ghats do not extend and southwest monsoon contributes 37% of the total annual. In the whole state, southwest monsoon is most effective in this part (Rainfall varies from 142.3 cm over this part to 66.2 cm over Chidambaranar district). The southwest monsoon ceases to be the principal rainy season in the state since it is located on the lee ward side (Rainshadow) of the western ghats for the southwesterly monsoon current. In this period the state receives only 32% of its annual rainfall. Post monsoon (October-December) is the principal rainy season. The state receives almost 51% of the total annual rainfall during this period. The state receives considerable amount of rainfall

under the influence of Bay cyclonic storms and depressions in the post monsoon season and also the northeast air current which becomes rich in moisture content after a long travel over the Bay of Bengal.

Southwest monsoon current sets in over the entire state by the first day of June and withdraws from the state by 15th October. October and November are the rainiest months, each accounting individually to about 20% of the annual rainfall. In each of these months there are 8-9 rainy days. During the post monson season, rainfall occurs mainly in association with cyclonic storms and depressions as mentioned earlier. The most common systems that are causing rainfall over the state are low pressure areas, well marked seasonal low over Bay of Bengal or an east-west oriented trough line across the south peninsula, in the surface and lower troposphere. Though the frequency of storms and depressions affecting the weather over the state is less than those of low pressure areas, these storms and depressions cause heavy to very heavy rainfall and contribute substantially to the season's total rainfall. The monthly and annual rainfall for various river catchments in the state is given in Table VI and different catchments (nos 101, 301, 302 and 303) together with their annual rainfall are shown in Fig. 9. It is seen from Fig. 9 that the catchment No. 101 (streams from Cape Comorin to the Tadri, excluding the Tadri) which lies along the western border of the state and close to the western ghats receives the maximum amount of both annual and southwest monsoon rainfall. This is the only catchment in state whose rivers are flowing into the Arabian Sea.

VII. Rainfall Variability:

Coefficient of variation (cv) which is expressed as percentage is defined as:

$$\frac{\text{Standard deviation } (\sigma) \times 100}{\text{Normal (N)}}$$

Coefficient of variation of annual rainfall is less than 25 over the central part except over the coastal area north of Lat.10°N and extreme southern part where the coefficient may even exceed 30. In the months of January and February the coefficient of variation is extremely high over the state. In the summer months March, April and May, it is less than 50 over the central and western parts, whereas it gradually increases from 50 to 140 over coastal belt north of 10°N. In the southwest monsoon season the value increases from less than 40 over the central and northern region to 80 over the south eastern region. In the post-monsoon season, northwestern parts of the state have a coefficient of variation of more than 50 whereas the central parts have a coefficient of variation of about less than 40.

The above discussion gives a picture of rainfall variability in different seasons as well as in the year as a whole. Almost 83% of the total annual rainfall of the state is distributed in the southwest monsoon and post-monsoon season i.e. from June to December. Consequently the annual rainfall variability of the state does not resemble any of the four seasonal patterns in contrast to the fact that the annual pattern for the other states closely resemble the southwest monsoon pattern. Figures 7, 7(a), 7(b), 7(c) and 7(d) indicate the rainfall variability for the whole year, summer (hot weather period) southwest monsoon, post monson and dry (or cool period) seasons respectively.

Fig. 8 shows the annual, southwest monsoon and post-monsoon rainfall for the districts as well as for the state and provide a measure for comparision of southwest monsoon and post monsoon rainfall with the annual rainfall both district and statewise.

VIII. Droughts and Excessive Rainfall:

(a) Droughts:

Meteorologically drought over an area or a place may be defined as a situation when the annual rainfall over the area or place is less than 75% of the normal. It is classificed as 'moderate drought' if rainfall deficit is between 25 and 50% and severe drought when it is more than 50%.

Areas where frequency of drought as defined above is 20% of the years examined are classified as 'Drought Areas' and areas having drought condition for more than 40% of the years under consideration represent 'chronically drought affected areas'.

During the 80 year period from 1901 to 1980, drought conditions as prevailed over the state are described below. Probabilities of occurrence of low rainfall are also mentioned.

All the districts in plains viz. Chengalpattu M.G.R. (10), Coimbatore (26), Chidambaranar (12), Kamarajar (6), North Arcot-Ambedkar (12), Pasumpon Muthuramalinga Thevar (6), Periyar (6), Tiruvannamalai Sambuvarayar (6), Nagapattinam Quaid-e-Milleth (13), Dindigul Anna (16), Dharmapuri (8), Kanniyakumari (12), Chennai (5), Karaikkal (14), Marudai (3), Pondicherry (11), Pudukkottai (6), Ramanathapuram (10), Salem (9), South Arcot (7), Thanjavur (11), Tiruchirappalli (4), Tirunelveli Kattabomman (12), were affected by drought. The figures within the brackets against each district indicate the number of occasions during the 80 year period when these were

affected by drought. Dindigul Anna and Coimbatore districts experienced drought conditions for more than 20% of the years under consideration and may therefore be classified as 'drought prone areas' while not a single district satisfies the criterion for being classed as a 'chronically drought affected area'.

Occasions of occurrence of drought conditions in successive years were not frequent in the state. But individual districts have had successive years of drought. Severity of drought not only depends upon the order of rainfall deficiency in a single year, but also upon continued occurrence of deficient rain in successive years, even though the deficiency in each such successive year may not be as high as in a single year. The following table gives districtwise years of successive drought (i.e. rainfall less than 75% of annual normal in each year) during the 80 year period (1901-80).

Table (i)

Years of Successive Drought	Names of districts affected
1903 - 1904	Tirunelveli Kattabomman
1903 - 1905	Kanniyakumari
1903 - 1906	Coimbatore
1904 - 1905	Dindigul Anna
1907 - 1908	Dindigul Anna
1908 - 1914	Coimbatore
1910 - 1911	Kanniyakumari
1915 - 1917	Karaikkal
1916 - 1921	Coimbatore
1923 - 1924	Dindigul Anna
1925 - 1926	Salem
1926 - 1927	Chengalpattu M.G.R., Chennai
1933 - 1934	Karaikkal
1947 - 1950	Karaikkal
1948 - 1949	Nagapattinam Quaid-e-Milleth
1948 - 1950	Pondicherry
1949 - 1950	Chidambaranar, South Arcot
1950 - 1951	Chengalpattu M.G.R., North Arcot-Ambedkar
1951 - 1952	Nagapattinam Quaid-e-Milleth
1957 - 1958	South Arcot
1967 - 1968	Periyar
1968 - 1969	Pasumpon Muthuramalinga Thevar
1974 - 1975	Chidambaranar
1974 - 1976	Tirunelveli Kattabomman

Fig. 10 shows the percentage frequency of drought, years of successive drought in districts situated in plains and also the districts under drought area during the period 1901-1980. It is worth mentioning that only Coimbatore and Dindigul Anna districts fall under drought area and the major portion of the state is practically free from severity of drought.

Further, rainfall of less than 50% of the annual normal representing severe drought conditions occurred in various districts as indicated in the following table, where the actual rainfall expressed as percentage of the normal rainfall is given in brackets against each district.

Table (ii)

Years of Severe Drought	Affected Districts
1904	Coimbatore (40%), Chennai (45%)
1911	Coimbatore (48%)
1913	Coimbatore (40%)
1914	Coimbatore (45%)
1923	Coimbatore (38%)
1934	Karaikkal (43%)
1948	Karaikkal(46%)
1949	Karaikkal(38%)
1952	Pondicherry(49%)
1974	Ramanathapuram (49%), Chidambaranar (45%), Pudukkottai (37%)
1980	Thanjavur (46%), Dharmapuri (49%)

It can be seen that the lowest district rainfall, expressed as percentage of the annual normal was 37 in Pudukkottai district in 1974.

Incidence of widespread drought over the state in any particular year was uncommon. In the years 1904, 1950, 1952 and 1974 fairly widespread drought affected the state. In the years 1904 and 1974, 14 and 16 districts were under the grip of moderate drought, respectively.

There was no drought anywhere in the state in 25 years namely, 1902, 1922, 1928-32, 1935, 1937, 1939-41, 1943-44, 1946, 1953-55, 1961, 1963, 1966, 1972 and 1977-79. In the 16 years namely, 1906, 1907, 1914-15, 1919-20, 1933, 1936, 1947, 1957, 1960, 1962, 1965, 1969-1970, and 1973, only one district experienced the drought condition. Coimbatore district experienced maximum number of drought situation (26 years) followed by Dindigul Anna (16 years), Karaikkal (14 years) and Nagapattinam Quaid-e-Milleth (13 years). It is also noticed that during the 80 year period, 8 districts in the plains namely, Dharmapuri, Madurai, Thanjavur, Tiruvannamalai Sambuvarayar, Kamarajar, Pudukkottai, Ramanathapuram and Tiruchirappalli did not experience drought in any two consecutive years. Thus, it may be concluded that the state as a whole is not drought prone.

(b) Excessive Rainfall:

Rainfall, sufficiently in excess of the normal is a predominant factor for occurrence of floods, particularly in high rainfall regions.

Even with coefficient of variation of rainfall of 20% or less, such regions are prone to frequent floods. For the purpose of the present description, annual rainfall of 125% or more of the normal is considered as excessive rain.

The following Table (iii) gives the districtwise excessive rainfall years, highest annual rainfall (expressed as percentage of normal) with the year of occurrence.

Table (iii)

Districts	Years of Excessive Rainfall	Highest amount of rainfall(expressed as % of normal) with year.
Chengalpattu M.G.R.	1903, 1920, 1922, 1925, 1930, 1943, 1944, 1946, 1960,1966,1975,1976, 1977.	186.6 cm in 1946 (160%)
Coimbatore	1930, 1933, 1941, 1946, 1948, 1961, 1979.	170.0 cm in 1979 (150%)
Periyar	1902, 1903, 1915, 1917, 1921, 1922, 1930, 1932, 1933, 1939, 1940, 1944, 1946, 1972, 1977, 1979.	113.8 cm in 1930 (171%)

Table (iii) Contd.

Districts	Years of Excessive Rainfall	Highest amount of rainfall(expressed as % of normal) with year.
Dharmapuri	1903, 1910, 1915, 1916 1932, 1943, 1946, 1953, 1966, 1977.	138.7 cm in 1903 (163%)
Dindigul Anna	1920, 1940, 1944, 1972 1977.	149.5 cm in 1972 (164%)
Madurai	1909, 1910, 1915, 1917, 1921, 1922, 1930, 1933, 1940, 1944, 1946, 1947, 1953, 1966, 1971, 1977, 1979.	125.5 cm in 1944 (154%)
Chennai	1913, 1920, 1960, 1975 1976,1977.	172.3 cm in 1976 (140%)
Kanniyakumari	1919, 1920, 1923, 1924, 1932, 1933, 1950, 1961.	224.5 cm in 1933 (158%)
Nagapattinam Quaid-e-Milleth	1902, 1903, 1906, 1913, 1919, 1920, 1923, 1928, 1930, 1931, 1932, 1943, 1944, 1946, 1963, 1970, 1977.	197.2 cm in 1920 (157%)
Thanjavur	1920, 1930, 1932, 1939, 1944, 1963, 1966, 1971, 1977.	177.6 cm in 1920 (169%)
North Arcot-Ambedkar	1903, 1930, 1943, 1944, 1946, 1966, 1977.	170.6 cm in 1903 (180%)
Tiruvannamalai Sambuvarayar	1903, 1930, 1946, 1965, 1966,1977.	176.5 cm in 1903 (166%)
Nilgiris	Hilly district.	
Ramanathapuram	1902, 1914, 1920, 1923, 1931, 1932, 1940, 1946, 1955, 1963, 1966, 1967, 1977.	126.9 cm in 1955 (156%)
Kamarajar	1901, 1902, 1922, 1930, 1940, 1944, 1971, 1977, 1979.	130.1 cm in 1940 (160%)

Table (iii) Contd.

Districts	Years of Excessive Rainfall	Highest amount of rainfall(expressed as % of normal) with year.
Pasumpon Muthurama-linga Thevar	1903, 1920, 1940, 1942, 1944, 1946, 1955, 1960, 1971, 1977.	160.9 cm in 1946 (187%)
Tirunelveli Kattabomman	1902, 1914, 1920, 1922, 1923, 1924, 1925, 1927, 1929, 1936, 1940, 1944, 1963, 1972, 1977, 1979.	148.8 cm in 1914 (174%)
Chidambaranar	1902, 1914, 1920, 1922, 1925, 1929, 1940, 1944, 1946, 1961, 1963, 1965, 1972, 1973, 1977, 1979.	118.8 cm in 1902 (180%)
Pudukkottai	1920, 1930, 1939, 1954, 1971.	139.5 cm in 1920 (156%)
Tiruchirappalli	1903, 1920, 1930, 1932, 1937, 1939, 1944, 1966, 1971, 1977.	129.2 cm in 1939 (159%)
Salem	1903, 1919, 1920, 1930, 1939, 1944, 1946, 1966, 1972, 1977.	121.7 cm in 1920 (143%)
South Arcot	1902, 1906, 1913, 1914, 1920, 1925, 1928, 1930, 1931, 1937, 1943, 1944, 1946, 1963, 1966, 1977.	193.8 cm in 1946 (173%)
Pondicherry	1913, 1914, 1916, 1918, 1919, 1939, 1940, 1943, 1946, 1951, 1956.	259.7 cm in 1943 (204%)
Karaikkal	1913, 1920, 1925, 1926, 1927, 1928, 1929, 1930, 1940, 1943, 1957.	248.9 cm in 1930 (198%)

From the above table, it may be seen that during the period under consideration, there were 59 years in which some districts or the other in the state recorded excessive rainfall, the maximum amount being 204% of the normal annual rainfall in the year 1943 for the district Pondicherry. Madurai and Nagapattinam Quaid-e-Milleth have got maximum number (i.e. 17) years of such rainfall and Dindigul Anna and Pudukkottai

have got minimum number (i.e. 5) years of such rainfall. In the year 1977, a large number of districts (i.e. 18) of the state experienced excessive rainfall. The state as a whole registered highest amount of rainfall in the year 1930. Successive years of excessive rainfall are shown against each district.

Successive Years of Excessive Rainfall (Districtwise)

Successive years of Excessive Rainfall	Districts
1943-1944, 1975-1977	Chengalpattu M.G.R.
1902-1903, 1921-1922, 1932-1933, 1939-1940	Periyar
1915-1916	Dharmapuri
1909-1910, 1921-1922, 1946-1947	Madurai
1975-1977	Chennai
1919-1920, 1923-1924, 1932-1933	Kanniyakumari
1902-1903, 1919-1920, 1930-1932, 1943-1944	Nagapattinam Quaid-e-Milleth
1943-1944,	North Arcot Ambedkar
1931-1932, 1966-1967	Ramanathapuram
1901-1902	Kamarajar
1922-1925	Tirunelveli Kattabomman
1972-1973	Chidambaranar
1919-1920	Salem
1913-1914, 1930-1931, 1943-1944	South Arcot
1913-1914, 1918-1919, 1939-1940	Pondicherry
1925-1930	Karaikkal

IX. Cyclonic Storms and Depressions:

The cyclonic storms and depressions which mostly affect India, originate and/or intensify over the Bay of Bengal mainly during May and October to December. They usually travel west-northwest and cross the east coast. In general, storms and depressions weaken on entering land. Thus Tamil Nadu situated along the eastern coast experiences the full fury of the severe storms/depressions. During their courses of movement the cyclonic storms sometimes turn or recurve towards north or northeast. This point of turning progressively shifts westwards till September. For example, the disturbances in May recurve while still out in the Bay of Bengal.

Tropical storms do not normally occur in the Arabian Sea in the period December to March. Bay storms of this period originate between latitudes 5°N and 10°N, generally move in a westerly or northwesterly direction and strike the Tamil Nadu coast or the east coast of Sri Lanka. A few of these enter the Arabian Sea area in course of their movement.

Most of the Bay-storms of the summer months April and May originate between 8°N and 15°N move initially in a northwesterly or northerly direction and then recurve towards the northeast. Though the whole of the east coast of India, the coastal areas of Bangladesh and the Arakan coast of Burma are liable to incidence of storms of this season, Tamil Nadu gets little rain due to storms and depressions of this season. There is an appreciable increase in the frequency of storms from April to May.

During the southwest monsoon months, Tamil Nadu coast is practically free from the influence of storms and depressions.

During the months October and November Bay-storms originate between 8°N and 14°N. Those which move in a west northwesterly direction strike the North Tamil Nadu and adjoining South Andhra coast and emerge into the Arabian Sea where they reintensify. Storms which cross 15°N recurve towards the northeast and strike the north Maharashtra and South Gujarat coast. Highest number of storms and depressions cross Tamil Nadu coast in the month of November. Storms and depressions of the post monsoon season (October to December) contribute substantially to the seasonal rainfall over Tamil Nadu. The Table VII gives the total number of storms/depressions which affected the state during the 100 years period 1891 to 1990.

X. Other Weather Phenomena:

(a) Thunderstorms and Duststorms:

Convective activity is essential for the occurrence of thunderstorms and duststorms. With the advance of summer, thundery activity becomes pronounced in April/May due to ground heating mainly over inland stations. Also as the southwest monsoon season comes to its closure, the coastal stations show up the predominance of these activities in the months of September and October due to increased incursion of moisture brought in by the approaching northeast monsoon current. Duststorms, very rarely occur in the months of May and June. However, thunderstorms may occur in any month. Premonsoon and post monsoon thunderstorms are sometimes accompanied by hail and squalls. Thundery activity is minimum in the southwest monsoon months.

Thunderstorms are very common in the state during the period October to December and a fairly good amount of rainfall is associated with these thunderstorms. The activity is more marked in the earlier part of the season than the later half. These are found to occur mostly in the early morning and forenoon hours and may last for a long time as much as six hours or more.

During 'Weak' or 'Break monsoon' situations, the pressure pattern and the wind field become weak over the Peninsula and a north- south trough develops there. The weather associated with the north-south trough over the Interior Peninsula is usually scattered light to moderate thundershowers.

(b) Fog:

Hill fog is frequent over the hilly regions during October to January, when air is almost saturated and is easily cooled below the dew-point.

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TABLE - I

Mean Wind Speed (kmph) and Predominant Wind Direction

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Adirama-pattinam	a	8.4	8.5	9.3	12.2	14.0	13.1	11.3	10.6	10.2	7.4	7.0	8.4	10.0
	m	N	N	N	S/Var	S	SW	NW/SW	NW	NW	NW	N	N	NW
	e	NE	NE	SE	S	S	S	S	S	S	S	NE	NE	S
Coimbatore	a	6.4	7.1	6.9	7.2	10.7	15.6	15.6	15.6	13.0	8.3	6.0	6.1	9.9
	m	NE	NE	NE	SW/Var	SW	SW	SW	SW	SW	SW	NE	NE	SW
	e	E	E	E	SW/Var	SW	SW	SW	SW	SW	SW	NE/E	E/NE	SW
Cuddalore	a	9.3	7.9	8.8	11.2	11.8	10.9	9.8	9.0	8.7	6.9	8.8	10.8	9.5
	m	NE	C/NW	C/Var	S/C	SW	SW	SW	SW	SW	C/SW	NE/N	NE/N	SW
	e	NE	NE	SE	SE	SE	SE	SE	SE	SE	SE	NE	NE	SE
Kallakku-richchi	a	7.2	5.8	5.4	6.3	7.0	9.0	9.2	7.5	5.6	4.9	6.6	7.9	6.9
	m	N/NW	C/NW	C/SE/NW	C/SE	C/SW	SW	SW	SW	C/SW	C/N/NW	N	N	C/SW
	e	NE	NE/E	E	SE/E	SE/SW	SW	SW	SW	SW/C	C/NE	NE	NE	NE
Kanniya-kumari	a	19.5	17.1	12.9	12.0	18.3	17.9	18.4	18.9	17.5	13.2	13.7	18.8	16.5
	m	NE	NE/N	NE/N	W	W	W	W	W	W	W	NE	NE	W
	e	NE	E/NE	E	W/SW	W	W	W	W	W	W	NE	NE	W

Contd.....

T A B L E - I

Mean Wind Speed (kmph) and Predominant Wind Direction

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Karaikkal	a	8.2	7.9	7.9	10.6	17.1	18.2	16.1	15.5	12.2	8.5	8.6	9.8	11.7
	m						- Data not available -							
	e						- Data not available -							
Madurai	a	6.8	6.2	5.5	5.1	5.9	7.7	7.4	6.2	6.0	4.5	5.5	6.5	6.1
	m	N	NE/N	NE/C	C/NE	NW	NW	NW	NW	NW	NW	N	N	NW
	e						- Data not available -							
Madurai(A)	a	9.7	9.2	8.2	8.2	9.7	13.6	14.3	12.4	9.9	7.1	7.8	9.7	10.0
	m	N	N	NE/N	NE/Var	NW/N	W/NW	W/NW	NW	NW	N	N/NE	N	N
	e	NE	E/NE	E	E/SE	S/Var	W	W	W	W	NE/Var	NE	NE	NE/Var
Meenam-bakkam	a	8.3	8.3	9.7	11.7	13.4	14.6	12.8	11.9	10.3	7.7	8.9	9.0	10.6
	m	N	W	W	S	S	W	SW/W	W/SW	W/SW	W	N	N	W
	e	NE	E	SE	SE	SE	SE	SE	SE	SE	E	NE/N	NE/N	SE
Mettur Dam	a	5.2	6.0	7.3	9.4	7.1	6.9	6.8	6.3	5.7	4.5	5.1	5.3	6.3
	m	NE	NE	SW	SW	NE	SW	SW	SW	SW	NE/NW	NE/NW	NW/NE	SW
	e	NE	SW/NE/SE	SW	SW	SW	SW	SW	SW	SW	SW	NE	NE	SW
Nagapatti-nam	a	18.3	15.9	14.2	13.8	12.7	12.8	11.7	10.6	9.9	8.9	13.8	18.5	13.4
	m	NW/NE	NE/NW	NE/Var	SE	SW	W/SW	W	W	W	W	NW	NW	W
	e	NE	NE	E/SE	SE	SE/S/SW	S/SW	SW	SW/SE/S	SE	NE/Var	NE	NE	NE

Contd.....

T A B L E - I (Contd)

Mean Wind Speed (kmph) and Predominant Wind Direction

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Nungam-bakkam	a	5.6	5.4	6.6	8.2	10.1	10.3	8.7	8.0	7.2	4.9	6.3	7.0	7.4
	m	C/N	C/Var	SW	SW/S	SW	W	W/SW	W	W/SW	C/W	N	N	W/SW
	e	NE	E	SE	SE	SE	SE	SE	SE	SE	NE	NE	NE	SE
Pondicherry	a	15.8	15.0	14.2	16.6	15.7	13.0	11.2	12.0	12.5	11.4	14.2	16.4	14.0
	m	NW	NW	NW	SW	SW	SW	SW	SW	SW	NW	NW	NW	NW
	e	NE	SE/NE	SE	SE	SE	SE	SE	SE	SE	SE	NE	NE	SE
Parangi-pettai	a	6.8	6.6	7.9	10.4	11.0	11.4	11.0	10.1	8.6	6.1	5.7	7.9	8.6
	m	N	N	S	S	SW	SW	SW	SW	SW	SW	NW	NW	SW
	e	- Data not available -												
Palayam-kottai	a	8.0	7.4	6.5	6.3	8.6	13.8	16.2	15.8	11.5	7.8	6.0	7.8	9.6
	m	N	N	N	N	W	W	W	W	W	N/W	N	N	N
	e	E/NE	E	E	SE	W	W	W	W	W	W	N/E/Var	NE	W/E
Peelamedu	a	10.4	11.4	12.1	13.6	20.4	26.6	28.3	27.9	23.4	14.2	9.5	10.0	17.5
	m	NE	NE	NE	C/Var	SW	SW	SW	SW	SW	C/SW	NE	NE	SW/Var
	e	E	E	E	E	SW	SW	SW	SW	SW	SW	E/NE	E/NE	SW
Pamban	a	17.9	13.8	10.3	9.3	15.5	18.7	16.0	14.8	14.3	11.1	13.0	18.1	14.4
	m	N	NE	NE/E	S	SW/S	SW	SW	SW	SW/S	S/SW	N	N	SW/Var
	e	NE	NE	NE	S	S	S/SW	S	S	S	S	NE/N	NE/N	S

Contd.....

T A B L E - I (Contd)

Mean Wind Speed (kmph) and Predominant Wind Direction

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Salem	a	10.7	11.1	10.5	8.6	6.9	7.7	7.1	6.4	5.5	5.1	6.9	8.9	8.0
	m	C/E/NE	C/E/NE	C/E	C/E	C/SW	SW/C	SW/C	SW/C	C/SW	C/SW	C/NE/E	C/NE/E	C/SW
	e	E	E	E	E	C/SW	SW/W	SW	C/SW/W	C/W	C/E	E/C	E	E/C
Tiruppattur	a	3.9	4.2	4.2	4.3	5.0	6.4	7.5	6.8	5.1	3.6	3.2	3.6	4.8
	m	C/N	N	N	N	N	N	C/N/S	C/S	C/S	C/N/S	C/N/S	C/N	C/N
	e	N	N	N/S	N	N	N/S	N	W	S	N	N/S	N	N/S
Tuticorin	a	20.6	19.3	15.8	12.4	13.0	17.0	18.1	17.3	15.0	11.4	13.6	18.1	16.0
	m	N	N	N	N/Var	W	W	W	W	W	W/Var	N	N	W/N
	e	E	E	E	S/SE	S	W	W	W	W	S	NE/E	NE	W
Tondi	a	14.2	15.3	15.2	14.9	16.0	15.1	13.6	13.5	13.7	11.0	10.8	12.3	13.8
	m	N	N	N	S/Var	S/SW	SW/S	SW/C	C/SW	SW/C/Var	N	N	N	N
	e	NE	NE/E	E	SE	S	S	S	S/SE	S/SE	S/SE	NE	NE	S
Tiruchirap-	a	9.8	9.2	9.1	10.2	14.7	20.9	21.8	20.2	15.0	9.2	8.7	10.3	13.3
palli	m	NE/N	NE	NE/C	C/Var	W	W	W	W	W	W	NE/N	NE/N	W
	e	NE/E	E	E	SE/E	W	W	W	W	W/Var	NE/Var	NE	NE	E
Vellore	a	7.0	7.2	7.9	9.0	8.4	10.5	10.5	9.0	7.1	5.5	6.1	6.8	7.9
	m	C	C	C/Var	C/S	W	W	W	W	W	C/W/Var	C/Var	C	C/W
	e	NE	E	SE	SE	C/SE/Var	W	W	W	C/W/Var	C/NE/Var	NE	NE	NE/Var

Contd.....

T A B L E - I (Contd)

Mean Wind Speed (kmph) and Predominant Wind Direction

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Vedaranniyam	a	8.9	7.0	5.2	5.9	7.6	9.0	7.6	6.8	6.5	3.9	6.2	9.4	7.0
	m	NE	NE	NE/SE	SE/SW	SW	SW	SW	SW	SW	SW	NE	NE	SW/NE
	e	NE	NE	NE/SE	SE/SW	SW	SW	SW	SW	SW	SW	NE	NE	SW/NE
Sub-Div. Means	a	10.3	9.7	9.2	9.9	11.7	13.4	13.0	12.2	10.6	7.8	8.4	10.3	10.5
HILL STATIONS														
Coonoor	a	5.9	5.8	7.0	6.4	6.8	8.5	9.4	7.9	6.6	5.4	4.8	5.5	6.7
	m						- Data not available -							
	e						- Data not available -							
Kodaikanal	a	12.9	12.8	13.5	12.1	11.7	14.0	16.0	13.7	11.2	10.7	12.3	13.4	12.9
	m	SE	NE	NE	NE	NW	NW	NW	NW	NW	C/NW	SE/Var	SE	NW
	e	C/SE	C/SE	SE	SE	C/NW	NW	NW	NW	NW/C	C/NW	C/NW	C/NW	NW
Uthagaman-dalam	a	2.9	3.1	4.0	3.7	3.5	8.5	9.3	7.8	4.8	3.1	3.0	3.4	4.8
	m	C	C/NE	C/NE	C/NE	C/NE	SW	W/SW	W	C/W	C/NE	C/NE	C/NE	C/W/NE
	e	C/NE	C/E	C/E	C/E	C/NE	W	W	W	C/W	C/NE	C/NE	C/NE	C/W

a: Mean wind speed in kms per hour.
m: Predominant wind direction in the morning.
e: Predominant wind direction in the evening.
Var: Variable.
C: Calm.
Hill stations not considered for sub-divisional means.

TABLE - II

MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE (°C)

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Adirama-pattinam	Max.	29.7	31.3	32.5	33.6	34.2	34.3	33.8	33.5	33.1	31.7	29.9	29.0	32.2
	Min.	20.6	21.4	23.5	26.4	26.8	26.4	25.8	25.4	25.3	24.3	23.3	22.0	24.3
Cuddalore	Max.	28.1	29.3	31.2	33.2	36.1	36.8	35.3	34.5	33.7	31.5	29.2	28.0	32.2
	Min.	20.5	20.8	22.6	25.6	26.9	26.6	25.6	25.0	24.8	24.1	22.6	21.3	23.9
Coimbatore	Max.	30.0	32.3	34.9	35.4	33.4	30.9	29.6	30.3	31.2	30.8	29.7	28.9	31.5
	Min.	19.0	20.1	22.0	23.6	23.4	22.4	21.8	22.0	22.0	22.0	21.0	19.7	21.6
Kallakku-richchi	Max.	29.7	32.6	35.6	37.5	38.4	37.0	35.4	34.8	34.4	32.2	29.8	28.6	33.8
	Min.	20.1	20.4	22.3	25.4	26.4	26.2	25.1	24.7	24.5	23.7	22.3	20.9	23.5
Kanniya-kumari	Max.	30.6	31.5	32.0	32.6	32.4	30.7	30.1	30.4	30.6	30.4	30.2	30.0	31.0
	Min.	23.1	23.6	24.8	25.9	25.9	24.4	23.8	23.8	24.1	24.0	23.8	23.5	24.2
Karaikkal	Max.	26.0	29.1	30.6	32.5	35.6	36.5	35.3	34.3	33.0	30.8	28.7	27.7	31.8
	Min.	21.6	22.8	24.1	26.3	27.1	26.8	26.2	25.4	25.1	24.4	23.6	22.6	24.7
Madurai	Max.	30.8	32.6	35.3	36.6	37.8	37.2	36.0	35.7	35.4	33.0	30.9	30.2	34.3
	Min.	20.8	21.3	23.3	25.0	25.8	25.7	25.2	24.9	24.3	23.5	22.6	21.6	23.7
Madurai(A)	Max.	30.4	32.6	35.2	36.6	37.3	36.4	35.4	35.3	34.6	32.4	30.2	29.4	33.8
	Min.	19.9	20.7	22.5	24.9	25.9	25.8	25.5	25.1	24.3	23.4	22.4	21.0	23.5
Meenam-bakkam	Max.	28.6	30.6	33.1	35.2	37.6	37.0	35.0	34.2	33.8	31.7	29.3	28.1	32.9
	Min.	20.4	21.3	23.3	26.1	27.7	27.2	26.0	25.4	25.3	24.3	22.6	21.2	24.2
Mettur Dam	Max.	31.1	33.8	36.2	37.4	37.1	35.3	33.9	34.0	34.0	32.4	31.2	30.2	33.9
	Min.	19.6	21.0	23.7	26.0	25.5	24.9	24.3	24.0	23.8	23.2	22.1	20.3	23.2

Contd.....

T A B L E - II (Contd)

MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE (°C)

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Nagapattinam	Max.	27.8	28.8	30.6	32.6	35.9	36.6	35.3	34.5	33.6	31.4	29.1	28.0	32.0
	Min.	22.7	23.5	25.1	27.0	27.4	27.0	26.3	25.8	25.6	25.0	24.0	22.9	25.2
Nungam-bakkam	Max.	28.4	29.9	31.9	33.6	36.4	36.6	34.7	33.9	33.5	31.4	29.2	28.1	32.3
	Min.	20.6	21.2	23.1	25.9	27.6	27.2	25.9	25.3	25.3	24.3	22.8	21.6	24.2
Palayam-kottai	Max.	31.0	33.1	35.3	36.2	37.1	35.9	34.9	35.2	35.8	34.0	31.3	30.3	34.2
	Min.	22.0	22.7	24.3	25.8	26.8	26.5	26.1	26.2	25.8	24.8	23.6	22.6	24.8
Pamban	Max.	28.3	29.6	31.4	32.7	32.8	32.0	31.7	31.6	31.6	30.9	29.4	28.2	30.9
	Min.	23.7	24.0	24.9	26.8	27.5	27.1	26.4	26.1	26.0	25.3	24.5	23.9	25.5
Parangipettai	Max.	28.1	29.3	31.2	33.2	36.3	36.9	35.6	35.0	33.1	31.2	29.1	27.7	32.2
	Min.	20.1	20.7	22.4	24.3	25.2	25.2	24.8	24.3	24.1	23.3	22.2	21.1	23.1
Peelamedu	Max.	29.8	32.4	35.0	35.8	34.0	31.7	30.4	31.0	31.9	30.9	29.6	28.7	31.8
	Min.	18.1	19.0	21.2	23.3	23.2	22.2	21.6	21.7	21.8	21.7	20.6	18.8	21.1
Pondicherry	Max.	28.0	29.0	30.4	32.1	34.6	35.6	34.4	33.8	32.8	31.0	29.2	28.1	31.6
	Min.	21.3	22.1	23.5	26.0	26.7	26.3	25.6	25.2	25.0	24.4	23.4	22.3	24.3
Salem	Max.	31.3	33.7	36.2	37.2	36.7	34.9	33.4	33.1	33.0	31.8	30.7	30.2	33.5
	Min.	19.2	20.2	22.5	25.2	25.3	24.5	23.7	23.4	23.3	22.8	21.3	19.9	22.6
Tiruchira-ppalli	Max.	30.1	32.6	35.1	36.9	37.4	36.7	35.7	35.4	34.5	32.2	30.1	29.2	33.8
	Min.	20.3	20.9	23.0	25.8	26.4	26.5	25.9	25.5	24.7	23.9	22.7	21.2	23.9
Tiruppattur	Max.	29.6	32.3	34.9	36.3	37.0	34.8	33.2	33.4	32.9	31.5	29.9	29.0	32.9
	Min.	16.1	18.3	20.4	22.6	23.4	23.1	22.9	22.9	22.6	21.9	19.8	17.2	20.9

Contd.....

T A B L E - II (Contd)

MEAN DAILY MAXIMUM AND MINIMUM TEMPERATURE (°C)

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tondi	Max.	29.1	29.7	30.6	32.3	33.2	33.6	33.0	32.4	32.1	31.0	30.0	28.9	31.3
	Min.	21.5	22.6	24.8	26.7	26.7	26.0	25.6	25.4	25.1	24.4	23.4	22.3	24.5
Tuticorin	Max.	28.1	29.0	30.6	32.4	34.8	35.6	34.9	34.7	34.1	32.0	29.7	28.4	32.0
	Min.	21.7	22.7	24.5	26.0	26.7	26.5	26.2	26.1	25.7	24.6	23.5	22.4	24.7
Vedaranniyam	Max.	29.2	30.7	32.6	34.2	34.5	34.6	34.2	33.7	33.5	31.8	30.2	28.7	32.3
	Min.	22.2	22.6	24.1	25.5	26.1	26.1	25.6	25.1	24.4	23.7	22.9	22.4	24.2
Vellore	Max.	29.2	32.0	35.0	37.1	38.5	36.3	34.6	34.0	34.0	32.0	29.5	28.3	33.4
	Min.	18.2	19.2	21.3	24.8	26.3	26.0	25.1	24.6	24.1	22.9	20.8	19.2	22.7
Sub-Div. Means.	Max.	29.4	31.2	33.2	34.7	35.8	35.2	34.0	33.7	33.3	31.7	29.8	28.8	32.6
	Min.	20.6	21.4	23.2	25.5	26.1	25.7	25.0	24.7	24.5	23.7	22.6	21.3	23.7
HILL STATIONS														
Coonoor	Max.	19.3	21.2	23.1	24.1	24.5	22.7	21.4	21.8	21.7	21.0	19.7	19.3	21.7
	Min.	7.7	8.7	10.7	13.2	14.4	14.7	14.7	14.3	13.1	13.0	11.3	9.0	12.1
Kodaika-nal	Max.	17.4	18.3	19.7	20.1	20.7	19.2	17.8	18.1	18.2	17.3	16.4	16.5	18.3
	Min.	7.9	8.4	9.9	11.5	12.6	12.1	11.4	11.3	11.2	10.7	9.6	8.6	10.4
Uthagaman-dalam	Max.	20.8	21.3	22.3	22.7	21.8	18.5	16.9	17.5	18.7	19.0	19.2	20.0	19.9
	Min.	5.2	6.4	8.7	10.5	11.3	10.8	10.8	10.6	10.3	10.0	8.4	6.8	9.2

Hill stations not considered for sub-divisional means.

TABLE - III
MEAN RELATIVE HUMIDITY (%)

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Adirama-pattinam	M	86	84	79	74	71	65	67	72	75	84	86	87	78
	E	66	62	63	67	73	73	72	74	75	79	79	77	72
Coimbatore	M	76	71	69	74	76	76	80	80	79	81	80	78	77
	E	40	31	28	45	58	66	68	65	62	69	62	51	54
Cuddalore	M	84	83	80	75	68	65	70	74	74	82	84	84	77
	E	70	69	70	74	73	65	64	68	72	77	76	74	71
Kallakku-richchi	M	79	76	75	75	68	67	73	75	76	80	80	80	75
	E	54	45	42	47	48	51	56	58	60	68	70	66	55
Kanniya-kumari	M	68	68	69	71	74	80	80	76	77	78	76	72	74
	E	66	68	69	71	74	77	77	77	78	78	74	68	73
Karaikkal	M	83	82	81	80	75	69	72	76	79	85	86	86	80
	E	73	72	73	77	74	67	68	71	75	78	80	79	74
Madurai	M	76	75	74	73	67	62	62	65	66	76	78	76	71
	E	55	44	39	49	50	47	50	52	54	65	69	63	53
Madurai (A)	M	76	75	73	71	63	59	60	62	66	76	79	78	70
	E	51	42	38	46	48	48	51	52	55	65	69	64	52
Meenam-bakkam	M	83	80	76	72	64	60	68	72	74	81	84	83	75
	E	65	63	63	66	62	57	60	65	68	75	74	70	66
Mettur Dam	M	71	67	63	63	65	65	71	73	74	77	76	74	70
	E	47	44	41	47	54	54	60	59	62	68	61	61	55

Contd.....

T A B L E - III (Contd)
MEAN RELATIVE HUMIDITY (%))

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Nagapatti-nam	M	78	76	74	73	68	62	66	71	73	81	83	82	74
	E	71	70	70	72	68	62	63	66	70	74	75	75	70
Nungam-bakkam	M	79	79	77	74	66	62	70	74	76	82	82	81	75
	E	67	67	69	73	68	63	65	68	72	76	77	73	70
Palayam-kottai	M	77	76	73	70	60	58	60	59	60	71	79	76	68
	E	60	54	53	58	52	52	54	54	56	66	72	65	58
Pamban	M	82	78	77	78	79	79	78	78	79	82	84	85	80
	E	77	75	74	74	77	79	78	79	80	81	80	81	78
Parangipettai	M	82	80	76	71	65	64	71	72	78	83	85	85	76
	E						- Data not available -							
Peelamedu	M	78	74	72	75	78	79	83	83	82	83	81	80	79
	E	42	34	29	43	59	67	71	69	67	68	62	54	55
Pondicherry	M	79	80	81	80	73	70	73	76	78	82	82	82	78
	E	74	75	76	80	81	72	72	74	77	78	77	78	76
Salem	M	70	67	66	66	68	71	77	78	76	78	75	73	72
	E	42	33	28	38	45	49	55	56	56	63	59	53	48
Tiruchira-ppalli	M	78	77	75	71	66	61	63	66	70	79	80	79	72
	E	54	43	39	44	43	43	46	47	53	66	69	66	51
Tiruppattur	M	88	83	81	81	77	82	84	84	85	87	87	87	84
	E	69	63	59	60	63	67	69	68	71	75	75	72	68

Contd.....

T A B L E - III (Contd)

MEAN RELATIVE HUMIDITY (%)

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tondi	M	82	80	78	76	71	69	70	72	73	82	83	83	77
	E	73	73	72	73	75	72	74	76	77	78	76	75	75
Tuticorin	M	78	77	75	73	64	60	59	59	61	72	80	80	70
	E	75	73	73	71	62	52	53	55	59	70	76	77	66
Vedaranniyam	M	72	68	66	63	65	62	63	65	67	75	77	77	68
	E	77	75	73	71	75	74	74	75	73	79	80	79	75
Vellore	M	84	78	74	70	63	64	68	70	73	81	84	86	75
	E	50	40	35	38	42	48	52	55	57	66	66	62	51
Sub-Div. Means.	M	79	76	74	73	69	67	70	72	74	80	81	81	75
	E	62	57	55	60	62	61	63	64	66	72	72	69	64
HILL STATIONS														
Coonoor	M	64	55	52	63	60	67	71	69	70	76	77	69	66
	E						- Data not available -							
Kodai-kanal	M	56	54	48	61	69	77	82	82	81	86	85	71	71
	E	76	69	66	79	81	85	88	89	89	91	90	82	82
Uthaga-mandalam	M	62	60	54	63	72	85	90	89	85	84	80	69	74
	E	65	58	53	67	76	84	89	87	84	85	82	73	75

M: *Morning.*
E: *Evening.*
Hill stations not considered for sub-divisional means.

T A B L E - IV

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS

OF CLEAR AND OVERCAST SKIES AT 0830 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Adirama-pattinam	a	7	8	10	5	6	6	5	5	5	3	4	5	5.7
	b	2	1	1	2	4	3	6	5	4	7	7	6	4.0
	c	2.6	2.2	2.2	3.6	3.4	3.3	4.1	3.9	3.6	4.4	4.5	3.9	3.5
Coimbatore	a	1	2	3	0	0	1	0	0	1	0	0	0	0.7
	b	6	4	3	4	7	10	15	11	7	11	10	9	8.1
	c	4.3	3.9	3.1	4.2	5.1	6.0	6.7	6.1	5.4	5.9	5.7	5.1	5.1
Cuddalore	a	3	3	5	2	1	1	0	0	1	1	1	1	1.6
	b	3	2	1	2	4	7	11	11	6	9	9	7	6.0
	c	3.7	3.2	2.6	4.0	4.3	5.2	6.0	5.9	5.2	5.5	5.3	4.8	4.6
Kallakku-richchi	a	2	3	3	2	3	1	0	0	1	0	0	1	1.3
	b	1	0	0	0	2	3	4	3	2	3	4	3	2.1
	c	3.1	2.8	2.8	3.3	3.5	4.3	4.9	4.7	4.1	4.5	4.2	3.9	3.8
Kanniya-kumari	a	3	1	1	1	0	0	0	0	1	1	0	1	0.7
	b	1	1	1	2	6	7	7	6	4	5	5	4	4.1
	c	3.3	3.1	3.6	4.4	5.1	5.5	5.7	5.3	4.7	5.1	4.9	4.4	4.6
Karaikkal	a						-Data not available-							
	b						-Data not available-							
	c	4.0	3.7	3.6	4.5	4.6	5.6	5.9	5.8	5.4	5.7	5.7	5.4	5.0
Madurai	a	2	2	1	2	0	0	0	1	0	0	0	1	0.7
	b	1	1	1	2	4	4	5	4	3	4	5	3	3.1
	c	3.8	3.8	3.8	4.7	4.6	5.1	5.5	5.3	4.7	5.2	5.0	4.4	4.7

Contd.....

