CHAPTER III.

METEOROLOGY.

Introductory.

THE details given in this chapter are based on observations taken since 1893, the year in which the Mysore Meteorological Department was formed, at the four observatories whose geographic co-ordinates and elevations are given in the following table:—

Observatory	North latitude	East longitude	Height above mean sea-level
Bangalore	12° - 58′	77° - 36′	3,021 feet
Hassan	13° - 0′	76° - 10′	3,149 ,,
Mysore	12° - 18′	76° - 42′	2,518 ,,
Chitaldrug	14° - 14′	76° - 27′	2,405 ,,

The four observatories are situated at approximately the four corners of the State. At present, observations of pressure, temperature, wind velocity and direction, cloud amount and rainfall are taken at 8 hours (local time) only at all the observatories except at Bangalore where observations are taken practically throughout the day. Records of observations taken at 10 hours and 16 hours (local time) at the other observatories are also available for some years. Besides these observatories, there are 226 rain-gauges (one for about 130 square miles) distributed over all the taluk headquarters and important villages—the largest number for all the Indian States. It is in the fitness of things that this should be so, seeing that the country is chiefly agricultural in character.

The year may be roughly divided into four periods, each having its characteristic weather, *viz* :—

(1) the South-West Monsoon period,
(2) the retreating South-West Monsoon period or the North-East Monsoon period,
(3) the Cold Weather period, and
(4) the Hot Weather period.

The South-West Monsoon bursts at the end of May or early in June and lasts about 4 months. During this period are the skies heavily clouded and a steady westerly wind blows over the State and the rainfall in the *malnad* regions is continuous and heavy. The retreat of the South-West Monsoon commences early in October and heavy rain falls in the eastern parts of the State in a normal year. The wind velocity diminishes considerably and the direction from which the wind blows gradually shifts to the East. The North-East Monsoon period rarely extends to December. The temperature is comparatively low from about the middle of December to the close of February and the skies quite clear except for the thin Cirrus clouds. The hot weather sets in early in March and increases in intensity to the end of May with occasional relief from thunderstorms.

The close of the rainy season in November is marked by dense fogs which prevail all over the country during December and January. They begin about three in the morning and last till seven, when they are dispersed by the heat of the sun. But in some parts fogs, or rather mists, follow the earlier rains. Thus about Chitaldrug, from about August to October, the hills are obscured till nearly ten in the forenoon.

Temperature.

Though the State is situated in the tropical zone, the climate is equable as the elevation of the major portion of the State is over 2,400 feet and no part of the State

is far distant from the sea. The mean temperature for the warmest part of the country during the hottest month is less than 85°. All the observatories have occasionally recorded temperatures over 100° but the thermometer has not risen over 100° on 2 or 3 consecutive days except at Chitaldrug, where the maximum temperature was occasionally over 100° on 5 or 6 consecutive days.

The coldest part of a normal day is about 6 A.M., *i.e.*, a little before sunrise, and the warmest part is about 3 P.M. The temperature increases rapidly after sunrise till about 8-30 A.M. and at a decreasing rate till about 3 P.M. The temperature then falls at first slowly and rapidly at about sunset; later on it falls at a decreasing rate till near sunrise.

The daily range of temperature, *i.e.*, the difference between the maximum and minimum temperatures recorded on any day is large during the dry months, *viz.*, December to May and small from June to November. The range is greatest in March and least in July and increases with the height of the station. The values for Hassan during March and July are the greatest and the least for the four observatories, being respectively 28°·8 and 12°·2. Table II shows the mean diurnal range for the various months.

April is the warmest month in the year and temperature will be high in the early part of May also especially when the usual thunder-showers do not occur. The highest average maximum temperature is that for Chitaldrug, *viz.*, 97°·0 occurring in April and the temperature for Hassan in July, *viz.*, 77°·4 is the lowest. It is worthy of note that the maximum temperature at Hassan is lower in the months of July and August than in the months of December and January. This is due to the fact that the sky will be practically overcast during July and August. The highest temperature

recorded in the State during the past 31 years was 103°·0 at Chitaldrug on the 15th April 1901 and 17th April 1903. At Bangalore, the maximum temperature was a little over 100° only on 5 days for the last 31 years and the highest temperature was 101°·1 registered on the 29th April 1924. Bangalore, situated as it is at a height of about 3,000 feet above sea-level, has a climate only second in attractiveness to that of the Nilgiris. The maximum temperature was 100° four times at Mysore and only once at Hassan. The monthly normals of maximum temperature are given in Table III and the absolute maximum temperatures for the various months are given in Table IV.