T A B L E - IV (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 0830 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Madurai (A)	a	3	3	4	2	1	1	0	0	0	1	1	1	1.4
	b	1	1	0	0	2	2	3	3	1	3	3	3	1.8
	c	2.9	3.2	3.0	4.1	4.6	5.3	5.6	5.4	4.8	5.2	5.0	4.5	4.5
Meenam-bakkam	a	1	1	4	0	1	0	1	0	0	0	1	1	0.8
	b	1	1	0	1	3	6	9	9	6	6	5	4	4.3
	c	3.6	3.1	2.8	4.4	4.7	5.7	6.3	6.1	5.4	5.5	5.1	4.6	4.8
Mettur Dam	a	8	8	13	6	6	2	1	2	2	1	2	3	4.5
	b	3	2	2	3	5	5	8	7	6	7	6	6	5.0
	c	2.8	2.3	1.9	3.2	3.4	4.4	5.2	5.0	4.3	4.9	4.2	4.1	3.8
Nagapatti-nam	a	0	1	2	0	0	0	0	0	0	0	0	0	0.3
	b	2	1	1	1	5	5	8	7	4	7	7	6	4.5
	c	4.4	4.1	3.6	5.0	5.4	5.9	6.2	6.1	5.5	5.8	5.7	5.4	5.3
Nungam-bakkam	a	2	4	6	2	2	0	1	1	0	1	0	0	1.6
	b	2	1	1	1	4	8	10	9	6	6	7	5	5.0
	c	3.6	2.9	2.9	4.2	4.5	5.4	6.1	5.9	5.2	5.3	5.2	4.6	4.7
Palayam-kottai	a	1	0	3	2	2	0	2	1	0	0	1	2	1.2
	b	5	3	2	2	3	4	5	3	2	6	8	8	4.3
	c	4.7	4.3	3.9	4.2	4.3	5.0	5.3	4.9	4.5	5.1	5.8	5.3	4.8
Pamban	a	1	0	2	0	3	2	1	1	1	1	0	1	1.1
	b	4	2	1	2	3	3	4	3	2	5	7	7	3.6
	c	4.4	4.0	3.7	4.3	4.2	4.3	4.8	4.4	4.2	5.1	5.5	5.2	4.5

Contd.....

T A B L E - IV (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 0830 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Parangipettai	a	0	0	1	0	0	0	0	0	1	0	1	0	0.3
	b	0	0	1	0	1	2	6	2	3	5	4	3	2.3
	c	4.6	4.5	4.5	4.8	4.7	5.2	5.8	5.1	5.3	5.6	5.5	5.4	5.1
Peelamedu	a	4	5	9	4	0	0	0	1	0	1	2	2	2.3
	b	2	1	1	1	3	4	6	4	2	4	4	4	3.0
	c	3.7	3.4	2.7	3.8	4.6	5.6	6.2	5.9	5.0	5.4	5.1	4.6	4.7
Pondicherry	a	0	1	1	0	0	0	0	1	0	0	0	0	0.3
	b	0	0	0	0	1	2	3	3	1	5	5	4	0.2
	c	4.5	4.6	4.5	5.3	5.1	5.7	5.9	5.9	5.7	5.9	5.7	5.6	5.4
Salem	a	14	14	15	9	4	2	1	1	2	4	4	8	6.5
	b	1	1	1	2	5	7	10	9	6	7	6	4	4.9
	c	2.2	2.0	1.7	3.0	4.1	5.2	5.9	5.7	4.9	5.0	4.3	3.6	4.0
Tiruchira-ppalli	a	5	5	5	3	2	0	1	0	1	1	1	2	2.1
	b	2	1	1	1	3	5	9	7	4	6	6	5	4.2
	c	3.2	3.1	3.0	4.0	4.5	5.2	6.0	5.7	4.9	5.3	5.0	4.3	4.5
Tiruppattur	a	1	0	2	0	0	1	0	0	1	1	1	1	0.7
	b	13	11	10	16	19	21	24	23	21	20	18	16	17.7
	c	5.6	5.2	5.1	5.8	6.4	6.8	7.2	6.8	6.6	6.5	6.2	5.8	6.2
Tondi	a	0	0	1	0	0	0	1	0	0	0	0	0	0.2
	b	3	2	1	2	4	2	3	4	3	7	7	6	3.7
	c	4.2	3.9	4.0	4.7	4.9	4.6	5.1	5.1	4.8	5.3	5.4	5.2	4.8

Contd.....

T A B L E - IV (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 0830 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tuticorin	a	7	5	4	4	4	3	2	3	3	2	1	3	3.4
	b	2	2	1	2	4	3	4	3	2	6	8	6	3.6
	c	2.9	3.0	2.7	3.5	4.0	4.3	4.6	4.1	3.6	4.4	4.9	4.3	3.9
Vedaranniyam	a	1	0	0	0	1	0	2	1	0	0	1	0	0.5
	b	1	0	1	0	1	1	1	2	2	3	2	2	1.3
	c	4.3	4.0	4.4	4.1	4.2	4.2	4.6	4.6	4.8	5.1	5.3	5.3	4.6
Vellore	a	7	7	11	6	2	1	0	1	1	1	3	3	3.6
	b	2	1	1	1	4	7	11	10	7	7	6	5	5.2
	c	3.2	3.0	2.1	3.1	4.0	5.3	6.2	5.9	5.1	5.2	4.9	4.2	4.4
Sub-Div. Means.	a	3	3	5	2	2	1	1	1	1	1	1	2	2.1
	b	3	2	1	2	4	5	7	6	5	6	6	5	4.8
	c	3.7	3.5	3.3	4.2	4.5	5.1	5.7	5.4	4.9	5.3	5.2	4.7	4.6
HILL STATIONS														
Coonoor	a						-Data not available-							
	b						-Data not available-							
	c	3.4	2.7	2.5	3.3	3.9	5.4	5.9	5.1	4.5	5.3	4.6	3.9	4.2
Kodai-kanal	a	7	5	7	3	0	0	1	1	0	2	3	3	2.7
	b	4	3	2	3	7	11	15	12	8	11	11	10	8.1
	c	3.2	2.9	2.4	3.9	5.2	6.3	6.7	6.3	5.6	5.9	5.5	4.5	4.9
Uthaga-mandalam	a	15	15	17	9	4	0	0	0	2	1	4	9	6.3
	b	1	0	0	0	1	6	10	7	2	3	4	2	3.0
	c	1.5	1.4	1.2	2.2	3.3	5.4	6.3	5.8	4.3	4.2	3.6	2.5	3.5

a: *Days with clear sky.*
b: *Days with sky overcast.*
c: *Mean cloud amount.*
** *Okta = Unit, equal to area of one eighth of the sky used in specifying cloud amount. For example: 1 Okta means 1/8th of the sky covered.*
Hill stations not considered for subdivisional means.

T A B L E - IV (a)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 1730 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal														
Adirama-pattinam	a	7	8	12	8	7	6	4	3	5	4	3	5	6.0
	b	2	1	1	1	4	4	6	5	4	6	7	6	3.9
	c	3.2	2.6	2.2	3.1	3.9	4.3	5.0	4.6	4.4	4.9	5.1	4.5	4.0
Coimbatore	a	1	2	1	0	0	0	0	0	0	0	0	0	0.3
	b	3	3	2	7	10	14	17	15	10	15	10	7	9.4
	c	3.5	3.4	3.0	5.1	6.0	6.7	7.1	6.9	6.3	6.7	5.8	4.6	5.4
Cuddalore	a	4	6	10	5	3	0	0	0	2	2	0	2	2.8
	b	3	2	1	2	5	9	13	10	7	9	8	6	6.3
	c	3.5	2.9	2.3	3.6	4.6	6.1	6.5	6.1	5.5	5.8	5.5	4.8	4.8
Kalfakku-richchi	a	1	2	3	2	0	1	0	0	0	0	0	1	0.8
	b	1	1	0	1	2	3	5	3	3	4	4	3	2.5
	c	3.4	2.7	2.5	3.5	4.5	5.4	5.9	5.7	5.2	5.3	4.9	4.2	4.4
Kanniya-kumari	a	1	1	0	1	0	0	0	0	0	0	1	1	0.4
	b	2	2	2	3	7	7	9	6	5	7	6	5	5.1
	c	4.0	3.8	4.1	5.0	5.6	6.1	6.4	5.8	5.4	5.8	5.6	5.2	5.2
Karaikkal	a						-Data not available -							
	b						-Data not available-							
	c	3.6	2.9	2.5	3.8	4.6	5.9	6.3	6.2	5.6	5.8	5.7	5.4	4.9
Madurai	a						- Data not available -							
	b						- Data not available -							
	c						- Data not available -							
Madurai (A)	a	2	2	3	0	1	0	1	0	0	0	0	0	0.7
	b	1	1	1	2	4	5	6	5	4	5	5	3	3.5
	c	3.5	3.4	3.2	5.1	5.9	6.3	6.6	6.5	6.2	6.2	5.7	4.9	5.3

Contd.....

T A B L E - IV(a) (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS

OF CLEAR AND OVERCAST SKIES AT 1730 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Meenam-bakkam	a	1	4	10	4	1	0	0	0	0	0	0	0	1.7
	b	1	0	0	1	3	8	11	9	7	7	6	4	4.7
	c	3.4	2.7	2.0	3.2	4.6	6.3	6.7	6.5	5.8	5.8	5.4	4.8	4.8
Mettur Dam	a	7	6	10	1	1	1	0	0	0	2	3	3	2.8
	b	3	2	2	6	8	8	11	11	9	8	6	6	6.7
	c	3.1	2.8	2.4	4.9	4.9	6.0	6.1	6.1	5.5	5.5	4.7	4.5	4.7
Nagapatti-nam	a	2	1	7	2	1	1	0	0	0	1	0	0	1.3
	b	2	1	1	1	5	7	8	7	4	6	8	6	4.7
	c	4.3	3.6	3.0	4.1	5.0	5.9	6.3	6.0	5.4	5.8	5.8	5.3	5.0
Nungam-bakkam	a	5	7	15	8	2	0	0	0	0	2	1	2	3.5
	b	1	0	0	1	4	9	11	8	7	7	6	5	4.9
	c	3.1	2.4	1.7	2.8	4.1	6.1	6.4	6.1	5.6	5.5	5.4	4.9	4.5
Palayam-kottai	a	2	2	2	1	0	0	0	0	1	1	0	0	0.7
	b	3	2	2	4	6	5	7	6	5	9	9	8	5.5
	c	4.2	3.7	3.5	5.1	5.5	5.7	6.0	5.7	5.6	6.2	6.2	5.5	5.2
Pamban	a	3	4	6	2	2	2	1	2	1	1	1	3	2.3
	b	4	2	1	3	5	4	6	5	4	6	6	6	4.3
	c	4.1	3.4	3.1	4.3	4.6	5.1	5.6	5.4	5.2	5.6	5.5	5.0	4.7

Contd.....

T A B L E - IV(a) (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 1730 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Parangipettai	a						- Data not available -							
	b						- Data not available -							
	c						- Data not available -							
Peelamedu	a	5	4	6	0	0	0	0	0	0	0	1	1	1.4
	b	1	1	1	2	4	6	7	5	3	6	4	3	3.6
	c	3.1	2.9	2.7	4.9	5.4	6.1	6.6	6.3	5.9	6.0	5.3	4.4	5.0
Pondicherry	a	0	1	2	1	1	0	0	0	1	0	0	0	0.5
	b	0	0	0	0	1	2	4	3	1	4	3	3	1.7
	c	4.5	4.3	4.0	4.8	5.3	6.0	6.2	6.2	5.9	6.0	5.8	5.7	5.4
Salem	a	7	7	10	2	1	1	1	0	0	1	2	1	2.7
	b	2	1	1	5	9	12	17	15	10	12	9	6	8.3
	c	3.1	2.8	2.5	4.7	5.7	6.6	7.1	7.0	6.2	6.3	5.4	4.5	5.2
Tiruchira-ppalli	a	2	3	8	1	0	0	0	0	1	0	1	1	1.4
	b	3	2	1	3	5	8	10	7	5	8	8	6	5.5
	c	3.5	2.9	2.5	4.4	5.3	6.1	6.6	6.2	5.8	6.0	5.7	5.0	5.0
Tiruppattur	a	0	0	0	0	0	0	0	0	1	0	0	1	0.2
	b	15	14	15	21	24	25	26	26	23	23	21	18	20.9
	c	5.8	5.8	5.6	6.7	7.0	7.4	7.4	7.4	7.2	7.1	6.7	6.2	6.2
Tondi	a	0	0	0	0	0	0	0	0	0	0	0	1	0.1
	b	2	1	1	2	3	3	5	4	3	6	7	6	3.6
	c	4.4	4.0	4.0	4.8	5.1	5.3	5.7	5.7	5.4	5.7	5.7	5.4	5.1

Contd .....

T A B L E - IV(a) (Contd)

MEAN CLOUD AMOUNT ** (OKTA OF THE SKY) AND MEAN NUMBER OF DAYS OF CLEAR AND OVERCAST SKIES AT 1730 HOURS IST

STATION		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tuticorin	a	9	7	10	4	3	1	1	1	2	1	2	4	3.7
	b	2	2	1	3	5	4	6	5	4	7	7	6	4.3
	c	2.5	2.5	2.3	3.9	4.5	4.5	5.1	4.8	4.4	5.0	4.8	4.0	4.0
Vedaranniyam	a	0	1	2	4	1	1	0	0	0	0	0	0	0.7
	b	1	0	1	0	1	1	2	1	1	2	2	2	1.2
	c	3.9	3.4	3.4	3.2	3.8	4.0	4.5	4.2	4.2	4.6	4.9	4.7	4.1
Vellore	a	4	6	12	4	0	1	0	0	0	0	0	1	2.3
	b	2	1	0	2	6	9	14	11	9	9	8	5	6.3
	c	3.3	2.5	1.8	3.6	5.4	6.5	6.9	6.7	6.2	6.2	5.4	4.6	4.9
Sub-Div. Means.	a	3	4	6	2	1	1	0	0	1	1	1	1	1.7
	b	3	2	2	3	6	7	10	8	6	8	7	6	5.7
	c	3.7	3.2	2.9	4.3	5.1	5.8	6.2	6.0	5.6	5.8	5.5	4.9	4.9
HILL STATIONS														
Coonoor	a						- Data not available -							
	b						- Data not available -							
	c						- Data not available -							
Kodai-kanal	a	3	2	4	1	1	1	1	1	1	2	3	3	1.9
	b	9	6	4	10	12	16	21	19	17	19	17	12	13.5
	c	5.1	4.9	4.3	6.1	6.7	7.1	7.5	7.4	7.2	7.2	6.8	5.7	6.3
Uthaga-mandalam	a	8	6	7	1	0	0	0	0	1	0	1	3	2.3
	b	1	1	1	3	5	10	15	12	7	8	6	4	6.1
	c	2.8	3.0	2.9	4.8	5.4	6.4	7.1	6.7	6.0	5.9	5.0	3.8	5.0

a: *Days with clear sky.*
b: *Days with sky overcast.*
c: *Mean cloud amount.*
** *Okta = Unit, equal to area of one eighth of the sky used in specifying cloud amount. For example: 1 Okta means 1/8th of the sky covered.*
Hill stations not considered for subdivisional means.

T A B L E - IV (b)

MEAN NUMBER OF HOURS OF BRIGHT SUNSHINE PER DAY

STATION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Tamil Nadu Including Pondicherry & Karaikkal													
Coimbatore	8.6	9.4	9.8	8.8	7.7	5.7	4.6	5.9	7.2	6.5	6.9	7.8	7.4
Aduthurai	8.4	9.3	9.9	9.0	8.6	7.5	6.2	6.9	7.9	6.6	6.3	7.1	7.8
Kovilpatti	7.9	8.5	8.9	7.8	7.5	7.0	6.1	6.7	7.2	5.9	6.2	7.1	7.2
Uthagamandalam	8.8	8.9	9.3	8.0	6.5	4.5	3.1	3.9	4.7	5.3	6.4	7.6	6.4
Kodaikanal	7.2	7.9	7.8	6.9	6.0	3.9	2.8	3.5	4.2	3.9	4.6	6.3	5.4
Chennai	8.5	9.7	9.7	9.5	8.7	6.6	4.8	5.6	6.3	6.5	6.7	7.4	7.5
Tiruchirappalli	8.5	9.3	9.6	9.1	8.2	7.3	5.6	6.4	7.6	6.7	6.3	7.1	7.6

TABLE - V
MEAN RAINFALL (in mm) AND NUMBER OF RAINY DAYS

DISTRICTS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TAMIL NADU Including Pondicherry & Karaikkal														
Chengalpattu M.G.R.	a	23.5	6.3	7.9	15.3	44.1	57.1	99.8	140.5	129.4	240.2	280.7	122.3	1167.1
	b	1.3	0.4	0.4	0.8	1.9	4.1	6.8	8.2	6.6	9.2	9.1	4.5	53.3
Chennai	a	26.3	6.3	3.8	14.1	40.7	50.5	103.8	141.9	112.7	276.3	324.1	127.5	1228.0
	b	1.3	0.5	0.2	0.7	1.4	3.7	7.1	8.3	6.1	9.9	9.5	4.5	53.2
Chidambaranar	a	29.8	23.6	30.0	53.2	26.7	5.4	10.3	16.1	26.0	146.4	191.3	102.8	661.6
	b	1.8	1.4	1.9	3.1	1.8	0.5	0.7	1.1	1.9	7.3	8.8	4.7	35.0
Coimbatore	a	13.3	10.5	17.7	60.3	95.2	134.1	202.6	136.3	105.7	177.0	128.6	48.3	1129.6
	b	0.9	0.6	1.1	3.6	5.4	5.7	7.5	6.1	5.7	9.3	6.7	2.8	55.4
Dharmapuri	a	9.9	8.0	10.8	37.1	108.9	51.9	70.3	100.0	147.2	175.7	97.8	35.3	852.9
	b	0.7	0.5	0.6	2.4	6.3	3.6	4.6	5.8	7.1	9.2	5.9	2.2	48.9
Dindigul-Anna	a	25.1	13.0	21.8	67.6	80.1	34.1	48.5	73.3	111.3	200.5	160.9	78.1	914.3
	b	1.5	0.8	1.3	3.8	5.1	2.6	3.4	4.5	5.9	10.5	8.3	4.5	52.2
Kamarajar	a	27.3	22.1	29.3	73.1	60.5	20.3	27.6	52.4	71.5	189.4	172.8	67.0	813.3
	b	1.5	1.1	1.7	3.9	3.8	1.6	1.7	3.1	4.2	9.2	8.1	3.5	43.4
Kanniya-kumari	a	24.3	22.8	46.1	114.6	151.0	203.0	137.0	88.0	105.0	249.2	211.1	71.3	1423.4
	b	1.4	1.5	2.9	6.4	7.1	11.7	9.7	6.5	6.3	11.6	10.4	4.0	79.5

Contd.....

T A B L E - V (Contd)

MEAN RAINFALL (in mm) AND NUMBER OF RAINY DAYS

DISTRICTS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Karaikkal	a	78.5	17.2	25.0	24.7	39.1	31.1	43.3	62.7	80.0	229.2	398.3	229.4	1258.5
	b	-Data not available-												
Madurai	a	16.4	14.5	21.5	59.5	62.6	32.5	44.2	75.0	105.2	186.0	143.7	56.0	817.1
	b	1.2	0.9	1.3	3.3	4.0	2.5	3.2	4.6	5.7	9.9	7.8	3.4	47.8
Nagapattinam	a	53.8	15.5	20.2	33.4	45.1	33.0	53.8	95.8	99.3	232.7	350.2	220.8	1253.6
Quaid-e-Milleth	b	2.6	0.9	1.0	1.7	2.3	2.1	3.4	5.4	5.3	9.9	11.6	7.8	54.0
North Arcot-Ambedkar	a	14.3	5.0	7.1	21.1	68.2	63.7	106.6	132.1	150.1	174.0	149.5	58.1	949.8
	b	0.8	0.3	0.5	1.3	3.8	4.2	6.1	7.2	7.2	8.5	6.9	2.9	49.7
Pasumpon Muthurama-linga Thevar	a	23.4	13.2	16.0	48.4	58.1	39.4	62.0	99.1	96.6	177.7	144.5	82.1	860.5
	b	1.4	0.7	1.1	2.7	3.2	2.4	3.5	5.4	5.1	8.7	7.7	4.3	46.2
Periyar	a	9.4	9.3	15.1	47.3	83.1	24.6	31.2	49.2	85.5	163.0	107.9	40.4	666.0
	b	0.7	0.5	0.8	2.9	4.9	1.9	2.5	3.3	4.8	8.8	6.0	2.4	39.5
Pondicherry	a	50.4	14.1	24.3	24.2	50.1	37.8	59.1	108.8	120.4	262.4	369.1	152.1	1272.7
	b	-Data not available-												
Pudukkottai	a	33.4	15.1	15.8	42.0	55.6	44.2	65.2	110.5	117.4	164.9	144.9	86.2	895.2
	b	1.7	0.8	1.0	2.2	3.0	2.9	3.9	5.9	6.1	8.4	7.6	4.4	47.9
Ramanathapuram	a	41.6	17.9	25.1	52.4	40.7	13.5	27.4	43.1	49.8	185.5	197.5	117.7	812.2
	b	2.2	1.1	1.4	2.9	2.2	1.0	1.7	2.8	3.2	8.6	9.4	5.4	41.9

Contd.....

T A B L E - V (Contd)

MEAN RAINFALL (in mm) AND NUMBER OF RAINY DAYS

DISTRICTS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Salem	a	11.5	8.1	13.5	44.0	101.5	47.0	70.3	104.7	130.8	171.9	105.8	42.8	851.9
	b	0.8	0.5	0.9	2.9	5.8	3.3	4.8	6.6	7.0	9.2	6.0	2.5	50.3
South Arcot	a	31.1	9.3	12.1	23.7	55.9	44.3	76.9	133.3	136.7	220.0	247.4	129.1	1119.8
	b	1.4	0.6	0.6	1.2	2.6	3.0	4.8	7.0	6.6	9.5	8.9	5.1	51.3
Thanjavur	a	37.3	12.1	19.3	36.8	53.3	39.2	62.6	114.1	115.7	198.5	225.5	138.4	1052.8
	b	2.0	0.8	0.9	1.9	2.6	2.4	3.5	5.8	5.9	9.3	9.7	6.0	50.8
Tiruchira-ppalli	a	19.8	8.7	11.5	38.0	67.9	29.0	43.6	80.1	112.4	183.5	146.4	69.2	810.1
	b	1.1	0.5	0.7	2.0	3.5	1.7	2.4	4.0	5.4	8.9	6.9	3.6	40.7
Tirunelveli Kattabomman	a	48.9	32.8	44.4	66.7	45.3	36.9	37.5	23.2	32.6	156.3	217.5	111.5	853.6
	b	2.7	1.8	2.6	4.0	3.0	3.5	3.4	2.1	2.5	8.2	10.3	5.5	49.6
Tiruvannamalai Sambuvarayar	a	20.1	10.3	12.1	21.2	71.5	58.1	98.2	148.0	163.7	205.8	173.5	82.8	1065.3
	b	1.1	0.6	0.6	1.2	3.8	3.9	5.7	7.5	7.7	9.6	7.8	3.9	53.4
Sub-Div. Means	a	29.1	13.7	19.6	44.3	65.4	49.2	68.8	92.5	104.6	198.5	203.9	98.7	988.3
	b	1.4	0.8	1.1	2.6	3.7	3.3	4.3	5.3	5.5	9.2	8.3	4.2	49.7

a: Normal Rainfall (mm).
b: Average number of rainy days (i.e.days with rainfall of 2.5 mm or more)

T A B L E - V(a)

MEAN RAINFALL (in mm) AND NUMBER OF RAINY DAYS

HILL STATIONS

STATIONS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
TAMIL NADU Including Pondicherry & Karaikkal														
Benhope	a	89.9	51.7	66.6	135.0	122.5	72.2	105.4	95.4	128.6	382.5	375.3	198.5	1823.6
	b	3.6	1.6	2.6	5.0	6.6	6.5	7.6	7.4	6.8	13.8	10.8	6.3	78.6
Coonoor (Obsy)	a	70.6	68.5	80.0	136.4	109.8	62.0	73.1	87.0	112.5	310.4	333.6	144.5	1590.6
	b	3.0	2.6	2.9	7.0	7.1	6.3	7.6	7.6	8.0	14.0	11.7	6.4	84.2
Devala	a	7.7	8.3	14.3	68.0	175.8	685.9	1145.7	850.5	457.7	310.0	124.4	33.9	3882.2
	b	0.4	0.5	1.0	4.9	9.5	23.4	28.0	25.4	19.4	14.6	6.4	1.8	135.3
Glenmorgan	a	12.7	6.7	16.4	89.0	156.3	282.9	519.0	328.8	176.8	209.4	125.1	45.2	1968.3
	b	0.8	0.6	1.4	6.3	9.7	15.7	21.4	18.8	13.4	12.6	7.0	2.5	110.2
Gudalur	a	7.8	6.5	15.5	69.0	127.4	378.8	754.2	441.9	207.3	168.9	96.0	18.5	2291.8
	b	0.4	0.5	1.2	5.6	8.2	18.2	24.2	19.9	13.5	10.8	5.6	1.6	109.7
Kallatty	A	16.6	8.2	13.0	84.0	179.8	91.0	133.6	117.8	116.7	240.5	150.4	50.1	1201.7
	b	1.3	0.6	1.1	5.9	9.4	7.4	11.0	8.8	7.7	12.8	8.2	3.0	77.2
Kelty	a	46.1	20.4	32.9	88.2	127.6	104.5	119.5	115.2	131.0	224.0	184.1	70.7	1264.2
	b	2.2	1.3	2.1	6.1	8.6	8.9	10.3	8.6	8.9	13.1	9.5	4.3	83.9
Kodanad	a	50.9	30.5	29.5	82.1	168.1	83.4	111.1	107.0	154.6	303.3	249.4	122.6	1492.5
	b	2.6	1.4	1.6	4.8	8.6	7.2	10.3	8.9	9.1	14.0	10.4	5.3	84.2

Contd.....

T A B L E - V(a) (Contd)

MEAN RAINFALL (in mm) AND NUMBER OF RAINY DAYS

HILL STATIONS

STATIONS		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
Kodaikanal (Obsy)	a	64.6	35.4	54.5	138.8	157.3	101.2	125.2	161.5	179.6	257.6	242.8	134.8	1653.3
	b	3.2	2.1	3.3	7.9	10.3	8.9	10.4	11.5	11.7	15.5	12.2	7.0	104.0
Kotagiri	a	71.7	58.6	49.1	108.0	149.3	108.3	104.5	107.1	144.3	312.0	251.4	112.0	1576.3
	b	2.9	2.2	2.3	5.7	8.5	8.0	8.3	7.5	8.8	14.4	10.8	5.7	85.1
Kundha/ Kallkund	a	53.4	32.1	39.6	87.4	102.7	87.4	148.4	94.1	91.0	245.0	216.6	93.3	1291.0
	b	2.8	1.7	2.7	6.1	7.9	8.3	12.4	9.2	8.0	14.2	11.2	5.5	90.1
Naduvattam	a	12.0	10.4	17.3	86.9	165.8	404.8	770.7	468.5	217.0	207.1	113.2	27.5	2501.2
	b	0.8	0.8	1.5	6.6	9.9	19.2	24.7	22.5	15.6	13.2	6.9	1.8	123.5
Uthagamandalam (Agro)	a	2.5	7.2	17.0	72.8	199.3	138.8	202.8	147.0	199.6	198.6	208.8	71.1	1465.5
	b	0.4	1.2	1.3	6.1	12.1	11.9	15.4	13.6	13.2	12.4	9.9	4.2	101.7
Uthagamandalam (Obsy)	a	24.1	10.3	27.6	79.1	164.4	142.4	189.2	128.3	135.0	196.1	150.2	53.3	1300.0
	b	1.5	0.9	2.0	6.5	11.2	11.7	14.7	11.3	10.2	13.2	8.9	3.6	95.7
Yercaud	a	27.7	15.4	19.1	77.7	152.2	131.2	187.7	252.4	226.9	264.9	170.5	78.9	1604.6
	b	1.7	0.9	1.4	4.9	8.3	8.1	11.0	12.4	11.0	12.3	8.9	4.5	85.4

a: Normal Rainfall (mm).
b: Average number of rainy days (i.e.days with rainfall of 2.5 mm or more)

TABLE - VI

MEAN RAINFALL (mm) OVER DIFFERENT CATCHMENTS OF TAMIL NADU INCLUDING PONDICHERRY AND KARAIKKAL

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL
1) Streams from Cape Comorin to Tadri, excluding the Tadri. (Catchment No. 101)													
Districts/Parts of districts within this catchment:- Coimbatore, Kanniyakumari	22.5	22.0	44.5	112.6	153.4	228.6	198.5	126.0	120.7	251.2	205.3	70.6	1555.9
2) Rivers from Cape Comorin to the River Cauvery excluding it. (Catchment No. 301)													
Districts/Parts of districts within this catchment:- Thanjavur, Nagapattinam Quaid-e-Milleth, Tiruchirappalli, Pudukkottai, Madurai, Dindigul Anna, Ramanathapuram, Karamajar, Pasumpon Muthuramalinga Thevar, Tirunelvelli Kattabomman, Chidambaranar	35.5	19.0	25.7	52.9	50.7	30.6	45.2	70.2	81.9	182.9	201.1	111.7	907.4
3) River Cauvery : (Catchment No. 302)													
Districts/Parts of districts within this catchment:- South Arcot, Thanjavur, Nagapattinam Quaid-e-Milleth, Tiruchirappalli, Pudukkottai, Madurai, Dindigul Anna, Salem, Dharmapuri, Coimbatore, Periyar	18.9	9.9	14.2	43.6	77.1	42.0	60.1	84.2	105.2	178.8	147.8	69.4	851.2
4) River Palar and other rivers between River Cauvery and River Pennar, both excluding : Catchment No. 303)													
Districts/Parts of districts within this catchment:- Chennai, Chengalpattu M.G.R., North Arcot-Ambedkar, Tiruvannamalai Samburavayar, South Arcot, Dharmapuri, Salem, Pondicherry	22.7	7.7	10.1	21.9	62.8	53.1	89.7	133.6	142.0	212.1	215.2	99.5	1069.9

T A B L E - VII

STORMS/DEPRESSIONS AFFECTING TAMIL NADU STATE INCLUDING PONDICHERRY AND KARAIKKAL DURING 1891-1990

MONTH	NO. OF STORMS/DEPRESSIONS
January	8
February	1
March	1
April	5
May	11
June	0
July	0
August	0
September	1
October	26
November	53
December	25
Total	**131**

CLIMATOLOGICAL SUMMARY OF THE DISTRICTS

CHENGALPATTU M.G.R. DISTRICT

The climate of this district is characterised by an oppressive summer and good seasonal rainfall. The year may be divided into four seasons. The summer season from March to May is followed by the southwest monsoon season from June to September. October and November constitute the post monsoon season or retreating monsoon season. The period from December to February is the northeast monsoon season, with the associated rains being confined to December.

RAINFALL

Records of rainfall in the district are available for 27 stations for 21 to 80 years. Tables 1 and 2 give the rainfall at these stations and for the district as a whole. The normal annual rainfall in the district is 1167.1 mm. The rainfall in the district varies from 756.4 mm at R.K. Pet to 1430.5 mm at Tambaram Aero Obsy. The rainfall during the southwest monsoon season June to September amounts to about 37 % of the annual normal rainfall. About 55 % of the annual normal rainfall is received during the period October to December, November being the rainiest month. The variation in the rainfall from year to year is appreciable. During the 80 year period 1901 to 1980, the highest annual rainfall amounting to 160 % of the normal occurred in 1946. The lowest annual rainfall which was 53 % of the normal occurred in 1904. In the same 80 year period annual rainfall in the district was less than 80 % of the normal in 15 years, two consecutive years of such low rainfall occurring four times. It will be seen from Table 2 that the average annual rainfall in the district was between 801 and 1300 mm in 51 years out of 80.

On an average there are 53 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. Except at Ramakrishnarajupet, Palipat and Uthiramerur which have 30, 47 and 49 annual rainy days respectively, in a year. The number of rainy days at the other stations vary from 50 at Poonamalle to 62 at Tambaram Aero Obsy.

The heaviest rainfall in 24 hours recorded at any station in the district was 539.6 mm at Mahabalipuram on 20th November 1970.

TEMPERATURE

There is a meteorological observatory in the district at Meenambakkam. The records of this observatory may be taken as representative of the meteorological conditions prevailing in the district in general. Temperatures increase steadily from about the middle of February. May is the hottest month with the mean daily maximum temperature

at 37.6°C and the mean daily minimum at 27.7°C. Due to high moisture content in the air the weather is oppressively hot during the hot season particularly in the interior of the district. Afternoon sea breezes bring welcome relief in the coastal areas. During summer the day temperatures often exceed 42°C. With the onset of the southwest monsoon by about the beginning of June temperatures decrease slightly and the weather becomes a little milder than in the summer season. After the withdrawal of the southwest monsoon by about the end of September, temperatures begin to decrease. December and January form the coolest part of the year with the mean daily maximum temperature at about 28°C and the mean daily minimum at about 20°C.

The highest maximum temperature recorded at Meenambakkam was 44.3°C on 22nd May, 1980 and the lowest minimum temperature was 15.7°C on 27th January, 1969.

HUMIDITY

In general, high humidities prevail throughout the year in the coastal areas. In the interior parts of the district humidity may be slightly less.

CLOUDINESS

During the southwest monsoon and post monsoon seasons and the early part of the northeast monsoon season, skies are generally heavily clouded and overcast on some days. Cloudiness decreases thereafter. In April and May, skies are moderately clouded.

WINDS

Winds are generally light to moderate with some strengthening in force in the first half of the southwest monsoon season and in the northeast monsoon season. In the period October to May, the winds in the afternoons are stronger than in the mornings. In the southwest monsoon season winds are southwesterly to westerly in the mornings and mainly southeasterly to southerly in the afternoons. In October, winds are from directions between southwest and west in the mornings and between northeast and east in the afternoons. During the period November to January winds from directions between north and northwest are more common in the mornings while in the afternoons they are more from directions between north and northeast. In February and March winds are somewhat variable in direction in the mornings and mainly from the east or southeast in the afternoons. In April and May southerlies and southwesterlies predominate in the mornings while in the afternoons easterlies are more common.

SPECIAL WEATHER PHENOMENA

Storms and depressions originating in the Bay of Bengal during the post monsoon and early part of the northeast monsoon season cross the east coast and cause widespread heavy rain and gusty winds. Thunderstorms occur during the summer and post monsoon periods. Even in the southwest monsoon season, rainfall is often associated with thunder.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Meenambakkam.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Athipettu	65	a	34.7	7.7	4.4	12.8	38.3	41.0	74.4	102.4	110.3	290.0	339.5	120.8	1176.3	212 (1946)	35 (1904)	348.7	1944 Oct 26
		b	1.6	0.6	0.3	0.7	1.1	3.5	6.3	7.4	6.2	9.5	9.7	4.7	51.6				
Chembaram-pakkam	29	a	15.7	1.3	3.0	13.7	47.5	58.3	110.8	146.8	125.4	259.1	303.4	128.5	1213.5	160 (1976)	30 (1959)	394.2	1976 Nov 25
		b	1.1	0.2	0.2	0.7	1.9	4.7	7.7	9.3	7.0	9.2	9.7	5.3	57.0				
Cheyyur	74	a	35.1	10.3	13.3	18.4	27.6	40.7	85.6	132.6	119.9	250.2	336.1	144.2	1214.0	169 (1931)	52 (1968)	379.2	1920 Nov 26
		b	1.7	0.6	0.6	1.0	1.3	3.1	5.7	7.3	6.4	9.9	10.2	5.2	53.0				
Chengalpattu	80	a	28.1	9.2	10.7	19.2	38.2	54.3	102.6	156.4	153.8	235.0	270.2	139.7	1217.4	155 (1946)	43 (1904)	307.1	1943 Oct 10
		b	1.5	0.6	0.6	0.9	1.7	3.7	6.4	8.0	7.2	9.6	9.5	5.0	54.7				
Cholavaram	29	a	14.6	3.8	8.3	11.0	53.4	60.9	120.5	147.3	130.8	285.3	353.9	156.9	1356.7	182 (1969)	35 (1959)	480.0	1969 Oct 22
		b	1.0	0.3	0.2	0.6	1.9	4.1	7.5	8.1	6.7	9.6	9.9	4.7	54.6				
Covelong	78	a	35.7	11.7	11.2	13.0	35.5	47.0	102.6	141.9	127.0	290.1	310.0	129.4	1255.1	165 (1946)	50 (1904)	239.5	1902 Oct 28
		b	1.8	0.7	0.6	0.9	1.5	3.6	7.1	8.5	6.4	10.3	10.2	5.2	56.8				
Kancheepuram	80	a	24.5	8.1	9.3	17.2	52.2	74.2	106.2	164.9	146.3	206.6	211.1	103.6	1124.2	173 (1903)	53 (1927)	457.2	1943 Oct 10
		b	1.4	0.5	0.5	0.9	2.6	4.6	6.7	8.3	7.6	8.9	8.5	4.1	54.6				
Kesavaram	29	a	10.4	3.2	4.7	19.0	47.1	70.6	102.6	166.9	129.5	187.8	204.4	103.1	1049.3	148 (1960)	50 (1958,1959)	242.8	1951 Jun 11
		b	1.0	0.3	0.4	0.9	2.3	4.2	6.7	9.3	6.7	8.6	7.9	3.9	52.2				
Korattur Anicut	28	a	8.5	3.3	2.8	11.2	43.7	57.1	98.7	133.3	109.1	225.4	224.0	117.8	1034.9	144 (1966)	33 (1959)	220.0	1969 Oct 22
		b	0.8	0.2	0.2	0.7	2.0	4.2	7.6	8.8	6.7	9.4	8.7	4.6	53.9				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Madurantakam	78	a	31.5	9.9	9.6	20.3	41.9	46.1	99.8	160.6	157.6	239.4	277.5	134.8	1229.0	154 (1946)	51 (1904)	436.9	1874 May 05
		b	1.6	0.5	0.5	0.9	1.8	3.5	6.0	8.1	7.1	9.6	9.2	5.0	53.8				
Mahabalipuram	29	a	15.3	4.6	5.1	8.6	46.8	62.3	88.2	176.7	112.1	281.0	326.6	131.5	1258.8	174 (1970)	33 (1959)	539.6	1970 Nov 20
		b	0.9	0.3	0.2	0.6	1.7	3.9	6.2	8.4	6.0	9.2	9.9	5.5	52.8				
Meenambakkam Aero Obsy	34	a	26.6	3.6	12.1	12.9	46.6	61.2	113.2	152.6	128.0	289.6	345.2	164.8	1356.4	154 (1946)	52 (1968)	346.6	1976 Nov 25
		b	1.7	0.3	0.6	0.8	1.7	4.7	7.5	9.0	7.3	10.4	10.6	5.8	60.4				
Palliput	28	a	12.7	6.6	11.4	31.0	68.9	65.5	100.6	117.8	120.9	150.4	134.3	76.1	896.2	138 (1946)	60 (1938)	167.6	1933 Dec 16
		b	0.8	0.4	0.6	1.4	2.9	4.6	6.6	6.9	6.4	7.6	5.7	3.4	47.3				
Ponneri	80	a	32.2	7.3	10.4	14.1	39.2	51.8	90.6	113.9	114.4	269.4	346.6	134.6	1224.5	210 (1946)	39 (1904)	348.7	1952 May 22
		b	1.4	0.4	0.4	0.7	1.3	3.7	6.3	7.2	6.1	9.2	9.9	4.6	51.2				
Poonamalle	64	a	40.0	6.9	12.5	16.2	34.7	48.3	87.5	130.4	138.1	264.6	314.4	127.7	1221.3	201 (1943)	34 (1951)	376.4	1901 Dec 10
		b	1.6	0.5	0.5	0.9	1.3	3.4	6.1	7.4	6.5	9.1	8.9	4.3	50.5				
Poondi	21	a	14.4	2.7	4.0	13.0	38.2	86.4	145.9	166.6	165.9	228.7	293.3	102.5	1261.6	126 (1975)	49 (1968)	278.0	1976 Nov 25
		b	1.1	0.2	0.4	0.7	2.7	6.0	8.9	10.1	8.2	9.4	8.9	3.6	60.2				
R.K. Pet	45	a	9.2	4.0	9.3	17.3	48.8	48.4	75.5	98.9	123.6	164.5	111.6	45.3	756.4	176 (1953)	04 (1961)	182.0	1988 Sep 07
		b	0.4	0.1	0.3	0.8	1.9	3.0	3.7	4.5	4.8	5.0	3.8	1.7	30.0				
Red Hills	28	a	14.4	2.4	7.0	6.9	49.0	51.9	98.8	132.8	108.2	244.4	326.3	146.9	1191.0	158 (1976)	60 (1951)	359.0	1976 Nov 25
		b	1.2	0.2	0.3	0.6	1.7	4.6	7.3	9.1	7.2	9.5	10.2	5.3	57.2				
Saidapet	78	a	37.4	10.5	10.1	13.6	39.8	46.8	89.5	131.1	130.8	281.3	346.0	133.2	1270.1	166 (1943)	50 (1904)	450.0	1968 Sep 27
		b	1.5	0.5	0.4	0.7	1.3	3.4	6.0	7.4	6.3	9.7	10.0	4.9	52.1				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Sriperumbudur	80	a	27.7	5.7	7.0	17.2	39.7	56.6	94.2	146.7	130.1	211.2	256.2	113.0	1105.3	180 (1976)	51 (1948)	416.1	1943 Oct 10
		b	1.2	0.5	0.4	0.9	1.9	3.9	6.6	8.1	6.8	8.8	8.9	4.1	52.1				
Tamrapaukkam	29	a	12.6	3.1	2.7	10.2	39.0	61.8	102.3	131.7	118.2	225.4	282.4	121.1	1110.5	137 (1970)	42 (1959)	290.0	1970 Nov 20
		b	1.0	0.4	0.3	0.8	1.8	5.5	7.8	9.1	7.2	9.7	9.4	4.6	57.6				
Tirutani	78	a	31.1	10.6	12.4	15.2	53.3	67.4	111.3	135.9	143.1	183.9	198.0	85.3	1047.5	200 (1946)	62 (1968)	292.1	1882 Nov 23
		b	1.4	0.6	0.5	0.9	3.0	4.7	7.5	8.5	7.5	8.6	8.2	3.7	55.1				
Tiruvallur	79	a	32.4	9.1	10.5	15.5	42.5	58.0	101.3	134.3	129.7	208.0	240.2	106.2	1087.7	167 (1943)	07 (1945)	335.3	1901 Dec 10
		b	1.4	0.6	0.5	0.8	2.1	4.6	7.4	8.3	7.4	8.8	8.6	4.3	54.8				
Uthiramerur	72	a	28.4	9.8	11.6	21.5	42.3	59.0	92.9	162.0	151.2	201.2	225.3	103.8	1109.0	170 (1946)	35 (1973)	225.0	1943 Oct 10
		b	1.3	0.5	0.4	0.9	1.9	3.7	5.7	7.8	6.7	8.5	7.7	4.0	49.1				
Tambaram Aero Obsy	22	a	8.5	5.4	1.3	16.7	41.4	68.9	122.3	178.9	142.3	295.6	376.1	173.1	1430.5	143 (1978)	61 (1974)	327.8	1985 Nov 13
		b	1.0	0.2	0.2	1.0	2.2	4.9	7.8	10.0	7.8	10.7	11.2	5.4	62.4				
Vallur Anicut	29	a	18.5	1.4	6.4	11.4	53.3	56.0	99.6	127.6	116.6	239.1	319.3	129.6	1178.8	136 (1958)	63 (1951)	402.6	1952 May 22
		b	1.2	0.2	0.3	0.5	1.4	4.7	8.2	8.8	7.5	10.4	10.2	5.2	58.6				
Vayalur	61	a	34.0	7.4	3.2	13.6	41.8	41.1	76.8	102.7	109.7	278.0	294.1	128.3	1130.7	178 (1946)	37 (1904)	357.9	1915 Nov 14
		b	1.6	0.4	0.2	0.7	1.3	3.5	6.4	7.2	6.3	9.7	9.5	4.7	51.5				
Chengalpattu M.G.R. (District)		a	23.5	6.3	7.9	15.3	44.1	57.1	99.8	140.5	129.4	240.2	280.7	122.3	1167.1	160 (1946)	53 (1904)		
		b	1.3	0.4	0.4	0.8	1.9	4.1	6.8	8.2	6.6	9.2	9.1	4.5	53.3				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(CHENGALPATTU M.G.R.)