The coldest months in the year are December and January. The lowest temperature on record is 42°·7 registered at Hassan on the 12th December 1895. The temperature on the coldest day in the year has generally been below 50° at Hassan and the thermometer has not fallen below 51° at Chitaldrug. During the past 31 years, only on four nights the minimum temperature at Bangalore was below 50° and it was 50° only once at Mysore. Table V shows the monthly normals of minimum temperature and the absolute minimum temperatures for the various months are given in Table VI.

Rainfall.

The average annual rainfall for the whole State is 36·12 inches; if stations located near the Western Ghats are not taken into account, the average will be 28·01 inches. The State average for the best year on record was 51·12 inches in 1903 and in the worst year, *i.e.*, 1918, the average was 27·91 inches.

(1) *Local Distribution.*—As one passes from the Western Ghats eastwards across the plateau of Mysore, before hardly covering 50 or 60 miles, he will have passed from regions of evergreen forests and torrential rainfall aggregating annually to as much as 300 inches or more

to regions where the annual rainfall will be 25 inches or less. The rainfall ranges from 40 to 300 inches over a narrow belt, about 35 miles in width, forming the extreme western parts of the Districts of Shimoga, Kadur and Hassan. Over the major part of the rest of the State, the precipitation ranges from 25 to 40 inches. The rainfall for the following tracts is below 25 inches :— the whole of the Chitaldrug District; the northern and the south-western parts of the Tumkur District; the eastern parts of Shimoga, Kadur and Hassan Districts; the south-eastern parts of the Mysore District; the northern parts of the Kolar District and a small tract of country in the north of the Bangalore District.

Agumbi in the Shimoga District records the heaviest total for the year, the average value being 317 inches; in the years 1896 and 1897, the total for each year was 483 inches while it was 438 inches in 1922. In parts of the Chitaldrug District, like Nayakanahatti and Dharmapur, the average annual total is only 16 inches and in years of drought the annual total may be as little as 4½ inches as in 1923.

The average rainfall for the basins of the important rivers in the Mysore State and also for the catchment area of the Marikanive Reservoir (now called Vani Vilas Sagara) is given in the following table. Rainfall outside the State is not taken into account.

Basins of rivers.	*Average rainfall.* Inches
The Cauvery	38·79
The North Pennar	24·76
The Palar	28·20
The Tungabhadra	39·94
The South Pennar	29·68
The Marikanive Reservoir	24·60

In another volume of this publication, will be found a map showing the position of the rain-gauge stations in

and the distribution of rainfall over the State. Falls over 150 inches and below 20 inches are shown by actual figures. The map is based on rainfall normals obtained from official records up to the year 1920.

Seasonal distributic rainfall.

Very little rain falls during the months of January and February, *i.e.*, the cold weather period, the average for the State being only quarter of an inch; these showers will be useful in keeping up the pasture supply of the country. The best years on record for heavy rainfall during this season are 1901 and 1917 when the average for the State was about one and a half inches.

The rainfall during the hot weather period, *i.e.*, the months of March, April and May, is usually associated with thunderstorms, when heavy rains occasionally accompanied by hailstones are not uncommon. The strong vertical convection currents of air that prevail during this season cause the phenomenon. The showers that fall during the season are locally known as 'mango showers' and heavy falls of 4 to 5 inches have been recorded in a single day in a few stations. The average precipitation for this period is nearly five and a half inches. The seasonal total may be as much as 8·45 inches as in 1909 and as light as 2 inches as in 1906; the seasonal total for the Mysore District, *viz.*, 7·28 inches, being the highest for all the districts. The rainfall during this season is of great use for agricultural operations to be made before the onset of the South-West Monsoon.

The South-West Monsoon sets in early in June and prevails for about four months and a steady westerly wind sweeps across the plateau of Mysore with occasional breaks in its intensity. When the winds are high, the rainfall is chiefly confined to the *malnad* parts and the slackening of the wind is associated with heavy rainfall in the interior. During this season, July is the rainiest

month for the *malnad* tracts and September for the *maidan* parts. In a normal year as much as 22½ inches of rain can be expected during the season. The years in which the seasonal total fell short of the normal by 25 per cent are 1899, 1905, 1918 and 1922, the worst year being 1918 with an aggregate of 11·92 inches; the best year was 1896 when the seasonal total for the State was nearly 35½ inches.