Range in mm	No. of years	Range in mm	No. of years
601 - 700	1	1301 - 1400	6
701 - 800	5	1401 - 1500	7
801 - 900	7	1501 - 1600	4
901 - 1000	8	1601 - 1700	3
1001 - 1100	13	1701 - 1800	2
1101 - 1200	14	1801 - 1900	1
1201 - 1300	9		

TABLE - 3
Normals of Temperature and Relative Humidity
(M E E N A M B A K K A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.6	20.4	33.3	1990 Jan 21	15.7	1969 Jan 27	83	65
February	30.6	21.3	36.2	1967 Feb 25	16.0	1989 Feb 04	80	63
March	33.1	23.3	40.6	1953 Mar 29	18.2	1989 Mar 02	76	63
April	35.2	26.1	42.7	1991 Apr 30	20.7	1968 Apr 27	72	66
May	37.6	27.7	44.3	1980 May 22	21.1	1952 May 19	64	62
June	37.0	27.2	42.9	1983 Jun 01	20.3	1982 Jun 06	60	57
July	35.0	26.0	40.1	1982 Jul 01	20.6	1985 Jul 14	68	60
August	34.2	25.4	39.0	1968 Aug 07	21.4	1967 Aug 16	72	65
September	33.8	25.3	38.6	1972 Sep 05	20.9	1959 Sep 07	74	68
October	31.7	24.3	37.1	1965 Oct 01	19.6	1974 Oct 31	81	75
November	29.3	22.6	35.0	1951 Nov 01	16.7	1954 Nov 08	84	74
December	28.1	21.2	32.0	1977 Dec 30	16.1	1947 Dec 31	83	70
Annual	32.9	24.2					75	66

TABLE - 4
Mean Wind Speed in km/hr.
(M E E N A M B A K K A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
8.3	8.3	9.7	11.7	13.4	14.6	12.8	11.9	10.3	7.7	8.9	9.0	10.6

TABLE - 5
Special Weather Phenomena
(M E E N A M B A K K A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.4	1.8	3.0	5.4	7.1	7.7	8.0	10.0	4.7	0.9	49.0
Fog	1.5	1.5	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.5	4.3
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squall	0.0	0.0	0.0	0.5	1.2	2.7	2.7	2.9	2.3	1.2	0.6	0.2	14.3

CHENNAI DISTRICT

The climate of Chennai is characterised by an oppressive hot summer, dampness in the atmosphere nearly throughout the year, and good seasonal rainfall. The summer season from March to May is followed by the southwest monsoon season from June to September. October and November constitute the post monsoon or retreating monsoon season. The period from December to February is the northeast monsoon season, with the associated rains being confined to December.

RAINFALL

Records of rainfall for Nungambakkam (Obsy) which is the oldest observatory in India and Chepauk Compound are available for sufficiently long period. Details of rainfall at these two stations are given in Tables 1 and 2. The normal annual rainfall in the district is 1228.0 mm. August to December is the main rainy season when about 80 % of the annual rainfall is received, October and November being the rainiest months. In the 80 year period 1901 to 1980, the highest annual rainfall amounting to 140 % of the normal occurred in 1976. The lowest annual rainfall which was only 45 % of the normal occurred in 1904. In this 80 year period, the annual rainfall was less than 80 % of the normal in 7 years and 2 consecutive years of such low rainfall occurred twice. It will be seen from Table 2 that the average annual rainfall at Chennai was between 1001 and 1500 mm in 34 years out of 48.

On an average there are about 53 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year at Chennai.

The heaviest rainfall in 24 hours recorded at any station in the district was 328.4 mm on 25th November 1976 at Chepauk Compound.

TEMPERATURE

Climatological data for Nungambakkam observatory are available for a long period of years. The period from March to June is one of continuous increase in the temperatures. May and the early part of June is the hottest part of the year when the mean daily maximum temperature is about 36°C and the mean daily minimum is about 27°C. The maximum temperature on many days during April to June exceeds 43°C. Afternoon sea breezes bring in welcome relief, from the oppressive heat. There is a decrease in temperature with the advance of the southwest monsoon, and the weather becomes a little milder than in summer. After the withdrawal of the southwest monsoon by about the end of September, temperatures begin to decrease. December and January form

the coolest part of the year with the mean daily maximum temperature at about 28°C and the mean daily minimum at about 21°C.

The highest maximum temperature recorded at Nungambakkam was 45°C on 21st May 1910. The lowest minimum was 13.9°C on 11th December 1895 and 29th January 1905.

HUMIDITY

High humidities prevail throughout the year.

CLOUDINESS

During the southwest monsoon, the retreating monsoon seasons and in the earlier half of the northeast monsoon season skies are heavily clouded or overcast. On some days cloudiness decreases thereafter.

WINDS

Winds are generally light to moderate. In the period October to May, the winds in the afternoons are stronger than in the mornings. In the southwest monsoon season winds are southwesterly to westerly in the mornings and mainly southeasterly to southerly in the afternoons. In October winds are from directions between southwest and west in the mornings and between northeast and east in the afternoons. During the period November to January winds from directions between north and northeast are more common in the mornings while in the afternoons they are more from directions between north and northeast. In February and March winds are somewhat variable in direction in the mornings and mainly from the east or southeast in the afternoons. In April and May southerlies and southwesterlies predominate in the mornings while in the afternoons southeasterlies are more common.

SPECIAL WEATHER PHENOMENA

Storms and depressions originating in the Bay of Bengal during the post monsoon and early part of the northeast monsoon season cross the east coast and cause widespread heavy rain and gusty winds. Thunderstorms occur during the summer and post monsoon periods. Even in the southwest monsoon season rainfall is often associated with thunder.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Nungambakkam.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Chepauk Compound	29	a	17.4	3.3	1.4	13.7	39.4	53.0	115.0	154.7	110.5	262.6	304.4	133.1	1208.5	137 (1975)	53 (1968)	328.4	1976 Nov 25
		b	0.9	0.3	0.1	0.7	1.4	3.6	7.1	8.1	5.8	9.5	8.8	4.2	50.5				
Nungambakkam (Obsy)	63	a	35.3	9.4	6.2	14.5	42.1	47.9	92.6	129.0	114.8	290.1	343.8	121.9	1247.6	145 (1976)	68 (1973)	261.6	1901 Dec 10
		b	1.7	0.6	0.3	0.8	1.4	3.8	7.0	8.4	6.5	10.4	10.3	4.9	56.1				
Chennai (District)		a	26.3	6.3	3.8	14.1	40.7	50.5	103.8	141.9	112.7	276.3	324.1	127.5	1228.0	140 (1976)	45 (1904)		
		b	1.3	0.5	0.2	0.7	1.4	3.7	7.1	8.3	6.1	9.9	9.5	4.5	53.2				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(C H E N N A I)

Range in mm	No. of years	Range in mm	No. of years
501 - 600	1	1201 - 1300	4
601 - 700	0	1301 - 1400	5
701 - 800	2	1401 - 1500	5
801 - 900	2	1501 - 1600	3
901 - 1000	3	1601 - 1700	2
1001 - 1100	8	1701 - 1800	1
1101 - 1200	12		

(Data available for 48 years only.)

TABLE - 3
Normals of Temperature and Relative Humidity
(N U N G A M B A K K A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.4	20.6	33.1	1990 Jan 21	13.9	1905 Jan 29	79	67
February	29.9	21.2	36.7	1927 Feb 18	15.0	1934 Feb 12	79	67
March	31.9	23.1	40.6	1953 Mar 29	16.7	1908 Mar 09	77	69
April	33.6	25.9	42.8	1908 Apr 27	20.0	1939 Apr 03	74	73
May	36.4	27.6	45.0	1910 May 21	21.1	1886 May 14	66	68
June	36.6	27.2	43.3	1948 Jun 03	20.6	1909 Jun 16	62	63
July	34.7	25.9	41.1	1915 Jul 04	21.0	1985 Jul 14	70	65
August	33.9	25.3	40.0	1918 Aug 05	20.6	1935 Aug 22	74	68
September	33.5	25.3	38.9	1883 Sep 19	20.6	1884 Sep 15	76	72
October	31.4	24.3	39.4	1920 Oct 01	16.7	1889 Oct 28	82	76
November	29.2	22.8	34.6	1990 Nov 08	15.0	1901 Nov 26	82	77
December	28.1	21.6	32.8	1909 Dec 05	13.9	1895 Dec 11	81	73
Annual	32.3	24.2					75	70

TABLE - 4
Mean Wind Speed in km/hr.
(N U N G A M B A K K A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
5.6	5.4	6.6	8.2	10.1	10.3	8.7	8.0	7.2	4.9	6.3	7.0	7.4

TABLE - 5
Special Weather Phenomena
(N U N G A M B A K K A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.2	0.9	1.6	3.3	3.2	4.4	4.5	5.1	2.2	0.5	25.9
Fog	0.2	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.7
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squall	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3

CHIDAMBARANAR DISTRICT

The district has a hot tropical climate. The summer season which is very oppressive is from March to May. The southwest monsoon season which follows lasts till September. October and November constitute the retreating monsoon or the post monsoon season. The period from December to February is the northeast monsoon season with the associated rain confined to the first half of the season, the second half being one of generally good weather.

RAINFALL

Records of rainfall in the district are available for 12 stations for 13 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 661.6 mm. The main rainy season in the district is the period from October to December. About 67 % of the annual rainfall is received in this period. October and November are the rainiest months. In the summer season, some rain mostly as thundershowers is received. The variation in the annual rainfall from year to year in the district as a whole is not large. During the 80 year period, 1901 to 1980, the highest annual rainfall amounting to 180 % of the normal occurred in 1902, while the lowest annual rainfall which was 45 % of the normal occurred in 1974. During this 80 years period the annual rainfall in the district was less than 80 % of the normal in 16 years. Two consecutive years of such low rainfall occurred twice and three consecutive years once during this period.

It will be seen from Table 2 that the average annual rainfall in the district was between 401 and 900 mm in 69 years out of 80.

On an average there are 35 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district.

The heaviest rainfall in 24 hours recorded at any station in the district was 315.0 mm at Kulsekarapattinam on 4th December, 1940.

TEMPERATURE

There is only one meteorological observatory in the district, at Tuticorin. The records of this observatory may be taken as fairly representative of the meteorological conditions of the district. In the day time the coastal regions are cooler than the interior parts by about a degree or so in the summer and southwest monsoon seasons and by two to three

degrees in the rest of the year. From the middle of February temperatures increase steadily. June is the hottest month when the mean daily maximum temperature is 35.6°C. The weather is oppressively hot in May and June and the maximum temperature sometimes goes even above41°C. Thundershowers on some afternoons during April and May bring welcome relief.

The afternoon sea breezes also bring some relief in the coastal parts. By about the middle of October both day and night temperatures decrease appreciably. The period from November to February is the coolest part of the year with the mean daily maximum temperature of about 29°C. The mean daily minimum in these months is about 23°C in the district in general.

The highest maximum temperature recorded at Tuticorin was 41.1°C on 14th May, 1956 and the lowest minimum temperature recorded was 15.3°C on 15th January, 1990.

HUMIDITY

High relative humidities prevail all the year round, between 60 to 75 % in general. In the summer season the humidities in the interior parts of the district are slightly lower.

CLOUDINESS

During April and May the skies become overcast in the afternoons on many days when thunderstorms follow. In the southwest and northeast monsoons, the skies are heavily clouded.

WINDS

Winds are generally light to moderate in strength with some increase in speed during the period from May to August and from November to February. In March winds are mostly between northeast and north in the mornings. In the afternoons they are either easterly to southeasterly. From April to October winds blow mostly between south and west.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal, during the post monsoon and the beginning of the northeast monsoon seasons, sometimes move

in a westerly to west-northwesterly direction and reach the district or its neighbourhood causing widespread heavy rain and very strong winds. Thunderstorms occur in the summer and post monsoon seasons being generally greater in the western portions of the district.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Tuticorin.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Kayathur	75	a	26.3	21.7	33.1	76.3	47.6	3.3	12.3	32.9	41.0	194.5	172.4	71.6	733.0	200	42	213.1	1925 Jan 09
		b	1.6	1.3	2.0	4.6	3.1	0.5	0.7	1.4	2.4	8.5	8.5	4.2	38.8	(1916)	(1975)		
Arasadi	78	a	27.0	23.2	36.2	49.8	21.2	3.8	7.2	6.8	12.8	140.6	166.4	88.5	583.5	214	40	243.6	1946 Dec 16
		b	1.6	1.1	2.0	2.7	1.4	0.3	0.6	0.6	1.1	6.8	8.3	4.1	30.6	(1902)	(1958)		
Kayalpatti-nam	16	a	13.5	34.2	26.9	42.0	9.3	4.1	9.3	2.4	15.8	108.4	209.9	142.1	617.9	141	54	172.7	1896 Nov 14
		b	1.1	2.0	1.7	2.7	0.5	0.3	0.6	0.3	1.3	5.7	9.0	5.6	30.8	(1978)	(1975)		
Kovilpatti	79	a	26.3	17.1	26.9	70.0	51.4	15.1	20.0	33.7	62.5	164.8	167.0	66.7	721.5	155	41	153.2	1907 Nov 10
		b	1.7	1.2	1.9	4.3	3.4	1.0	1.3	2.4	3.9	9.1	8.7	3.9	42.8	(1940)	(1974)		
Kulsekara-pattinam	78	a	52.5	30.4	30.6	43.2	17.0	6.2	10.7	7.2	8.0	130.0	240.5	147.9	724.2	235	32	315.0	1940 Dec 04
		b	2.7	1.7	1.9	2.4	1.2	0.7	0.7	0.5	0.7	5.8	9.4	6.0	33.7	(1925)	(1974)		
Ottapidaram	79	a	27.5	19.6	23.8	47.0	30.3	3.5	9.3	21.6	38.5	178.4	148.4	76.4	624.3	193	31	304.8	1899 Apr 14
		b	1.7	1.0	1.5	2.9	1.9	0.4	0.6	1.4	2.6	8.6	7.4	3.9	33.9	(1979)	(1974)		
Sathankulam	79	a	36.5	22.8	25.1	49.7	23.2	7.7	8.4	14.0	21.4	143.3	191.9	104.5	648.5	189	36	207.0	1943 Jan 03
		b	2.1	1.5	1.8	2.8	1.9	0.9	0.8	1.1	1.7	7.3	9.5	5.0	36.4	(1925)	(1958)		
Srivaikundam	75	a	30.4	21.1	32.9	48.5	26.8	5.3	10.9	21.4	28.4	145.4	187.7	97.8	656.6	240	34	233.7	1877 Dec 17
		b	2.0	1.4	1.9	3.2	1.9	0.7	0.9	1.2	2.1	7.8	9.5	4.9	37.5	(1969)	(1974)		

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Thiruchendur	66	a	58.4	30.6	29.6	49.6	14.2	4.1	6.5	6.0	8.0	127.1	252.2	148.6	734.9	196 (1963)	35 (1952)	230.6	1931 Dec 10
		b	2.9	1.8	2.1	2.4	1.1	0.5	0.6	0.5	0.8	5.5	9.5	5.8	33.5				
Tuticorin (Obsy)	80	a	23.8	24.5	36.0	50.2	20.3	4.2	6.7	6.5	15.2	137.6	184.4	92.3	601.7	192 (1902)	32 (1916)	188.2	1955 Dec 03
		b	1.7	1.2	1.9	2.6	1.3	0.4	0.5	0.6	1.1	6.5	8.5	4.0	30.3				
Tuticorin Harbour (Obsy)	13	a	7.5	23.2	36.1	55.9	28.4	1.0	5.1	6.2	12.3	125.0	227.1	128.2	656.0	145 (1973)	55 (1974)	190.5	1973 Nov 02
		b	0.8	1.8	2.1	3.9	1.3	0.1	0.5	0.5	0.9	7.6	8.7	5.7	33.9				
Vilathikulam	78	a	27.9	14.5	22.4	56.7	31.1	6.5	17.1	35.1	48.4	161.6	147.5	69.0	637.8	142 (1922)	36 (1974)	231.1	1903 Dec 05
		b	1.7	1.1	1.5	3.1	2.1	0.6	1.2	2.4	3.7	8.9	8.2	3.9	38.4				
Chidambaranar (District)		a	29.8	23.6	30.0	53.2	26.7	5.4	10.3	16.1	26.0	146.4	191.3	102.8	661.6	180 (1902)	45 (1974)		
		b	1.8	1.4	1.9	3.1	1.8	0.5	0.7	1.1	1.9	7.3	8.8	4.7	35.0				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(C H I D A M B A R A N A R)

Range in mm	No. of years	Range in mm	No. of years
201 - 300	1	701 - 800	12
301 - 400	3	801 - 900	10
401 - 500	10	901 - 1000	4
501 - 600	14	1001 - 1100	1
601 - 700	23	1101 - 1200	2

TABLE - 3
Normals of Temperature and Relative Humidity
(T U T I C O R I N)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.1	21.7	33.3	1955 Jan 12	15.3	1990 Jan 15	78	75
February	29.0	22.7	35.8	1965 Feb 09	17.2	1993 Feb 07	77	73
March	30.6	24.5	34.8	1961 Mar 28	15.6	1989 Mar 02	75	73
April	32.4	26.0	39.1	1973 Apr 29	19.9	1984 Apr 12	73	71
May	34.8	26.7	41.1	1956 May 14	21.1	1986 May 26	64	62
June	35.6	26.5	39.8	1987 Jun 08	21.3	1970 Jun 04	60	52
July	34.9	26.2	39.4	1987 Jul 11	20.4	1986 Jul 15	59	53
August	34.7	26.1	39.3	1990 Aug 19	20.7	1969 Aug 24	59	55
September	34.1	25.7	38.7	1980 Sep 05	20.7	1987 Sep 30	61	59
October	32.0	24.6	38.6	1990 Oct 07	17.7	1984 Oct 19	72	70
November	29.7	23.5	34.9	1969 Nov 09	16.7	1991 Nov 30	80	76
December	28.4	22.4	33.3	1972 Dec 07	15.6	1984 Dec 14	80	77
Annual	32.0	24.7					70	66

TABLE - 4
Mean Wind Speed in km/hr.
(T U T I C O R I N)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
20.6	19.3	15.8	12.4	13.0	17.0	18.1	17.3	15.0	11.4	13.6	18.1	16.0

TABLE - 5
Special Weather Phenomena
(T U T I C O R I N)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.1	0.1	0.5	1.2	0.3	0.1	0.2	0.1	0.1	1.3	1.5	0.6	6.1
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

COIMBATORE DISTRICT

The summer season in this district is comparatively cooler than the neighbouring districts on the plains. The district has scanty and uncertain rainfall and high winds prevail in the region opposite the Palghat gap during May to July. The summer season from mid-February to May is followed by the southwest monsoon season from June to September. October and November constitute the post monsoon or northeast monsoon season. December to the first half of February is the coolest season.

RAINFALL

Records of rainfall in the district are available for 20 stations for periods ranging from 21 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 1129.6 mm. The rainfall is heavy in the north and extreme southwest, both the regions being in the immediate neighbourhood of the western ghats. Elsewhere, the rainfall in the district in general decreases eastwards upto the pocket of the low rainfall area enclosing Sulur-Palladam and thereafter increases eastwards. Thus the rainfall in the district varies from 350.4 mm at Manupatti to 4203.6 mm at Cinnakallore. The western parts of the district receive comparatively more rain during the southwest monsoon season, while the eastern parts get more rain during the northeast monsoon season. Considering the annual rainfall in the district as a whole, about 51% of the annual normal is received during the southwest monsoon season and about 27% during the northeast monsoon season.

July in the southwest monsoon season and October in the northeast monsoon season are the rainiest months, July being the rainier of the two. The variation in the annual rainfall from year to year is very large and the district is subject to scarcity and famine conditions, due to the failure of seasonal rains. During the 80 year period 1901 to 1980 the highest annual rainfall amounting to 150% of the annual normal occurred in 1979. The lowest annual rainfall which was only 38% of the normal occurred in 1923. In this 80 year period the annual rainfall in the district was less than 80% of the normal in 31 years. It will be seen from Table 2 that the average annual rainfall in the district was between 701 and 1200 mm in 48 years out of 80.

On an average there are about 55 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies as in the case of the rainfall and ranges from 23 at Manupatti to 145 at Anamalais.

The heaviest rainfall in 24 hours recorded at any station in the district was 515.6 mm at Anamalais and Cihnakallore on 17th June 1959.

TEMPERATURE

There are two meteorological observatories in the district, one at Peelamedu and the other at Coimbatore. But due to their location opposite the Palghat gap, it is much influenced by the cool breezes blowing through the Palghat gap. Hence it is comparatively cooler, more humid and windy in this region during the summer than the eastern portions of the district. The portions of the district near the hills in the west, like Mettupalayam is also comparatively hotter during summer, due to heat radiations from the hills. With this background, the records of these observatories may be taken as fairly representative of the climatological conditions in the district in general. After mid-February there is continuous increase in the temperature till April. April is generally the hottest month. In March/April the mean daily maximum temperature is about 35°C and the mean daily minimum is about 22°C.

On individual days during March to June the maximum temperature reaches about 43°C and the days are quite hot and dry in the eastern portions of the district. The afternoon thundershowers which occur on some days during the summer bring welcome relief. With the onset of the southwest monsoon in the district by about the beginning of June there is an appreciable drop in the day temperatures, especially in the western portions of the district. Towards the end of the monsoon season in September, there is a slight increase in the day temperature. However, with the gradual onset of the northeast monsoon current over the district in October, the weather becomes cooler with the progress of the season. Days during December are the coolest with the mean daily maximum temperature at about 29°C and nights during January are the coolest with the mean daily minimum temperature at about 19°C.

The highest maximum temperature recorded at Peelamedu and Coimbatore respectively were 42.6°C on 22nd April 1976 and 40.4°C on 5th May 1983 and the lowest minimum at these stations were 12.2°C on 12th January 1972 and 11.7°C on 8th January 1912 respectively.

HUMIDITY

Mornings in general are more humid than the afternoons, with the humidity exceeding 78% on an average. In the period June to November the afternoon humidities exceed 66% on an average. In the rest of the year the afternoons are drier, the summer afternoons being the driest.

CLOUDINESS

During the period June to November the skies are mostly heavily clouded or overcast. Cloudiness decreases in December and later upto end of March the skies are mostly clear or lightly clouded. Subsequently cloudiness increases gradually, especially in the afternoons.

WINDS

During October to April, the winds are light. From May onwards there is progressive strengthening of wind force till September, especially in the region opposite to the Palghat gap where it is very gusty. During the period May to October the winds blow mostly from the directions between south and southwest. Northeasterlies appear in October and during the period November to March winds from northeast and east are most predominant. Southerlies and southwesterlies appear in April. By May these become the predominant winds with the northeasterlies becoming progressively less frequent.

SPECIAL WEATHER PHENOMENA

Storms and depressions from the south Bay of Bengal during October and November moving across Tamil Nadu affect the weather over the district occasionally causing widespread heavy rain and gusty winds. Thunderstorms occur commonly during April, May, September and October. Dust raising winds are common during late summer afternoons, especially in the region opposite the Palghat gap. Morning mist occurs during the northeast monsoon season on some days.

Tables 3, 4 and 5 and 3(a), 4(a) and 5(a) give the temperature and humidity, mean wind speed and special weather phenomena for Coimbatore and Peelamedu respectively.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Anamalais	56	a	21.8	21.8	45.6	136.9	217.7	725.9	1151.7	741.6	370.6	332.7	153.1	41.1	3960.5	212 (1947)	51 (1976)	515.6	1959 Jun 17
		b	1.2	1.7	2.7	7.9	10.9	23.0	27.2	23.9	17.9	16.8	8.8	2.7	144.7				
Annur	75	a	11.0	7.3	14.6	60.1	89.6	29.2	38.6	59.7	76.4	165.1	117.5	33.6	702.7	159 (1972)	46 (1923)	129.5	1937 Nov 19
		b	0.8	0.5	0.9	3.6	5.6	2.4	3.2	4.1	4.7	8.8	6.0	2.2	42.8				
Attakatti	26	a	18.7	13.1	18.9	74.6	129.6	150.1	252.9	114.6	97.7	247.2	208.6	103.7	1429.7	161 (1961)	43 (1952)	192.0	1967 Nov 04
		b	1.2	0.7	1.3	4.7	6.2	10.8	15.3	9.2	6.2	11.8	9.8	5.0	82.2				
Avanashi	80	a	12.5	7.5	17.1	53.5	88.0	29.2	36.2	60.2	94.5	177.1	113.3	36.5	725.6	175 (1944)	46 (1923)	193.0	1902 Oct 11
		b	0.8	0.5	1.0	3.1	6.0	2.2	3.1	4.3	5.8	9.3	6.3	2.4	44.8				
Chengandi-puthur	19	a	7.0	6.1	4.4	29.8	48.9	9.6	15.9	11.6	51.1	120.8	90.2	46.6	442.0	170 (1977)	38 (1974)	107.9	1959 Nov 29
		b	0.5	0.3	0.4	1.8	2.7	0.7	1.2	0.7	2.7	6.4	5.3	2.7	25.4				
Chitra-chavadi	29	a	5.7	7.2	7.5	38.2	57.2	60.1	99.0	51.8	44.9	140.4	135.4	35.6	683.0	204 (1979)	51 (1952)	152.4	1960 Oct 27
		b	0.5	0.6	0.7	2.7	4.2	5.9	8.9	4.6	3.6	8.2	6.9	2.6	49.4				
Cinnakallore	40	a	11.0	12.5	38.7	105.9	205.1	825.3	1272.5	842.1	430.1	282.2	135.8	42.4	4203.6	135 (1961)	62 (1965)	515.6	1959 Jun 17
		b	0.7	0.9	2.1	5.2	8.8	21.0	26.4	24.0	18.1	13.9	7.1	2.6	130.8				
Coimbatore (Obsy)	75	a	14.8	7.5	13.0	45.2	71.6	35.6	48.0	30.2	42.3	156.6	117.4	46.3	628.5	169 (1924)	39 (1952)	179.6	1972 Dec 09
		b	1.1	0.5	0.8	3.4	4.5	3.3	4.9	3.0	3.4	9.5	6.9	3.0	44.3				
Iyerpadi	26	a	12.3	8.8	41.8	111.0	211.2	505.2	707.4	466.9	336.0	265.9	128.2	54.6	2849.3	202 (1961)	14 (1974)	296.0	1966 Nov 09
		b	1.0	0.6	2.2	5.9	10.3	19.4	22.3	20.1	15.0	12.0	5.7	2.8	117.3				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Komaralingam	25	a	11.5	6.3	6.7	33.5	48.0	12.1	16.1	11.5	48.4	136.0	144.2	65.9	540.2	164 (1977)	46 (1974)	136.4	1960 Nov 12
		b	0.7	0.4	0.5	2.4	3.5	1.3	1.9	1.0	3.0	8.4	7.2	3.6	33.9				
Krishnapuram	21	a	7.9	6.9	4.5	41.4	55.8	12.4	13.1	11.0	52.0	127.3	118.2	52.4	502.9	171 (1977)	39 (1974)	120.0	1980 Nov 17
		b	0.6	0.3	0.4	2.3	3.2	0.8	1.4	0.7	2.8	6.8	5.3	2.8	27.4				
Manupatti	26	a	17.8	4.7	8.5	27.7	37.7	17.0	37.1	10.0	16.4	77.3	67.7	28.5	350.4	216 (1959)	110 (1952)	111.0	1992 Nov 14
		b	0.8	0.2	0.7	1.7	2.5	1.3	3.2	0.8	1.2	4.3	4.2	1.8	22.7				
Mettupa-layam	80	a	30.3	37.8	37.2	67.1	83.1	25.3	33.2	45.9	65.8	209.2	178.4	61.9	875.2	188 (1936)	42 (1911)	202.4	1936 Feb 04
		b	1.5	1.3	1.6	3.9	5.4	2.1	2.8	3.5	4.3	9.6	7.9	3.2	47.1				
Palladam	79	a	11.2	7.0	9.9	49.1	77.4	15.2	17.7	23.2	53.7	154.8	114.4	41.5	575.1	189 (1944)	28 (1973)	171.0	1993 Nov 12
		b	0.9	0.4	0.7	2.9	4.6	1.2	1.4	1.6	3.0	7.9	6.0	2.4	33.0				
Peelamedu (Obsy)	33	a	5.1	8.5	9.4	51.7	79.9	27.3	39.8	22.0	61.5	128.9	98.4	44.7	577.2	196 (1972)	42 (1952)	165.4	1972 Dec 09
		b	0.4	0.6	0.7	3.5	4.7	2.5	3.7	2.2	3.5	9.0	5.9	2.7	39.4				
Periyanaickam-palayam	71	a	19.4	17.2	19.2	69.0	98.0	40.3	31.3	46.3	77.8	196.7	159.6	51.6	826.4	210 (1919)	48 (1904)	147.3	1915 Nov 27
		b	1.2	0.9	1.3	4.1	6.0	2.2	2.3	3.3	4.8	9.9	7.8	2.8	46.6				
Pollachi	79	a	9.9	7.0	16.1	60.3	77.8	101.3	167.4	87.7	48.4	141.0	132.4	44.9	894.2	188 (1924)	52 (1947)	266.7	1890 Oct 29
		b	0.7	0.4	1.0	3.5	4.6	9.2	13.2	8.6	4.1	7.6	6.8	2.8	62.5				
Sulur	79	a	9.4	8.3	12.3	45.1	76.3	17.7	18.8	25.3	47.0	153.2	106.8	38.8	559.0	242 (1979)	44 (1938)	171.1	1983 Nov 04
		b	0.9	0.5	0.8	2.8	4.4	1.5	1.7	1.8	2.9	8.4	6.2	2.3	34.2				

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TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST / LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**		HEAVIEST RAINFALL in 24 HOURS *	
																		Amount (mm)	Date
Tiruppur	71	a	11.8	6.0	12.2	55.5	84.1	18.4	25.2	43.5	70.8	162.7	114.3	38.6	643.1	170 (1930)	58 (1965)	180.0	1992 Jul 27
		b	0.8	0.5	0.8	3.2	5.3	1.4	1.9	3.0	4.5	9.0	6.3	2.6	39.3				
Udumalpet	79	a	17.3	7.9	15.4	49.6	67.9	23.9	31.0	20.9	29.1	165.5	139.0	56.4	623.9	195 (1977)	43 (1904)	213.4	1890 Oct 28
		b	1.2	0.5	1.0	3.1	3.9	2.5	3.7	2.0	2.2	8.4	7.1	3.3	38.9				
Coimbatore (District)		a	13.3	10.5	17.7	60.3	95.2	134.1	202.6	136.3	105.7	177.0	128.6	48.3	1129.6	150 (1979)	38 (1923)		
		b	0.9	0.6	1.1	3.6	5.4	5.7	7.5	6.1	5.7	9.3	6.7	2.8	55.4				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(C O I M B A T O R E)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	3	1101 - 1200	13
501 - 600	4	1201 - 1300	4
601 - 700	7	1301 - 1400	6
701 - 800	10	1401 - 1500	5
801 - 900	7	1501 - 1600	2
900 - 1000	11	1601 - 1700	1
1001 - 1100	7		

TABLE - 3
Normals of Temperature and Relative Humidity
(C O I M B A T O R E)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	1730 IST
January	30.0	19.0	36.1	1991 Jan 30	11.7	1912 Jan 08	76	40
February	32.3	20.1	37.6	1983 Feb 26	12.6	1910 Feb 07	71	31
March	34.9	22.0	39.7	1983 Mar 19	15.6	1930 Mar 01	69	28
April	35.4	23.6	40.3	1983 Apr 13	17.8	1899 Apr 13	74	45
May	33.4	23.4	40.4	1983 May 05	16.1	1962 May 04	76	58
June	30.9	22.4	38.6	1966 Jun 02	18.3	1893 Jun 02	76	66
July	29.6	21.8	37.5	1982 Jul 29	16.7	1911 Jul 10	80	68
August	30.3	22.0	35.7	1969 Aug 06	17.2	1921 Aug 17	80	65
September	31.2	22.0	38.0	1988 Sep 07	17.8	1954 Sep 30	79	62
October	30.8	22.0	36.1	1918 Oct 05	15.0	1911 Oct 29	81	69
November	29.7	21.0	36.4	1985 Nov 11	13.9	1901 Nov 27	80	62
December	28.9	19.7	35.0	1899 Dec 22	12.2	1883 Dec 29	78	51
Annual	31.5	21.6					77	54

TABLE - 4
Mean Wind Speed in km/hr.
(C O I M B A T O R E)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
6.4	7.1	6.9	7.2	10.7	15.6	15.6	15.6	13.0	8.3	6.0	6.1	9.9

TABLE - 5
Special Weather Phenomena
(C O I M B A T O R E)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.3	1.1	5.7	6.0	1.0	0.5	1.1	4.3	6.0	1.9	0.6	28.5
Fog	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squall	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(P E E L A M E D U)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	1730 IST
January	29.8	18.1	36.6	1986 Jan 03	12.2	1972 Jan 12	78	42
February	32.4	19.0	38.8	1983 Feb 23	12.8	1965 Feb 08	74	34
March	35.0	21.2	40.8	1983 Mar 29	15.6	1949 Mar 11	72	29
April	35.8	23.3	42.6	1976 Apr 22	18.2	1972 Apr 05	75	43
May	34.0	23.2	41.2	1983 May 05	15.6	1949 May 25	78	59
June	31.7	22.2	37.4	1988 Jun 03	18.3	1949 Jun 26	79	67
July	30.4	21.6	36.4	1986 Jul 16	16.1	1949 Jul 11	83	71
August	31.0	21.7	36.0	1980 Aug 16	16.1	1949 Aug 16	83	69
September	31.9	21.8	37.8	1987 Sep 16	16.7	1948 Sep 21	82	67
October	30.9	21.7	36.0	1990 Oct 11	15.9	1964 Oct 19	83	68
November	29.6	20.6	34.2	1988 Nov 27	14.1	1964 Nov 28	81	62
December	28.7	18.8	34.4	1988 Dec 12	12.4	1981 Dec 12	80	54
Annual	31.8	21.1					79	55

TABLE - 4(a)
Mean Wind Speed in km/hr.
(P E E L A M E D U)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
10.4	11.4	12.1	13.6	20.4	28.6	28.3	27.9	23.4	14.2	9.5	10.0	17.5

TABLE - 5(a)
Special Weather Phenomena
(P E E L A M E D U)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Thunder	0.0	0.7	1.6	9.2	10.3	2.3	1.8	2.9	6.7	9.2	3.8	0.6	49.1
Fog	0.1	0.6	0.9	0.5	0.2	0.0	0.3	0.3	0.4	1.6	2.3	0.9	8.1
Dust-storm	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Squall	0.0	0.0	0.0	0.9	0.2	0.0	0.0	0.0	0.0	0.1	0.0	0.0	1.2

DHARMAPURI DISTRICT

The climate of this district is more pleasant than that of the surrounding districts, due to general dryness of atmosphere and appreciable drop in temperature in the monsoon season. The year may be divided into four seasons, dry season from January to March, summer season from April to May, southwest monsoon season from June to September and northeast monsoon from October to December.

RAINFALL

Records of rainfall are available for 15 stations in the district extending over a period of about 80 years. The rainfall statements for the individual stations and for the district as a whole are given in Tables 1 and 2. The hilly terrain causes appreciable variations of rainfall over the district.

The average annual rainfall in the district is 852.9 mm. The monthly distribution of rainfall shows a pronounced maximum in October with a secondary maximum in May. Rain usually in the form of thundershowers, commences in the latter half of April with heavy falls in May. Rainfall decreases in June but increases again by the end of July. 61% of the annual rainfall occurs during August to November. Period from January to middle of March is the driest part of the year.

The southwest monsoon contributes about 43% of the annual rainfall.

During the 80 year period 1901 - 1980, the highest annual rainfall in the district amounting to 163% of the normal was recorded in 1903 and the lowest annual rainfall amounting to 49% of the normal was experienced in 1980.

From Table 2 it will be seen that the average annual rainfall of the district was in the range 701 mm to 1000 mm during 51 years out of 78 years.

Average number of annual rainy days (i.e. days with rainfall of 2.5 mm or more) in the district are about 49.

The heaviest rainfall in 24 hours in the district was 280.0 mm recorded on 17th May 1974 at Penukondapuram.

TEMPERATURE

There being no observatory in the district, the description given here is based on the records of observatories in the adjoining areas. April and May are the hottest months in the year with the mean daily maximum temperature of about 37 °C and the mean daily minimum temperature of about 25 °C in the plains. There is gradual decrease of both day and night temperatures from June onwards till December when the mean daily maximum is about 30 °C and the mean daily minimum about 19 °C in the plains. The day temperatures increase gradually from January onwards. The lowest temperature is reached in January when the mean daily minimum is about 19 °C. However, in the higher areas in Hosur, Thali and Krishnagiri Taluks day and night temperatures are lower by about 2 °C to 3 °C. In these areas weather is comparatively pleasant round the year. In the lower plains weather is also pleasant except on individual days in May, June and July when weather becomes occasionally oppressive and sultry due to high temperatures (about 42 °C) and high humidity.

HUMIDITY

The climate of the district on the whole is slightly humid. The driest months are February and March with average relative humidity of about 30 % in the afternoons. During the rainy months the average humidity is appreciably below the saturation level.

CLOUDINESS

Skies are generally clear or lightly clouded during the period January to about the middle of April. The cloudiness increases from the later half of April and from middle of June onwards when the skies are generally heavily clouded till about the middle of November.

WINDS

Winds are generally light to moderate in strength round the year. In open areas, winds blow from northeasterly to easterly directions during the period November to March and from southwesterly to westerly directions during the period May to September. April and October are the transition months. In April, winds are mainly from easterly direction, and in October, winds are mainly from southwest direction in the morning and easterly direction in the afternoon. However, winds in the higher and sheltered places or valleys may differ very much.

SPECIAL WEATHER PHENOMENA

Because of its location rather inlands, the district is not directly affected by cyclonic storms and depressions from the Bay of Bengal which, nevertheless, influence the rainfall over the district in the northeast monsoon season. During May dust devils and dust raising winds occur occasionally. In April, May, September and October thunderstorms are very frequent. Throughout the monsoon months rain is often associated with thunder. Some of the pre-monsoon thunderstorms are accompanied with squalls but rarely with hail.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Barur	47	a	8.4	4.5	5.9	26.9	104.5	50.3	65.0	106.2	143.5	167.0	100.5	44.1	826.8	148 (1966)	54 (1955)	152.9	1934 Oct 30
		b	0.7	0.4	0.5	2.2	6.3	3.4	4.1	5.8	6.6	9.4	6.6	2.3	48.3				
Denkani-kottah	79	a	7.3	8.5	10.6	56.2	136.3	56.4	73.7	98.4	156.8	184.6	94.2	29.3	912.3	160 (1973)	57 (1965)	186.5	1974 Sep 23
		b	0.8	0.6	0.7	3.5	7.7	4.3	6.3	6.9	8.1	9.7	6.1	2.3	57.0				
Dharmapuri	80	a	12.4	7.5	8.8	41.7	112.4	59.6	66.6	100.1	140.2	168.3	106.4	39.4	863.4	182 (1903)	51 (1950)	216.7	1916 Oct 17
		b	0.9	0.6	0.7	2.7	6.7	4.1	4.5	5.8	7.6	9.0	6.1	2.7	51.4				
Harur	78	a	20.8	6.6	8.1	25.1	92.9	47.7	75.3	106.1	130.5	152.1	130.7	65.5	861.4	163 (1946)	56 (1980)	170.2	1916 Oct 17
		b	1.4	0.4	0.5	1.8	5.4	3.1	4.2	6.2	7.1	8.6	7.3	3.8	49.8				
Hosur	76	a	7.8	9.8	11.0	45.8	122.0	53.1	65.5	92.2	138.4	166.4	76.2	24.6	812.8	158 (1946)	46 (1980)	169.4	1928 Oct 25
		b	0.8	0.6	0.8	3.0	6.9	4.0	5.6	6.4	7.8	9.3	5.5	1.9	52.6				
Krishna-giri	79	a	8.3	6.6	13.3	34.8	110.6	61.5	78.2	103.4	158.6	156.3	90.4	25.7	847.7	167 (1916)	50 (1980)	186.7	1947 Jul 05
		b	0.7	0.5	0.7	2.3	6.9	3.7	4.5	5.5	7.2	8.9	5.5	1.9	48.3				
Maranda-halli	27	a	8.0	10.8	10.7	30.2	107.9	44.5	64.4	72.5	136.6	224.2	102.2	40.3	852.3	148 (1966)	72 (1976)	167.0	1991 Oct 30
		b	0.6	0.5	0.6	2.0	6.4	3.3	3.9	5.0	6.8	10.0	5.5	2.4	47.0				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Krishnagiri (R.P)	22	a	4.1	8.3	7.1	20.1	101.1	50.0	82.7	91.3	194.5	197.4	113.0	28.2	897.8	147 (1964)	56 (1961)	170.0	1991 Oct 30
		b	0.2	0.6	0.6	1.8	6.7	3.6	4.6	5.4	8.2	10.3	6.8	1.7	50.5				
Nedungal	49	a	9.7	8.0	13.9	38.1	102.1	41.5	56.2	115.6	138.4	200.4	98.3	42.4	864.6	256 (1935)	51 (1950)	177.3	1941 May 28
		b	0.7	0.4	0.6	2.2	5.8	3.0	3.5	5.8	6.5	9.3	5.7	2.3	45.8				
Palacode	73	a	11.9	11.3	11.3	41.7	114.1	51.8	68.7	97.3	157.4	188.5	100.5	32.3	886.8	195 (1966)	56 (1976)	148.8	1991 Oct 30
		b	0.8	0.6	0.7	2.6	6.3	3.4	4.5	5.5	7.1	9.3	5.7	1.8	48.3				
Pennagaram	76	a	8.0	13.6	20.6	49.1	116.7	53.4	70.6	90.1	148.7	174.6	93.3	26.6	865.3	174 (1946)	58 (1908)	210.0	1988 Sep 10
		b	0.6	0.8	1.0	3.0	6.9	4.1	5.3	5.5	6.9	9.6	5.6	1.9	51.2				
Penukonda-puram	45	a	8.4	4.8	5.1	29.1	89.4	49.0	64.9	99.7	126.7	164.4	84.2	34.9	760.6	207 (1974)	20 (1966)	280.0	1974 May 17
		b	0.5	0.4	0.5	2.1	4.5	2.7	3.3	5.1	5.9	8.7	5.1	2.0	40.8				
Rayakottah	76	a	12.1	8.4	12.2	38.7	106.4	47.6	58.2	82.6	137.2	164.3	98.0	33.4	799.1	192 (1903)	38 (1925)	161.8	1952 Jul 12
		b	0.9	0.5	0.6	2.1	5.3	2.7	3.3	4.4	6.1	8.0	5.5	2.0	41.4				
Thalli	69	a	5.0	7.3	13.9	48.8	134.1	64.1	92.2	121.0	143.2	161.4	72.7	17.4	881.1	148 (1956)	60 (1976)	125.0	1991 Oct 05
		b	0.6	0.5	0.7	3.3	7.4	4.9	7.6	7.7	7.7	8.7	4.4	1.6	55.1				
Uthankarai	80	a	16.2	4.7	9.1	27.7	83.3	48.5	71.8	123.0	157.9	165.1	106.9	45.0	859.2	157 (1915)	45 (1980)	151.1	1899 May 27
		b	1.0	0.3	0.5	1.9	5.1	3.2	4.2	6.2	7.2	8.9	6.4	3.0	47.9				
Dharmapuri (District)		a	9.9	8.0	10.8	37.1	108.9	51.9	70.3	100.0	147.2	175.7	97.8	35.3	852.9	163 (1903)	49 (1980)		
		b	0.7	0.5	0.6	2.4	6.3	3.6	4.6	5.8	7.1	9.2	5.9	2.2	48.9				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(D H A R M A P U R I)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	1	901 - 1000	13
501 - 600	3	1001 - 1100	9
601 - 700	8	1101 - 1200	4
701 - 800	19	1201 - 1300	1
801 - 900	19	1301 - 1400	1

(Data available for 78 years only.)

DINDIGUL ANNA DISTRICT

The climate of this district is mainly dry with a hot summer. The year may be divided into four seasons. Mid-December to February is the comparatively cool period of the year. March to May is the hot season. The southwest monsoon season which follows, lasts till September. October to mid-December constitute the northeast monsoon season.