The retreat of the South-West Monsoon commences nearly in October and is generally accompanied with heavy showers in the eastern parts of the State. The season is popularly known as the North-East Monsoon period and prevails chiefly in the months of October and November and occasionally extends to December also, though December is generally a rainless month. The mean seasonal total for this period is 8·17 inches; the bad years on record are—1897, 1899, 1908 and 1923. The last of these years is the worst on record, the rainfall for this period during this year being a little less than 2 inches. The best year on record for this season is 1903, when the average for the State was a little over 15 inches, while the averages for the Bangalore and Kolar Districts were a little over 20 inches.

In Tables VII and VIII, the monthly and seasonal distribution of rain for the various districts are given.

Sunspots and rainfall in the State.

Some relation seems to exist between the rainfall and the number of sunspots though it is not well marked. Years close to the sunspot maxima or minima are periods respectively of comparatively heavy or light rainfall. A few outstanding cases may be mentioned. The year 1878 was one of sunspot minimum and the drought of 1876-77 just preceded it; the year 1923 when very little rain fell over the *maidan* parts was also one of minimum spots. Other years of sunspot minimum were 1889, 1901 and 1913 and the corresponding

years of comparatively light precipitation were 1891, 1899 and 1913. Thus years close to sunspot minimum are anxious periods for the State, especially the *maidan* part of it. During the years 1893, 1906 and 1916 the rainfall was in large excess, the first two being years of sunspot maximum and the last preceded the year of sunspot maximum.

Periodicity in rainfall gauged at Tumkur.

In the earlier records of rainfall at Tumkur Town, a marked periodicity can be observed, though it is not noticeable during recent years. From the year 1846 to 1870, the maximum amount of rainfall occurred every sixth year. The period became one of four years from 1870 to 1886 and from 1893 to 1903 the period was one of five years. No periodicity, however, is to be found in the years following 1903.

Rainfall and droughts in the State.

The years of drought are not separated by any definite interval. The Districts of Kolar, Tumkur and Chitaldrug are more frequently affected by droughts than the other districts. The following table shows the frequency of droughts during the past thirty-one years in the various districts of the State :—

District	Average annual rainfall	Number of years in which the deficiency ranged from		
		15 to 30 per cent	30 to 50 per cent	50 per cent and over
Bangalore	30·95	6	1	0
Kolar	28·21	8	2	0
Tumkur	26·15	9	3	0
Mysore	28·16	6	0	0
Hassan	38·73	6	0	0
Shimoga	56·98	5	0	0
Kadur	73·45	5	3	0
Chitaldrug	21·95	8	1	0
State ...	36·12	5	0	0

It is worthy of note that the deficit ranged from 30 to 50 per cent in the Kadur District during 3 years out of 31 years, but it must be remembered that the annual average for this district is high, *viz.*, 73·45 inches.

Rainfall records are available for some stations in the State for a longer period. The following table gives the liability for drought in one hundred years for some typical stations :—

Stations	Average rainfall	Number of years in a century in which the deficiency ranged from		
		15 to 30 per cent	30 to 50 per cent	50 per cent and over
Agumbi	317·58	15	0	0
Bangalore	35·11	16	5	3
Tumkur	33·30	18	14	2
Sira	20·88	18	14	12
Chitaldrug	24·27	11	13	3
Challakere	18·02	14	8	12
Bagepalli	21·06	13	9	15

Pressure.

Normally pressure is high in the cold and dry months of January and December and low in the months of June and July when warm and humid winds blow over the country. Hourly records of the Bangalore Observatory show that there is a semi-diurnal oscillation in pressure, the times of maximum pressure being about 10 A.M. and 10 P.M. and those of minimum pressure about 4 A.M. and 4 P.M. The pressures at 10 A.M. and 4 P.M. are respectively the highest and the lowest for the day and the difference between these is about one-tenth of an inch, pressure being expressed in inches of mercury; the difference between the day maximum and minimum is nearly double that between the night maximum and minimum. The fluctuation in pressure from day to day rarely exceeds one-tenth of an inch and only once, *i.e.*, on the 23rd November 1916, when a cyclone passed over Bangalore, the pressure fell by ·240 inches and

increased by about the same amount the next day. Table IX shows the monthly and annual normals of pressure at 8 A.M. reduced to 32°F.

Wind velocity.

The average wind velocity is less than 150 miles per day though occasionally during the South-West Monsoon the velocity approaches 400 miles per day; velocities less than 20 miles per day have also been recorded. On a few occasions gusts of wind with a velocity of about 40 miles per hour have been recorded in the Bangalore Observatory, but such gusts last only 10 or 15 minutes. During the first three months of the South-West Monsoon period, *i.e.*, from June to August, the average wind velocity is over 170 miles per day; the average for Mysore during this period being over 200 miles per day. Days of very little wind movement are large in the months of October and April. Table X gives the daily normal wind movement for different months of the year.