RAINFALL

Records of rainfall in the district are available for 9 stations for 29 to 80 years. The details of rainfall at these stations and for the district as a whole, are given in Tables 1 and 2. The normal annual rainfall in the district is 914.3 mm; not considering the hill station, Kodaikanal. The rainfall varies from 713.5 mm at Palani to 1459.9 mm at Berijam. Kodaikanal receives 1653.3 mm of rainfall. About 29% of normal annual rainfall in the district is received during the monsoon months June to September and about 48% during the northeast monsoon period. October is the rainiest month. In the 80 year period 1901 to 1980, the highest annual rainfall in the district, which was 164% of the normal, occurred in 1972, while the lowest annual rainfall i.e. 62% of the normal, occurred in 1913. During this period, the annual rainfall in the district was less than 80% of the normal in 19 years, two years being consecutive on three occasions. The average annual rainfall in the district was between 601 and 1000 mm in 59 years out of 79 years.

There are about 52 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year, on an average, in the district. This number varies from 42 at Palani to 84 at Berijam and 104 at Kodaikanal.

The heaviest rainfall in 24 hours recorded at any station in the district was 346.2 mm at Kodaikanal on 16th November 1935 and 241.4 mm at Chatrapatti on 9th November 1993, in the plains.

TEMPERATURE

There is a meteorological observatory in the district at Kodaikanal, which is a hill station. The description for the plains is based on records of the observatories in the neighbouring districts where similar climatic conditions prevail. After February there is a steady increase in temperature till May, which is usually the hottest month, with the mean daily maximum at about 37°C and the mean daily minimum at about 26°C. While it is thus intensely hot during the summer period over the plains with the maximum temperature on individual days, exceeding 43°C, it is very pleasant at the hill station

Kodaikanal where the mean daily maximum, even in May, is about 21°C and the mean daily minimum is about 13°C, the maximum exceeding 25°C occasionally.

Even after the onset of the southwest monsoon in June, there is no appreciable drop in the temperatures in the district. With the withdrawal of the southwest monsoon by about the end of September the northeast monsoon rains bring about a comparatively rapid drop in temperatures. From about mid-December, when the northeast monsoon rainfall ceases, dry weather prevails. December and January are the coolest months with the mean daily maximum at about 30°C and the mean daily minimum at about 21°C. It is cold at Kodaikanal, with the mean daily maximum at about 16°C to 17°C and the mean daily minimum at about 8°C or 9°C in December and January. The night temperatures in the district in general, may occasionally drop to 15°C to 16°C. It drops down, at times, at Kodaikanal to about 3°C and the weather becomes very cold.

The highest maximum temperature recorded at Kodaikanal was 27.8°C on 5th May 1923 and the lowest minimum was 2.7°C on 7th January 1976.

HUMIDITY

Considering the district in general, during the period October to February, the humidity exceeds 76% in the mornings and is between 43 and 69% in the afternoons. It is comparatively less during the rest of the year, especially the summer afternoons, being less than 46% on an average. At Kodaikanal however, the afternoons are more humid than the mornings, especially during the period May to December with humidity between 80% and 90% on an average.

CLOUDINESS

During the period mid-December to February mostly clear skies prevail which are occasionally lightly clouded. Clouding increases from March onwards with the progress of the season especially in the afternoons. During May to mid-December generally heavily clouded to overcast skies prevail.

WINDS

Winds are generally light with an increase in force in the early southwest monsoon and post northeast monsoon months. Westerlies appear in April-May. With the advance of the southwest monsoon season easterlies become less predominant and winds are mostly between southwest and northwest. Easterlies appear in October especially in the afternoons, and with the progress of the season winds are predominantly between north and east.

SPECIAL WEATHER PHENOMENA

During the late northeast monsoon period storms and depressions from the Bay of Bengal moving westwards, towards or across the peninsula cause widespread heavy rain and gusty winds. Thunderstorms occur during the period March to October with April-May and August to October having a high incidence. Fog occurs occasionally in the western hilly tracts during the cold season.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Kodaikanal obsy.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Berijam	29	a	28.4	29.9	51.2	128.4	105.0	62.7	129.4	121.6	155.1	281.6	220.2	146.4	1459.9	224 (1972)	51 (1967)	240.0	1992 Nov 13
		b	1.7	1.4	2.7	6.4	7.4	5.6	9.1	8.3	8.9	14.0	11.2	6.9	83.6				
Chatra-patti	78	a	34.6	8.4	9.9	55.1	86.4	28.6	36.6	46.9	80.2	218.9	185.7	87.0	878.3	164 (1972)	35 (1959)	241.4	1993 Nov 09
		b	1.7	0.6	0.7	3.1	4.9	1.8	1.8	2.5	4.2	10.1	8.5	4.6	44.5				
Dindigul	80	a	27.7	12.4	15.5	54.3	65.9	39.8	35.8	68.3	104.3	177.9	155.4	78.2	835.5	158 (1977)	58 (1908)	191.8	1993 Nov 09
		b	1.7	0.8	1.1	3.3	4.9	3.0	3.0	4.9	5.9	9.8	8.0	4.8	51.2				
Natham	66	a	26.3	10.5	17.0	61.4	70.7	47.3	59.6	123.5	145.2	206.8	145.3	71.0	984.6	255 (1969)	53 (1923)	225.3	1969 Aug 23
		b	1.7	0.7	1.1	3.3	4.7	3.4	4.2	6.7	7.3	9.9	7.4	3.6	54.0				
Nilakottai	79	a	21.0	16.0	23.9	69.2	81.3	25.1	34.9	64.6	110.3	171.1	132.2	48.4	798.0	151 (1922)	51 (1974)	197.3	1992 Nov 17
		b	1.5	0.9	1.3	4.1	4.9	1.8	2.4	4.2	6.0	10.0	7.6	3.5	48.2				
Palani	80	a	26.1	6.5	12.2	47.6	70.3	21.9	25.4	33.4	60.7	173.3	164.1	72.0	713.5	186 (1944)	43 (1959)	209.5	1890 Oct 27
		b	1.5	0.5	0.9	3.0	4.6	1.7	1.9	2.4	3.7	9.3	8.1	4.2	41.8				
Peranai	29	a	13.2	12.5	30.2	71.2	85.7	23.6	43.3	74.4	153.5	190.1	149.8	63.0	910.5	145 (1977)	49 (1952)	154.0	1992 Nov 17
		b	1.1	0.7	1.8	3.9	4.9	1.9	2.7	4.3	6.7	11.2	7.9	3.8	50.9				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL	HEAVIEST RAINFALL In 24 HOURS * Amount (mm)	Date
Vedasandur	80	a	23.6	7.5	14.4	53.7	75.2	23.7	23.3	54.0	80.9	184.5	134.9	58.6	734.3	170 (1920)	35 (1959)	235.0	1977 Nov 13
		b	1.5	0.5	0.9	3.1	4.4	1.8	1.8	2.9	4.8	9.8	7.7	4.4	43.6				
Dindigul Anna (District)		a	25.1	13.0	21.8	67.6	80.1	34.1	48.5	73.3	111.3	200.5	160.9	78.1	914.3	164 (1972)	62 (1913)		
		b	1.5	0.8	1.3	3.8	5.1	2.6	3.4	4.5	5.9	10.5	8.3	4.5	52.2				
HILL STATION																			
Kodaikanal (Obsy)	79	a	64.6	35.4	54.5	138.8	157.3	101.2	125.2	161.5	179.6	257.6	242.8	134.8	1653.3	142 (1925)	70 (1952)	346.2	1935 Nov 16
		b	3.2	2.1	3.3	7.9	10.3	8.9	10.4	11.5	11.7	15.5	12.2	7.0	104.0				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(D I N D I G U L A N N A)

Range in mm	No. of years	Range in mm	No. of years
501 - 600	7	1001 - 1100	8
601 - 700	11	1101 - 1200	3
701 - 800	13	1201 - 1300	1
801 - 900	19	1301 - 1400	0
901 - 1000	16	1401 - 1500	1

(Data available for 79 years only).

TABLE - 3
Normals of Temperature and Relative Humidity
(K O D A I K A N A L)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	17.4	7.9	24.4	1916 Jan 26	2.7	1976 Jan 07	56	76
February	18.3	8.4	24.4	1914 Feb 22	4.0	1963 Feb 03	54	69
March	19.7	9.9	26.7	1926 Mar 08	4.4	1955 Mar 10	48	66
April	20.1	11.5	26.1	1925 Apr 06	7.0	1982 Apr 02	61	79
May	20.7	12.6	27.8	1923 May 05	7.8	1955 May 17	69	81
June	19.2	12.1	25.0	1915 Jun 01	5.0	1912 Jun 05	77	85
July	17.8	11.4	23.9	1988 Jul 02	8.7	1965 Jul 21	82	88
August	18.1	11.3	22.9	1963 Aug 31	8.3	1913 Aug 24	82	89
September	18.2	11.2	22.8	1965 Sep 17	8.3	1984 Sep 09	81	89
October	17.3	10.7	22.1	1988 Oct 04	5.6	1974 Oct 31	86	91
November	16.4	9.6	22.1	1987 Nov 16	3.9	1901 Nov 27	85	90
December	16.5	8.6	22.8	1910 Dec 20	2.8	1922 Dec 30	71	82
Annual	18.3	10.4					71	82

TABLE - 4
Mean Wind Speed in km/hr.
(K O D A I K A N A L)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
12.9	12.8	13.5	12.1	11.7	14.0	16.0	13.7	11.2	10.7	12.3	13.4	12.9

TABLE - 5
Special Weather Phenomena
(K O D A I K A N A L)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.1	0.7	0.3	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.2
Thunder	0.2	0.8	3.7	13.4	14.7	5.2	3.1	4.7	8.6	9.6	2.8	0.3	67.1
Fog	4.7	2.1	0.8	1.0	0.9	0.6	1.7	0.9	0.8	4.7	5.7	9.0	32.9
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.4

KAMARAJAR DISTRICT

The climate of this district is mainly dry with a hot summer and the district gets rainfall both in the southwest and northeast monsoon seasons. The year may be divided into four seasons. Mid-December to February is comparatively cool period of the year. March to May is the hot season. The southwest monsoon season which follows, lasts till September. October to mid-December constitutes the northeast monsoon season.

RAINFALL

Records of rainfall in the district are available for 6 raingauge stations for sufficiently long period. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. Normal annual rainfall in the district is 813.3 mm. The rainfall generally increases from west to east and varies from 729.1 mm at Sattur to 931.7 mm at Watrap. About 21% of the normal annual rainfall in the district is received during the southwest monsoon months June to September and as much as about 53% during the northeast monsoon period October to mid- December. October is the rainiest month. Significant amount of rainfall occurs, mostly as thundershowers, during April and May. In the 80 year period 1901 to 1980, the highest annual rainfall in the district, 160% of the normal occurred in 1940 and the lowest 58% of the normal in 1974. During this period the annual rainfall was less than 80% of the normal in 11 years, out of which there is one occasion when two consecutive years have such low rainfall. It will be seen from Table 2 that the average annual rainfall in the district was between 601 mm and 1000 mm in 64 years out of 79 years.

There are about 43 rainy days (i.e. days with rain of 2.5 mm or more) in a year on an average in the district. This number varies from 40 at Sattur to 47 at Watrap.

The heaviest rainfall in 24 hours recorded at any station in the district was 259.1 mm at Watrap on 12th November, 1882.

TEMPERATURE

There is no meteorological observatory in the district. The description which follows is based on the records of the observatories in the neighbouring district, where similar meteorological conditions prevail. The period from about the end of February to about the end of May is one of continuous increase in the temperatures. May is the hottest month with the mean daily maximum temperature at about 33°C and the mean daily minimum at about 27°C. The heat during the summer is intense and on many days

the temperature exceeds 40°C. Thundershowers which occur on some days during the afternoons bring welcome relief. With the onset of the southwest monsoon by about the end of May, there is slight drop in temperatures. In the early part of the monsoon season, some days are almost as hot as in the summer. After the withdrawal of the southwest monsoon by the end of September, there is drop both in day and night temperatures. Temperatures continue to decrease steadily thereafter till December which is the coldest month with the mean daily maximum temperature at about 28°C and the mean daily minimum temperature at about 24°C. Temperatures gradually increase after that.

HUMIDITY

High relative humidities prevail all the year round, being between 74 to 85%.

CLOUDINESS

During the period September to December, the skies are heavily clouded to overcast. They are moderately clouded during January - February and lightly clouded during the rest of the year.

WINDS

Winds are generally light with an increase in speed in the early southwest monsoon and northeast monsoon months. Winds are mainly from directions between north and northeast from November to February. In March, winds are mostly from directions between northeast and east in the mornings. In the afternoons they are either northerly to northeasterly. From April to October winds blow mostly from directions between south and southwest.

SPECIAL WEATHER PHENOMENA

During the late northeast monsoon period, storms and depressions from the Bay of Bengal moving westwards, towards or across the Peninsula, cause widespread heavy rain and gusty winds. Thunderstorms occur during March to October, with April-June and August- October having a high incidence of thunderstorms. Fog occurs occasionally in the western hilly tracts during the cold season.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Aruppukottai	71	a	30.2	16.2	21.7	64.3	57.0	24.6	36.3	63.2	78.7	163.6	155.6	69.1	780.5	171 (1920)	53 (1974)	161.3	1954 Oct 17
		b	1.6	0.8	1.3	3.4	3.4	1.8	2.1	4.0	4.7	8.2	7.6	3.7	42.6				
Sattur	80	a	25.9	18.8	25.3	65.5	58.5	9.4	24.4	43.5	62.2	173.5	161.7	60.4	729.1	152 (1971)	40 (1974)	188.0	1883 May 08
		b	1.6	1.0	1.7	3.5	3.5	0.9	1.4	2.7	3.7	9.0	7.7	3.4	40.1				
Sivakasi	75	a	25.3	22.3	29.1	69.0	55.8	25.0	23.4	45.9	60.0	179.5	166.7	59.7	761.7	180 (1940)	57 (1952)	200.0	1968 Jun 02
		b	1.4	1.2	1.7	4.1	3.7	1.5	1.6	3.0	3.7	9.2	7.9	3.3	42.3				
Virudhunagar	79	a	21.8	15.4	21.1	70.4	72.8	26.7	42.4	77.3	91.8	172.2	147.0	63.0	821.9	160 (1940)	53 (1974)	210.0	1990 Jan 08
		b	1.2	0.9	1.2	3.4	4.2	2.0	2.3	4.3	4.9	8.9	7.0	3.2	43.5				
Watrap	73	a	32.0	33.6	35.8	89.7	58.2	18.1	18.3	51.9	76.0	237.4	203.1	77.6	931.7	163 (1944)	41 (1913)	259.1	1882 Nov 12
		b	1.6	1.5	1.9	4.5	4.2	1.8	1.4	2.7	4.1	10.3	9.3	3.7	47.0				
Srivilli-puttur	80	a	28.6	26.4	42.8	79.6	61.0	18.0	20.8	32.6	60.6	210.1	202.5	72.2	855.2	166 (1933)	55 (1916)	212.0	1961 Nov 18
		b	1.5	1.5	2.1	4.3	4.0	1.6	1.7	2.2	3.9	9.8	9.0	3.5	45.2				
Kamarajar (District)		a	27.3	22.1	29.3	73.1	60.5	20.3	27.6	52.4	71.5	189.4	172.8	67.0	813.3	160 (1940)	58 (1974)		
		b	1.5	1.1	1.7	3.9	3.8	1.6	1.7	3.1	4.2	9.2	8.1	3.5	43.4				

a: Normal rainfall in mm.
b: Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)
* Based on all available data upto 1993.
** Years of occurrence given in brackets.

TABLE - 2

Frequency of Annual Rainfall in the District (Data 1901 - 1980) (K A M A R A J A R)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	2	901 - 1000	12
501 - 600	4	1001 - 1100	6
601 - 700	20	1101 - 1200	2
701 - 800	14	1201 - 1300	0
801 - 900	18	1301 - 1400	1

(Data available for 79 years only).

KANNIYAKUMARI DISTRICT

The district has a warm humid climate, with no cold season. The summer season is particularly oppressive. The summer from March to May is followed by the southwest monsoon season from June to September. October and November constitute the post monsoon or retreating monsoon season with frequent thunderstorms. The period from December to February is the northeast monsoon season although the rains are confined to the first half of the season and the rest of the period is one of clear bright weather generally.

RAINFALL

Records of rainfall in the district are available for a good network of 26 stations for periods ranging from 11 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 1423.4 mm. The rainfall in the district in general increases from 804.6 mm at Kanniyakumari (Obsy) near the southern coast to 2945.0 mm at Balamore. There is some rain all the year round. The least amount of rainfall is received in January and February. The heaviest rainfall, often associated with thunderstorms is received during the retreating monsoon period, October and November. While 32% of the annual rainfall is received in the months of October and November, the rains associated with thunderstorm in April and May constitute 19% of the annual total. The southwest monsoon rains during the period June to September form 37% of the annual total. The variation in the rainfall from year to year is appreciable, being more so in the southeastern parts of the district. The highest annual rainfall during this 80 year period amounting to 158% of the annual normal occurred in 1933. 1971 was the year with the lowest annual rainfall which was only 58% of the normal. Annual rainfall less than 80% of the normal occurred in 16 years in the 80 year period 1901 to 1980. In this period the rainfall was less than 80% of the normal in two consecutive years once and four consecutive years twice in the district as a whole. It will be seen from Table 2 that the average annual rainfall in the district was between 1001 and 1700 mm in 62 years out of 80.

On an average, there are 79 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number increases, as in the case of the amount of rainfall, from 48 at Kanniyakumari to 135 at Balamore.

The heaviest rainfall in 24 hours recorded at any station in the district was 516.1 mm at Balamore on 16th January, 1958.

TEMPERATURE

There is a meteorological observatory in the district at Kanniyakumari. The records of Kanniyakumari may be taken as fairly representative of the condition which prevail in the district in general. From about the middle of February to about the last week of May, when the southwest monsoon usually arrives over the district, the day temperatures remain fairly high with the mean daily maximum temperature at about 32.4°C in May. In March, the mean daily maximum temperature is 32.0°C. The nights are comparatively cooler in February and the minimum temperature rises gradually and by May, the mean daily minimum temperature becomes 25.9°C. The oppressiveness of the weather is often relieved by cool sea breezes and frequent thunderstorms. With the onset of the southwest monsoon, temperatures decrease appreciably. But in general, the day temperatures continue to be nearly the same as in the monsoon season till about January. The nights however are slightly cooler in the period November to February.

The highest maximum temperature recorded at Kanniyakumari was 38.2°C on 15th May 1973 and the lowest minimum was 18.8°C on 7th February, 1974.

HUMIDITY

Humidity is fairly high throughout the year in the district. January to March is comparatively drier part of the year, the relative humidities in the afternoons specially, being between 65 and 70%.

CLOUDINESS

The months January and February is the period of mainly clear or lightly clouded skies. There is increased cloudiness in the next three months, the skies being heavily clouded on many days when thunderstorms follow. In the southwest and retreating monsoon seasons, skies are often heavily clouded or overcast. In December, moderately to heavily clouded skies are common.

WINDS

Winds are generally light to moderate with some strengthening in force in May and during the southwest monsoon season and December to February. During the period November to March, the winds are mainly northeasterly. During the period April to October, the winds are mainly from the westerly direction.

SPECIAL WEATHER PHENOMENA

Thunderstorms occur in all the months of the year. The period from March to May and the months of October and November have a high incidence of thunderstorms.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Kanniyakumari.

TABLE - 1
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Aramboly	78	a	26.9	15.9	33.0	67.6	64.7	109.5	61.4	34.7	41.3	188.5	176.0	76.1	895.6	165 (1943)	34 (1952)	246.4	1925 Nov 09
		b	1.4	1.1	2.5	4.2	3.8	7.8	5.8	3.3	3.3	9.7	9.3	3.7	55.9				
Balamore	23	a	89.6	43.6	43.6	142.8	290.2	442.7	405.8	304.8	301.2	482.1	292.0	106.6	2945.0	157 (1961)	61 (1979)	516.1	1958 Jan 16
		b	2.3	2.5	3.2	7.9	12.8	18.3	18.2	15.1	14.0	19.3	14.4	6.5	134.5				
Bhoothapandi	23	a	8.4	20.9	24.0	97.0	109.8	135.4	121.7	78.0	81.1	199.9	168.5	54.1	1098.8	167 (1958)	56 (1976)	184.0	1993 Nov 11
		b	0.6	1.3	2.0	6.0	6.3	8.0	9.1	6.0	5.6	11.1	9.5	2.7	68.2				
Colachel Salt Factory	64	a	20.6	13.5	34.0	72.7	144.1	242.7	129.3	89.2	86.4	193.4	162.8	58.7	1247.4	377 (1919)	59 (1966)	254.3	1939 May 10
		b	1.4	1.0	2.3	4.3	6.8	13.0	9.7	5.6	5.8	9.8	8.9	3.3	71.9				
Erantel	77	a	16.4	15.9	40.3	91.5	129.4	197.5	115.6	64.5	85.8	223.3	197.0	60.1	1237.3	162 (1932)	35 (1974)	276.9	1939 May 10
		b	1.1	1.1	2.5	5.6	6.6	12.1	8.6	5.1	5.8	10.7	10.1	3.5	72.6				
Kaliyal	64	a	22.7	31.1	68.3	157.4	209.9	245.5	175.6	111.7	139.1	309.8	252.6	75.0	1798.7	189 (1933)	21 (1948)	190.5	1943 Oct 10
		b	1.5	1.7	3.9	8.7	8.9	13.5	11.1	8.5	8.0	13.6	11.5	4.2	95.1				
Kanniyakumari (Obsy)	20	a	13.6	15.3	22.9	62.6	55.3	81.4	55.2	46.3	51.6	150.8	165.4	84.2	804.6	150 (1961)	49 (1964)	213.0	1992 Nov 14
		b	0.7	0.8	1.7	3.0	3.2	6.5	5.1	3.5	3.1	7.6	8.2	4.5	47.9				
Kottaram	65	a	25.9	15.2	28.6	66.9	78.3	90.5	64.7	35.4	38.3	140.4	180.0	66.5	830.7	256 (1960)	45 (1949)	224.8	1925 Nov 25
		b	1.5	0.9	1.7	3.5	4.4	7.4	5.6	3.0	3.0	8.1	8.8	3.4	51.3				
Kulasekaram	65	a	26.7	40.7	80.0	179.3	228.7	260.5	165.0	114.3	145.6	333.3	254.3	86.5	1914.9	163 (1933)	28 (1980)	188.0	1930 Oct 23
		b	1.9	2.3	4.7	9.4	9.8	14.5	11.9	9.0	8.6	14.5	12.3	5.1	104.0				
Kuzhithurai	80	a	17.4	18.4	42.5	104.2	166.2	244.2	144.0	84.0	106.8	243.1	199.2	59.0	1429.0	179 (1933)	55 (1956)	238.8	1925 Nov 10
		b	1.2	1.2	2.6	6.1	7.2	13.2	10.2	6.3	6.2	11.1	9.5	3.4	78.2				

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TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Meycodeandi	63	a	27.4	24.0	58.2	135.2	178.6	240.3	155.3	109.1	130.7	299.3	247.9	71.5	1677.5	163 (1933)	59 (1956)	400.6	1981 Nov 11
		b	1.7	1.8	4.3	8.2	8.6	14.2	12.0	8.2	7.9	13.9	11.7	4.5	97.0				
Mukkadal	23	a	16.4	24.8	32.8	112.6	156.6	160.1	131.7	82.7	101.1	213.0	194.2	57.7	1283.7	129 (1961)	73 (1976)	185.0	1993 Nov 11
		b	1.0	2.0	2.2	7.0	8.0	10.2	10.0	7.1	6.8	11.5	10.3	3.6	79.7				
Mulakumood	65	a	21.6	19.5	51.8	120.3	178.5	220.9	144.1	86.1	101.3	255.4	225.7	66.9	1492.1	171 (1933)	62 (1966)	210.2	1993 Oct 22
		b	1.3	1.3	2.9	6.6	7.4	12.5	10.0	6.2	6.1	11.7	10.5	3.6	80.1				
Mylaudy	23	a	9.4	18.9	24.6	78.5	91.9	95.7	71.7	48.5	46.4	159.0	178.7	68.8	892.1	155 (1960)	66 (1976)	218.0	1960 May 04
		b	0.6	1.1	1.6	4.3	4.6	5.9	6.1	3.4	3.1	8.0	8.6	3.8	51.1				
Nagarcoil	80	a	20.4	15.9	33.5	78.6	99.6	155.9	97.6	54.1	62.7	201.2	187.9	65.2	1072.6	139 (1920)	63 (1956)	232.0	1993 Nov 11
		b	1.3	1.1	2.2	4.9	5.3	11.0	8.3	4.6	4.6	10.4	10.2	3.6	67.5				
P.P. Channel	57	a	20.8	19.9	43.0	112.8	139.0	202.5	117.6	69.8	88.3	291.9	258.1	78.6	1442.3	259 (1951)	54 (1938)	241.3	1945 Oct 18
		b	1.7	1.4	3.0	5.9	6.5	12.1	9.5	5.8	5.9	12.3	11.6	4.5	80.2				
Pechipparai	64	a	38.0	36.3	79.0	173.9	233.6	310.7	216.1	138.7	183.9	330.3	276.9	84.9	2102.3	177 (1933)	53 (1949)	240.8	1978 Nov 06
		b	2.2	2.2	4.8	10.6	10.7	16.0	14.1	10.4	10.2	14.8	12.5	5.1	113.6				
Puthendam	64	a	26.3	36.1	81.2	168.5	205.6	278.1	182.7	121.3	161.7	343.7	260.7	88.7	1954.6	160 (1933)	47 (1949)	238.8	1924 Oct 30
		b	1.6	2.3	4.7	9.2	9.1	14.9	12.4	8.8	8.8	14.7	12.5	5.0	104.0				
Rajakka-managalam	68	a	20.3	9.7	24.1	63.6	111.8	172.8	95.7	51.2	60.8	175.3	172.0	61.4	1018.7	152 (1924)	54 (1956)	268.5	1896 Dec 26
		b	1.5	0.8	1.9	4.1	6.0	11.5	7.9	4.4	4.6	9.4	9.2	3.2	64.5				
S.M.K.M.S.S. Allo	11	a	39.8	5.1	31.3	97.1	112.2	131.2	85.3	45.0	82.1	179.4	156.7	51.5	1016.7	154 (1967)	43 (1964)	250.0	1992 Nov 14
		b	0.7	0.5	1.5	2.8	4.5	7.4	7.0	3.6	3.6	7.5	7.8	3.1	50.2				

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TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Seetapal	65	a	16.2	17.1	40.2	99.0	107.4	148.1	101.8	57.2	62.1	210.1	185.8	63.9	1108.9	228 (1965)	42 (1980)	304.8	1922 Nov 30
		b	1.2	1.2	2.8	5.9	5.6	10.3	7.7	4.9	4.7	10.6	9.8	3.2	67.9				
Shorlakode	65	a	23.6	29.5	67.5	139.3	183.2	263.4	169.9	118.6	145.8	303.1	240.6	71.5	1756.0	160 (1933)	53 (1956)	230.8	1965 Oct 24
		b	1.6	2.0	4.7	8.6	8.5	14.3	12.3	8.9	8.2	14.3	12.3	4.7	100.4				
Thamaraikulam	73	a	19.0	12.3	22.4	58.4	68.9	107.9	65.2	31.4	35.2	146.9	157.5	94.6	819.7	322 (1945)	56 (1948)	200.7	1925 Nov 09
		b	1.2	0.7	1.6	3.5	4.2	8.6	6.1	2.9	3.3	7.9	8.5	3.2	51.7				
Thadikare-konam	65	a	20.6	24.6	65.2	168.3	186.7	264.9	184.3	113.4	138.6	308.6	238.9	69.0	1783.1	153 (1933)	36 (1949)	200.7	1925 Nov 09
		b	1.4	1.8	4.0	8.5	8.1	13.7	11.2	7.9	7.8	14.0	12.4	4.0	94.8				
Thirupar-appu	23	a	19.9	47.0	70.0	196.6	223.9	268.1	181.2	115.5	151.5	324.2	234.5	65.3	1897.7	150 (1977)	73 (1979)	250.0	1977 Jun 07
		b	1.2	2.5	3.6	10.8	10.2	13.2	12.2	9.2	8.1	13.7	10.5	4.2	99.4				
Thuckalay	64	a	22.7	20.9	56.8	135.1	170.9	206.4	122.9	81.3	101.4	272.2	224.4	67.4	1482.4	186 (1933)	55 (1949)	231.4	1993 Nov 11
		b	1.4	1.4	3.3	7.1	7.8	12.8	9.2	6.3	5.7	11.7	10.5	3.6	80.8				
Kanniyakumari (District)		a	24.3	22.8	46.1	114.6	151.0	203.0	137.0	88.0	105.0	249.2	211.1	71.3	1423.4	158 (1933)	58 (1971)		
		b	1.4	1.5	2.9	6.4	7.1	11.7	9.7	6.5	6.3	11.6	10.4	4.0	79.5				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(K A N N I Y A K U M A R I)

Range in mm	No. of years	Range in mm	No. of years
801 - 900	4	1601 - 1700	6
901 - 1000	4	1701 - 1800	2
1001 - 1100	7	1801 - 1900	4
1101 - 1200	8	1901 - 2000	2
1201 - 1300	12	2001 - 2100	1
1301 - 1400	12	2101 - 2200	0
1401 - 1500	8	2201 - 2300	1
1501 - 1600	9		

TABLE - 3
Normals of Temperature and Relative Humidity
(K A N N I Y A K U M A R I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	30.6	23.1	34.4	1983 Jan 31	20.1	1973 Jan 22	68	66
February	31.5	23.6	34.6	1981 Feb 21	18.8	1974 Feb 07	68	68
March	32.0	24.8	36.0	1988 Mar 29	21.6	1992 Mar 08	69	69
April	32.6	25.9	36.8	1982 Apr 27	20.9	1980 Apr 06	71	71
May	32.4	25.9	38.2	1973 May 15	21.8	1978 May 03	74	74
June	30.7	24.4	35.5	1976 Jun 22	21.0	1967 Jun 23	80	77
July	30.1	23.8	35.0	1987 Jul 23	19.2	1980 Jul 25	80	77
August	30.4	23.8	35.1	1990 Aug 26	21.3	1975 Aug 13	76	77
September	30.6	24.1	35.2	1987 Sep 16	21.0	1989 Sep 08	77	78
October	30.4	24.0	35.2	1983 Oct 13	20.8	1967 Oct 01	78	78
November	30.2	23.8	34.3	1980 Nov 01	20.1	1967 Nov 30	76	74
December	30.0	23.5	33.6	1984 Dec 26	19.6	1965 Dec 21	72	68
Annual	31.0	24.2					74	73

TABLE - 4
Mean Wind Speed in km/hr.
(K A N N I Y A K U M A R I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
19.5	17.1	12.9	12.0	18.3	17.9	18.4	18.9	17.5	13.2	13.7	18.8	16.5

TABLE - 5
Special Weather Phenomena
(K A N N I Y A K U M A R I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.3	0.7	1.6	0.8	0.2	0.1	0.2	0.3	1.3	1.4	0.4	7.3
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

KARAIKKAL DISTRICT

Karaikkal, situated on the east coast of India near lat. 11°N in the deltaic region of the Cauveri, experiences tropical Savanna, hot; seasonally dry (Aw) climate with small daily range of temperature and moderate annual rainfall of about 1259 mm, over two thirds of which is received during October to December from the northeast monsoon.

RAINFALL

Records of rainfall of Karaikkal are available for 49 years from 1912 to 1960. Table 1 gives the monthly and annual average rainfall.

Karaikkal has an annual average rainfall of about 1259 mm, 68 % of which occurs during October to December. The amount of rainfall during the southwest monsoon period is small, being less than 20 % of the annual. November is the rainiest month, accounting for about one third of the annual total. The range of variation of annual rainfall is wide. During the period 1912-1960, the highest rainfall (recorded in 1930), was about 198 % of the normal, and the lowest one (recorded in 1949), was only 38 % of the normal. The rainfall was between 80 to 120 % of the normal in 20 years out of 49 years. Similarly, the rainfall was below 80 % for 17 years and above 120 % for 12 years. There was one long spell of 6 years from 1947-52, one spell of 3 years from 1915-17 and one spell of 2 years 1933-34, when the rainfall was less than 80 % of the normal. Variability of annual rainfall is fairly large, so that significant variation in rainfall from year to year may be expected. Drought conditions with the annual rainfall of less than 75 % of the normal may be expected on an average once in three years.

TEMPERATURE

Table 2 gives the mean daily maximum temperature and mean daily minimum temperature and mean of relative humidity. Meteorological observatory started functioning at Karaikkal from 1973. Data of this observatory has been used for describing climatic features. Details are given below.

The period from February to the middle of June is one of continuous increase in temperatures, mean temperature rising from about 26°C in February to about 32°C in June. May and early June form the hottest part of the year with the mean maximum temperature at about 36°C and the mean minimum at about 27°C. High temperature and high humidity combine to make weather during April to June oppressive. On individual days the temperature may occasionally reach as high as 42°C. However, the sea breeze,

setting in the afternoons, and occasional thunderstorms during May and June, offer temporary relief. Temperatures slowly begin to fall after June. Mean maximum being at about 35°C and the mean minimum at 26°C, during June to September. However, appreciable fall occur after October. December and January are the coolest months with the maximum at about 28°C and the minimum at about 22°C. Minimum temperature as low as 17.8°C may sometimes be recorded.

The diurnal ranges of temperature are generally small throughout the year, being highest (about 10°C) in June, and the least (about 5°C) during November and December.

The highest maximum temperature recorded at Karaikkal observatory was 42°C on 24th May, 1980 and the lowest minimum temperature was 17.8°C on 4th February 1989 and 26th December 1975.

HUMIDITY

The relative humidity is generally high throughout the year, being over 70 % except in the month of May when it is at its minimum value of 68 %.

CLOUDINESS

Skies are generally heavily clouded during June to December; cloudiness decreases thereafter. Skies are clear or lightly clouded during February to April. Cloudiness again increases with the progress of the season i.e. from May.

SURFACE WINDS

Winds are moderately strong throughout the year, weakening slightly in February and March only. During May to September, winds are mainly from southwest, during October they are westerly in the mornings and easterly in the evenings. Till March, winds are from northwest to northeast in the mornings becoming northeasterly by evening. In April winds blow mainly from southeast to southwest in the mornings, and from east to south in the evenings. The average speed is given in Table 3.

SPECIAL WEATHER PHENOMENA

The average frequency of special weather phenomena is given in Table 4.

During the northeast monsoon season, particularly during November, depressions and storms from the south Bay of Bengal move across or in the neighbourhood of the territory, causing heavy rain, thunderstorm, squally weather and gusty winds. Tidal waves which may flood the low lying coastal areas also accompany most of the storms. Monthwise occurrence of these depression/storms during the period 1891 to 1990 is indicated below:-

Month	Total number during 1891-1990
March	1
April	2
May	4
October	5
November	22
December	9
Total	43

Occasional thunderstorms occur during May and from October to December particularly in November and December.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Karaikkal	49	78.5	17.2	25.0	24.7	39.1	31.1	43.3	62.7	80.0	229.2	398.3	229.4	1258.5	198 (1930)	38 (1949)	480.9	1991 Nov 15

** *Years of occurrence given in brackets.*
* *Based on all available data upto 1993.*

TABLE - 2
Period Averages of Temperature and Relative Humidity
(K A R A I K K A L)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.0	21.6	30.0	1991 Jan 30	18.0	1976 Jan 22	83	73
February	29.1	22.8	34.2	1990 Feb 22	17.8	1989 Feb 04	82	72
March	30.6	24.1	35.8	1986 Mar 31	18.4	1992 Mar 11	81	73
April	32.5	26.3	39.2	1981 Apr 22	21.9	1978 Apr 26	80	77
May	35.6	27.1	42.0	1980 May 24	21.2	1981 May 07	75	74
June	36.5	26.8	41.6	1983 Jun 02	20.8	1977 Jun 14	69	67
July	35.3	26.2	39.5	1983 Jul 01	21.3	1984 Jul 21	72	68
August	34.3	25.4	39.2	1983 Aug 18	21.0	1976 Aug 16	76	71
September	33.0	25.1	37.0	1982 Sep 13	21.2	1984 Sep 08	79	75
October	30.8	24.4	36.0	1983 Oct 05	20.6	1976 Oct 12	85	78
November	28.7	23.6	33.5	1987 Nov 04	19.5	1984 Nov 30	86	80
December	27.7	22.6	30.6	1988 Dec 12	17.8	1975 Dec 26	86	79
Annual	31.8	24.7					80	74

TABLE - 3
Mean Wind Speed in km/hr.
(K A R A I K K A L)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
8.2	7.9	7.9	10.6	17.1	18.2	16.1	15.5	12.2	8.5	8.6	9.8	11.7

TABLE - 4
Special Weather Phenomena
(K A R A I K K A L)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Thunder	0.0	0.1	1.4	1.8	4.2	4.1	5.1	6.1	8.1	9.8	4.8	1.4	45.9
Fog	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MADURAI DISTRICT

The climate of the district is characterised by a hot summer and rainfall both in the southwest and northeast monsoon seasons. The year may be divided into four seasons. Mid-December to February is the comparatively cool period of the year. March to May is the hot season. The southwest monsoon season which follows, lasts till September. October to mid-December constitutes the northeast monsoon season.

RAINFALL

Records of rainfall in the district are available for 21 stations for 23 to 80 years. The details of the rainfall at these stations, and for the district as a whole, are given in Tables 1 and 2. The normal annual rainfall in the district is 817.1 mm. The rainfall in general increases from west to east. Rainfall in the district varies from 561.5 mm at Veerapandi to 976.8 mm at Melur. About 31% of the normal annual rainfall in the district is received during the monsoon months June to September and as much as about 47% of the annual normal is received during the northeast monsoon period October to mid-December. October is the rainiest month. Significant amount of rainfall occurs, mostly as thundershowers, during April and May. Variation in the annual rainfall from year to year is generally not large. In the 80 year period 1901 to 1980, the highest annual rainfall in the district, 154% of the normal, occurred in 1944 and the lowest, 58% of the normal, occurred in 1974. During the 80 year period, the annual rainfall in the district was less than 80% of the normal in 5 years, none of them being consecutive. Average annual rainfall in the district was between 601 and 1100 mm in 71 years out of 80.

On an average there are about 48 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 37 at Veerapandi to 55 days at Gudalur.

The heaviest rainfall in 24 hours recorded at any station in the district was 276.9 mm at Vaigai Dam on 21st September 1958.

TEMPERATURE

Records of temperature in the district are available for two observatory stations at Madurai and Madurai(A) and these may be taken as representative of the climatic conditions in the district in general. After February, there is steady increase in temperature till May, which is usually the hottest month with the mean daily maximum at about 37.5°C

and the mean daily minimum at about 26°C. Maximum temperatures on individual days, in May sometimes exceed 44°C.

Even after the onset of the southwest monsoon in June, there is no appreciable drop in the temperature in the district. With the withdrawal of the southwest monsoon by about the end of September the northeast monsoon rainfall brings about comparatively rapid drop in temperature. From about mid-December when the northeast monsoon rainfall ceases, warm and dry weather prevails, December and January being the coolest months with the mean daily maximum at about 29°C to 31°C and the mean daily minimum at about 20°C to 22°C.

The highest maximum temperature recorded at Madurai was 44.5°C on 25th May 1976 and the lowest minimum was 10.5°C on 23rd February 1977. The highest maximum temperature recorded at Madurai (A) obsy was 41.4°C on 7th May 1976 and the lowest minimum was 14.6°C on 6th February 1989.

HUMIDITY

Considering the district in general, during the period October to February, the humidity exceeds 75% in the mornings and is between 40 and 69% in the afternoons. It is comparatively less during the rest of the year, especially in the summer afternoons with less than 50% humidity on an average.

CLOUDINESS

During the period mid-December to February occasionally clear and mostly lightly clouded skies prevail. Clouding increases from March onwards with the progress of the season especially in the afternoons. During May to mid- December, generally heavily clouded or overcast skies prevail.

WINDS

Winds are generally light with an increase in force in the early southwest monsoon and post northeast monsoon months. With the advance of the season easterlies become less predominant and winds are mostly between north and northwest. Northeasterlies appear in October, especially in the afternoons, and with the progress of the season, winds are predominant between north and northwest.

SPECIAL WEATHER PHENOMENA

During the late northeast monsoon period storms and depressions from the Bay of Bengal moving westwards, towards or across the peninsula, cause widespread heavy rain and gusty winds. Thunderstorms occur during March to October with April-May and August-October having a high incidence of thunderstorms. Fog occurs occasionally in the western hilly tracts during the cold season.

Tables 3, 4 and 5 and 3(a), 4(a), and 5(a) give the temperature and relative humidity, mean wind speed and special weather phenomena respectively for Madurai and Madurai (A) obsy.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Andipatti	28	a	6.6	12.1	17.4	56.6	60.9	27.2	43.6	70.2	132.0	226.5	140.1	43.3	838.5	135 (1964)	48 (1969)	119.0	1968 Nov 06
		b	0.9	0.5	1.2	3.1	3.7	1.9	2.9	3.9	6.8	11.2	7.5	2.9	46.5				
Bodinaicknaur	76	a	23.5	25.6	48.6	83.9	63.1	22.6	33.9	34.2	54.8	192.9	152.5	47.8	783.4	149 (1944)	47 (1950)	163.6	1958 Nov 13
		b	1.5	1.5	3.1	5.8	4.9	2.6	3.3	3.4	4.2	11.0	8.9	3.0	53.2				
Chittampatti	28	a	8.9	12.8	12.6	49.5	57.1	36.6	51.4	88.3	129.1	176.9	134.5	60.3	818.0	166 (1977)	27 (1974)	174.0	1955 Dec 02
		b	1.0	0.8	1.1	2.4	3.6	2.5	3.3	5.1	6.6	9.7	7.5	3.5	47.1				
Edayapatti	29	a	9.5	6.4	11.6	47.2	50.9	37.7	40.8	85.5	124.6	172.4	132.5	61.2	780.3	204 (1954)	41 (1952)	242.1	1951 Sep 23
		b	0.9	0.6	0.7	2.5	2.9	2.2	2.5	4.4	5.4	9.4	7.6	3.4	42.5				
Gudalur	29	a	4.8	6.9	24.7	67.0	69.9	50.1	85.7	58.1	62.8	122.4	124.4	45.4	722.2	167 (1959)	40 (1962)	225.0	1992 Nov 14
		b	0.6	0.7	1.5	4.3	4.9	5.4	8.5	5.7	4.8	8.1	7.6	2.9	55.0				
Kalandri	29	a	11.2	8.3	14.5	44.9	60.2	32.0	43.7	85.9	120.9	197.2	143.1	48.1	810.0	168 (1970)	40 (1974)	213.4	1964 Dec 24
		b	1.0	0.9	0.9	2.3	3.3	2.3	2.9	5.1	6.6	10.2	7.5	3.3	46.3				
Madurai (A) Obsy	23	a	10.4	5.3	13.3	42.3	50.4	48.5	57.6	94.9	108.8	189.9	153.2	63.5	838.1	135 (1971)	69 (1961)	190.0	1970 Aug 25
		b	0.9	0.6	1.0	2.4	3.5	2.6	2.8	4.5	6.1	9.2	7.1	3.9	44.6				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Madurai (Obsy)	75	a	25.4	14.7	21.6	60.0	61.4	39.7	48.4	106.6	118.5	188.0	143.2	56.2	883.7	163 (1921)	46 (1913)	191.8	1877 Dec 06
		b	1.8	0.8	1.2	3.3	4.2	2.4	2.8	5.9	6.1	9.8	7.7	3.7	49.7				
Melur	80	a	27.5	11.3	15.3	56.4	76.1	52.1	55.4	118.7	144.4	192.3	156.9	70.4	976.8	174 (1970)	57 (1958)	192.3	1933 Nov 04
		b	1.9	0.7	1.0	3.0	4.2	3.1	3.5	6.2	6.6	9.8	8.5	4.1	52.6				
Mettupatti	29	a	12.8	10.2	20.7	54.2	67.9	34.1	43.5	100.7	147.1	214.9	137.6	53.3	897.0	161 (1966)	50 (1952)	160.0	1992 Sep 26
		b	0.9	0.7	1.4	2.8	3.6	2.2	2.5	5.1	6.9	10.7	7.7	3.0	47.5				
Periakulam	79	a	31.5	34.9	54.7	93.9	69.6	19.1	26.9	45.1	82.3	191.9	153.7	57.2	860.8	179 (1944)	53 (1974)	155.0	1992 Nov 14
		b	1.9	1.9	2.7	5.2	5.2	2.2	2.5	3.7	5.4	10.6	8.3	3.5	53.1				
Peraiyur	74	a	19.7	21.3	21.2	83.0	74.2	22.8	29.7	61.6	103.8	208.2	163.8	62.5	871.8	175 (1979)	46 (1974)	150.0	1992 Nov 03
		b	1.4	1.0	1.4	4.0	4.6	1.9	2.2	3.7	5.3	9.6	7.9	3.3	46.3				
Pulipatti	29	a	12.6	10.2	15.4	51.2	67.4	37.1	51.7	97.5	127.4	187.1	146.7	65.0	869.3	163 (1953)	54 (1952)	192.0	1955 Dec 02
		b	1.0	0.7	0.8	2.3	4.0	3.0	3.6	6.0	6.9	10.3	7.6	3.6	49.8				
Solavandan	76	a	18.2	14.1	17.5	55.1	69.0	27.4	37.0	68.1	105.2	188.8	142.3	47.1	789.8	170 (1947)	08 (1969)	148.6	1953 Sep 12
		b	1.2	0.8	1.0	3.1	4.2	2.0	2.0	4.4	5.4	9.6	7.3	3.1	44.1				
Tallakulam	49	a	17.1	14.3	20.1	61.4	52.6	34.3	44.0	116.2	114.3	199.6	144.2	52.1	870.2	147 (1966)	44 (1974)	160.5	1955 Dec 02
		b	1.2	0.7	1.1	3.2	3.4	2.2	2.6	6.0	5.4	10.2	7.4	3.5	46.9				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Thaniamangalam	29	a	16.8	12.8	7.0	51.2	61.3	42.3	64.5	95.7	113.6	151.0	141.8	61.2	819.2	158 (1956)	51 (1974)	144.8	1955 Apr 22
		b	1.3	0.8	0.7	2.6	2.9	2.6	3.5	6.1	6.7	9.3	8.2	4.5	49.2				
Thirumangalam	79	a	21.2	15.4	18.3	58.3	70.5	33.2	43.9	96.0	108.8	200.2	153.0	62.9	881.7	152 (1922)	51 (1961)	186.0	1990 Oct 31
		b	1.6	0.8	1.2	3.2	4.5	2.3	2.7	4.9	5.7	9.7	7.6	3.5	47.7				
Usilampatti	80	a	26.3	18.8	26.9	66.3	76.9	21.2	25.3	67.2	106.4	220.0	168.9	57.7	881.9	179 (1930)	47 (1968)	200.7	1925 Nov 09
		b	1.6	1.1	1.3	3.5	4.2	1.5	1.5	3.7	5.4	10.2	8.5	3.5	46.0				
Uthama-palayam	75	a	22.0	13.3	23.1	65.0	82.2	34.0	47.7	38.9	55.8	166.6	144.8	57.5	730.9	179 (1977)	57 (1904)	143.8	1931 Apr 16
		b	1.3	1.0	1.5	4.3	4.4	4.3	5.7	4.2	4.5	9.8	8.5	3.7	53.2				
Vaigai Dam	25	a	6.8	19.6	19.0	48.7	52.1	14.8	28.2	25.5	101.4	166.1	132.8	58.4	673.6	147 (1977)	57 (1975)	276.9	1958 Sep 21
		b	1.0	1.0	1.5	3.4	4.8	1.4	2.5	2.0	5.5	10.4	7.7	3.7	44.9				
Veerapandi	29	a	8.9	16.9	28.8	54.2	40.2	15.7	24.7	19.3	47.7	152.1	108.8	44.2	561.5	168 (1959)	43 (1975)	176.0	1976 Apr 27
		b	0.8	0.9	1.6	3.3	3.3	2.0	2.4	1.6	3.4	9.1	6.4	2.6	37.4				
Madurai (District)		a	16.4	14.5	21.5	59.5	62.6	32.5	44.2	75.0	105.2	186.0	143.7	56.0	817.1	154 (1944)	58 (1974)		
		b	1.2	0.9	1.3	3.3	4.0	2.5	3.2	4.6	5.7	9.9	7.8	3.4	47.8				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(M A D U R A I)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	1	901 - 1000	13
501 - 600	1	1001 - 1100	10
601 - 700	13	1101 - 1200	5
701 - 800	22	1201 - 1300	2
801 - 900	13		

TABLE - 3
Normals of Temperature and Relative Humidity
(M A D U R A I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	30.8	20.8	39.1	1980 Jan 26	15.6	1907 Jan 28	76	55
February	32.6	21.3	38.5	1983 Feb 23	10.5	1977 Feb 23	75	44
March	35.3	23.3	41.7	1882 Mar 27	16.9	1989 Mar 01	74	39
April	36.6	25.0	42.1	1985 Apr 24	19.4	1909 Apr 13	73	49
May	37.8	25.8	44.5	1976 May 25	17.8	1920 May 29	67	50
June	37.2	25.7	42.2	1935 Jun 04	17.8	1897 Jun 14	62	47
July	36.0	25.2	40.6	1884 Jul 23	19.4	1891 Jul 20	62	50
August	35.7	24.9	40.0	1990 Aug 28	20.5	1976 Aug 18, 19	65	52
September	35.4	24.3	39.8	1991 Sep 02	18.5	1976 Sep 27	66	54
October	33.0	23.5	40.0	1990 Oct 21	18.9	1911 Oct 28	76	65
November	30.9	22.6	36.5	1976 Nov 03	17.2	1909 Nov 12	78	69
December	30.2	21.6	36.0	1984 Dec 04	16.7	1920 Dec 05	76	63
Annual	34.3	23.7					71	53

TABLE - 4
Mean Wind Speed in km/hr.
(M A D U R A I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
6.8	6.2	5.5	5.1	5.9	7.7	7.4	6.2	6.0	4.5	5.5	6.5	6.1

TABLE - 5
Special Weather Phenomena
(M A D U R A I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.1	0.7	1.5	2.1	1.5	1.1	2.3	2.9	2.9	1.1	0.4	16.6
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
Dust-storm	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.4

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(M A D U R A I (A))

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	1730 IST
January	30.4	19.9	34.3	1961 Jan 09	15.0	1990 Jan 14	76	51
February	32.6	20.7	37.8	1983 Feb 23	14.6	1989 Feb 06	75	42
March	35.2	22.5	40.0	1983 Mar 29	16.8	1972 Mar 01	73	38
April	36.6	24.9	41.2	1973 Apr 29	20.3	1976 Apr 26	71	46
May	37.3	25.9	41.4	1976 May 07	20.7	1989 May 18	63	48
June	36.4	25.8	40.7	1993 Jun 03	21.2	1972 Jun 17	59	48
July	35.4	25.5	40.0	1987 Jul 17, 22	20.1	1971 Jul 12	60	51
August	35.3	25.1	39.4	1993 Aug 23	19.5	1976 Aug 20	62	52
September	34.6	24.3	39.0	1987 Sep 12	19.8	1972 Sep 19	66	55
October	32.4	23.4	38.0	1983 Oct 07	20.0	1971 Oct 11	76	65
November	30.2	22.4	36.6	1990 Nov 05	16.9	1972 Nov 21	79	69
December	29.4	21.0	36.9	1986 Dec 31	15.5	1970 Dec 15	78	64
Annual	33.8	23.5					70	52

TABLE - 4(a)
Mean Wind Speed in km/hr.
(M A D U R A I (A))

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
9.7	9.2	8.2	8.2	9.7	13.6	14.3	12.4	9.9	7.1	7.8	9.7	10.0

TABLE - 5 (a)
Special Weather Phenomena
(M A D U R A I (A))

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.7	2.0	7.4	10.8	5.5	5.0	7.5	10.5	10.4	4.6	1.0	65.4
Fog	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Dust-storm	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Squall	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2

NAGAPATTINAM QUAID-E-MILLETH DISTRICT

The district has a hot tropical climate. The summer season which is very oppressive is from March to about the end of May. The following period lasting upto the end of September is the southwest monsoon season. October to the end of December is the northeast monsoon season. January to the end of February is the comparatively cool season with clear bright skies.

RAINFALL

Records of rainfall in the district are available for 21 stations for period ranging from 21 to 79 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 1253.6 mm. August to December is the main rainy season when about more than 80% of the annual rainfall is received. November is generally the rainiest month. However, some rain continues to occur in January. The district gets rainfall amounting to 16% of the normal annual rainfall, during the later part of the southwest monsoon. Some rainfall, mostly in the form of thundershowers is also received during the summer and early monsoon months. The variation in the annual rainfall from year to year is appreciable. In the 80 year period, 1901 to 1980, the highest annual rainfall amounting to 157% of the normal occurred in 1920. The lowest annual rainfall which was 57% of the normal occurred in 1980. In the same 80 year period the annual rainfall in the district was less than 80% of the normal in 19 years, two consecutive years of such low rainfall occurred twice, while three consecutive years of such low rainfall occurred once in this period.

It will be seen from Table 2 that the annual rainfall in the district was between 801 and 1500 mm in 58 years out of 80 years.

On an average there are about 54 rainy days, (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 50 at Kodavasal to 59 at Vedaranniyam (Obsy).

The heaviest rainfall in 24 hours recorded at any station in the district was 626.0 mm at Manalamedu on 24th October, 1991.

TEMPERATURE

There are two meteorological observatories in the district at Nagapattinam and Vedaranniyam. From about middle of February, there is steady increase in temperature

until May and June. June is the hottest month with the mean daily maximum temperature of 34.6°C at Vedaranniyam and 36.6°C at Nagapattinam. The summer season and the period upto July end is the hot and oppressive particularly in the central area due to high humidity and high temperature. The afternoon thundershowers which occur during May to July on a few days give some relief though only temporarily. With the commencement of regular rainy season in August, the weather becomes comparatively cooler. After September, the temperature, especially the day temperature decreases rapidly. December and January are generally the coolest months with the mean daily minimum temperature at about 22°C at Vedaranniyam and 23°C at Nagapattinam.

The highest maximum temperature ever recorded in the district was 39.6°C on 19th July 1965 at Vedaranniyam and 42.8°C at Nagapattinam on 15th May, 1898 and the lowest minimum temperature ever recorded was 15.5°C on 30th January 1969 at Vedaranniyam and 15.6°C on 6th February 1884 at Nagapattinam.

HUMIDITY

The humidity is generally high, more than 75% during October to February. It is somewhat lower during March to September, especially in the middle of the southwest monsoon months.

CLOUDINESS

During the period February to April, the skies are mostly clear or lightly clouded. Cloudiness increases progressively thereafter, especially in the afternoons. During the period July to December, the skies are generally clouded to overcast. Clouding generally decreases gradually later with the advance of the season.

WINDS

Winds are light to moderate. However, generally light winds prevail in the morning. Southwesterly winds are common from May to September and sometimes westerlies predominate in the mornings. Northeasterlies appear in October and prevail subsequently upto March. Easterlies also appear from February to April.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal in the post monsoon and the first half of the northeast monsoon season move in a westerly direction towards the district or its neighbourhood, causing widespread heavy rain and gusty winds. Thunderstorms occur in the summer and post monsoon seasons.

Tables 3, 4 and 5 and 3(a), 4(a) and 5(a) give the temperature and humidity, mean wind speed and special weather phenomena for Nagapattinam and Vedaranniyam respectively.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Kodavasal	79	a	55.5	12.4	20.8	34.7	53.3	34.8	52.3	94.5	113.0	196.5	285.9	169.5	1123.2	246 (1920)	47 (1980)	279.7	1939 Apr 14
		b	2.5	0.8	1.0	1.8	2.6	2.0	2.8	5.1	5.3	9.1	10.5	6.7	50.2				
Koraiyar Head	28	a	22.0	10.6	20.4	28.4	42.4	33.4	71.0	83.1	93.2	187.2	237.0	151.6	980.3	161 (1963)	52 (1959)	220.6	1982 Aug 07
		b	1.5	0.7	0.9	1.8	2.5	2.2	4.1	5.4	5.0	9.5	10.2	6.9	50.7				
Manalamedu	28	a	29.8	4.0	17.0	16.5	42.8	35.8	60.2	115.8	105.4	240.5	303.2	184.7	1155.7	155 (1977)	64 (1964)	626.0	1991 Oct 24
		b	1.5	0.4	0.5	1.1	2.2	2.0	3.7	6.6	5.7	9.7	10.2	7.6	51.2				
Manargudi	79	a	51.0	16.1	20.0	44.6	48.6	39.4	58.9	111.9	110.8	194.5	261.6	173.1	1130.5	173 (1920)	60 (1947)	271.0	1891 Nov 08
		b	2.5	1.0	1.1	2.2	2.4	2.5	3.6	6.2	5.8	9.6	10.8	6.7	54.4				
Muliiar Head	29	a	28.2	10.0	15.4	29.2	38.2	34.1	64.3	102.5	92.0	203.5	245.3	197.9	1060.6	140 (1978)	60 (1959)	248.9	1978 Dec 26
		b	2.2	0.7	0.9	1.9	2.3	2.1	4.2	5.9	5.2	10.2	10.7	7.6	53.9				
Muthupet	79	a	56.8	22.6	23.9	54.1	50.1	30.7	50.6	95.2	113.3	221.0	287.9	193.7	1199.9	159 (1930)	56 (1927)	344.9	1930 Oct 24
		b	2.8	1.1	1.4	2.8	2.7	2.2	3.4	5.3	6.1	10.3	11.3	7.2	56.6				
Nagapattinam (Obsy)	78	a	68.7	20.4	19.4	32.4	43.6	30.4	47.9	77.4	80.7	242.0	433.6	264.1	1360.6	182 (1963)	47 (1964)	402.6	1963 Dec 05
		b	3.3	1.0	1.0	1.6	2.1	2.1	3.1	4.7	4.8	9.9	12.5	8.9	55.0				
Nannilam	71	a	59.1	16.9	18.9	36.2	49.3	28.5	54.7	90.1	107.2	202.1	337.6	194.4	1195.0	176 (1920)	41 (1980)	291.3	1954 Dec 10
		b	2.7	1.0	0.9	1.7	2.4	1.9	3.4	5.0	5.3	9.2	11.1	7.4	52.0				
Needaman-galam	79	a	47.3	15.3	17.4	38.2	46.5	38.1	64.8	106.2	108.0	178.7	258.0	169.5	1088.0	165 (1966)	58 (1908)	237.0	1983 Dec 22
		b	2.3	0.9	1.0	2.0	2.4	2.4	3.7	5.4	5.3	8.9	10.1	7.0	51.4				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Neidavasal	73	a	56.4	18.0	19.7	25.0	38.2	27.6	43.4	90.7	96.8	248.6	416.2	212.8	1293.4	177 (1944)	45 (1980)	373.9	1930 Oct 23
		b	2.8	0.9	0.9	1.3	1.6	2.0	3.3	5.7	5.2	9.4	12.3	7.8	53.2				
Pandavar Head	28	a	36.9	10.9	22.9	30.1	41.2	34.9	71.9	104.3	94.8	230.5	316.5	215.4	1210.3	157 (1978)	56 (1980)	241.3	1978 Nov 04
		b	2.0	0.7	1.0	1.6	2.5	2.1	4.3	5.5	4.7	10.5	11.2	7.5	53.6				
Sirkali	79	a	63.8	18.6	18.6	25.5	39.4	30.7	51.2	112.7	105.9	255.1	409.7	226.8	1358.0	193 (1913)	46 (1953)	482.6	1871 Nov 15
		b	2.7	0.9	0.9	1.2	1.8	2.1	3.7	6.3	5.6	9.9	12.1	7.8	55.0				
Thalanayar	29	a	48.3	13.1	14.1	31.9	42.5	39.6	42.8	84.7	93.9	285.2	394.8	293.5	1384.4	169 (1922)	40 (1951)	386.0	1983 Dec 22
		b	2.5	0.9	0.7	1.4	2.3	2.1	2.9	4.9	5.4	10.9	12.9	9.3	56.2				
Thirupoondi	77	a	76.3	20.9	22.9	34.2	43.8	30.5	45.3	72.6	86.2	241.6	423.9	272.2	1370.4	176 (1963)	51 (1968)	412.0	1963 Dec 05
		b	3.2	1.1	1.0	1.7	2.0	1.9	2.9	4.1	4.6	9.6	12.1	8.1	52.3				
Thiruthural poondi	79	a	60.6	16.2	17.4	42.1	44.4	34.2	47.7	89.7	89.9	218.0	328.8	213.1	1202.1	156 (1963)	50 (1974)	363.7	1954 Oct 20
		b	2.9	0.9	1.1	2.2	2.5	2.4	3.2	5.3	5.5	10.1	12.2	7.6	55.9				
Thiruvarur	79	a	65.5	19.5	24.3	36.4	47.8	33.1	55.8	86.0	94.0	212.8	351.6	218.4	1245.2	150 (1930)	47 (1949)	327.4	1918 Nov 18
		b	2.8	1.1	1.0	1.8	2.4	2.3	3.3	4.6	4.9	9.3	11.7	7.7	52.9				
Tranqueber	78	a	58.6	17.5	18.8	25.9	39.5	24.6	39.9	76.1	86.8	246.5	406.8	227.5	1268.5	173 (1930)	46 (1968)	379.7	1932 Nov 25
		b	3.0	1.0	1.0	1.1	1.9	1.7	2.8	4.8	4.9	9.7	12.3	8.1	52.3				
Vedaranniyam	65	a	97.1	22.8	23.8	51.5	57.2	25.2	47.2	76.1	98.6	277.4	479.5	258.1	1514.5	190 (1954)	53 (1909)	500.1	1918 Nov 18
		b	3.6	1.0	1.0	2.4	2.6	1.4	2.6	4.2	5.0	10.4	12.6	8.3	55.1				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL & YEARS**	HEAVIEST RAINFALL in 24 HOURS* Amount (mm)	HEAVIEST RAINFALL in 24 HOURS* Date
Vedaranniyam (Obsy)	21	a	50.1	10.4	29.6	27.8	41.0	30.7	43.8	115.1	85.3	284.6	414.1	360.7	1493.2	155 (1969)	49 (1968)	289.0	1967 Dec 07
		b	2.8	0.6	1.6	2.0	2.2	1.8	2.9	5.6	5.5	11.0	13.6	9.5	59.1				
Coleroon	29	a	36.4	11.5	21.1	23.1	41.2	45.2	68.6	121.4	122.1	281.8	389.5	234.8	1396.7	172 (1963)	52 (1953)	322.0	1978 Nov 04
		b	2.2	0.7	0.9	1.3	1.9	2.9	4.5	6.7	6.0	10.4	11.4	7.8	56.7				
Mayuram	76	a	61.9	18.3	18.7	33.3	55.7	32.5	48.4	106.5	107.0	239.1	372.6	204.3	1298.3	156 (1946)	51 (1927)	380.0	1983 Dec 23
		b	2.8	1.0	0.8	1.5	2.3	2.1	3.5	5.7	5.7	9.8	11.8	7.6	54.6				
Nagapattinam Quaid-e-Milleth (District)		a	53.8	15.5	20.2	33.4	45.1	33.0	53.8	95.8	99.3	232.7	350.2	220.8	1253.6	157 (1920)	57 (1980)		
		b	2.6	0.9	1.0	1.7	2.3	2.1	3.4	5.4	5.3	9.9	11.6	7.8	54.0				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(NAGAPATTINAM QUAID-E-MILLETH)

Range in mm	No. of years	Range in mm	No. of years
701 - 800	4	1401 - 1500	9
801 - 900	7	1501 - 1600	6
901 - 1000	9	1601 - 1700	5
1001 - 1100	11	1701 - 1800	4
1101 - 1200	6	1801 - 1900	2
1201 - 1300	6	1901 - 2000	1
1301 - 1400	10		

TABLE - 3
Normals of Temperature and Relative Humidity
(N A G A P A T T I N A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	27.8	22.7	32.1	1966 Jan 03	16.1	1912 Jan 04	78	71
February	28.8	23.5	35.6	1898 Feb 20	15.6	1884 Feb 06	76	70
March	30.6	25.1	40.0	1953 Mar 28	16.7	1992 Mar 11	74	70
April	32.6	27.0	41.7	1908 Apr 28	20.0	1894 Apr 19	73	72
May	35.9	27.4	42.8	1898 May 15	20.6	1901 May 08	68	68
June	36.6	27.0	41.7	1884 Jun 06	20.6	1882 Jun 29	62	62
July	35.3	26.3	41.7	1898 Jul 29	21.7	1936 Jul 13	66	63
August	34.5	25.8	40.6	1898 Aug 02	20.0	1963 Aug 18	71	66
September	33.6	25.6	38.9	1989 Sep 15	20.6	1897 Sep 09	73	70
October	31.4	25.0	37.6	1965 Oct 09	20.6	1891 Oct 23	81	74
November	29.1	24.0	38.3	1987 Nov 03	16.7	1951 Nov 18	83	75
December	28.0	22.9	33.9	1909 Dec 05	16.7	1886 Dec 09	82	75
Annual	32.0	25.2					74	70

TABLE - 4
Mean Wind Speed In km/hr.
(N A G A P A T T I N A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
18.3	15.9	14.2	13.8	12.7	12.8	11.7	10.6	9.9	8.9	13.8	18.5	13.4

TABLE - 5
Special Weather Phenomena
(N A G A P A T T I N A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.6	1.7	2.8	2.2	3.2	3.4	3.4	5.1	2.7	0.8	25.9
Fog	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Dust-storm	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.3

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(V E D A R A N N I Y A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	29.2	22.2	32.8	1967 Jan 14	15.5	1969 Jan 30	72	77
February	30.7	22.6	36.2	1984 Feb 25	17.0	1989 Feb 04	68	75
March	32.6	24.1	37.2	1985 Mar 25	16.4	1992 Mar 11	66	73
April	34.2	25.5	38.4	1972 Apr 24	19.6	1968 Apr 27	63	71
May	34.5	26.1	39.5	1962 May 29	20.1	1970 May 04	65	75
June	34.6	26.1	38.6	1973 Jun 08	20.2	1985 Jun 20	62	74
July	34.2	25.6	39.6	1965 Jul 19	20.9	1969 Jul 14	63	74
August	33.7	25.1	38.2	1990 Aug 01	18.1	1970 Aug 25	65	75
September	33.5	24.4	38.0	1967 Sep 25	18.5	1970 Sep 24	67	73
October	31.8	23.7	36.2	1971 Oct 05	18.1	1987 Oct 11	75	79
November	30.2	22.9	34.2	1965 Nov 09	17.0	1964 Nov 08	77	80
December	28.7	22.4	32.9	1966 Dec 01	18.3	1981 Dec 08	77	79
Annual	32.3	24.2					68	75

TABLE - 4(a)
Mean Wind Speed in km/hr.
(V E D A R A N N I Y A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
8.9	7.0	5.2	5.9	7.6	9.0	7.6	6.8	6.5	3.9	6.2	9.4	7.0

TABLE - 5(a)
Special Weather Phenomena
(V E D A R A N N I Y A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Thunder	0.1	0.0	0.1	0.5	0.3	0.3	0.6	0.8	0.4	1.3	0.8	0.7	5.9
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1

NILGIRIS DISTRICT

This montane district enjoys a temperate and equable climate. The rainfall is highly variable according to aspect and elevation in the western and eastern parts of the district. The period from about the end of November to February is the northeast monsoon season with the associated rains ceasing early in January. The summer season is from March to May. June to September is the southwest monsoon season. October and November constitute the post monsoon or the retreating monsoon season.

RAINFALL

Records of rainfall in the district are available for 13 stations for sufficiently long period. Table 1 gives the details of the rainfall at these stations. The annual rainfall in the district varies over a wide range, Devala on the westernmost part of the district getting as much as 3882.2 mm in a year while at Kallaty in the central region of the district gets 1201.7 mm in a year. Broadly speaking the northwestern half of the district gets much more rain than in the rest of the district. The period from January to March is in general a dry period for the district. However the stations east of the Dodabetta range get some rain in this period while stations to the west of this range gets very little. In April and May the district in general gets some rain, mostly in the form of thundershowers. It is during the southwest monsoon and northeast monsoon seasons that there is much difference in the rainfall at the different stations according to their location. Thus, Devala which gets the full force of the southwest monsoon current records an annual rainfall of 3882.2 mm, 81 percent of this occurring during the southwest monsoon months June to September and gets only 11 percent of the annual rainfall during the retreating monsoon months October and November. Gudalur, being on the northern slopes of the mountain range on the northern borders of the Ouchterlony valley gets a rainfall of only 2291.8 mm while Naduvattam situated on the very crest of the plateau is on the windward side of the monsoon current and gets a higher rainfall of 2501.2 mm. At all these stations while the rainfall during the period June to September is about 70% or more of the normal, the rainfall in the post monsoon months is less than 15% of the normal. Kailkundah and Ketty on account of their location get only between 30 and 40% of their annual rainfall during the southwest monsoon period and about an equal amount during the post monsoon months of October and November. The Dodabetta range checks the southwest monsoon current and places to the east of this range like Kodanad, Coonoor and Benhope get only 20 to 35% of the annual normal during the period June to September while the rainfall during October and November is greater, exceeding 35%of the annual normal.

On an average there are about 97 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 77 at Kallaty to 135 at Devala.

The heaviest rainfall in 24 hours recorded at any station in the district was 448.3 mm at Kodanad on 15th November, 1992.

TEMPERATURE

Coonoor and Uthagamandalam are the two meteorological observatories in the district and the records of these stations are fairly representative of the meteorological conditions in the district in general. The district comprises of plateau of general elevation ranging from 1800 to 2400 meters with isolated higher peaks and there is abrupt drop on the northern and southern borders to about 300 to 600 meters. Hence the temperatures depend on the altitude of the place. Of the two observatories Uthagamandalam and Coonoor, Uthagamandalam which is at higher elevation is cooler than Coonoor. After February, temperatures steadily increase. The latter part of April or early May is generally the warmest part of the year. The mean daily maximum temperature at Uthagamandalam is the highest in April, being 22.7°C while at Coonoor the warmest month is May with the mean daily maximum temperature at 24.5°C. On individual days the day temperature may rise upto 29°C at Uthagamandalam and about a couple of degrees higher at Coonoor. The summer is very pleasant at these hill stations. However at places of lower elevation higher temperatures prevail, especially in the region bordering Wayanad on the west and the summer is as severe and uncomfortable, as in the neighbouring plains. With the onset of the southwest monsoon in the district by about first week of June, there is a drop in the day temperatures but nights remain as warm as in the summer. With the withdrawal of the southwest monsoon from the district by about the end of September, there is a steady and gradual drop in the night temperatures. At Uthagamandalam the difference between the mean day temperature during the warmest and coolest months in the year is only about 4 or 5°C. Days are generally the coldest in December and nights are slightly colder in January than in December. The mean daily maximum temperature both at Ootacamund and Coonoor in December is about 19°C to 20°C. But the mean daily minimum at Uthagamandalam during January is 5.2°C while it is 7.7°C at Coonoor. On individual days during the cold season the night temperature at times drops down to 1 to 2 degrees celcius below the freezing point of water at Uthagamandalam and frosts occur. But at Coonoor it is generally warmer by about a couple of degrees.

The highest maximum temperature recorded at Uthagamandalam was 28.5°C on 29th April 1986 while at Coonoor it was 29.6°C on 30th April 1973. The lowest minimum temperature recorded at Uthagamandalam was -2.1°C on 7th January 1976 while at Coonoor it was -0.5°C on 7th December 1970.

HUMIDITY

Relative humidities are generally high being highest in the southwest and retreating monsoon seasons.

CLOUDINESS

During the period December to March skies are generally lightly clouded or mainly clear. Clouding increases after March. During the period June to November the skies are heavily clouded or overcast.

WINDS

Winds are generally light except in the southwest monsoon when they are stronger. Winds are southwesterly to westerly in the southwest monsoon season.In the rest of the year they are mainly from directions between northeast and east. Because of the hilly terrain with ridges and valleys wind directions may differ widely at different places in the district.

SPECIAL WEATHER PHENOMENA

Some of the storms and depressions which form in the Bay of Bengal in November and December affect the weather over the district causing heavy rain. Occasional fog occurs during the cold season. Though thunderstoms have the highest incidence in April and May rain during the monsoon and post monsoon seasons is also associated with thunder on many days.

Tables 2, 3 and 4 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Uthagamandalam and Tables 2(a), 3(a) and 4(a) give similar data for Coonoor.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Benhope	20	a	89.9	51.7	66.6	135.0	122.5	72.2	105.4	95.4	128.6	382.5	375.3	198.5	1823.6	258 (1966)	44 (1952)	425.0	1968 Dec 08
		b	3.6	1.6	2.6	5.0	6.6	6.5	7.6	7.4	6.8	13.8	10.8	6.3	78.6				
Coonoor (Obsy)	49	a	70.8	68.5	80.0	138.4	109.8	62.0	73.1	87.0	112.5	310.4	333.6	144.5	1590.6	141 (1960)	69 (1967)	273.6	1909 Jan 03
		b	3.0	2.6	2.9	7.0	7.1	6.3	7.6	7.6	8.0	14.0	11.7	6.4	84.2				
Devala	79	a	7.7	8.3	14.3	68.0	175.8	685.9	1145.7	850.5	457.7	310.0	124.4	33.9	3882.2	133 (1924)	09 (1950)	330.0	1978 Nov 05
		b	0.4	0.5	1.0	4.9	9.5	23.4	28.0	25.4	19.4	14.6	6.4	1.8	135.3				
Glenmorgan	78	a	12.7	6.7	16.4	89.0	156.3	282.9	519.0	328.8	176.8	209.4	125.1	45.2	1968.3	179 (1946)	58 (1918)	414.5	1978 Nov 05
		b	0.8	0.6	1.4	6.3	9.7	15.7	21.4	18.8	13.4	12.6	7.0	2.5	110.2				
Gudalur	76	a	7.8	6.5	15.5	69.0	127.4	378.8	754.2	441.9	207.3	168.9	96.0	18.5	2291.8	147 (1978)	59 (1938)	384.6	1901 Jul 04
		b	0.4	0.5	1.2	5.6	8.2	18.2	24.2	19.9	13.5	10.8	5.6	1.6	109.7				
Kallatty	66	a	16.6	8.2	13.0	84.0	179.8	91.0	133.6	117.8	116.7	240.5	150.4	50.1	1201.7	216 (1969)	30 (1960)	347.2	1955 May 18
		b	1.3	0.6	1.1	5.9	9.4	7.4	11.0	8.8	7.7	12.8	8.2	3.0	77.2				
Ketty	79	a	46.1	20.4	32.9	88.2	127.6	104.5	119.5	115.2	131.0	224.0	184.1	70.7	1264.2	155 (1919)	28 (1960)	183.1	1952 Dec 02
		b	2.2	1.3	2.1	6.1	8.6	8.9	10.3	8.6	8.9	13.1	9.5	4.3	83.9				
Kodanad	79	a	50.9	30.5	29.5	82.1	168.1	83.4	111.1	107.0	154.6	303.3	249.4	122.6	1492.5	169 (1962)	56 (1974)	448.3	1992 Nov 15
		b	2.6	1.4	1.6	4.8	8.5	7.2	10.3	8.9	9.1	14.0	10.4	5.3	84.2				
Kotagiri	79	a	71.7	58.6	49.1	106.0	149.3	108.3	104.5	107.1	144.3	312.0	251.4	112.0	1576.3	203 (1905)	17 (1961)	285.0	1978 Nov 05
		b	2.9	2.2	2.3	5.7	8.5	8.0	8.3	7.5	8.8	14.4	10.8	5.7	85.1				
Kundha/ Kallkundah	80	a	53.4	32.1	39.6	87.4	102.7	87.4	148.4	94.1	91.0	245.0	216.6	93.3	1291.0	139 (1924)	64 (1952)	298.5	1886 Jun 16
		b	2.8	1.7	2.7	6.1	7.9	8.3	12.4	9.2	8.0	14.3	11.2	5.5	90.1				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Naduvattam	78	a	12.0	10.4	17.3	86.9	165.8	404.8	770.7	468.5	217.0	207.1	113.2	27.5	2501.2	163 (1924)	58 (1965)	376.2	1955 May 19
		b	0.8	0.8	1.5	5.6	9.9	19.2	24.7	22.5	15.6	13.2	6.9	1.8	123.5				
Uthagamandalam (Agro)	10	a	2.5	7.2	17.0	72.8	198.3	138.8	202.8	147.0	199.6	198.6	208.8	71.1	1465.5	125 (1977)	79 (1974)	311.5	1978 Nov 05
		b	0.4	1.2	1.3	6.1	12.1	11.9	15.4	13.6	13.2	12.4	9.9	4.2	101.7				
Uthagamandalam (Obsy)	66	a	24.1	10.3	27.6	79.1	164.4	142.2	189.2	128.3	135.0	196.1	150.2	53.3	1300.0	148 (1903)	62 (1952)	333.8	1978 Nov 05
		b	1.5	0.9	2.0	6.5	11.2	11.7	14.7	11.3	10.2	13.2	8.9	3.6	95.7				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Normals of Temperature and Relative Humidity
(U T H A G A M A N D A L A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	20.8	5.2	26.8	1975 Jan 02	-2.1	1976 Jan 07	62	65
February	21.3	6.4	26.9	1981 Feb 26	0.0	1970 Feb 12	60	58
March	22.3	8.7	27.5	1985 Mar 23	1.1	1948 Mar 25	54	53
April	22.7	10.5	28.5	1986 Apr 29	5.0	1982 Apr 08	63	67
May	21.8	11.3	27.9	1983 May 06	4.4	1917 May 04	72	76
June	18.5	10.8	27.0	1986 Jun 15	2.2	1985 Jun 18	85	84
July	16.9	10.8	22.7	1976 Jul 01	2.5	1986 Jul 22	90	89
August	17.5	10.6	23.0	1987 Aug 01	6.4	1972 Aug 31	89	87
September	18.7	10.3	23.0	1990 Sep 20	2.5	1986 Sep 19	85	84
October	19.0	10.0	26.8	1987 Oct 15	0.0	1964 Oct 18	84	85
November	19.2	8.4	24.5	1985 Nov 27	-1.1	1949 Nov 10	80	82
December	20.0	6.8	26.8	1992 Dec 31	-1.1	1947 Dec 30	69	73
Annual	19.9	9.2					74	75

TABLE - 3
Mean Wind Speed in km/hr.
(U T H A G A M A N D A L A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2.9	3.1	4.0	3.7	3.5	8.5	9.3	7.8	4.8	3.1	3.0	3.4	4.8

TABLE - 4
Special Weather Phenomena
(U T H A G A M A N D A L A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.7	4.6	4.9	1.3	0.2	0.7	1.9	1.5	0.3	0.0	16.1
Fog	0.2	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.2	0.1	0.8
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE - 2(a)
Normals of Temperature and Relative Humidity
(C O O N O O R)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	1730 IST
January	19.3	7.7	25.6	1942 Jan 02	0.7	1988 Jan 01	64	
February	21.2	8.7	26.7	1945 Feb 15	0.2	1964 Feb 16	55	
March	23.1	10.7	28.3	1988 Mar 23	3.8	1972 Mar 05	52	
April	24.1	13.2	29.6	1973 Apr 30	8.4	1972 Apr 01	63	
May	24.5	14.4	29.4	1931 May 07	9.0	1988 May 10	60	Data
June	22.7	14.7	28.6	1983 Jun 01	6.0	1984 Jun 23	67	not
July	21.4	14.7	26.2	1988 Jul 26	8.8	1971 Jul 13	71	avail-
August	21.8	14.3	25.1	1974 Aug 24	8.6	1970Aug 29	69	able
September	21.7	13.1	27.7	1985 Sep 21	7.2	1970 Sep 24	70	
October	21.0	13.0	25.6	1941 Oct 02	6.1	1933 Oct 21	76	
November	19.7	11.3	24.4	1938 Nov 10	3.0	1974 Nov 18	77	
December	19.3	9.0	25.6	1941 Dec 12	-0.5	1970 Dec 07	69	
Annual	21.7	12.1					66	

TABLE - 3(a)
Mean Wind Speed in km/hr.
(C O O N O O R)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
5.9	5.8	7.0	6.4	6.8	8.5	9.4	7.9	6.6	5.4	4.8	5.5	6.7

TABLE - 4(a)
Special Weather Phenomena
(C O O N O O R)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Thunder	0.0	0.0	0.7	1.7	1.6	0.3	0.2	0.1	0.9	0.9	0.5	0.1	7.0
Fog	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.5	0.8	2.2
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NORTH ARCOT-AMBEDKAR DISTRICT

The district has a generally dry and agreeable climate. The year may be divided into four seasons. The period from October to November is the northeast monsoon season. December to February is comparatively cooler season. The summer season from March to May, is followed by the southwest monsoon season from June to September.

RAINFALL

Records of rainfall in the district are available for 15 raingauge stations for sufficiently long periods. Tables 1 and 2 give the details of the rainfall at these stations and for the district as a whole. The normal annual rainfall in the district is 949.8 mm. The rainfall in the district varies from 787.4 mm at Ambur to 1079.0 mm at Arakonam. The rainfall in the southwest monsoon period June to September amounts to about 48 % of the annual normal rainfall, the rainfall increasing with the progress of the season. During the northeast monsoon months October and November as much as about 34 % of the annual normal rainfall is received. There is some rainfall in December also. Rain in the form of thundershowers occurs during the summer season. October is generally the rainiest month. The variation in the annual rainfall from year to year is not very large. During the 80 year period from 1901 to 1980 the highest annual rainfall amounting to 180 % of the annual normal occurred in 1903 while 1980 was the year with the lowest annual rainfall which was 58 % of the normal. The annual rainfall in the district during the same 80 year period was less than 80 % of the normal in 17 years, two of them being consecutive. It will be seen from Table 2 that the average annual rainfall in the district was between 701 and 1100 mm in 55 years out of 80.

On an average there are 50 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 44 at Tiruppattur (Obsy) to 56 at Vellore (Obsy).

The heaviest rainfall in 24 hours recorded at any station in the district was 303.0 mm at Walajah on 20th November 1912.

TEMPERATURE

There are two meteorological observatories in the district, one at Vellore and the other at Tiruppattur. The period from about the end of February to about the end of May is one of continuous increase in temperature. May is the hottest month with the mean daily maximum temperature at 38.5°C and 37.0°C and the mean daily minimum

temperature at 26.3°C and 23.4°C at Vellore and Tiruppattur respectively. The heat during the summer is intense and on many days, the day temperature exceeds 46°C. Thundershowers which occur on some days during the afternoons bring welcome relief. With the onset of the southwest monsoon by about the end of May there is a slight drop in temperatures. In the early part of the monsoon season, some days are almost as hot as in the summer. After the withdrawal of the monsoon by the end of September there is appreciable drop in both day and night temperatures. Temperatures continue to decrease steadily thereafter till December which is the coldest month. The mean daily maximum temperature in December is 28.3°C and the mean daily minimum temperature is 19.2°C at Vellore and the mean daily maximum temperature in December is 29.0°C and the mean daily minimum is 17.2°C at Tiruppattur. Temperatures gradually increase after January.

The highest maximum temperature recorded at Vellore was 45.0°C on 24th May 1980 and at Tiruppattur was 46.3°C on 7th May 1976. The lowest minimum was 10.4°C on 19th January 1990 at Vellore and 10.2°C on 15th December 1974 at Tiruppattur.

HUMIDITY

In general Tiruppattur is slightly more humid than Vellore. Usually mornings are more humid than afternoons. The relative humidity is on an average between 70 and 90 % in the mornings during the period August to February and between 60 and 80 % during the rest of the year in the mornings. Afternoon humidities are generally between 40 and 75 %. The driest part of the year is the summer season when the relative humidities in the afternoons are about 40 % and in the southern part of the district they are about 60 %.

CLOUDINESS

During the period June to December the skies are mostly heavily clouded and overcast on many days. During the rest of the year the skies are mainly lightly clouded.

WINDS

Winds are generally light. In the southern part of the district winds are mostly northerly or southerly throughout the year. During the period June to September winds are mostly northerly or westerly with southerlies also blowing on some days. From September to January, winds in the mornings are very light and variable in direction. In March and April morning winds continue to be light and variable.

SPECIAL WEATHER PHENOMENA

In association with the westward passage of storms and depressions from the Bay of Bengal in the post monsoon and early northeast monsoon season, widespread heavy rain and strong winds occur in the district. Thunderstorms occur in the latter half of the summer and the early part of the southwest monsoon season.

Tables 3, 4 and 5 and Tables 3(a), 4(a) and 5(a) give the temperature and humidity, mean wind speed and special weather phenomena respectively for Vellore and Tiruppattur.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Ambur	79	a	16.0	3.6	6.3	21.6	81.0	56.8	78.5	105.4	137.0	139.7	101.7	39.8	787.4	221 (1903)	37 (1980)	196.9	1943 Oct 10
		b	0.9	0.3	0.6	1.4	4.9	3.7	4.8	6.1	7.3	7.8	5.9	2.5	46.2				
Arakonam	77	a	30.5	8.3	12.1	17.4	49.9	66.3	113.0	143.5	150.4	192.6	208.8	86.2	1079.0	184 (1903)	63 (1936)	245.6	1943 Oct 10
		b	1.3	0.5	0.5	0.9	2.7	4.5	7.0	8.4	7.3	8.9	8.4	3.7	54.1				
Sholinger	76	a	21.7	5.8	8.1	19.4	54.6	61.0	100.6	132.5	146.2	161.4	171.7	62.4	945.4	213 (1903)	24 (1968)	177.0	1903 Nov 06
		b	0.9	0.3	0.4	1.1	2.7	4.0	5.7	7.3	6.5	7.3	6.3	2.5	45.0				
Gudiyatham	77	a	16.8	3.2	6.5	21.5	73.4	57.0	95.2	112.2	145.8	160.9	122.4	40.8	855.7	147 (1903)	55 (1980)	219.7	1880 Nov 21
		b	1.2	0.2	0.6	1.4	4.9	4.2	6.2	7.1	7.6	8.6	7.0	3.0	52.0				
Kaveripauk PWD	28	a	10.6	5.5	5.3	13.3	55.6	54.9	113.2	132.0	113.5	182.6	163.6	64.1	914.2	136 (1976)	51 (1958)	162.0	1966 Nov 10
		b	0.6	0.3	0.3	0.8	2.9	3.7	5.8	6.1	5.8	7.9	6.8	2.9	43.9				
Minnel	29	a	13.1	5.6	5.8	15.5	51.4	63.8	120.6	132.2	142.3	195.4	166.3	75.6	987.6	146 (1956)	45 (1968)	200.0	1966 Nov 10
		b	0.6	0.2	0.4	0.8	2.9	4.2	6.9	7.3	6.8	8.1	6.8	3.5	48.5				
Palar Anicut	29	a	6.5	4.1	4.8	18.3	47.4	60.9	100.4	143.4	154.0	174.0	154.0	71.7	939.5	145 (1977)	51 (1951)	120.0	1963 Sep 01
		b	0.6	0.3	0.4	0.9	2.9	3.9	5.8	6.8	6.9	8.4	7.2	3.7	47.8				
Panapauk PWD	27	a	12.6	2.8	6.1	16.1	56.7	67.9	134.4	156.1	149.2	190.5	190.3	61.2	1043.9	138 (1955)	54 (1968)	183.0	1969 Nov 20
		b	0.9	0.3	0.5	0.9	3.2	4.8	7.3	9.1	7.8	9.3	8.7	3.0	55.8				
Ponnai Anicut	29	a	8.5	4.3	4.5	18.2	68.5	82.1	119.7	113.3	140.7	208.5	156.9	62.9	988.1	160 (1977)	50 (1951)	180.0	1972 Oct 01
		b	0.6	0.3	0.3	1.0	3.7	5.4	6.9	7.0	6.7	9.4	7.2	3.4	51.9				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Ranipet PWD	29	a	6.1	5.6	5.0	27.7	67.9	72.0	109.8	161.3	152.0	188.8	175.8	70.3	1042.3	138 (1966)	65 (1961)	195.6	1966 Nov 10
		b	0.4	0.4	0.3	0.9	3.2	4.5	6.3	7.4	6.8	8.5	6.7	2.9	48.3				
Tiruppattur	75	a	10.6	5.2	9.3	37.5	99.9	64.6	95.5	127.7	159.5	148.3	88.3	31.1	877.5	145 (1944)	48 (1923)	188.0	1874 Sep 27
		b	0.8	0.4	0.8	2.9	6.2	4.5	5.6	7.1	7.9	8.9	5.8	2.1	53.0				
Vaniyambadi	69	a	14.2	4.3	7.3	24.6	88.8	55.1	84.2	115.3	149.0	137.7	92.0	24.1	796.6	182 (1903)	42 (1980)	190.5	1896 Sep 19
		b	1.0	0.3	0.5	1.8	5.4	3.7	4.9	6.4	7.3	8.0	5.6	2.0	46.9				
Vellore (Obsy)	73	a	24.6	6.1	7.4	22.6	75.5	70.5	110.8	135.0	163.4	175.2	172.9	76.3	1040.3	164 (1903)	59 (1980)	299.0	1930 Nov 30
		b	1.5	0.5	0.5	1.4	4.1	5.0	6.3	7.8	7.9	9.2	8.0	4.0	56.2				
Walajah	75	a	21.2	6.2	9.4	20.5	46.8	64.4	98.4	139.3	156.6	163.9	176.2	63.6	968.5	186 (1903)	47 (1980)	303.0	1912 Nov 20
		b	1.3	0.4	0.5	1.0	3.0	4.3	6.1	7.9	7.5	8.7	7.7	3.3	51.7				
Tiruppattur (Obsy)	21	a	1.3	4.3	8.3	22.0	103.7	58.5	124.3	132.4	192.5	190.2	101.8	42.1	981.4	135 (1966)	66 (1961)	167.3	1966 Nov 04
		b	0.1	0.3	0.5	1.6	4.9	3.0	5.5	5.6	7.9	8.0	4.7	1.7	43.8				
North Arcot-Ambedkar (District)		a	14.3	5.0	7.1	21.1	68.2	63.7	106.6	132.1	150.1	174.0	149.5	58.1	949.8	180 (1903)	58 (1980)		
		b	0.8	0.3	0.5	1.3	3.8	4.2	6.1	7.2	7.2	8.5	6.9	2.9	49.7				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(NORTH ARCOT-AMBEDKAR)

Range in mm	No. of years	Range in mm	No. of years
501 - 600	2	1101 - 1200	8
601 - 700	9	1201 - 1300	2
701 - 800	13	1301 - 1400	3
801 - 900	17	1401 - 1500	0
901 - 1000	10	1501 - 1600	0
1001 - 1100	15	1601 - 1700	0
		1701 - 1800	1

TABLE - 3
Normals of Temperature and Relative Humidity
(V E L L O R E)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	29.2	18.2	34.7	1981 Jan 09	10.4	1990 Jan 19	84	50
February	32.0	19.2	39.5	1983 Feb 21	12.0	1989 Feb 03	78	40
March	35.0	21.3	42.8	1983 Mar 17	14.4	1934 Mar 05	74	35
April	37.1	24.8	43.9	1908 Apr 29	17.8	1950 Apr 02	70	38
May	38.5	26.3	45.0	1980 May 24	18.1	1988 May 30	63	42
June	36.3	26.0	44.3	1983 Jun 01	19.9	1986 Jun 01	64	48
July	34.6	25.1	40.6	1902 Jul 04	20.1	1971 Jul 06	68	52
August	34.0	24.6	39.4	1901 Aug 04	20.1	1965 Aug 31	70	55
September	34.0	24.1	39.0	1972 Sep 07	20.0	1936 Sep 16	73	57
October	32.0	22.9	39.2	1961 Oct 11	15.6	1911 Oct 28	81	66
November	29.5	20.8	35.8	1970 Nov 13	13.9	1921 Nov 10	84	66
December	28.3	19.2	33.9	1909 Dec 06	12.2	1950 Dec 08	86	62
Annual	33.4	22.7					75	51

TABLE - 4
Mean Wind Speed in km/hr.
(V E L L O R E)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
7.0	7.2	7.9	9.0	8.4	10.5	10.5	9.0	7.1	5.5	6.1	6.8	7.9

TABLE - 5
Special Weather Phenomena
(V E L L O R E)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.1	0.7	2.6	8.1	5.8	4.6	5.3	6.1	6.1	1.7	0.3	41.2
Fog	1.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.3	1.2	3.3
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squall	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(T I R U P P A T T U R)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	29.6	16.1	37.3	1982 Jan 11	10.3	1975 Jan 01	88	69
February	32.3	18.3	39.4	1983 Feb 23	10.5	1974 Feb 08	83	63
March	34.9	20.4	41.2	1992 Mar 31	12.8	1966 Mar 29	81	59
April	36.3	22.6	45.8	1982 Apr 03	17.9	1974 Apr 10	81	60
May	37.0	23.4	46.3	1976 May 07	18.3	1972 May 13	77	63
June	34.8	23.1	41.8	1983 Jun 01	19.1	1967 Jun 22	82	67
July	33.2	22.9	39.2	1987 Jul 29	18.4	1985 Jul 26	84	69
August	33.4	22.9	39.3	1972 Aug 31	17.0	1993 Aug 06	84	68
September	32.9	22.6	40.0	1972 Sep 03	19.2	1964 Sep 25	85	71
October	31.5	21.9	37.8	1984 Oct 22	15.5	1974 Oct 31	87	75
November	29.9	19.8	36.3	1980 Nov 02	12.1	1967 Nov 19	87	75
December	29.0	17.2	34.3	1972 Dec 30	10.2	1974 Dec 15	87	72
Annual	32.9	20.9					84	68

TABLE - 4(a)
Mean Wind Speed in km/hr.
(T I R U P P A T T U R)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
3.9	4.2	4.2	4.3	5.0	6.4	7.5	6.8	5.1	3.6	3.2	3.6	4.8

TABLE - 5(a)
Special Weather Phenomena
(T I R U P P A T T U R)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.2	1.1	1.7	0.8	0.2	0.1	0.8	0.5	0.1	0.0	5.5
Fog	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.4
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

PASUMPON MUTHURAMALINGA THEVAR DISTRICT

The district has a hot tropical climate. The summer season which is very oppressive is from March to May. The southwest monsoon season which follows, lasts till September. October to December constitute the post monsoon season, which is also called the northeast monsoon season. January to February is comparatively cooler period.

RAINFALL

Records of rainfall in the district are available for 5 raingauge stations, from 13 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 860.5 mm. The period from October to December is the main rainy season in the district. About 47 % of the annual rainfall is received in this period. October is the rainiest month. Some rainfall occurs during the summer and is mainly in the form of thundershowers. In the southwest monsoon season which is generally associated with the main rainy season over most parts of India, the rainfall in this district is very small. The rainfall in the district varies from 717.7 mm at Ilayankudi to 992.2 mm at Tiruppathur. The highest annual rainfall which was 187 % of the normal occurred in 1946 while the lowest annual rainfall which was 51 % of the normal occurred in 1974. During the 80 year period 1901 to 1980, the annual rainfall in the district was less than 80 % of the normal in 11 years out of which two consecutive years and three consecutive years of such a low rainfall occurred once. It will be seen from Table 2 that the average annual rainfall in the district was between 601 mm and 1100 mm in 69 years out of 79.

On an average there are 46 rainy days (days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 39 at Ilayankudi to 55 at Tiruppathur.

The heaviest rainfall in 24 hours recorded at any station in the district was 265.2 mm at Tiruppathur on 2nd December, 1955.

TEMPERATURE

There is no meteorological observatory in the district. The description which follows is based on the records of the observatory in the neighbouring district, where similar meteorological conditions prevail. The period from about the end of February to about the end of May is one of continuous increase in temperatures. May is the hottest month with the mean daily maximum temperature at about 37°C and the mean daily minimum is about 26°C. The heat during the summer is intense and on many days the temperature

exceeds 44°C. Thundershowers which occur on some days during the afternoon bring welcome relief. With the onset of the southwest monsoon by about the end of May, there is a slight drop in temperatures. In the monsoon season, some days are almost as hot as in the summer. After the withdrawal of the southwest monsoon by the end of September, there is drop in both day and night temperatures. Temperatures continue to decrease steadily thereafter till December which is the coldest month. Temperatures gradually increase after that.

HUMIDITY

High relative humidities prevail all the year round particularly in the coastal parts of the district, being between 75 to 85%. In the summer season the humidities in the interior parts of the district are slightly lower.

CLOUDINESS

During the period May to December, the skies are heavily clouded to overcast. They are moderately clouded during the rest of the year.

WINDS

Winds are generally light to moderate in strength with some increase in speed during the period from May to July and from November to January. Winds are mainly from directions between north and northeast from October to February. In March and April winds are mostly from northeasterly direction in the mornings and easterlies prevail in the afternoons. From May to October winds blow mostly from directions from west and northwest in the mornings, while in the afternoons they are from westerly direction.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal in the post monsoon season, move in the westerly to west-northwesterly directions and reach the district or its neighbourhood causing widespread heavy rain and very strong winds. Thunderstorms occur in the summer and post monsoon seasons.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Ilayankudi	13	a	4.4	14.1	12.8	31.1	37.9	27.2	54.7	53.6	60.6	188.9	128.9	103.5	717.7	178 (1977)	62 (1974)	225.0	1973 Oct 20
		b	0.2	0.5	0.9	2.1	2.5	1.8	3.1	3.8	3.7	8.6	7.3	4.7	39.2				
Manamathuri	73	a	27.9	16.3	20.6	52.8	55.9	35.2	53.3	93.0	82.3	181.1	156.0	84.9	859.3	299 (1946)	39 (1968)	193.1	1964 Dec 24
		b	1.5	0.8	0.9	2.6	2.7	1.9	2.7	4.4	4.4	8.4	7.2	4.1	41.6				
Sivaganga	80	a	30.8	13.4	14.9	54.6	65.3	36.2	57.5	105.5	105.2	168.2	148.8	72.9	873.3	148 (1946)	41 (1975)	188.7	1898 Sep 30
		b	1.8	0.8	1.1	2.8	3.7	2.6	3.5	5.7	5.5	8.5	8.3	4.5	48.8				
Tiruppathur	80	a	29.1	10.7	13.3	50.0	70.7	59.8	82.7	136.9	129.2	178.0	145.6	86.2	992.2	147 (1977)	51 (1974)	265.2	1955 Dec 02
		b	1.8	0.8	1.1	2.8	3.5	3.6	5.1	7.5	6.8	9.1	7.9	4.9	54.9				
Tiruppuvanam	65	a	25.0	11.7	18.6	53.7	60.8	38.4	61.6	106.7	105.9	172.1	143.0	62.9	860.4	148 (1955)	17 (1976)	193.1	1964 Dec 24
		b	1.7	0.8	1.3	3.0	3.4	2.2	3.0	5.5	5.2	9.0	7.8	3.5	46.4				
Pasumpon Muthuramalinga Thevar (District)		a	23.4	13.2	16.0	48.4	58.1	39.4	62.0	99.1	96.6	177.7	144.5	82.1	660.5	187 (1946)	51 (1974)		
		b	1.4	0.7	1.1	2.7	3.2	2.4	3.5	5.4	5.1	8.7	7.7	4.3	46.2				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(PASUMPON MUTHURAMALINGA THEVAR)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	1	1101 - 1200	4
501 - 600	1	1201 - 1300	2
601 - 700	12	1301 - 1400	1
701 - 800	14	1401 - 1500	0
801 - 900	11	1501 - 1600	0
901 - 1000	21	1601 - 1700	1
1001 - 1100	11		

(Data available for 79 years only).

On account of the general dryness of the atmosphere, comparatively cool nights and the appreciable drop in temperature from June following the onset of the monsoon season, the year may conveniently be divided into four main seasons. The dry season from January to March, the hot season during April and May, the southwest monsoon season from June to September and the northeast monsoon season from October to December.

RAINFALL

Records of rainfall in the district are available for 16 stations for 19 to 80 years period. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 666.0 mm. The rainfall in the district is heavy in the north and in general decreases southwards. Thus the rainfall in the district varies from 436.2 mm at Kottamuthanpalayam to 806.2 mm at Anainaswapalayam. Considering the annual rainfall in the district as a whole, about 29% of the annual normal is received during the southwest monsoon season and about 47% during the northeast monsoon season. October is the rainiest month. During the 80 year period from 1901 to 1980, the highest annual rainfall amounting to 171% of the annual normal occurred in 1930. The lowest annual rainfall, 59% of the normal occurred in 1923. In this 80 year period the annual rainfall in the district was less than 80% of the normal in 12 years, during which period 2 consecutive years of such low rainfall occurred thrice. It will be seen from Table 2 that the average annual rainfall in the district was between 501 mm and 900 mm in 65 years out of 79.

On an average there are about 39 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 22 at Nattakkalpalayam to 48 at Gobichettipalayam.

The heaviest rainfall in 24 hours recorded at any station in the district was 265.0 mm at Kodiveri on 5th November, 1978.

TEMPERATURE

There is no meteorological observatory in the district. The description which follows is based on records of the observatories in the neighbouring districts where similar climatic conditions prevail. After mid-February there is continuous increase in the temperature till

April. April is generally the hottest month. In April the mean daily maximum temperature is about 37°C and the mean daily minimum is about 26°C.

On individual days during March to June the maximum temperature may reach about 42°C and the days are quite hot and dry. The afternoon thundershowers which occur on some days during summer bring welcome relief. With the onset of the southwest monsoon in the district by about the beginning of June, there is appreciable drop in day temperatures. However, with the gradual onset of northeast monsoon current over the district in October, the weather becomes cooler with the progress of the season. Days during December are the coolest with the mean daily maximum temperature at about 30°C and nights during January are the coolest with the mean daily minimum temperature at about 19°C.

HUMIDITY

Mornings in general are more humid than the afternoons with the humidity exceeding 65% on an average. In the period June to November the afternoon humidities exceed 55% on an average. In the rest of the year the afternoons are drier, the summer afternoons being the driest.

CLOUDINESS

During the period June to November, the skies are mostly heavily clouded or overcast. Cloudiness decreases in December and later upto end of March, the skies are mostly clear or lightly clouded. Subsequently, cloudiness increases gradually, especially in the afternoons.

WINDS

Winds are generally light during October to January. From February onwards, there is progressive strengthening of wind force till July. During the period February to October the winds blow from directions between south and west. Northeasterlies appear in the district throughout the year. Southwesterlies are predominant in the district from March to September.

SPECIAL WEATHER PHENOMENA

Storms and depressions from the south Bay of Bengal during October and November moving across Tamil Nadu affect the weather over the district occasionally causing widespread heavy rain and gusty winds. Thunderstorms occur commonly during April, May, September and October.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Anainaswa-palayam	28	a	2.6	9.5	15.1	50.5	89.5	32.4	59.9	68.9	123.8	193.2	109.5	51.3	806.2	149 (1972)	62 (1980)	177.8	1969 Dec 15
		b	0.2	0.5	0.9	3.0	5.5	2.1	4.1	4.5	6.7	9.2	6.0	2.5	45.2				
Bhavani	76	a	9.9	10.8	18.5	50.0	90.5	38.9	55.1	81.7	110.4	171.2	112.1	39.6	788.7	168 (1944)	60 (1950)	171.0	1969 Dec 15
		b	0.9	0.6	0.8	3.0	5.7	2.9	3.9	5.4	6.6	9.7	6.4	2.4	48.3				
Bhavanisagar	29	a	8.1	17.3	25.3	50.5	79.9	19.6	28.0	39.7	85.4	172.3	117.9	39.8	683.8	160 (1979)	50 (1952)	171.0	1969 Dec 15
		b	0.7	0.9	0.8	3.2	5.6	1.9	3.1	3.0	4.9	10.0	6.2	2.0	42.3				
Dhalabalpatnam	25	a	5.2	7.8	6.2	31.5	63.6	16.8	9.4	13.1	59.0	139.3	125.5	50.2	527.6	141 (1978)	29 (1974)	142.0	1977 Nov 13
		b	0.4	0.4	0.5	2.2	3.7	1.0	1.0	0.9	3.0	7.6	6.2	2.7	29.6				
Dharapuram	78	a	13.3	9.0	12.7	46.4	72.0	13.1	17.1	26.6	57.6	166.0	114.2	55.2	603.2	194 (1977)	35 (1974)	184.1	1935 Nov 16
		b	1.0	0.6	0.8	3.0	4.4	1.1	1.4	1.8	3.0	8.9	6.6	3.3	35.9				
Erode	80	a	12.4	13.2	18.0	47.4	92.2	38.2	48.1	87.6	100.5	175.5	108.0	38.3	779.4	168 (1966)	42 (1923)	158.7	1930 Oct 25
		b	0.8	0.5	0.8	2.9	5.5	2.6	3.6	5.4	6.0	9.1	6.3	2.5	46.0				
Gobichetty-palayam	80	a	15.7	14.6	21.4	54.7	91.8	39.8	42.5	70.6	103.5	191.3	116.2	32.5	794.6	192 (1972)	47 (1914)	264.0	1978 Nov 05
		b	0.9	0.7	1.2	3.2	6.0	2.9	3.5	5.0	6.3	10.2	6.5	2.0	48.4				
Kangayam	79	a	14.8	6.5	13.9	46.1	86.8	17.7	16.6	36.0	73.3	156.7	108.0	43.3	619.7	171 (1930)	45 (1923)	206.0	1953 Oct 16
		b	0.9	0.4	0.7	2.8	4.8	1.3	1.3	2.3	4.0	8.7	6.4	2.8	36.4				
Kodiveri	29	a	5.9	7.4	19.0	45.7	88.0	29.5	36.6	51.6	102.1	179.7	107.8	48.7	722.0	168 (1972)	58 (1970)	265.0	1978 Nov 05
		b	0.6	0.4	0.8	2.7	5.5	2.9	3.1	4.0	6.2	10.4	5.6	2.1	44.3				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Kodumudi	80	a	10.9	4.5	11.9	43.8	73.5	15.7	27.7	54.6	78.7	135.1	89.1	32.7	578.2	172 (1930)	43 (1974)	217.7	1930 Oct 25
		b	0.7	0.3	0.6	2.4	4.2	1.1	1.8	3.6	4.7	7.9	5.6	2.4	35.3				
Kottamuthan-palayam	19	a	6.7	3.9	8.1	26.7	55.1	11.6	10.3	14.1	41.1	125.6	91.2	41.8	436.2	218 (1977)	29 (1974)	100.0	1977 Nov 13
		b	0.6	0.4	0.4	2.1	3.1	0.5	1.2	0.9	2.4	6.8	5.4	2.8	26.6				
Mulanur	50	a	10.5	8.3	11.0	67.0	67.0	13.2	14.6	38.0	63.9	154.1	112.6	44.7	604.9	218 (1930)	57 (1974)	225.8	1935 Nov 16
		b	0.7	0.4	0.5	3.2	3.8	0.7	1.0	1.9	3.1	7.8	6.0	2.4	31.5				
Nattakkal-palayam	21	a	4.2	5.4	10.5	30.1	51.6	7.7	9.3	10.1	49.4	136.6	86.7	36.2	437.8	233 (1977)	38 (1974)	167.0	1975 May 18
		b	0.4	0.3	0.4	1.7	2.0	0.4	0.9	0.5	2.7	6.0	4.6	2.2	22.1				
Perundurai	80	a	11.9	11.0	12.4	42.2	91.9	26.9	40.8	66.4	104.3	160.2	111.7	38.3	718.0	209 (1977)	39 (1923)	156.2	1897 Nov 14
		b	0.8	0.4	0.7	2.4	5.5	2.2	2.9	4.7	5.8	8.5	6.2	2.3	42.4				
Satyamangalam	76	a	12.7	13.7	22.2	51.0	94.9	30.4	36.7	63.6	95.0	188.1	131.1	33.2	772.6	179 (1983)	17 (1973)	251.2	1978 Nov 05
		b	0.9	0.7	1.1	3.1	6.1	2.8	3.2	4.3	5.9	10.2	6.7	2.1	47.1				
Talavadi	77	a	5.1	6.6	15.6	73.4	141.1	42.6	46.6	65.3	120.5	163.7	85.2	21.1	786.8	189 (1962)	24 (1973)	162.0	1991 Oct 30
		b	0.4	0.5	1.1	5.0	7.6	3.2	3.8	4.3	6.2	9.4	5.3	1.4	48.2				
Periyar (District)		a	9.4	9.3	15.1	47.3	83.1	24.6	31.2	49.2	85.5	163.0	107.9	40.4	666.0	171 (1930)	59 (1923)		
		b	0.7	0.5	0.8	2.9	4.9	1.9	2.5	3.3	4.8	8.8	6.0	2.4	39.5				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(P E R I Y A R)

Range in mm	No. of years	Range in mm	No. of years
301 - 400	1	801 - 900	11
401 - 500	5	901 - 1000	6
501 - 600	15	1001 - 1100	1
601 - 700	23	1101 - 1200	1
701 - 800	16		

(Data available for 79 years only.)

PONDICHERRY DISTRICT

Situated well within the tropics near 12°N latitude on the east coast of India, Pondicherry experiences a hot and tropical maritime type of climate characterised by small daily range of temperature, humid weather and moderate annual rainfall of 1273 mm, about two third of which is received from the northeast monsoon during October to December. There is no clear demarcation of seasons. Still, the summer may be taken to prevail from March to June followed by the period of the southwest monsoon which lasts upto September. October and November constitute the main northeast monsoon season. There is no real cool weather season, but the period from December to February is relatively a cool period of the year.

RAINFALL

Records of rainfall of Pondicherry, available for 50 years from 1911 to 1960 are considered here. The monthly average rainfall is indicated in Table 1. The normal annual rainfall is of the order of 1273 mm. Of this, about 50 % is recorded during October and November and about 25 % during the southwest monsoon season. November is the rainiest month contributing about 30 % of the annual rainfall. The range of variation of rainfall from year to year is quite large. The highest annual rainfall recorded was in 1943 which was as much as 204 % of the normal and lowest was in 1952 when it was only 49 % of the normal. During the above period (1911-60) the rainfall was between 80 % to 120 % for 20 years and above 120 % for 14 years. The rainfall was below 80 % for 16 years, of which there was one spell of 4 consecutive years (1947-50), and two spells of two consecutive years (1926-27 and 1952-53). Drought conditions, when the annual rainfall is less than 75 % of the normal may be expected to prevail over the territory on an average once in 4 years. The variability of annual rainfall is fairly large and that of seasonal rainfall still larger. The variations in rainfall from year to year are, therefore, significant.

TEMPERATURE

There is a meteorological observatory located at Pondicherry. The description that follows is, therefore, based on the data of the same observatory.

The period from about the end of February to mid-June is a period of continuous increase in temperature, when the mean daily temperature rises from about 26°C to 31°C. May and early part of June constitute the hottest period of the year, with the mean daily maximum temperature at about 35°C and the mean daily minimum temperature at

about 27°C. The summer days are oppressive due to high humidity. On individual days, the maximum temperature may even reach 43°C. The sea breeze, however, which sets in the afternoons, bring welcome relief. Occasional afternoon thunderstorms also give relief temporarily. As the southwest monsoon current sweeps over the territory, there is a slight steady reduction in the temperatures. Mean maximum temperatures during the period of the southwest monsoon remain more or less steady around 34°C and the mean minimum around 25°C. December and January form the coolest parts of the year with the mean daily maximum temperature at about 28°C and the mean daily minimum temperature at about 22°C. On individual days the mean minimum temperature may be as low as 15.1°C during this period.

The highest maximum temperature recorded at Pondicherry (Obsy) was 43.0°C on 25th May 1980 and the lowest minimum temperature was 15.1°C on 11th January 1976.

HUMIDITY

The relative humidity is generally high, being about 80 % during October to April. It is at its minimum value of 70 to 73 % in June and July.

CLOUDINESS

During June to December, the skies are usually heavily clouded. In each of these months more than 6/8 of the sky is covered by clouds for more than 15 days. Cloudiness usually decreases thereafter and the skies are usually lightly clouded during February to April or May, particularly in the mornings.

SURFACE WINDS

Winds are moderately strong throughout the year, except during the months July to October. During May to September winds are mainly southwesterly in the mornings. In the afternoons they generally blow from southeast as sea-breeze giving relief from summer heat. With the development of the seasonal low over the south Bay of Bengal in October, winds take a northerly component, in November the northeasterlies are fully established which remain till January. From February a westerly component begins to predominate in the mornings, while in the afternoons, winds tend to revert to summer conditions i.e. from southeasterly direction.

SPECIAL WEATHER PHENOMENA

During the northeast monsoon season, depressions and storms from the south Bay of Bengal move across or in the neighbourhood of the territory, causing heavy rain, thunderstorms and gusty winds. Tidal waves flooding the low lying coastal areas accompany most of the storms. Monthwise occurrence of these during the period 1891 to 1990 is enumerated below:-

Month	Total number of storms/depressions during 1891-1990
January	1
February	1
March	1
April	2
May	5
June	0
July	0
August	0
September	0
October	6
November	34
December	10
Total	60

Thunderstorms generally occur in May and from October to December, being comparatively more frequent in November and December.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Pondicherry.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Pondicherry	50	50.4	14.1	24.3	24.2	50.1	37.8	59.1	108.8	120.4	262.4	369.1	152.1	1272.7	204 (1943)	49 (1952)	167.0	1990 Oct 23

* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Period Averages of Temperature and Relative Humidity
(P O N D I C H E R R Y)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.0	21.3	31.0	1992 Jan 03	15.1	1976 Jan 11	79	74
February	29.0	22.1	33.0	1980 Feb 18	16.5	1974 Feb 07	80	75
March	30.4	23.5	35.0	1972 Mar 31	19.5	1989 Mar 03	81	76
April	32.1	26.0	38.0	1991 Apr 30	22.0	1972 Apr 04	80	80
May	34.6	26.7	43.0	1980 May 25	21.3	1971 May 20	73	81
June	35.6	26.3	42.5	1983 Jun 01	22.0	1974 Jun 22	70	72
July	34.4	25.6	39.0	1987 Jul 19	18.9	1972 Jul 22	73	72
August	33.8	25.2	39.0	1968 Aug 20	21.0	1976 Aug 19	76	74
September	32.8	25.0	39.0	1990 Sep 04	20.5	1978 Sep 10	78	77
October	31.0	24.4	36.5	1990 Oct 09	18.8	1969 Oct 15	82	78
November	29.2	23.4	35.0	1987 Nov 17	19.5	1973 Nov 19	82	77
December	28.1	22.3	37.3	1974 Dec 31	17.4	1970 Dec 05	82	78
Annual	31.6	24.3					78	76

TABLE - 3
Mean Wind Speed in km/hr.
(P O N D I C H E R R Y)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
15.8	15.0	14.2	16.6	15.7	13.0	11.2	12.0	12.5	11.4	14.2	16.4	14.0

TABLE - 4
Special Weather Phenomena
(P O N D I C H E R R Y)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Thunder	0.0	0.1	0.0	0.7	0.6	0.9	1.0	1.5	1.0	1.5	0.6	0.2	8.1
Fog	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Squall	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

PUDUKKOTTAI DISTRICT

The district has a hot tropical climate and is humid near the coast. The summer season is from March to May. The southwest monsoon season which follows lasts till September. October, November and December constitute the northeast monsoon season. January and February is comparatively cooler part of the year.

RAINFALL

Records of rainfall in the district are available for 17 raingauge stations from 27 to 79 years. The details of the rainfall are given in Table 1. The normal annual rainfall in the district is 895.2 mm. The annual rainfall varies from 994.3 mm at Pudukkottai to 785.4 mm at Karaiyur. The rainfall in the early months of the southwest monsoon is much less than that in the later months. The rains continue till the end of the northeast monsoon season. October is generally the rainiest month. The variations in the rainfall from year to year is not large.

The average number of rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district is about 48. This number varies from 56 at Pudukkottai to 37 at Karaiyur.

The heaviest rainfall in 24 hours recorded at any station in the district was 444.5 mm on 23rd November 1893 at Keelanilai.

TEMPERATURE

There is no meteorological observatory in the district. Hence the description that follows is based on the data of the adjoining districts having similar climatic conditions. After February the temperatures increase steadily till May, which is generally the hottest month with the mean daily maximum temperature at 37°C and the mean daily minimum temperature at about 26.0°C. On individual days the maximum temperatures may occasionally reach above 43°C. Sea- breeze in the afternoon brings some relief to the coastal belt from the oppressive heat. Occasional thundershowers during April to June also bring welcome relief, though temporarily. Temperatures slightly drop with the onset of the southwest monsoon by about the end of May or early June. Though September and October are cooler, increased moisture often turns the weather sultry. From November onwards, the weather becomes cool.

HUMIDITY

The relative humidities are generally between 40 and 80% but during the period from February to July the air is comparatively drier in the afternoons.

CLOUDINESS

Skies are generally heavily clouded to overcast in the southwest and northeast monsoon seasons. In the rest of the year the skies are mostly clear.

WINDS

Winds are generally light to moderate with some strengthening in force during June to August. Winds blow mostly from directions between west to northwest during May to October. Northeasterlies set in by about the beginning of November and they become progressively more common with the advance of the season. Winds blow mostly from directions between north and east during November to March. By April westerlies appear.

SPECIAL WEATHER PHENOMENA

The district is not much affected by depressions during the southwest monsoon season. From October to December the depressions and storms from the Bay of Bengal affect the weather over the district. Thunderstorms occur during April and November.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Adanakottai	65	a	37.5	13.8	13.0	38.5	58.9	52.4	62.0	125.2	116.5	151.9	149.4	86.9	908.8	172 (1954)	19 (1955)	279.4	1893 Nov 24
		b	1.7	0.6	0.9	2.0	2.8	2.9	3.5	5.9	6.1	7.8	7.3	4.3	45.8				
Alangudi	79	a	39.0	13.6	15.3	41.3	60.2	53.3	76.5	120.9	118.0	161.5	157.0	104.8	961.4	158 (1975)	51 (1927)	308.2	1952 Dec 01
		b	1.8	0.9	1.0	2.2	3.0	3.8	4.8	6.5	6.1	8.4	8.2	4.8	51.5				
Annavasal	68	a	31.4	11.1	14.1	43.9	64.0	48.6	58.8	112.6	131.2	170.3	122.8	68.4	877.2	168 (1920)	37 (1967)	298.2	1930 Oct 24
		b	1.7	0.7	1.0	2.3	3.7	3.2	3.7	6.2	6.7	8.8	7.2	4.1	49.3				
Aranthangi	79	a	39.5	14.7	19.7	42.5	49.7	41.9	62.8	102.6	100.6	163.8	167.3	114.8	919.9	164 (1930)	57 (1964)	365.8	1930 Oct 24
		b	2.2	1.0	1.1	2.6	2.8	3.0	4.4	6.5	5.9	9.2	8.9	6.0	53.6				
Iluppur	76	a	25.9	10.7	12.5	38.8	62.6	38.4	49.3	113.7	132.0	150.9	143.1	65.6	843.5	170 (1930)	29 (1945)	255.8	1893 Nov 23
		b	1.4	0.7	0.8	2.1	3.4	2.7	3.1	6.1	6.6	8.1	7.6	3.8	46.4				
Karaiyur	36	a	23.4	6.6	16.0	30.3	40.5	36.1	60.9	95.8	117.0	183.4	118.0	57.4	785.4	151 (1955)	06 (1974)	178.3	1952 Dec 01
		b	1.2	0.4	0.9	1.6	2.1	2.3	2.8	4.5	5.5	7.3	5.9	2.9	37.4				
Karambakudi	71	a	49.4	13.8	14.6	39.0	40.8	36.5	69.6	99.7	98.6	145.3	165.7	106.4	879.4	175 (1920)	49 (1908)	310.4	1930 Oct 24
		b	2.4	0.9	1.0	2.2	2.2	2.8	4.2	6.4	5.8	8.3	.8	5.1	50.1				
Kattumavadi	78	a	46.5	20.4	25.7	48.2	47.7	27.4	50.1	78.0	82.2	186.2	194.0	126.8	933.2	163 (1939)	28 (1974)	374.7	1955 Dec 02
		b	2.4	1.1	1.4	3.0	2.7	2.0	3.3	4.3	4.7	8.9	9.9	5.9	49.6				
Kulattur/ Keeranur	79	a	29.3	14.9	13.7	42.8	59.0	49.7	66.0	110.4	129.2	166.4	142.9	79.4	903.7	174 (1920)	51 (1980)	309.9	1893 Nov 23
		b	1.5	0.8	0.9	2.1	3.2	2.8	3.4	5.4	6.3	8.5	7.4	3.8	46.1				

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TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Malaiyur	27	a	29.9	52.0	14.6	43.7	42.6	33.3	74.9	96.2	106.2	154.7	134.5	92.8	875.4	220 (1943)	56 (1961)	355.6	1955 DEc 11
		b	1.5	0.8	1.1	2.6	2.5	2.7	4.3	5.1	6.0	7.5	6.9	3.8	44.8				
Perungalur	39	a	20.8	10.4	17.3	48.3	55.9	53.7	89.0	136.4	108.8	174.1	142.3	86.0	943.0	225 (1969)	20 (1959)	389.1	1939 Nov 16
		b	1.4	0.6	1.0	2.1	2.5	3.1	4.5	5.6	5.6	7.8	6.3	3.7	44.2				
Ponnamara-vathi	75	a	28.5	13.9	14.5	48.2	68.1	57.4	71.1	121.1	149.0	186.6	130.8	77.0	968.2	168 (1956)	09 (1974)	259.1	1955 Dec 02
		b	1.7	0.7	1.0	2.4	3.5	3.8	4.6	7.2	6.7	9.6	7.1	4.3	52.6				
Pudukkottai	79	a	33.0	10.2	13.8	45.4	67.4	56.1	81.3	139.0	136.2	162.7	152.1	97.1	994.3	144 (1955)	51 (1974)	332.7	1893 Nov 23
		b	2.0	0.8	1.1	2.5	3.4	3.9	5.2	7.5	7/1	9.2	8.8	4.9	56.4				
Thirumayan	79	a	31.5	11.6	18.1	43.6	61.1	52.5	74.4	132.4	127.6	163.4	131.0	79.5	926.7	166 (1920)	42 (1974)	322.6	1893 Nov 23
		b	1.9	0.7	1.0	2.3	3.5	3.6	5.1	7.3	6.9	9.1	7.7	4.5	53.6				
Viralimalai	64	a	35.6	14.9	13.7	40.9	64.4	30.8	45.0	84.3	131.0	178.4	127.7	60.2	826.9	161 (1920)	32 (1950)	266.7	1921 Jan 14
		b	1.7	0.7	1.0	2.3	3.7	2.1	2.4	4.4	6.2	9.1	7.4	3.6	44.6				
Udayalipatti	59	a	36.7	12.3	15.5	39.7	58.4	43.1	54.1	109.4	116.5	144.8	136.6	69.6	836.7	175 (1920)	44 (1950)	349.8	1939 Nov 16
		b	1.6	0.8	0.9	1.8	2.8	2.3	2.6	5.5	5.8	7.6	6.9	3.9	42.7				
Keelanilai (Kilanilai)	78	a	30.4	12.3	16.0	37.2	44.7	40.5	62.4	100.0	95.2	156.3	148.9	90.3	834.2	167 (1939)	04 (1974)	444.5	1893 Nov 23
		b	1.5	0.8	0.9	2.1	2.4	2.9	4.1	5.8	5.1	8.4	7.7	4.7	46.4				
Pudukkottai (District)		a	33.4	15.1	15.8	42.0	55.6	44.2	65.2	110.5	117.4	164.9	144.9	86.2	895.2	156 (1920)	37 (1974)		
		b	1.7	0.8	1.0	82.2	3.0	2.9	3.9	5.9	6.1	8.4	7.6	4.4	47.9				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(P U D U K K O T T A I)

Range in mm	No. of years	Range in mm	No. of years
301 - 400	1	901 - 1000	15
401 - 500	0	1001 - 1100	15
501 - 600	1	1101 - 1200	5
601 - 700	6	1201 - 1300	1
701 - 800	12	1301 - 1400	3
801 - 900	20		

(Data available for 79 years only.)

RAMANATHAPURAM DISTRICT

The district has a hot tropical climate. The summer season which is very oppressive is from March to May. The southwest monsoon season which follows lasts till September. October to December constitute the post monsoon season, which is also called the northeast monsoon season, with associated rain more during October and November. January and February is the transition period.

RAINFALL

Records of rainfall in the district are available for 10 raingauge stations for periods ranging from 21 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 812.2 mm. The period from October to December is the main rainy season in the district. About 62% of the annual rainfall is received in this period. November is the rainiest month. Some rainfall occurs during the summer and is mainly in the form of thundershowers. In the southwest monsoon season which is generally associated with the main rainy season over most parts of India, the rainfall in this district is very small. The rainfall in the district varies from 698.5 mm at Kamudhi to 915.0 mm at Pamban (Obsy). The variation in the rainfall from year to year is not very large. The highest annual rainfall which was 156% of the normal occurred in 1955 while the lowest annual rainfall which was 49% of the normal occurred in 1974. During the 80 year period, 1901 to 1980, the annual rainfall in the district was less than 80% of the normal in 13 years, out of which there was one occasion when two consecutive years and one occasion of three consecutive years with such low rainfall.

It will be seen from Table 2 that the average annual rainfall in the district was between 601 and 1000 mm in 56 years out of 80.

On an average there are 42 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 38 at Kamudhi to 45 at Pamban (Obsy).

The heaviest rainfall in 24 hours recorded at any station in the district was 439.4 mm at Vattanam on 2nd December, 1955.

TEMPERATURE

There are two meteorological observatories in the district, one at Pamban and the other at Tondi. The data of Pamban observatory are available for a long period and its

records may be taken as representative of the climatic conditions prevailing in the district in general and the coastal parts in particular. The period from the middle of February to May is one of steady increase in temperature. May is the hottest month with the mean daily maximum temperature at 32.8°C and the mean daily minimum at 27.5°C at Pamban. The summer season is hot and oppressive being particularly so in the coastal parts due to high moisture content. Sea breeze which blows in the afternoons along the coast gives agreeable relief. During the period from June to September both the day and night temperatures are nearly as high as the temperatures during the hot season. The variation in the mean temperature from season to season is very small. In December and January which is the coolest part of the year, the mean daily maximum temperature is at about 28.0°C and the mean daily minimum is at about 24.0°C at Pamban. The mean daily maximum temperature is at about 29.0°C and the mean daily minimum temperature is at about 22.0°C at Tondi.

The highest maximum temperature recorded at Pamban was 38.7°C on 10th July 1987 and the lowest minimum was 17.0°C on 15th February 1968. The highest maximum temperature ever recorded at Tondi was 40.1°C on 16th May 1966, and the lowest minimum was 15.7°C on 2nd December 1988.

HUMIDITY

High relative humidities prevail all the year round, particularly in the coastal parts of the district, being between 75 to 85%. In the summer season the humidities in the interior parts of the district are slightly lower.

CLOUDINESS

During the period September to December the skies are heavily clouded. They are moderately clouded during January and February.

WINDS

Winds are generally light to moderate in strength with some increase in speed during the period from May to July and from November to January. Winds are mainly from directions between north and northeast from November to February. In March, winds are mostly from directions between northeast and east in the mornings. In the afternoons they are northerly to northeasterly. From April to October winds blow mostly from directions between south and southwest.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal in the post monsoon season, move towards east to east northeast direction and reach the district or its neighbourhood causing widespread heavy rain and very strong winds. Thunderstorms occur in the summer and post monsoon seasons.

Tables 3, 4 and 5 and 3(a), 4(a) and 5(a) give the temperature and humidity, mean wind speed and special weather phenomena respectively for Pamban and Tondi.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Kamudhi	75	a	27.3	11.7	24.3	59.2	66.6	12.5	26.6	51.8	55.0	158.7	139.3	65.5	698.5	168 (1977)	42 (1975)	194.3	1955 Dec 02
		b	1.5	0.7	1.3	3.2	2.5	0.9	1.7	3.3	3.7	8.1	7.1	3.7	37.7				
Morekulam	76	a	50.8	17.9	29.8	48.6	31.5	4.4	15.5	19.4	26.5	190.6	239.3	144.1	818.4	192 (1969)	47 (1950)	386.1	1877 Dec 17
		b	2.8	1.2	1.7	2.6	1.7	0.4	0.8	1.2	1.8	8.3	11.0	6.1	39.6				
Mudukulathur	77	a	33.0	12.5	22.3	43.8	38.5	8.5	26.3	49.5	59.4	160.6	167.3	82.1	703.8	161 (1920)	45 (1952)	225.0	1983 Oct 22
		b	1.7	0.9	1.3	2.7	2.2	0.7	1.7	2.9	3.8	8.4	8.5	4.1	38.9				
Pamban (Obsy)	79	a	62.6	19.9	21.3	52.0	33.1	3.7	11.9	11.5	21.4	194.7	296.7	186.2	915.0	171 (1931)	46 (1974)	348.0	1887 Dec 13
		b	3.7	1.3	1.6	3.1	2.0	0.4	0.8	0.9	1.4	8.6	12.4	8.3	44.5				
Paramakudi	78	a	32.0	18.9	20.3	60.4	42.7	18.9	38.7	65.9	71.8	158.2	155.3	69.8	752.9	168 (1946)	53 (1973)	157.5	1905 Apr 18
		b	1.8	1.1	1.4	3.5	2.7	1.6	2.6	4.3	4.6	8.7	7.9	4.2	44.4				
Ramanathapuram	80	a	45.4	21.2	26.5	54.0	31.6	7.7	24.6	38.4	42.1	197.4	248.6	135.1	872.6	192 (1955)	51 (1952)	339.3	1955 Dec 03
		b	2.3	1.2	1.4	2.5	1.7	0.7	1.5	2.6	3.1	9.2	10.4	5.7	42.3				
Theethanda-thanam	80	a	48.8	22.5	27.1	49.4	35.2	19.1	35.7	46.2	48.6	191.4	198.0	124.9	846.9	199 (1923)	50 (1975)	387.3	1955 Dec 02
		b	2.3	1.3	1.4	2.7	2.2	1.4	1.9	3.2	3.5	8.8	9.2	5.3	43.2				

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TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Tiruvadanai	79	a	39.4	17.5	23.4	54.0	40.9	26.1	34.0	67.1	72.6	187.3	186.2	98.6	847.1	174 (1924)	48 (1976)	180.9	1955 Dec 02
		b	1.8	1.0	1.2	2.7	2.2	1.6	2.4	3.9	4.0	8.8	9.1	4.9	43.6				
Tondi (Obsy)	21	a	25.4	16.9	29.6	51.5	51.2	16.6	33.1	36.1	47.4	216.2	146.3	146.8	817.1	161 (1967)	43 (1976)	176.2	1967 Oct 21
		b	1.9	1.1	1.5	2.6	2.5	1.3	1.9	2.4	2.5	8.6	8.4	5.7	40.4				
Vattanam	80	a	51.1	20.0	26.1	50.9	36.0	17.4	28.0	45.1	52.8	199.6	198.5	123.9	849.4	172 (1955)	49 (1975)	439.4	1955 Dec 02
		b	2.5	1.2	1.5	2.9	2.2	1.3	2.0	3.0	3.2	8.9	9.6	5.6	43.9				
Ramanatha-puram (District)		a	41.6	17.9	25.1	52.4	40.7	13.5	27.4	43.1	49.8	185.5	197.5	117.7	812.2	156 (1955)	49 (1974)		
		b	2.2	1.1	1.4	2.9	2.2	1.0	1.7	2.8	3.2	8.6	9.4	5.4	41.9				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(R A M A N A T H A P U R A M)

Range in mm	No. of years	Range in mm	No. of years
301 - 400	1	801 - 900	12
401 - 500	2	901 - 1000	12
501 - 600	7	1001 - 1100	8
601 - 700	11	1101 - 1200	2
701 - 800	21	1201 - 1300	4

TABLE - 3
Normals of Temperature and Relative Humidity
(P A M B A N)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.3	23.7	33.3	1902 Jan 25	17.6	1968 Jan 29	82	77
February	29.6	24.0	34.2	1988 Feb 26	17.0	1968 Feb 15	78	75
March	31.4	24.9	38.6	1966 Mar 23	19.7	1972 Mar 11	77	74
April	32.7	26.8	38.0	1991 Apr 27	20.3	1968 Apr 28	78	74
May	32.8	27.5	37.3	1992 May 12	20.0	1967 May 30	79	77
June	32.0	27.1	37.2	1913 Jun 11	20.2	1966 Jun 02	79	79
July	31.7	26.4	38.7	1987 Jul 10	20.7	1959 Jul 31	78	78
August	31.6	26.1	37.5	1971 Aug 15	20.0	1974 Aug 26	78	79
September	31.6	26.0	36.1	1990 Sep 14	20.6	1930 Sep 04	79	80
October	30.9	25.3	35.0	1940 Oct 05	20.0	1971 Oct 24	82	81
November	29.4	24.5	33.4	1987 Nov 18	19.8	1966 Nov 10	84	80
December	28.2	23.9	33.9	1906 Dec 29	18.2	1967 Dec 08	85	81
Annual	30.9	25.5					80	78

TABLE - 4
Mean Wind Speed in km/hr.
(P A M B A N)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
17.9	13.8	10.3	9.3	15.5	18.7	16.0	14.8	14.3	11.1	13.0	18.1	14.4

TABLE - 5
Special Weather Phenomena
(P A M B A N)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.3	1.2	0.8	0.1	0.2	0.2	0.8	1.6	0.6	0.3	5.9
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(T O N D I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	1730 IST
January	29.1	21.5	31.8	1960 Jan 17	17.1	1969 Jan 27	82	73
February	29.7	22.6	33.1	1990 Feb 21	17.4	1993 Feb 07	80	73
March	30.8	24.8	34.5	1970 Mar 06	18.9	1992 Mar 03	78	72
April	32.3	26.7	37.2	1991 Apr 27	20.6	1988 Apr 27	76	73
May	33.2	26.7	40.1	1966 May 16	21.1	1970 May 18	71	75
June	33.6	26.0	40.0	1983 Jun 28	21.0	1976 Jun 10	69	72
July	33.0	25.6	39.3	1983 Jul 13	21.1	1977 JUl 12	70	74
August	32.4	25.4	39.2	1983 Aug 17	21.5	1971 Aug 18	72	76
September	32.1	25.1	39.7	1978 Sep 07	20.6	1969 Sep 27	73	77
October	31.0	24.4	37.5	1983 Oct 05	20.6	1969 Oct 21	82	78
November	30.0	23.4	35.0	1987 Nov 03	18.7	1992 Nov 14	83	76
December	28.9	22.3	33.3	1987 Dec 04	15.7	1988 Dec 02	83	75
Annual	31.3	24.5					77	75

TABLE - 4(a)
Mean Wind Speed in km/hr.
(T O N D I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
14.2	15.3	15.2	14.9	16.0	15.1	13.6	13.5	13.7	11.0	10.8	12.3	13.8

TABLE - 5(a)
Special Weather Phenomena
(T O N D I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.2	1.2	4.0	2.7	1.3	1.7	2.7	3.1	4.8	2.3	0.8	24.8
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.1	0.1	0.3	0.0	0.1	0.2	0.5	0.2	0.0	1.5

SALEM DISTRICT

On account of the general dryness of the atmosphere, comparatively cool nights and the appreciable drop in temperature from June following the onset of the monsoon season, the climate of this district is more pleasant than that of the adjoining eastern and southern districts. The year may conveniently be divided into four main seasons; the dry season from January to March, the hot season during April and May, the southwest monsoon season from June to September and the northeast monsoon from October to December.

RAINFALL

Records of rainfall are available for 15 stations in the district for 16 to 80 years. The rainfall statements for the individual stations and for the district as a whole are given in Tables 1 and 2. The hilly terrain causes rather appreciable variations of rainfall over the district. The normal annual rainfall at Yercaud in the Shevaroy Hills is 1605 mm. In the plains, Attur gets the highest annual rainfall of 997 mm while Paramathi gets the least annual rainfall of 656 mm.

The average annual rainfall over the plains of the district is 852 mm. The monthly distribution of rainfall shows a pronounced maximum in October with a secondary maxima in May. Rain, usually in the form of thundershowers, commences in the latter half of April and heavy falls occur in May. In June the rainfall decreases but begins to increase again towards the end of July. 60% of the annual rainfall occurs during the months August to November. Rainfall during November is subject to large variations. December is comparatively dry and the period from January to about the middle of March is the driest part of the year.

The southwest monsoon contributes 41% to the annual rainfall while the northeast monsoon and the thunderstorms in April and May contribute 38% and 17% respectively.

During the 80 year period 1901 to 1980 the highest rainfall in the district amounting to 143% of the normal was recorded in 1920, the lowest rainfall amounting to only 63% of the normal was recorded in 1918. For the district as a whole rainfall of less than 80% of the normal occurred only in twelve years during the 80 year period out of which two consecutive years of rainfall less than 80% of normal have occurred twice.

From Table 2 it will be seen that during 63 years, the average annual rainfall of the district was between 601 and 1000 mm.

Normally there are about 50 to 60 days of rainfall of 2.5 mm or more in a year over most of the districts except in the extreme southern and northeastern portions where the number of rainy days is somewhat less.

The heaviest rainfall in 24 hours over the plains of the district was 251.2 mm recorded at Mettur Dam (Obsy) on 9th December 1972. At Yercaud the highest rainfall in 24 hours was 328.0 mm was recorded on 16th November 1991.

TEMPERATURE

There are two meteorological observatories at Salem and Mettur Dam. The data of these observatories may be taken to be fairly representative of the general conditions of the district. Tables 3 and 3(a) give the temperature and humidity data for Salem and Mettur Dam. The hot weather begins early in March, the highest temperatures being reached in April and May. Weather cools down progressively from about the middle of June and by December the mean daily maximum drops to 30.2°C while the mean daily minimum drops to 19.2°C and 19.6°C in January in Salem and Mettur Dam respectively. Though the maximum temperatures in February are about the same as in July, the nights are much cooler in February. During the cold season frost is not unknown on the grass in the valleys.

Being an interior district the diurnal range of temperature is large particularly in the dry and hot seasons. In February-March the mean diurnal range of temperature is as high as 13.7°C while in October-November it is only about 9°C.

HUMIDITY

The district on the whole enjoys a dry climate. The driest months are from January to April, the average relative humidity in afternoons being about 40%. Even during the rainy months the average humidity is appreciably below the saturation level.

CLOUDINESS

Skies are generally clear or lightly clouded during the period January to about the middle of April. The cloudiness increases from the latter half of April and after about the middle of June, skies are generally heavily clouded till about the middle of December.

WINDS

Winds are generally light. From November to April winds blow mainly from northeasterly direction. From May to September southwesterlies predominate. The wind speed is least in October with a secondary minima in May. It is interesting to note that the primary and secondary rainfall maxima occur in these months.

SPECIAL WEATHER PHENOMENA

Because of its interior location the district is not directly affected by cyclonic storms and depressions in the Bay of Bengal which, nevertheless, influence the rainfall over the district in the northeast monsoon season. During the period March to June dust-devils and dust-raising winds (duststorms) occur occasionally. In April and May thunderstorms are very frequent and throughout the monsoon months rain is often associated with thunder. Some of the premonsoon thunderstorms are accompanied with squalls and rarely with hail.

Tables 3, 4 and 5 and 3(a), 4(a) and 5(a) give the temperature and humidity, mean wind speed and frequency of special weather phenomena respectively for Salem and Mettur Dam based on observatory records.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Attur	80	a	26.5	8.1	16.4	42.0	96.1	44.0	71.6	122.3	151.6	215.5	146.0	56.9	997.0	160 (1946)	50 (1923)	213.4	1880 Nov 21
		b	1.5	0.6	0.7	2.4	5.5	3.1	4.7	6.6	7.8	10.4	7.5	3.2	54.0				
Mettur Dam	29	a	8.8	8.8	17.4	46.9	100.7	42.6	74.0	77.6	120.0	172.1	94.2	34.4	797.5	164 (1966)	57 (1957)	200.0	1972 Dec 09
		b	0.5	0.5	1.2	3.3	6.3	3.4	5.4	5.4	6.6	9.8	5.6	2.2	50.2				
Mettur Dam (obsy)	18	a	5.2	4.6	14.6	45.3	102.4	48.5	77.1	95.7	126.9	170.8	87.2	62.0	840.3	141 (1966)	62 (1968)	251.2	1972 Dec 09
		b	0.4	0.3	1.1	3.0	6.3	3.2	6.0	6.4	7.1	8.8	5.1	3.1	50.8				
Namakkal	79	a	9.3	6.5	9.6	47.2	104.8	37.5	54.3	103.9	116.1	168.1	97.7	36.1	791.1	155 (1946)	58 (1918)	162.0	1977 Nov 13
		b	0.9	0.4	0.7	2.9	5.6	2.6	3.4	6.2	6.9	9.1	6.1	2.6	47.4				
Omalur	77	a	8.2	9.6	12.3	46.4	108.9	61.8	90.8	138.1	143.3	164.2	97.1	30.1	910.8	170 (1903)	64 (1918)	184.1	1916 Oct 17
		b	0.7	0.6	0.9	3.3	6.4	4.5	6.5	8.1	8.2	8.9	6.0	2.0	56.1				
Paramathi	77	a	8.4	6.7	10.8	41.7	87.2	24.7	35.8	66.0	95.9	150.0	92.2	36.3	655.7	174 (1944)	23 (1974)	161.0	1930 Oct 25
		b	0.7	0.4	0.6	2.4	4.6	1.7	2.6	4.5	5.2	8.3	5.5	2.5	39.0				
Pilluku-richi	16	a	8.1	9.9	27.7	37.1	120.0	48.3	76.2	86.4	137.9	170.8	133.9	73.3	929.6	143 (1972)	66 (1968)	200.7	1964 Dec 24
		b	0.1	0.3	1.5	2.5	5.7	3.1	5.3	6.0	7.1	9.3	5.8	2.3	49.0				
Rasipuram	78	a	7.6	7.7	9.7	43.7	105.2	57.9	93.6	128.5	133.1	162.0	96.3	28.2	873.7	144 (1972)	47 (1923)	150.0	1967 Nov 02
		b	0.6	0.5	0.6	3.2	6.0	4.1	5.9	8.3	7.6	9.2	5.7	1.9	53.6				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Salem (obsy)	72	a	9.1	8.1	11.6	50.9	104.9	80.6	100.4	145.2	155.8	184.6	88.1	30.9	970.2	160 (1964)	58 (1945)	250.2	1885 Sep 08
		b	0.8	0.5	0.9	3.6	6.6	5.4	7.1	9.1	8.7	9.8	5.7	2.3	60.5				
Sankari	76	a	8.1	10.1	17.5	51.3	108.9	44.1	65.2	100.8	114.7	162.5	90.7	35.7	809.6	140 (1944)	53 (1914)	177.0	1969 Dec 15
		b	0.6	0.5	0.9	3.2	6.3	3.1	4.3	6.2	6.4	8.8	6.0	2.2	48.5				
Senda-mangalam	80	a	8.2	6.2	8.5	44.1	113.1	45.2	69.8	111.3	140.1	161.4	96.6	33.0	837.5	183 (1939)	51 (1918)	216.4	1977 Nov 13
		b	0.7	0.5	0.6	3.0	6.0	2.9	4.2	7.0	7.1	9.4	5.9	2.3	49.6				
Thammam-patty	78	a	26.8	8.6	10.7	38.3	81.6	32.8	55.4	86.1	102.4	175.1	153.5	67.3	838.6	150 (1932)	33 (1973)	198.0	1991 Nov 17
		b	1.4	0.5	0.7	2.4	4.7	2.5	3.8	5.3	6.0	9.4	7.3	3.6	47.6				
Tiruchen-gode	80	a	10.0	12.3	12.7	49.8	97.6	45.1	54.2	93.0	97.7	160.9	100.2	32.4	765.9	162 (1944)	40 (1923)	139.7	1878 Aug 21
		b	0.7	0.6	0.9	3.4	5.7	2.9	3.7	6.1	6.2	9.4	6.3	2.3	48.2				
Valappady	74	a	16.2	6.8	9.2	31.3	90.2	44.5	66.4	111.2	195.1	189.0	107.5	43.1	910.5	337 (1920)	40 (1976)	237.5	1967 Nov 02
		b	1.0	0.4	0.6	2.3	5.1	3.4	4.6	6.8	6.7	8.7	6.0	2.6	48.2				
Salem (District)		a	11.5	8.1	13.5	44.0	101.5	47.0	70.3	104.7	130.8	171.9	105.8	42.8	851.9	143 (1920)	63 (1918)		
		b	0.8	0.5	0.9	2.9	5.8	3.3	4.8	6.6	7.0	9.2	6.0	2.5	50.3				
HILL STATION																			
Yercaud	75	a	27.7	15.4	19.1	77.7	152.2	131.2	187.7	252.4	226.9	264.9	170.5	78.9	1604.9	164 (1926)	48 (1980)	328.0	1991 Nov 16
		b	1.7	0.9	1.4	4.9	8.3	8.1	11.0	12.4	11.0	12.3	8.9	4.5	85.4				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(S A L E M)

Range in mm	No. of years	Range in mm	No. of years
501 - 600	2	901 - 1000	14
601 - 700	12	1001 - 1100	6
701 - 800	20	1101 - 1200	7
801 - 900	17	1201 - 1300	1

(Data available for 79 years only).

TABLE - 3
Normals of Temperature and Relative Humidity
(S A L E M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 (IST	1730 IST
January	31.3	19.2	37.2	1991 Jan 30	12.8	1907 Jan 28	70	42
February	33.7	20.2	39.4	1926 Feb 22	11.1	1907 Feb 01	67	33
March	36.2	22.5	41.7	1892 Mar 26	14.4	1934 Mar 05	66	28
April	37.2	25.2	42.8	1908 Apr 29	16.5	1968 Apr 14	66	38
May	36.7	25.3	42.8	1931 May 22	18.3	1893 May 13	68	45
June	34.9	24.5	42.8	1921 Jun 01	19.3	1979 Jun 07	71	49
July	33.4	23.7	40.6	1923 Jul 07	18.9	1887 Jul 12	77	55
August	33.1	23.4	38.9	1885 Aug 01	18.1	1989 Aug 06	78	56
September	33.0	23.3	38.9	1891 Sep 17	18.5	1978 Sep 12	76	56
October	31.8	22.8	37.9	1918 Oct 04	15.5	1974 Oct 31	78	63
November	30.7	21.3	35.6	1948 Nov 03	12.8	1901 Nov 27	75	59
December	30.2	19.9	35.6	1926 Dec 04	12.8	1945 Dec 13	73	53
Annual	33.5	22.6					72	48

TABLE - 4
Mean Wind Speed In km/hr.
(S A L E M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
10.7	11.1	10.5	8.6	6.9	7.7	7.1	6.4	5.5	5.1	6.9	8.9	8.0

TABLE - 5
Special Weather Phenomena
(S A L E M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.2	1.2	6.1	8.4	5.1	3.8	6.0	6.7	6.8	1.9	0.4	46.6
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(M E T T U R D A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	31.1	19.6	37.6	1981 Jan 13	14.4	1967 Jan 24	71	47
February	33.8	21.0	38.8	1990 Feb 28	13.1	1967 Feb 10	67	44
March	36.2	23.7	40.9	1988 Mar 26	17.4	1967 Mar 02	63	41
April	37.4	26.0	41.4	1992 Apr 08	19.6	1982 Apr 21	63	47
May	37.1	25.5	41.9	1992 May 23	20.7	1980 May 02	65	54
June	35.3	24.9	42.0	1964 Jun 05	18.6	1987 Jun 28	65	54
July	33.9	24.3	38.6	1989 Jul 05	20.5	1978 Jul 16	71	60
August	34.0	24.0	37.6	1974 Aug 13	21.0	1982 Aug 13	73	59
September	34.0	23.8	38.9	1987 Sep 12	18.2	1982 Sep 18	74	62
October	32.4	23.2	38.0	1991 Oct 06	18.5	1966 Oct 29	77	68
November	31.2	22.1	37.6	1984 Nov 20	16.4	1967 Nov 16	76	61
December	30.2	20.3	34.4	1988 Dec 12	14.0	1970 Dec 07	74	61
Annual	33.9	23.2					70	55

TABLE - 4(a)
Mean Wind Speed in km/hr.
(M E T T U R D A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
5.2	6.0	7.3	9.4	7.1	6.9	6.8	6.3	5.7	4.5	5.1	5.3	6.3

TABLE - 5(a)
Special Weather Phenomena
(M E T T U R D A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Thunder	0.0	0.0	0.1	0.6	1.4	0.5	0.6	0.0	0.3	0.1	0.1	0.0	3.7
Fog	0.4	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.3	0.2	0.0	0.0	1.4
Dust-storm	0.0	0.1	0.3	0.8	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.0	1.8
Squall	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

SOUTH ARCOT DISTRICT

South Arcot district has a hot tropical climate with the coastal parts comparatively cooler and very damp. The summer season which is very oppressive is from March to about the end of May. The period from June to September is the southwest monsoon season. October to the end of December is the northeast monsoon season. January to the end of February is the comparatively cool season with clear bright skies.

RAINFALL

Records of rainfall in the district are available for 33 stations for periods ranging from 10 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The annual normal rainfall in the district is 1119.8 mm. The rainfall in the district, in general decreases from the coast towards the interior, thus ranging from 1410.3 mm at Chidambaram on the coast to 890.2 mm at Kattumylore Anicut in the interior. The chief rainy season in the district is August to December when about 77% of the annual rainfall in the district is received, November being the rainiest month generally. Thus the district gets major part of its annual rainfall towards the latter part of the southwest monsoon and the northeast monsoon season. Some rainfall however occurs mostly as thundershowers during the period May to July, amounting to about 16% of the annual normal. Some rain due to the northeast monsoon also continues to occur in January. The variation in the annual rainfall from year to year is appreciable. In the 80 year period 1901 to 1980, the highest annual rainfall amounting to 173% of the normal occurred in 1946. The lowest annual rainfall which was 60% of the normal occurred in 1980. In this 80 year period, the annual rainfall in the district was less than 80% of the normal in 11 years, two consecutive years of such a low rainfall occurred twice. It will be seen from Table 2 that the average annual rainfall in the district was between 801 mm and 1300 mm, in 54 years out of 80.

On an average there are 51 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 29 at Eluthur (PWD) to 57 at Cuddalore (obsy).

The heaviest rainfall in 24 hours recorded at any station in the district was 572.0 mm at Cuddalore (obsy) on 18th May, 1943.

TEMPERATURE

There are three meteorological observatories in the district, at Cuddalore, Kallakkurichchi and Parangipettai. The description which follows is mainly based on the records of Cuddalore and Kallakkurichchi, supplemented by the available records for Parangipettai, Cuddalore and Parangepettai being representative of the coastal region and Kallakkurichchi representing the interior parts of the district. The period from about the end of February to mid-June is one of continuous increase in temperatures. May and the early part of June constitute the hottest period of the year with the mean daily maximum temperature at about 37°C and the mean daily minimum is about 27°C in the coastal parts and it is much hotter and drier in the interior parts of the district especially in the afternoons. The summer days are oppressive in the coastal parts due to the greater humidity there. On individual days the maximum temperature reaches at about 43°C in the coastal parts and it is dry and hotter in the interior parts by a single degree. The sea breezes which set in the afternoons bring welcome change in the coastal region though only temporarily. The afternoon thundershowers which occur on a few days during May to early June also bring welcome change temporarily in the district as a whole. With the southwest monsoon in July there is a slight and gradual reduction in the temperatures with the progress of the season. After the withdrawal of the monsoon by about the end of September, there is further drop in the temperatures, especially night temperatures in the western part of the district while it is comparatively warmer in the coastal region. December and January constitute the coolest part of the year with the mean daily maximum temperature at about 28°C and the mean daily minimum at about 21°C.

The highest maximum temperature recorded at Cuddalore was 43.3°C on 13th May, 1953, at Kallakkurichchi it was 44.2°C on 6th May 1975 and 43.5°C on 25th May 1980 at Parangipettai. The lowest minimum temperature recorded at Cuddalore was 11.1°C on 16th December 1933 while at Kallakkurichchi it was 11.0°C on 29th January 1977 and also on 21st March 1983 and it was 15.2°C on 28th January 1980 at Parangipettai.

HUMIDITY

The humidity is generally higher in the coastal parts than in the interior. During the period August to April the humidity usually exceeds 70% on the average in the coastal region and is comparatively drier during the rest of the year.

CLOUDINESS

During the period August to December the skies are mostly heavily clouded or overcast, cloudiness gradually decreases later and during February to April the skies are mostly clear or lightly clouded. Cloudiness gradually increases with the progress of the season, especially in the afternoons.

WINDS

Winds are generally light with a slight strengthening in force during the early part of the summer season. During the period May to September the winds blow in the mornings mostly from directions between south and west, the southwesterlies predominating. In the afternoons they blow mostly from the southeast and less often from the south to west. During October the winds in the mornings are calm on a large number of occasions or blow from directions between southwest and northwest while the afternoon winds blow from directions between northeast and southeast. Later winds are from directions between northwest and east, the northeasterly predominating upto the end of January. By April the winds are predominantly from southeast or south.

SPECIAL WEATHER PHENOMENA

During the northeast monsoon season and especially in the early part of it, depressions and storms from the south Bay of Bengal move across or in the neighbourhood of the district causing occasionally widespread heavy rain, thunderstorms and gusty winds. Thunderstorms occur generally during the period April to November, the frequency being comparatively more in the western part of the district during the early summer.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Cuddalore, and Tables 3(a), 4(a) and 5(a) give similar data respectively for Kallakkurichchi, and Tables 3(b), 4(b) and 5(b) give similar data for Parangipettai.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Chidambaram	78	a	59.0	15.3	17.6	24.9	46.8	44.3	68.6	127.5	125.8	276.4	387.4	216.7	1410.3	202 (1979)	53 (1974)	359.4	1943 May 18
		b	2.5	0.9	0.7	1.1	1.8	3.0	4.6	6.8	5.9	9.8	11.2	7.1	55.4				
Cuddalore (Obsy)	77	a	55.0	16.9	18.2	18.8	49.2	37.9	73.6	127.0	123.1	275.1	391.9	186.3	1373.0	178 (1913)	51 (1945)	572.0	1943 May 18
		b	2.5	1.0	0.8	0.9	1.8	2.9	5.5	7.4	6.0	10.6	11.4	6.4	57.2				
Eluthur (PWD)	18	a	22.7	5.8	5.2	41.5	72.7	46.5	61.3	113.1	98.6	205.0	134.1	96.8	903.3	261 (1966)	55 (1957)	170.0	1966 Aug 28
		b	0.6	0.2	0.3	1.2	2.4	1.7	2.0	3.2	3.4	5.9	4.8	2.9	28.6				
Gingee	79	a	25.8	9.8	12.4	21.7	56.8	45.5	84.9	157.6	163.5	194.0	205.7	95.1	1072.8	163 (1943)	45 (1974)	371.9	1943 May 19
		b	1.4	0.7	0.6	1.2	2.6	3.3	5.0	7.7	7.2	9.4	8.6	4.3	52.0				
Kallakku-richchi	50	a	46.6	13.9	14.1	39.1	80.8	45.0	77.5	136.4	142.5	193.7	172.8	75.2	1037.6	162 (1903)	43 (1950)	219.5	1906 Jan 17
		b	1.9	0.8	0.8	1.9	4.2	2.8	5.2	7.9	7.8	9.1	8.2	4.3	54.9				
Kallakku-richchi(Obsy)	28	a	18.7	7.9	10.7	28.1	89.2	49.4	76.9	139.1	151.6	196.1	155.0	111.2	1033.9	157 (1963)	48 (1980)	260.9	1959 Nov 29
		b	1.2	0.4	0.7	1.6	4.2	3.8	4.9	7.3	7.3	9.9	7.3	4.8	53.4				
Kattumannar-koil	80	a	53.9	15.1	13.8	27.5	47.5	44.4	61.0	128.1	126.8	209.9	308.1	174.6	1210.7	158 (1913)	39 (1973)	381.0	1887 Oct 30
		b	2.3	0.8	0.7	1.3	2.3	2.6	4.4	7.2	6.3	9.0	10.3	6.3	53.5				
Kattumyiore Anicut	28	a	10.0	6.1	7.3	14.5	60.7	37.3	66.7	116.5	106.4	207.8	161.6	95.3	890.2	166 (1966)	57 (1961)	457.0	1959 Nov 28
		b	0.8	0.3	0.4	1.0	2.8	2.5	3.6	5.5	5.6	8.7	7.0	4.6	42.8				
Kilacheruvoi Anicut	27	a	19.1	6.4	13.7	34.0	97.8	56.4	105.4	148.9	154.6	218.1	166.3	99.5	1120.2	191 (1966)	56 (1974)	272.5	1959 Nov 29
		b	1.1	0.7	0.9	1.8	4.6	2.9	5.8	6.6	7.0	9.5	8.0	4.6	53.5				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Kothavacheri	29	a	26.0	8.6	14.2	16.6	30.9	35.6	51.7	118.9	116.1	228.2	293.7	169.3	1109.8	153 (1963)	56 (1959)	221.5	1952 Dec 07
		b	1.5	0.5	0.5	0.9	1.6	2.1	3.3	6.8	5.4	9.4	9.5	6.2	47.7				
Kuppanatham	10	a	1.3	5.6	4.9	16.6	19.7	48.7	83.1	99.2	143.5	200.1	253.8	70.1	946.6	117 (1975)	59 (1974)	480.0	1991 Nov 15
		b	0.2	0.4	0.2	0.7	2.2	3.6	5.3	7.3	7.6	10.5	10.0	4.7	52.7				
Kurinjipadi	75	a	51.4	11.3	15.3	21.2	41.3	41.6	74.1	134.0	135.5	215.0	310.1	161.4	1212.2	179 (1913)	49 (1974)	325.1	1932 Dec 07
		b	1.7	0.7	0.6	1.1	2.0	3.1	4.7	7.4	6.4	9.2	9.4	5.0	51.3				
Mahamatur Anicut	29	a	16.9	6.9	10.0	22.0	63.3	47.9	73.2	136.1	144.9	217.7	181.8	111.4	1032.1	172 (1966)	64 (1974)	194.3	1959 Nov 28
		b	1.1	0.4	0.5	1.4	3.2	3.3	4.7	6.5	7.1	10.8	7.5	5.2	51.7				
Mercanam	70	a	43.3	11.8	14.2	16.8	42.2	37.3	79.0	126.0	119.3	229.0	325.2	127.6	1171.7	174 (1960)	32 (1974)	284.2	1893 Nov 06
		b	2.0	0.6	0.5	1.0	1.4	2.9	5.3	7.3	6.5	9.3	10.3	5.1	52.2				
Panaruti	77	a	42.6	10.2	12.4	23.1	49.4	41.7	89.8	153.0	134.2	226.8	259.5	135.6	1178.3	154 (1943)	51 (1962)	297.7	1943 May 18
		b	1.6	0.7	0.6	1.0	2.0	3.0	5.3	7.3	6.3	9.2	8.7	4.8	50.5				
Pelanduri	28	a	21.7	7.3	15.3	22.5	80.5	56.7	82.2	133.7	152.5	223.6	224.6	121.2	1141.8	147 (1963)	57 (1974)	240.0	1991 Nov 15
		b	1.3	0.5	0.6	1.5	3.4	3.4	5.8	7.0	7.3	10.4	9.1	5.5	55.8				
Parangipettai	79	a	56.2	14.3	12.3	28.1	40.3	33.0	62.9	111.0	122.5	270.2	399.6	215.1	1365.5	174 (1902)	47 (1974)	395.7	1931 Apr 14
		b	2.6	0.8	0.5	1.1	1.6	2.6	4.3	6.8	6.0	9.5	11.3	6.4	53.5				
Parangipettai (Obsy)	12	a	9.4	9.5	16.0	13.1	28.1	37.5	62.8	78.0	107.0	291.3	383.5	243.5	1279.7	150 (1968)	64 (1974)	282.0	1972 Dec 06
		b	0.7	0.8	0.6	0.7	1.5	2.7	4.2	5.2	6.0	9.6	10.3	8.0	50.3				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Shankarapuram	26	a	12.8	4.0	15.3	16.8	59.6	40.9	84.4	120.6	148.6	184.6	169.9	82.9	940.4	152 (1966)	21 (1958)	246.4	1959 Nov 29
		b	0.9	0.2	0.5	1.0	3.3	2.4	4.8	6.4	7.1	8.8	7.6	3.7	46.7				
Shatiatope Anicut	29	a	26.8	7.9	10.0	19.1	53.9	49.7	69.9	131.4	125.6	246.6	323.2	168.1	1232.2	185 (1977)	53 (1952)	213.0	1991 Nov 15
		b	1.1	0.6	0.3	1.1	2.1	2.9	3.8	6.8	6.0	9.7	9.3	5.6	49.3				
Srimushnam	78	a	44.5	11.5	14.2	30.1	53.4	42.9	64.6	134.5	132.7	194.9	249.4	146.1	1118.8	178 (1971)	14 (1919)	508.0	1964 Dec 28
		b	1.7	0.5	0.6	1.2	2.6	2.7	4.5	7.0	6.5	8.4	9.2	5.2	50.1				
Tindivanam	79	a	35.4	9.5	13.4	18.8	54.2	48.7	82.3	146.9	146.1	207.5	254.7	111.5	1129.0	159 (1930)	56 (1950)	312.7	1943 May 19
		b	1.6	0.6	0.6	1.0	2.2	3.2	5.1	8.0	7.0	10.1	9.2	4.9	53.5				
Tirukoilur	78	a	26.7	8.0	9.9	21.2	65.6	47.0	83.0	146.7	152.0	194.0	174.3	82.8	1011.2	170 (1966)	41 (1980)	248.9	1884 Dec 18
		b	1.4	0.5	0.5	1.2	3.5	3.6	5.5	7.9	7.3	9.2	8.0	4.0	52.6				
Tirukoilur Anicut	28	a	18.6	6.7	11.0	27.2	62.0	50.7	93.3	171.9	176.2	239.3	186.9	99.9	1143.7	150 (1963)	57 (1957)	204.5	1972 Dec 06
		b	1.0	0.4	0.6	1.4	3.4	4.6	6.2	8.5	7.6	11.1	8.2	4.0	57.0				
Tittagudi	75	a	38.9	12.7	14.0	40.6	73.5	45.3	74.0	142.7	144.2	172.4	197.4	123.2	1078.9	173 (1931)	41 (1962)	240.8	1939 Apr 14
		b	1.7	0.7	0.7	1.7	3.6	2.9	4.3	7.4	6.8	8.4	8.3	4.8	51.3				
Toludur	29	a	19.0	10.3	12.7	31.3	81.1	44.7	71.3	133.5	135.4	197.9	185.5	105.4	1028.1	202 (1966)	60 (1958)	180.0	1966 Nov 10
		b	1.2	0.6	0.9	1.6	4.4	3.1	5.0	6.7	7.1	10.2	8.1	4.8	53.7				
Ulundurpet	79	a	36.5	9.7	9.4	25.0	60.1	45.3	73.2	121.8	133.8	189.8	206.1	98.8	1009.5	159 (1920)	31 (1973)	305.8	1941 Dec 03
		b	1.6	0.7	0.6	1.4	3.0	3.2	4.8	7.4	6.8	8.7	8.2	4.4	50.8				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Vanamadevi Anicut	28	a	27.0	4.4	8.4	20.3	45.9	33.0	77.1	146.0	108.4	261.7	315.5	130.2	1177.9	136 (1977)	60 (1974)	271.0	1967 Nov 04
		b	1.2	0.3	0.3	0.8	1.8	2.2	3.9	6.7	5.2	9.7	8.8	5.0	45.9				
Vanur	80	a	53.1	7.3	12.7	21.6	48.2	40.1	75.2	135.3	141.0	248.2	297.0	153.9	1233.6	189 (1943)	46 (1950)	421.6	1943 May 19
		b	1.6	0.5	0.5	0.9	1.7	2.7	5.0	7.0	6.3	9.4	9.4	5.3	50.3				
Vidur-Dam Site	20	a	13.8	6.7	8.4	12.0	35.5	36.9	102.9	149.1	156.8	210.1	210.8	88.9	1031.9	115 (1979)	62 (1980)	207.0	1991 Oct 29
		b	0.9	0.5	0.5	0.6	2.3	3.3	6.4	8.4	7.2	10.8	9.7	5.1	55.7				
Villupuram	80	a	36.0	7.8	11.4	20.0	48.9	49.0	82.7	140.6	148.0	207.0	229.0	116.0	1096.4	164 (1943)	30 (1973)	336.5	1943 May 18
		b	1.6	0.5	0.6	0.9	2.0	3.4	5.3	7.5	6.4	9.3	9.0	4.7	51.2				
Vriddhachalam	80	a	36.4	10.2	10.0	24.6	58.8	48.0	79.0	140.5	138.5	198.8	215.0	116.2	1076.0	161 (1943)	55 (1952)	259.3	1913 Nov 10
		b	1.7	0.6	0.6	1.4	2.8	3.2	5.2	7.5	7.1	9.2	8.9	4.7	53.0				
Vriddhachalam Anicut	29	a	21.1	6.6	9.5	24.9	47.8	52.2	88.9	153.4	155.5	229.8	236.4	130.1	1156.2	149 (1956)	70 (1952)	255.0	1991 Nov 15
		b	1.3	0.5	0.5	1.3	2.7	3.5	4.9	7.7	7.5	10.5	9.3	5.4	55.1				
South Arcot District		a	31.1	9.3	12.1	23.7	55.9	44.3	76.9	133.3	136.7	220.0	247.4	129.1	1119.8	173 (1946)	60 (1980)		
		b	1.4	0.6	0.6	1.2	2.6	3.0	4.8	7.0	6.6	9.5	8.9	5.1	51.3				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(S O U T H A R C O T)

Range in mm	No. of years	Range in mm	No. of years
601 - 700	2	1301 - 1400	6
701 - 800	2	1401 - 1500	8
601 - 900	7	1501 - 1600	4
901 - 1000	13	1601 - 1700	3
1001 - 1100	8	1701 - 1800	0
1101 - 1200	17	1801 - 1900	0
1201 - 1300	9	1901 - 2000	1

TABLE - 3
Normals of Temperature and Relative Humidity
(C U D D A L O R E)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.1	20.5	32.5	1990 Jan 21	13.3	1894 Jan 17	84	70
February	29.3	20.8	36.1	1898 Feb 20	14.3	1974 Feb 07	83	69
March	31.2	22.6	38.9	1953 Mar 29	16.1	1898 Mar 08	80	70
April	33.2	25.6	42.2	1908 Apr 28	19.4	1939 Apr 03	75	74
May	36.1	26.9	43.3	1953 May 13	20.8	1971 May 20	68	73
June	36.8	26.6	42.8	1905 Jun 04	21.1	1898 Jun 03	65	65
July	35.3	25.6	40.6	1895 Jul 03	18.9	1911 Jul 04	70	64
August	34.5	25.0	39.9	1982 Aug 23	20.6	1899 Aug 03	74	68
September	33.7	24.8	38.3	1891 Sep 06	19.2	1981 Sep 03	74	72
October	31.5	24.1	38.9	1899 Oct 22	18.9	1899 Oct 26	82	77
November	29.2	22.6	35.0	1915 Nov 03	16.7	1901 Nov 26	84	76
December	28.0	21.3	35.0	1895 Dec 03	11.1	1933 Dec 16	84	74
Annual	32.2	23.9					77	71

TABLE - 4
Mean Wind Speed in km/hr.
(C U D D A L O R E)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
9.3	7.9	8.8	11.2	11.8	10.9	9.8	9.0	8.7	6.9	8.8	10.8	9.5

TABLE - 5
Special Weather Phenomena
(C U D D A L O R E)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.3	1.0	2.7	2.9	3.3	5.1	4.9	5.8	3.3	0.3	29.6
Fog	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.5
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE - 3(a)
Normals of Temperature and Relative Humidity
(K A L L A K K U R I C H C H I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	29.7	20.1	34.3	1959 Jan 31	11.0	1977 Jan 29	79	54
February	32.6	20.4	39.0	1983 Feb 23	12.0	1983 Feb 15	76	45
March	35.6	22.3	41.7	1953 Mar 29	11.0	1983 Mar 21	75	42
April	37.5	25.4	43.1	1987 Apr 09	20.0	1983 Apr 16	75	47
May	38.4	26.4	44.2	1975 May 06	19.7	1987 May 12	68	48
June	37.0	26.2	42.6	1983 Jun 01	20.1	1973 Jun 24	67	51
July	35.4	25.1	40.0	1952 Jul 09	18.8	1973 Jul 02	73	56
August	34.8	24.7	40.1	1987 Aug 01	20.1	1965 Aug 07	75	58
September	34.4	24.5	39.2	1982 Sep 20	17.7	1986 Sep 24	76	60
October	32.2	23.7	38.0	1982 Oct 24	16.2	1986 Oct 21	80	68
November	29.8	22.3	36.7	1948 Nov 04	16.1	1954 Nov 08	80	70
December	28.6	20.9	33.6	1973 Dec 09	16.1	1954 Dec 08	80	66
Annual	33.8	23.5					75	55

TABLE - 4(a)
Mean Wind Speed in km/hr.
(K A L L A K K U R I C H C H I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
7.2	5.8	5.4	6.3	7.0	9.0	9.2	7.5	5.6	4.9	6.6	7.9	6.9

TABLE - 5(a)
Special Weather Phenomena
(K A L L A K K U R I C H C H I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.1	0.4	2.0	4.4	2.8	2.2	2.8	4.0	4.2	1.0	0.3	24.2
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3

TABLE - 3(b)
Period Averages of Temperature and Relative Humidity
(P A R A N G I P E T T A I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	28.1	20.1	31.4	1980 Jan 31	15.2	1980 Jan 28	82	
February	29.3	20.7	34.0	1973 Feb 28	17.1	1968 Feb 16	80	
March	31.2	22.4	39.9	1975 Mar 31	18.0	1985 Mar 01	76	
April	33.2	24.3	41.5	1985 Apr 25	18.8	1968 Apr 27	71	
May	36.3	25.2	43.5	1980 May 25	19.8	1971 May 20	65	Data
June	36.9	25.2	42.5	1983 Jun 01	20.0	1974 Jun 24	64	not
July	35.6	24.8	40.0	1980 Jul 06	20.3	1989 Jul 17	71	avail-
August	35.0	24.3	39.5	1987 Aug 02	18.6	1968 Aug 30	72	able
September	33.1	24.1	38.0	1980 Sep 19	19.6	1984 Sep 09	78	
October	31.2	23.3	37.5	1983 Oct 06	18.0	1969 Oct 24	83	
November	29.1	22.2	33.5	1987 Nov 17	17.8	1981 Nov 20	85	
December	27.7	21.1	31.5	1985 Dec 15	15.4	1981 Dec 09	85	
Annual	32.2	23.1					76	

TABLE - 4(b)
Mean Wind Speed in km/hr.
(P A R A N G I P E T T A I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
6.8	6.6	7.9	10.4	11.0	11.4	11.0	10.1	8.6	6.1	5.7	7.9	8.6

TABLE - 5(b)
Special Weather Phenomena
(P A R A N G I P E T T A I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.1	0.0	0.4	1.2	2.4	2.4	3.0	2.2	3.8	2.5	1.5	0.1	19.6
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Squall	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1

THANJAVUR DISTRICT

The district has a hot tropical climate. The summer season which is very oppressive is from March to about the end of May. The following period lasting upto the end of September is the southwest monsoon season. October to the end of December is the northeast monsoon season. January to the end of February is the comparatively cool season with clear bright skies.

RAINFALL

Records of rainfall in the district are available for 18 stations from 11 to 79 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 1052.8 mm. August to December is the main rainy season when about 75% of the annual normal rainfall is received. November is generally the rainiest month. However some rain continues to occur in January. The district gets rainfall amounting to about 22% of the normal annual rainfall, during the latter part of the southwest monsoon season (August & September) and as much as about 53% of the annual rainfall during the northeast monsoon season. Some rainfall, mostly in the form of thundershowers is also received during the summer and early monsoon months. The variation in the annual rainfall from year to year is appreciable. In the 80 year period 1901 to 1980, the highest annual rainfall amounting to 169% of the normal occurred in 1920. The lowest annual rainfall which was 46% of the normal occurred in 1980. In the same 80 year period, the annual rainfall in the district was less than 80% of the normal in 19 years, two consecutive years of such low rainfall occurred twice and three consecutive years of such low rainfall occurred once in this period. It will be seen from Table 2 that the average annual rainfall in the district was between 701 and 1300 mm in 67 years out of 80.

On an average there are about 51 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 45 at Tirukkattupalli to 56 at Adiramapattinam (obsy).

The heaviest rainfall in 24 hours recorded at any station in the district was 480.1 mm at Papanasam on 7th November, 1917.

TEMPERATURE

There is only one meteorological observatory in the district at Adiramapattinam which is very near to the coast, having about 21 years data. From about the middle of

February, there is steady increase in temperature until May/June. May is the hottest month with the mean daily maximum temperature at 34.2°C at Adiramapattinam. During the hot season the maximum temperature sometimes goes upto about 44°C. The summer season and the period upto July end is hot and oppressive particularly in the central areas, due to high humidity and high temperature. The afternoon thundershowers which occur during May to July on a few days give some relief though only temporarily. With the commencement of the regular rainy season in August the weather becomes comparatively cooler. After September the temperature, especially the day temperature rapidly decreases. December and January are generally the coolest months with the mean daily maximum temperature at about 29.3°C and the mean daily minimum temperature at about 21.3°C at Adiramapattinam.

The highest maximum temperature ever recorded in the district was 43.6°C on 8th May 1982 and the lowest minimum temperature ever recorded was 15.6°C on 5th February 1989 at Adiramapattinam.

HUMIDITY

The humidity is generally high in the coastal region throughout the year and exceeds 70% during the period August to May. It is much drier towards the interior of the district, especially in the late summer and early monsoon months.

CLOUDINESS

During the period February to April the skies are mostly clear or lightly clouded. Cloudiness increases progressively thereafter, especially in the afternoons. During the period July to December the skies are generally clouded or overcast. Clouding gradually decreases later with the advance of the cool season.

WINDS

Winds are generally light to moderate. During May to July the morning winds are mostly from directions between south and northwest and blow from directions between south and southwest in the afternoons upto the beginning of October. Northeasterlies appear in October and subsequently upto April, while morning winds are mostly from the northwest and north, the afternoon winds are mostly from north and northeast upto January. From March onwards, in the afternoons, southeasterlies and southerlies appear.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal in the northeast monsoon season move in a westerly direction and move towards the district or its neighbourhood, causing widespread heavy rain and gusty winds. Thunderstorms occur in the summer and post-monsoon seasons.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Adiramapattinam.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	LOWEST ANNUAL RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Adirama-pattinam (Obsy)	77	a	51.2	19.4	26.9	53.1	54.0	30.8	69.5	98.5	115.0	222.7	246.8	157.6	1145.5	144 (1967)	73 (1964)	363.0	1983 Dec 23
		b	2.8	1.1	1.3	2.8	2.9	2.3	3.9	5.5	6.0	10.4	10.7	6.6	56.3				
Aduthurai (Agro)	11	a	32.1	8.5	12.7	22.1	44.5	51.2	54.6	131.4	122.9	240.5	322.4	125.1	1168.0	141 (1966)	65 (1974)	258.0	1993 Dec 05
		b	1.3	0.6	0.6	1.5	2.6	2.8	3.9	7.2	5.9	9.3	11.2	5.9	52.8				
Echenviduthi	29	a	31.3	12.4	28.4	45.2	60.6	45.5	104.8	152.1	122.1	216.1	210.6	135.3	1164.4	155 (1975)	36 (1980)	282.0	1993 Nov 25
		b	2.0	0.8	1.2	1.9	2.4	3.0	4.9	7.0	6.0	9.6	9.4	5.9	54.1				
Grand Anicut	54	a	20.7	11.6	14.1	44.3	64.9	31.0	46.8	89.6	114.0	182.2	156.6	85.5	861.3	160 (1939)	59 (1959)	275.0	1961 Sep 19
		b	1.5	0.7	0.9	2.4	3.2	2.2	2.5	4.5	5.8	9.3	8.2	5.0	46.2				
Kumbakonam	79	a	50.4	12.4	16.8	32.5	56.0	46.8	51.4	109.1	118.4	188.0	263.3	147.4	1092.5	189 (1920)	41 (1927)	273.0	1991 Nov 15
		b	2.3	0.8	0.9	1.8	2.8	2.4	2.9	5.3	5.6	9.2	10.2	6.4	50.6				
Lower Anicut	23	a	27.0	6.3	12.0	25.3	60.5	40.4	67.3	121.1	137.7	233.0	265.6	178.1	1174.3	157 (1971)	54 (1952)	294.4	1991 Nov 15
		b	2.0	0.7	0.6	1.2	2.7	2.4	4.3	6.4	6.2	10.3	9.8	6.7	53.3				
Madukkur	28	a	30.6	16.3	26.3	52.8	44.2	31.7	72.5	122.8	107.6	224.5	245.7	194.2	1169.2	152 (1966)	63 (1974)	422.0	1983 Dec 23
		b	2.1	0.9	1.1	2.8	2.2	2.3	4.1	6.6	5.9	9.9	10.5	6.9	55.3				
Manjalar Head	27	a	31.2	5.7	11.9	23.1	38.5	32.5	45.8	97.3	109.1	191.4	232.4	156.0	974.9	153 (1971)	58 (1964)	290.4	1992 Jun 11
		b	1.7	0.5	0.6	1.2	2.0	2.0	3.1	5.6	6.3	9.5	10.4	6.9	49.8				
Neivasal	29	a	32.0	9.9	22.6	30.3	36.7	30.2	58.7	127.1	110.0	205.0	231.7	144.1	1040.3	169 (1966)	57 (1974)	314.0	1983 Dec 23
		b	2.1	0.6	0.9	1.7	2.4	2.4	3.9	6.1	5.6	9.7	9.4	6.6	51.4				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Papanasam	68	a	44.7	13.3	17.3	38.7	57.7	39.1	54.1	109.1	104.4	186.2	246.5	134.4	1045.5	190 (1920)	46 (1980)	480.1	1917 Nov 07
		b	2.2	0.7	1.0	1.7	2.6	2.1	3.0	5.2	5.4	9.4	10.0	6.0	49.3				
Pattukottai	79	a	50.0	15.8	24.1	44.4	44.9	38.3	65.6	106.9	103.4	186.6	228.9	165.7	1074.6	158 (1920)	35 (1973)	304.6	1983 Dec 23
		b	2.8	1.1	1.3	2.5	2.4	2.9	4.0	6.2	6.1	9.4	10.6	6.8	56.1				
Peravoorani	29	a	38.1	9.7	28.3	41.5	35.1	31.6	74.9	92.3	107.7	215.0	222.3	152.1	1048.6	154 (1954)	38 (1980)	259.3	1983 Dec 23
		b	2.0	0.7	1.0	2.1	2.1	2.1	3.6	5.1	5.1	9.4	9.0	5.9	48.1				
Thanjavur	78	a	42.1	12.3	18.1	33.5	54.9	43.0	58.2	106.2	119.8	166.5	189.9	116.4	960.9	174 (1920)	39 (1908)	269.7	1907 Nov 08
		b	1.9	0.9	1.0	1.8	2.8	2.5	3.1	5.8	6.3	8.7	9.4	5.3	49.5				
Tirukkattu-palli	78	a	29.3	11.6	14.2	36.9	58.7	36.1	44.9	105.5	109.9	167.8	167.1	90.3	872.3	210 (1928)	34 (1980)	213.6	1903 Aug 10
		b	1.6	0.8	0.9	2.0	3.0	1.8	2.6	4.7	5.6	8.8	8.5	4.7	45.0				
Thiruvaiyaru	79	a	40.4	15.1	15.6	33.6	59.9	45.4	54.1	111.3	104.3	183.6	192.5	116.4	972.4	188 (1920)	46 (1908)	343.0	1983 Dec 23
		b	2.0	0.8	0.9	2.0	2.9	2.1	2.8	5.4	5.5	9.0	9.0	5.4	47.8				
Valangiman	76	a	49.3	13.2	18.8	37.9	64.4	33.5	51.9	105.3	110.7	183.1	253.8	140.5	1062.4	162 (1920)	52 (1927)	253.0	1939 Apr 14
		b	2.4	0.9	0.9	2.0	2.8	2.2	2.9	5.5	5.6	8.8	10.2	6.2	50.4				
Vallam	72	a	42.4	13.3	17.3	33.7	65.5	47.6	65.3	130.8	129.8	161.0	177.6	108.0	992.3	173 (1939)	46 (1908)	238.8	1930 Oct 24
		b	1.9	0.8	1.0	1.9	3.1	2.5	3.5	5.9	6.2	8.3	8.6	5.3	49.0				
Vetticadu	29	a	27.7	11.0	22.2	33.2	56.4	50.3	85.9	137.0	136.2	220.0	205.0	144.0	1128.9	138 (1971)	67 (1964)	304.4	1983 Dec 23
		b	1.5	0.7	0.9	1.6	2.6	3.3	4.5	7.0	6.5	9.2	8.9	6.2	52.9				
Thanjavur (District)		a	37.3	12.1	19.3	36.8	53.3	39.2	62.6	114.1	115.7	198.5	225.5	183.4	1052.8	169 (1920)	46 (1980)		
		b	2.0	0.8	0.9	1.9	2.6	2.4	3.5	5.8	5.9	9.3	9.7	6.0	50.8				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(T H A N J A V U R)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	1	1101 - 1200	9
501 - 600	0	1201 - 1300	10
601 - 700	3	1301 - 1400	4
701 - 800	9	1401 - 1500	3
801 - 900	18	1501 - 1600	1
901 - 1000	12	1601 - 1700	0
1001 - 1100	9	1701 - 1800	1

TABLE - 3
Normals of Temperature and Relative Humidity
(A D I R A M A P A T T I N A M)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	29.7	20.6	34.6	1977 Jan 10	15.8	1990 Jan 20	86	66
February	31.3	21.4	35.0	1977 Feb 28	15.6	1989 Feb 05	84	62
March	32.5	23.5	37.0	1979 Mar 27	16.2	1992 Mar 11	79	63
April	33.6	26.4	43.0	1979 Apr 29	21.0	1993 Apr 02	74	67
May	34.2	26.8	43.6	1982 May 08	20.2	1993 May 26	71	73
June	34.3	26.4	43.2	1982 Jun 06	19.2	1983 Jun 07	65	73
July	33.8	25.8	42.0	1976 Jul 24	21.2	1970 Jul 04	67	72
August	33.5	25.4	39.0	1991 Aug 31	21.4	1970 Aug 21	72	74
September	33.1	25.3	38.7	1987 Sep 11	21.0	1983 Sep 30	75	75
October	31.7	24.3	39.0	1976 Oct 28	19.0	1983 Oct 07, 10	84	89
November	29.9	23.3	35.5	1987 Nov 19	18.2	1988 Nov 28	86	79
December	29.0	22.0	32.8	1987 Dec 04	17.5	1984 Dec 13	87	77
Annual	32.2	24.3					78	72

TABLE - 4
Mean Wind Speed in km/hr.
(A D I R A M A P A T T I N A M)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
8.4	8.5	9.3	12.2	14.0	13.1	11.3	10.6	10.2	7.4	7.0	8.4	10.0

TABLE - 5
Special Weather Phenomena
(A D I R A M A P A T T I N A M)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.1	0.8	1.5	2.2	1.6	1.8	2.8	2.9	3.2	2.2	0.6	19.7
Fog	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Squall	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1

TIRUCHIRAPPALLI DISTRICT

The district has a hot tropical climate. Compared to the adjoining coastal districts, the climate is hotter and drier in the non rainy season. The hot season is from March to May. The southwest monsoon season which follows, lasts till September. October to December constitute the post monsoon season which is also known as the northeast monsoon season, with the associated rain confined to the first half of the season. January and February is comparatively cooler period with clear bright weather.

RAINFALL

Records of rainfall in the district are available, for a good network of 25 raingauge stations, for 16 to 79 years period. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 810.1 mm. The rainfall in the district generally decreases from the east towards the west. The annual rainfall varies from 1128.9 mm at Jayankondam near the eastern border to 546.3 mm at Palaviduthi. Some rainfall, mostly in the form of thundershowers occurs during the late summer months April and May. The rainfall in the first two months of the southwest monsoon season is much less than in August and September. The rains continue in the northeast monsoon season. October is generally the rainiest month though some stations in the eastern part of the district get greater rainfall during November. The variations in the rainfall from year to year are not large. During the 80 year period, 1901 to 1980, the highest annual rainfall amounting to 159 % of the normal occurred in 1939. The lowest annual rainfall which was 56 % of the normal occurred in 1980. During the same period the annual rainfall in the district was less than 80 % of the normal only in 6 years, none of them being consecutive. The average annual rainfall in the district was between 601 and 1000 mm in 66 years out of 80.

The average number of rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district is about 41. This number varies from 21 at Palaviduthi to 54 at Jayankondam.

The heaviest rainfall in 24 hours recorded at any station in the district was 500.0 mm on 31st October 1981 at Palaviduthi.

TEMPERATURE

There is only one meteorological observatory in the district, at Tiruchirappalli. The records of this observatory may be taken as representative of the meteorological conditions in the district in general. After February, temperatures steadily increase till May which is the hottest month with the mean daily maximum temperature at 37.4°C and the mean daily minimum at 26.4°C. On individual days, day temperatures may go up, to about 44°C. Occasional afternoon thundershowers which occur on some days during the period April to June bring welcome relief, though only temporarily. After the onset of the monsoon by about the end of May or early June, there is slight drop in the day temperatures. September and October are cooler but due to increased moisture the weather is often sultry in between the rains. From November onwards cooler weather prevails.

The highest maximum temperature recorded at Tiruchirappalli was 43.9°C on 9th June 1888 and the lowest minimum was 13.9°C recorded on 6th February 1884.

HUMIDITY

The relative humidities are generally between 40 and 80 %. But in the period from February to July the air is comparatively drier in the afternoon.

CLOUDINESS

Skies are generally heavily clouded to overcast, in the southwest monsoon and northeast monsoon season. In April and May the skies are moderately to heavily clouded. In the rest of the year skies are clear or lightly clouded.

WINDS

Winds are generally light to moderate with some strengthening in force during the period June to August. During the period May to October, winds blow mostly from directions between west and northwest. Northeasterlies set in by about the beginning of November and become progressively more common with the advance of the season. During the period from November to March winds blow mostly from directions between north and east. By April, westerlies appear and increase in frequency gradually.

SPECIAL WEATHER PHENOMENA

The district is not affected much by depressions during the southwest monsoon period. During the northeast monsoon season depressions and storms which originate in the Bay of Bengal and move towards the south Coromandel coast affect the weather over the district. Thunderstorms occur during April to November.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Tiruchirappalli.

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Anainapa-layam	29	a	7.9	5.4	10.3	46.5	63.8	9.5	30.1	35.7	78.7	152.3	89.6	40.3	570.1	156 (1977)	48 (1952)	139.7	1956 Nov 23
		b	0.5	0.2	0.4	2.1	3.0	0.7	1.6	1.9	4.2	7.8	4.7	2.6	29.7				
Aravakuri-chi	77	a	18.3	7.8	13.3	42.1	68.2	15.9	19.5	43.3	84.2	149.3	126.2	42.5	630.6	164 (1930)	37 (1945)	215.9	1909 Jan 02
		b	0.9	0.4	0.8	2.3	3.3	0.9	1.1	2.1	4.0	7.8	6.0	2.6	32.2				
Ariyalur	78	a	29.2	12.7	15.6	35.7	76.8	47.5	64.1	139.4	136.0	194.2	189.1	112.1	1054.4	161 (1931)	53 (1952)	329.2	1933 Dec 16
		b	1.6	0.6	0.9	1.8	3.9	2.4	3.5	6.1	7.0	9.8	8.6	4.9	51.1				
Chettikulam	78	a	25.2	8.9	14.7	37.1	79.7	38.3	51.7	97.7	136.1	185.8	146.4	63.2	884.8	163 (1944)	21 (1969)	172.2	1930 Oct 09
		b	1.3	0.5	0.8	1.9	4.1	2.0	2.5	4.5	5.9	9.2	6.9	3.3	42.9				
Jayankon-dam	79	a	44.1	13.1	12.2	31.0	62.7	47.7	61.7	134.6	133.7	204.0	248.6	135.5	1128.9	172 (1913)	44 (1942)	415.3	1913 Nov 10
		b	1.9	0.7	0.8	1.6	3.2	2.8	3.9	7.3	6.8	9.5	9.8	5.9	54.2				
Kadarur	16	a	12.0	2.0	14.2	31.9	49.4	15.7	36.7	29.8	121.3	153.4	134.9	40.2	641.5	121 (1966)	62 (1969)	135.0	1990 Jan 07
		b	0.3	0.1	0.6	1.4	2.1	0.9	1.7	1.5	4.7	6.1	5.0	2.2	26.6				
Karur	78	a	10.3	5.6	9.3	36.4	80.7	22.8	28.4	60.4	85.8	154.7	100.3	36.9	631.6	196 (1930)	37 (1961)	222.5	1930 Oct 25
		b	0.9	0.4	0.6	2.3	4.4	1.5	2.0	3.8	5.3	8.5	6.1	2.7	38.5				
Kulithalai	77	a	18.7	8.5	10.0	39.9	72.1	25.9	38.7	67.8	108.5	180.7	133.3	53.7	757.8	193 (1977)	47 (1945)	191.8	1886 May 24
		b	1.2	0.5	0.7	2.3	4.2	1.6	1.9	3.8	5.8	9.5	7.2	3.6	42.3				
Lalgudi	79	a	28.3	11.3	11.2	34.6	67.0	32.6	41.0	93.6	115.8	181.6	156.3	73.0	848.3	186 (1917)	41 (1946)	181.0	1967 Dec 09
		b	1.6	0.6	0.7	1.9	3.4	2.0	2.1	4.4	5.4	9.3	7.9	4.2	43.5				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Manapparai	77	a	26.5	12.8	13.2	48.1	74.6	40.0	49.4	79.3	135.5	188.9	144.9	67.5	880.7	150 (1939)	62 (1942)	211.6	1893 Nov 23
		b	1.5	0.5	0.9	2.1	4.1	2.1	2.5	3.9	6.1	9.0	7.4	3.7	43.8				
Marungapuri	73	a	30.7	12.2	15.1	48.5	74.8	39.9	56.6	99.1	127.0	196.1	152.0	75.5	927.5	195 (1954)	33 (1980)	212.9	1935 Nov 16
		b	1.7	0.7	0.9	2.4	4.0	2.6	3.0	4.9	6.0	9.1	8.0	4.2	47.5				
Mayanur	29	a	8.3	5.2	6.2	33.1	76.9	13.9	33.3	58.1	96.2	162.7	102.8	44.9	641.6	142 (1953)	50 (1952)	169.0	1977 Nov 13
		b	0.6	0.3	0.4	1.9	4.0	1.2	2.2	3.2	5.4	8.8	6.4	2.9	37.3				
Musiri	78	a	17.9	8.2	9.5	35.7	69.6	24.9	34.7	68.7	106.6	181.4	131.3	52.6	741.1	172 (1977)	47 (1980)	188.0	1892 Oct 13
		b	1.2	0.5	0.7	2.1	3.9	1.5	1.9	3.6	5.3	9.5	6.9	3.5	40.6				
Nandiyar Head	29	a	14.8	8.0	11.7	25.5	52.1	27.0	44.2	79.9	83.8	208.5	181.1	95.6	832.2	171 (1960)	53 (1973)	225.0	1983 Dec 23
		b	1.0	0.4	0.6	1.9	2.4	1.6	2.1	4.4	4.7	9.6	8.4	4.7	41.8				
Palaviduthi	34	a	7.3	11.6	4.5	31.2	38.4	10.5	23.0	39.7	83.2	148.5	108.2	40.2	546.3	163 (1954)	38 (1967)	500.0	1981 Oct 31
		b	0.5	0.4	0.3	1.1	1.5	0.5	1.0	1.5	3.2	5.7	3.7	1.9	21.3				
Perambalur	79	a	31.5	10.1	15.4	44.9	80.1	41.7	55.0	103.4	133.8	191.9	167.1	87.2	962.1	185 (1943)	48 (1980)	226.8	1913 Nov 10
		b	1.6	0.8	1.1	2.2	4.6	2.6	3.6	5.8	7.0	10.0	8.1	4.7	52.1				
Ponnieri-Head	28	a	23.9	7.6	16.4	29.2	58.1	45.9	61.2	127.4	121.3	210.4	245.7	144.9	1092.0	147 (1966)	57 (1951)	205.0	1978 Nov 04
		b	1.4	0.4	0.9	1.4	3.0	2.2	4.0	5.7	5.3	9.7	9.0	6.0	49.0				
Puliam-Badi	29	a	14.2	14.6	8.6	31.9	59.7	21.7	46.0	64.9	96.4	174.6	148.7	76.9	758.2	166 (1944)	35 (1956)	212.0	1978 Nov 04
		b	0.9	0.6	0.6	1.7	2.4	1.3	1.7	3.1	4.4	7.5	6.5	3.8	34.5				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Siruganur	20	a	12.9	8.5	9.0	45.5	44.3	24.4	35.3	60.1	86.7	169.5	101.4	42.3	639.9	189 (1955)	21 (1946)	182.9	1956 Nov 22
		b	0.8	0.4	0.5	1.9	2.3	0.9	1.6	2.9	3.6	7.2	3.7	2.1	27.9				
Thathian-garpet	74	a	15.7	8.5	11.4	47.2	84.8	25.7	33.7	88.9	118.5	210.0	128.3	50.0	822.7	176 (1939)	36 (1952)	180.0	1979 Sep 17
		b	1.0	0.5	0.8	2.5	4.6	1.6	2.1	4.5	5.8	10.5	6.8	2.9	43.6				
Thuraiyur	78	a	19.7	9.0	13.2	48.5	83.3	31.7	41.4	84.1	133.1	195.3	128.1	51.9	839.3	154 (1919)	55 (1974)	200.7	1907 Sep 26
		b	0.9	0.5	0.8	2.4	4.3	1.8	2.5	4.8	6.2	10.2	6.6	3.0	44.0				
Tiruchira-ppalli(obsy)	79	a	25.3	8.0	9.4	45.2	76.7	36.2	45.7	92.9	132.8	184.5	146.1	70.0	872.8	152 (1939)	37 (1980)	319.0	1930 Oct 24
		b	1.6	0.7	0.7	2.4	3.8	2.3	2.6	4.7	6.7	9.6	8.2	4.1	47.4				
Upper-Anicut	29	a	14.2	5.6	7.0	31.8	54.4	28.4	63.7	76.4	119.3	225.2	158.6	83.1	867.7	150 (1972)	70 (1976)	218.0	1983 Dec 23
		b	0.9	0.2	0.4	1.9	3.3	1.8	2.4	3.2	5.6	10.6	7.6	3.4	41.3				
Uppiliya-puram	73	a	24.8	7.7	14.2	38.7	86.2	29.9	51.8	97.1	123.2	184.4	131.7	56.8	846.5	161 (1944)	33 (1973)	153.7	1907 Sep 30
		b	1.5	0.6	0.8	2.5	4.8	2.4	3.6	5.4	6.3	9.4	7.2	3.0	47.5				
Vembavur	36	a	13.6	5.1	12.7	30.2	63.2	27.4	42.7	79.2	110.6	200.7	158.3	92.3	836.0	200 (1966)	46 (1970)	162.0	1968 Sep 20
		b	0.6	0.4	0.6	1.4	2.5	1.4	1.9	3.4	4.1	8.2	5.7	3.6	33.8				
Tiruchira-ppalli (District)		a	19.8	8.7	11.5	38.0	67.9	29.0	43.6	80.1	112.4	183.5	146.4	69.2	810.1	159 (1939)	56 (1980)		
		b	1.1	0.5	0.7	2.0	3.5	1.7	2.4	4.0	5.4	8.9	6.9	3.6	40.7				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(T I R U C H I R A P P A L L I)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	2	901 - 1000	20
501 - 600	2	1001 - 1100	2
601 - 700	10	1101 - 1200	6
701 - 800	20	1201 - 1300	2
801 - 900	16		

TABLE - 3
Normals of Temperature and Relative Humidity
(T I R U C H I R A P P A L L I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	30.1	20.3	35.6	1925 Jan 30	14.4	1884 Jan 12	78	54
February	32.6	20.9	40.0	1906 Feb 25	13.9	1884 Feb 06	77	43
March	35.1	23.0	42.2	1892 Mar 26	15.6	1896 Mar 01	75	39
April	36.9	25.8	42.8	1896 Apr 19	17.9	1985 Apr 26	71	44
May	37.4	26.4	43.3	1896 May 02	19.4	1955 May 17	66	43
June	36.7	26.5	43.9	1888 Jun 09	20.0	1911 Jun 30	61	43
July	35.7	25.9	41.1	1921 Jul 02	20.1	1989 Jul 13	63	46
August	35.4	25.5	40.6	1888 Aug 19	20.6	1935 Aug 22	66	47
September	34.5	24.7	40.6	1929 Sep 13	20.6	1908 Sep 17	70	53
October	32.2	23.9	38.9	1906 Oct 03	18.9	1891 Oct 23	79	66
November	30.1	22.7	36.7	1923 Nov 16	16.7	1884 Nov 17	80	69
December	29.2	21.2	38.2	1987 Dec 11	14.4	1883 Dec 29	79	66
Annual	33.8	23.9					72	51

TABLE - 4
Mean Wind Speed in km/hr.
(T I R U C H I R A P P A L L I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
9.8	9.2	9.1	10.2	14.7	20.9	21.8	20.2	15.0	9.2	8.7	10.3	13.3

TABLE - 5
Special Weather Phenomena
(T I R U C H I R A P P A L L I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.1	1.1	5.0	8.1	4.6	4.2	5.9	9.1	9.6	2.7	1.0	51.4
Fog	0.5	0.4	0.1	0.1	0.0	0.0	0.0	0.2	0.0	0.1	0.2	0.2	1.8
Dust-storm	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.4
Squall	0.0	0.0	0.1	0.9	1.6	0.4	0.5	0.7	0.5	0.4	0.2	0.0	5.3

The district has a hot tropical climate. The summer season which is particularly oppressive is from March to May. The southwest monsoon season which follows lasts till September. October to December constitute the post monsoon or northeast monsoon season. The period from January to February is comparatively cooler.

RAINFALL

Records of rainfall in the district are available for 16 stations from 27 to 80 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 1 and 2. The normal annual rainfall in the district is 853.6 mm. In a narrow belt of hilly tract in the western border of the district, on the lee side of the western Ghats, the rainfall is heavier. The rainfall in the district, in general, decreases from west to east. The main rainy season in the district is the period from October to the middle of January. In the summer season some rain, mostly as thundershowers, is received. In the southwest monsoon season, particularly in the first half, rainfall is more in the western half of the district than in the eastern half. For the district as a whole, the rainfall in the northeast monsoon season is 57% of the annual rainfall. November is generally the rainiest month. The variation in the annual rainfall from year to year in the district as a whole is not large. During the 80 year period 1901 to 1980 the highest annual rainfall, amounting to 174 % of the normal, occurred in 1914 and the lowest annual rainfall, which was 58 % of the normal occurred in 1975. During this 80 year period the annual rainfall in the district was less than 80 % of the normal in 14 years. Two consecutive years of such low rainfall occurred twice during this period.

It will be seen from Table 2 that the average annual rainfall in the district was between 601 and 1100 mm in 60 years out of 80.

On an average there are 50 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from about 70 to 90 in the hilly tracts in the west and in the rest of the district from 29 at Cheranmahadevi to 82 at Shenkottah.

The heaviest rainfall in 24 hours recorded at any station in the district was 373.1 mm at Ambasamudram on 14th November 1992.

TEMPERATURE

There is only one meteorological observatory in the district, at Palayamkottai. The records of this observatory may be taken as fairly representative of the climatic conditions of the district. In the day time the coastal regions are cooler than the interior parts by about a degree or so in the summer and southwest monsoon seasons and by two or three degrees in the rest of the year. From about the middle of February, temperatures increase steadily. In May, which is usually the hottest month in the interior, the mean daily maximum temperature is 37.1°C. The weather is oppressively hot in May and June and the maximum temperature sometimes reaches 45°C. Thundershowers on some afternoons during April and May bring welcome relief. The afternoon sea breezes also bring some relief in the coastal parts. With the onset of the southwest monsoon by end of May, there is some drop in temperature. By about the middle of October both day and night temperatures decrease appreciably. The period from November to January is the coolest part of the year with the mean daily maximum temperature of about 30 to 31°C in the interior parts. The mean daily minimum temperature in these months is about 22 to 23°C in the district in general.

The highest maximum temperature recorded at Palayamkottai was 44.9°C on 5th June 1965 and the lowest minimum temperature recorded was 16.3°C on 9th May 1977.

HUMIDITY

The humidity in general, during the year, is between 55 and 65 % in the interior parts of the district, except during the northeast monsoon season, when the relative humidity is over 65 %. The coastal parts are comparatively more humid.

CLOUDINESS

During the months March, April and May the skies become heavily clouded and threatening in the afternoons on many days when thunderstorms follow. In the southwest and northeast monsoon seasons the skies are heavily clouded or overcast.

WINDS

Winds are generally light to moderate in strength. There is some strengthening in winds during the southwest monsoon period. While in the interior parts of the district wind force decreases after September, in the coastal region wind speed increases during December and January. Winds blow mostly between northwest and west during

the period May to October. During the period November to January winds are mainly northeasterly or northerly.

SPECIAL WEATHER PHENOMENA

Depressions and cyclonic storms originating in the south Bay of Bengal during the northeast monsoon season, sometimes move from a westerly to west-northwesterly direction and reach the district or its neighbourhood causing widespread heavy rain and very strong winds.

Thunderstorms occur during the period March to May and September to November, the incidence of the thunderstorms being generally greater in the western portions of the district.

Tables 3, 4 and 5 give the temperature and humidity, mean wind speed and special weather phenomena respectively for Palayamkottai.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Ambasamudram	76	a	72.9	39.3	49.6	66.0	46.8	30.9	25.7	14.0	29.2	157.6	267.7	162.6	962.3	290 (1914)	42 (1975)	373.1	1992 Nov 14
		b	3.9	2.2	2.7	3.9	3.2	3.7	3.0	1.5	2.3	8.3	11.7	7.6	54.0				
Ayyakudi	64	a	39.8	30.8	57.5	76.0	49.8	42.6	47.6	23.0	31.2	141.2	209.8	92.3	841.6	162 (1925)	25 (1959)	169.1	1978 Nov 01
		b	2.6	2.0	3.2	5.4	3.9	5.5	5.9	3.0	3.1	9.1	10.8	5.5	60.0				
Cheranmaha-devi	29	a	38.7	31.4	17.6	39.8	21.2	6.5	8.1	3.9	15.8	90.4	156.5	79.9	509.8	231 (1979)	19 (1975)	245.0	1977 Feb 19
		b	2.0	1.2	1.2	2.6	1.5	0.7	0.7	0.3	1.1	5.5	8.1	4.3	29.2				
Kadayam	69	a	67.0	38.8	50.2	65.2	46.8	37.6	39.1	24.4	30.7	168.5	249.4	160.2	977.9	194 (1914)	27 (1975)	279.9	1923 Dec 17
		b	3.5	2.0	2.9	4.3	2.9	4.1	4.0	2.5	2.5	8.2	11.1	6.6	54.6				
Kadayanallur	76	a	43.5	35.4	56.4	70.6	46.9	33.6	34.1	17.6	29.4	156.6	216.8	98.4	839.3	165 (1914)	31 (1975)	218.4	1925 Nov 09
		b	2.1	1.8	2.7	3.7	2.7	2.8	2.9	1.8	1.8	7.7	9.1	4.4	43.5				
Kanadian Anicut	29	a	61.7	33.8	30.3	60.3	38.8	23.8	26.4	10.3	37.2	142.6	233.3	133.1	831.6	186 (1970)	42 (1966)	247.0	1992 Nov 14
		b	3.1	2.1	2.4	3.7	3.2	3.1	3.5	1.6	2.6	7.4	11.2	6.9	50.8				
Nanguneri	78	a	46.7	26.3	38.6	58.0	39.4	30.6	17.5	20.8	31.7	154.3	192.9	110.7	767.5	183 (1902)	49 (1974)	228.6	1958 Jun 29
		b	2.9	1.7	2.6	3.8	3.0	2.8	2.0	1.5	2.3	8.4	10.2	5.9	47.1				
Palayamkottai (Obsy)	80	a	43.6	27.4	29.9	64.3	39.1	10.1	8.8	17.3	34.1	169.9	181.5	99.4	725.4	177 (1914)	45 (1952)	292.8	1963 Jan 09
		b	2.4	1.6	2.1	3.7	2.5	1.0	0.7	1.0	2.2	8.1	9.5	5.2	40.0				
Radhapuram	79	a	24.3	15.4	28.6	53.4	34.9	50.2	38.0	16.8	20.6	137.6	177.0	87.5	684.3	199 (1925)	27 (1974)	297.0	1992 Nov 14
		b	1.7	1.0	1.9	2.9	2.2	4.4	3.2	1.5	1.5	6.9	8.9	3.9	40.0				

Contd.....

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Sankaran-koil	79	a	35.9	31.2	41.1	74.1	45.4	10.1	17.1	16.1	33.4	171.6	187.7	72.6	736.3	174 (1979)	33 (1975)	165.1	1940 Nov 03
		b	2.0	1.7	2.3	4.7	3.2	1.3	1.4	1.3	2.6	8.6	9.6	4.3	43.0				
Shenkottah	72	a	45.7	35.8	63.5	91.4	92.0	155.9	156.9	84.3	65.6	180.2	239.8	96.7	1307.8	156 (1924)	46 (1959)	286.8	1992 Dec 10
		b	2.6	1.9	3.6	5.7	5.0	11.3	11.0	7.7	5.6	10.4	11.2	5.6	81.6				
Sivagiri	72	a	43.6	47.3	56.4	76.6	47.5	17.5	28.2	24.7	41.1	192.2	239.8	82.7	897.6	174 (1979)	35 (1975)	317.5	1929 Oct 29
		b	2.0	2.1	3.1	4.3	3.4	2.1	2.6	2.1	2.8	9.3	10.2	4.1	48.1				
Tenkasi	80	a	53.3	36.4	77.9	94.3	68.5	91.1	96.9	42.2	43.7	186.3	245.6	120.8	1157.0	171 (1972)	40 (1949)	254.8	1925 Nov 09
		b	2.9	2.2	3.7	5.4	3.8	7.8	7.6	4.2	3.5	9.6	11.3	5.9	67.9				
Tirunelveli	66	a	44.4	28.4	38.9	65.3	41.4	10.2	7.9	20.9	32.1	160.5	195.9	106.0	751.9	183 (1974)	44 (1952)	270.0	1873 Dec 16
		b	2.8	1.8	2.2	4.0	2.9	1.0	0.9	1.2	2.1	8.4	9.9	5.7	42.9				
Kimuram	57	a	46.3	22.6	26.3	40.4	13.6	3.9	3.4	5.4	9.0	137.1	195.2	106.3	609.5	207 (1914)	34 (1910)	226.1	1914 Dec 01
		b	2.9	1.4	2.1	2.5	1.2	0.5	0.4	0.5	0.9	6.1	9.3	5.1	32.9				
Manimuthar	27	a	75.7	45.1	47.4	70.7	51.9	36.4	45.1	29.2	36.9	153.7	291.5	175.1	1058.7	159 (1979)	50 (1956)	313.3	1992 Nov 14
		b	3.5	2.3	2.3	4.0	3.7	4.5	4.9	2.6	3.0	8.5	12.1	7.8	59.2				
Tirunelveli Kattabomman (District)		a	48.9	32.8	44.4	66.7	45.3	36.9	37.5	23.2	32.6	156.3	217.5	111.5	853.6	174 (1914)	58 (1975)		
		b	2.7	1.8	2.6	4.0	3.0	3.5	3.4	2.1	2.5	8.2	10.3	5.5	49.6				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(TIRUNELVELI KATTABOMMAN)

Range in mm	No. of years	Range in mm	No. of years
401 - 500	2	1001 - 1100	8
501 - 600	6	1101 - 1200	7
601 - 700	9	1201 - 1300	4
701 - 800	16	1301 - 1400	0
801 - 900	19	1401 - 1500	1
901 - 1000	8		

TABLE - 3
Normals of Temperature and Relative Humidity
(P A L A Y A M K O T T A I)

MONTH	Mean Daily Maximum Temperature °C	Mean Daily Minimum Temperature °C	Highest ever °C	Maximum recorded Date	Lowest ever °C	Minimum recorded Date	Relative Humidity (%) 0830 IST	Relative Humidity (%) 1730 IST
January	31.0	22.0	35.9	1979 Jan 16	18.0	1990 Jan 15	77	60
February	33.1	22.7	39.0	1987 Feb 09	18.0	1991 Feb 18	76	54
March	35.3	24.3	41.7	1953 Mar 30	18.4	1989 Mar 02	73	53
April	36.2	25.8	42.0	1987 Apr 15	20.3	1975 Apr 27	70	58
May	37.1	26.8	42.8	1966 May 09	16.3	1977 May 09	60	52
June	35.9	26.5	44.9	1965 Jun 05	20.4	1960 Jun 20	58	52
July	34.9	26.1	41.9	1978 Jul 01	19.3	1960 Jul 18	60	54
August	35.2	26.2	39.5	1976 Aug 13	21.6	1968 Aug 5 days	59	54
September	35.8	25.8	40.5	1967 Sep 15	18.6	1992 Sep 20	60	56
October	34.0	24.8	39.4	1980 Oct 17	17.9	1967 Oct 30	71	66
November	31.3	23.6	38.9	1975 Nov 04	16.9	1967 Nov 19	79	72
December	30.3	22.6	36.1	1972 Dec 01	17.6	1977 Dec 30	76	65
Annual	34.2	24.8					68	58

TABLE - 4
Mean Wind Speed in km/hr.
(P A L A Y A M K O T T A I)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
8.0	7.4	6.5	6.3	8.6	13.8	16.2	15.8	11.5	7.8	6.0	7.8	9.6

TABLE - 5
Special Weather Phenomena
(P A L A Y A M K O T T A I)

Mean No.of Days With	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Hail	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Thunder	0.0	0.0	0.8	2.4	2.0	0.4	0.2	0.4	1.4	2.0	1.2	0.2	11.0
Fog	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dust-storm	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TIRUVANNAMALAI SAMBUVARAYAR DISTRICT

The district has generally a dry and agreeable climate. The year may be divided into four seasons. The period from December to February is comparatively cool season. The summer season from March to May is followed by the southwest monsoon season from June to September. October and November constitute the post monsoon or the northeast monsoon season.

RAINFALL

Records of rainfall in the district are available for 14 raingauge stations from 19 to 79 years. Tables 1 and 2 give the details of the rainfall at these stations and for the district of the whole. The normal annual rainfall in the district is 1065.3 mm. The rainfall in the district varies from 911.0 mm at Pick-up Anicut to 1256.0 mm at Vakkadai. The rainfall in the southwest monsoon period June to September amounts to about 44% of the annual normal rainfall. During the post monsoon months October and November as much as about 36% of the annual normal rainfall is received. There is some rainfall in December also. Rain in the form of thundershower occurs during the summer season. October is generally the rainiest month. The variation in the annual rainfall from year to year is not very large. During the eighty year period 1901 to 1980, the highest annual rainfall amounting to 166% of the annual normal occurred in 1903, while 1950 was the year with the lowest annual rainfall which was 55% of the normal. The annual rainfall in the district during the same 80 year period was less than 80% of the normal in 9 years. The rainfall equal to 80% of the normal occurred in 3 years. It will be seen from Table 2 that the average annual rainfall in the district was between 801 and 1200 mm in 59 years out of 80.

On an average there are 53 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 48 at Pick-up Anicut to 59 at Dusi (Ayyankulam).

The heaviest rainfall in 24 hours recorded at any station in the district was 709.0 mm at Wandiwash on 5th August 1965.

TEMPERATURE

There is no meteorological observatory in the district. The account which follows is based on the records of the observatories in the neighbouring districts where similar meteorological conditions prevail. The period from about the end of February to about

the end of May is one of continuous increase in temperature. May is the hottest month with the mean daily maximum temperature at about 38°C and the mean daily minimum temperature at about 24° to 25°C. The heat during the summer is intense and on many days the day temperature exceeds 45°C. Thundershowers which occur on some days during the afternoon bring welcome relief. With the onset of the southwest monsoon by about the end of May there is slight drop in temperatures. In the early part of the monsoon season, some days are almost as hot as in the summer. After the withdrawal of the monsoon by the end of September, there is drop in both day and night temperatures. Temperatures continue to decrease steadily thereafter till December which is the coldest month. Temperatures gradually increase after January.

HUMIDITY

Usually mornings are more humid than afternoons. The relative humidity is on an average between 65 and 85 % in the mornings. Humidity in the afternoon is generally between 40 and 70 %.

CLOUDINESS

During the period June to December, the skies are mostly heavily clouded and overcast on many days. During the rest of the year skies are lightly clouded.

WINDS

Winds are generally light. During the period May to September, winds are mostly northerly or southerly with northwesterlies also blowing on some days. From October to February winds in the mornings are very light and variable in directions while in the afternoons they are mostly northerly to northeasterly.

SPECIAL WEATHER PHENOMENA

In association with the westwards of storms and depressions from the Bay of Bengal in the post monsoon season, widespread heavy rain and strong winds occur in the district. Thunderstorms occur in the latter half of the summer season and the early part of the southwest monsoon season.

TABLE - I

Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	Date
Aliabad Anicut	28	a	18.4	7.4	24.1	24.5	65.9	49.9	114.6	133.3	132.5	258.9	184.9	96.1	1110.5	141 (1966)	57 (1974)	208.0	1972 Dec 09
		b	1.0	0.4	0.6	1.1	3.6	3.0	5.4	6.0	6.9	10.1	7.5	3.7	49.3				
Ami	78	a	25.7	9.0	12.6	23.0	65.0	56.3	104.5	146.5	158.2	176.0	169.7	70.4	1016.9	152 (1976)	52 (1968)	256.5	1912 Nov 20
		b	1.3	0.6	0.6	1.2	3.7	4.2	6.3	7.4	7.7	8.9	7.5	3.7	53.1				
Chengam	77	a	26.2	12.2	15.4	27.5	85.1	50.6	80.8	134.1	155.4	211.5	141.5	59.7	1000.0	166 (1930)	49 (1950)	223.8	1903 Dec 31
		b	1.4	0.6	0.9	1.7	4.7	3.2	4.8	7.0	7.9	10.2	7.5	3.0	52.9				
Cheyyar	77	a	23.5	11.5	9.7	18.7	49.3	64.7	100.5	148.4	160.3	178.8	184.6	87.0	1037.0	176 (1946)	58 (1950)	266.7	1915 Nov 22
		b	1.2	0.6	0.5	0.9	2.8	4.4	5.9	7.9	7.5	8.9	7.7	4.0	52.3				
Cheyyar Anicut	28	a	14.6	14.0	8.4	14.7	59.8	60.5	112.2	154.6	149.4	204.9	159.8	74.6	1027.5	146 (1977)	49 (1968)	141.0	1955 Sep 12
		b	1.0	0.6	0.5	0.8	3.2	4.2	6.2	8.9	6.7	9.7	7.7	4.0	53.5				
Elathur	28	a	13.2	8.1	11.1	32.1	99.7	57.4	112.4	138.0	170.1	237.7	153.4	73.7	1106.9	161 (1956)	62 (1952)	151.1	1981 Sep 04
		b	0.7	0.4	0.6	1.3	4.3	3.8	5.4	6.8	7.7	9.8	6.8	3.3	50.9				
Pick-up Anicut	19	a	12.9	5.5	11.9	10.1	84.2	38.3	63.6	110.6	163.1	167.5	162.8	80.5	911.0	151 (1966)	70 (1976)	144.0	1977 Sep 16
		b	0.8	0.5	0.7	0.6	4.3	2.7	4.4	6.1	7.3	9.2	7.3	3.9	47.8				
Polur	79	a	31.6	12.9	9.6	27.3	84.1	56.6	91.2	142.7	181.2	207.6	163.9	73.2	1081.9	183 (1903)	51 (1923)	233.7	1884 Dec 18
		b	1.4	0.8	0.7	1.7	4.4	3.7	5.4	7.8	8.4	10.1	8.2	3.6	56.2				

Contd.....

TABLE - I
Normals and Extremes of Rainfall

STATION	No. of Years of DATA		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANNUAL	HIGHEST ANNUAL AS % OF NORMAL & YEARS**	LOWEST RAINFALL AS % OF NORMAL & YEARS**	HEAVIEST RAINFALL in 24 HOURS * Amount (mm)	HEAVIEST RAINFALL in 24 HOURS * Date
Sathanur Dam Project	24	a	11.1	11.2	13.6	14.7	84.6	58.5	80.4	117.7	183.9	203.1	169.6	75.2	1023.6	143 (1966)	51 (1980)	153.4	1959 Nov 29
		b	0.9	0.8	0.8	1.2	5.2	3.8	5.0	7.0	9.4	10.6	8.4	4.6	57.7				
Tiruvanna-malai	78	a	28.5	11.1	13.1	23.5	74.6	50.1	76.1	150.7	171.0	186.2	171.6	68.8	1025.3	189 (1903)	44 (1980)	303.5	1916 Nov 23
		b	1.5	0.6	0.6	1.6	4.1	3.2	4.7	7.4	7.6	9.5	7.9	3.7	52.4				
Vakkadai	27	a	22.9	12.2	4.7	31.0	72.5	67.2	129.1	197.7	184.1	248.3	182.2	104.1	1256.0	177 (1955)	54 (1968)	180.0	1993 Nov 10
		b	0.9	0.5	0.3	1.4	3.1	4.0	6.2	8.0	7.1	9.3	7.7	4.3	52.8				
Vanapuram	19	a	13.4	8.8	18.5	14.1	68.9	51.6	86.5	148.8	181.7	187.9	150.6	97.9	1028.7	147 (1966)	59 (1974)	172.5	1980 Nov 12
		b	0.8	0.6	0.8	0.9	3.7	3.5	6.1	7.7	8.9	9.0	7.2	4.4	53.6				
Wandiwash	78	a	26.9	12.7	11.4	17.2	53.9	62.2	100.0	166.8	164.6	202.7	222.4	93.1	1133.9	184 (1965)	49 (1950)	709.0	1965 Aug 05
		b	1.4	0.6	0.5	1.1	2.6	4.2	6.4	8.3	7.7	9.7	8.6	4.3	55.4				
Dusi (Ayyankulam)	29	a	12.6	7.2	5.3	17.9	52.7	90.0	123.2	181.7	135.7	210.5	212.3	104.8	1153.9	175 (1977)	62 (1968)	192.3	1960 Nov 03
		b	1.1	0.4	0.3	1.1	2.9	6.1	7.4	9.0	7.2	9.6	8.9	4.5	58.5				
Tiruvannamalai Sambuvarayar (District)		a	20.1	10.3	12.1	21.2	71.5	58.1	98.2	148.0	163.7	205.8	173.5	82.8	1065.3	166 (1903)	55 (1950)		
		b	1.1	0.6	0.6	1.2	3.8	3.9	5.7	7.5	7.7	9.6	7.8	3.9	53.4				

a: *Normal rainfall in mm.*
b: *Average number of rainy days (i.e. days with rainfall of 2.5 mm or more)*
* *Based on all available data upto 1993.*
** *Years of occurrence given in brackets.*

TABLE - 2
Frequency of Annual Rainfall in the District
(Data 1901 - 1980)
(TIRUVANNAMALAI SAMBUVARAYAR)

Range in mm	No. of years	Range in mm	No. of years
501 - 600	1	1201 - 1300	9
601 - 700	1	1301 - 1400	0
701 - 800	4	1401 - 1500	4
801 - 900	10	1501 - 1600	1
901 - 1000	17	1601 - 1700	0
1000 - 1100	15	1701 - 1800	1
1101 - 1200	17		

Symbol No : PDGM - 137
300 - 2000 (DSK-II)

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