Humidity.

Air is very humid during the monsoon period, *i.e.*, from July to November and dry from January to April. March is the driest month as very little rain falls during this month; the relative humidity has been as low as 6 per cent on a few afternoons. Normals of monthly and annual values of relative humidity are given in Table XI.

Cloud.

The cloud amount is estimated as follows: if the whole sky is overcast, the amount is denoted by 10 and if it is clear by 0. If 4 is noted against the cloud amount, it means that four-tenths of the sky is covered by cloud. July and August are the cloudiest months in the year and December to April is the period of greatest serenity. March is the clearest month, the normal cloud amount for Bangalore and Chitaldrug being as little as 1·1 and 1·3. Table XII gives the monthly and annual normals of cloud amount at 8 A.M.

Cyclones.

The passage of cyclones over the State is a very rare phenomenon and it usually occurs just about the time of the burst of the South-West Monsoon, *i.e.*, in the month of May or at the time of its retreat, *i.e.*, in the months of October and November. The cyclones that pass across the State have their origin in the south of the Bay of Bengal and pass into the Arabian Sea and occasionally give rise to stormy weather in the sea for some days. The following details give some idea of the cyclones that have passed across the State.

One on the 2nd of May, 1872, was very destructive in its effects; it blew a hurricane that overturned large trees even so far west as Coorg, and was accompanied by a deluge of rain. Again on the 4th of May, 1874, when a cyclone was raging on the Madras coast, a steady rain poured at Bangalore, which continued without intermission for about 48 hours. It had been preceded for several days by a still and hazy appearance of the atmosphere. At the end of November, 1880, just at the beginning of the *ragi* harvest, when but little was cut and the bulk of this most important crop was all but ripe, a great part of the State was visited by a storm of wind and rain of unusual severity, which did very considerable damage to the crops, and was the cause, moreover, of the breaching of a number of irrigation tanks. On the 16th of November, 1885, again, there was a continuous downpour lasting for more than forty-eight hours, but this was not of a violent character. On the 3rd May 1909, a storm was generated off the south coast of Madras in front of a temporary advance of the monsoon current. The disturbance drifted slowly in a north-westerly direction across Southern India and passed out into the Arabian Sea as a storm of moderate intensity. The storm, though not severe, was the cause of heavy rain in South India including the Mysore State. In Bangalore, there was a steady downpour of rain on the

5th continuing from 8 A.M. till past midnight with a break of about 2½ hours in the afternoon. The total for the 24 hours ending 8 A.M. of the 6th, was 6·06 inches, being the heaviest total in one day recorded since 1893. Coming to recent years, a disturbance that appeared in the Bay of Bengal crossed the Madras coast on the evening of the 16th October 1916 and traversing the Mysore Plateau crossed out into the Arabian Sea during the next 24 hours. The rainfall on account of the passage of the storm was particularly heavy in the Mysore District. Again in November of the same year a storm crossed the Coromandel coast near Madras at 2 hours on the 23rd morning causing much loss of life and damage to property. It was central near Bangalore at 8 hours and by the morning of the 24th had passed out into the Arabian Sea. It caused widespread rainfall over the peninsula.

I. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MEAN AIR TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	69·9	77·2	69·1	73·3
February	73·9	76·3	72·5	77·5
March	78 3	80·4	77·0	82·4
April	81·5	82·2	79·5	84·7
May	80·5	80·7	77·9	82·8
June	76·0	76·3	73·3	78·2
July	74·1	74·7	71·3	75·3
August	74·1	74·9	71·7	75·3
September	74·1	75·3	72·5	75·8
October...	73·9	75·3	73·0	76·4
November	71·3	73·3	70·5	73·6
December	69·0	71·1	68·1	71 1
Year	74·7	76·1	73·0	77·3

II. TABLE SHOWING THE AVERAGE MONTHLY AND ANNUAL DIURNAL RANGE OF TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	23·6	23·8	26·3	22·4
February	26·3	25·3	28·1	23·7
March	26·7	26·2	28·8	24·6
April	24·2	24·2	25·7	24·5
May	22·8	22·0	21·6	22·8
June	18·0	16·4	14·3	17·0
July	15·9	15·3	2·2	13·6
August	16·4	16·7	18·9	14·3
September	16·7	17·6	16·2	16·2
October	17·1	17·5	17·4	17·2
November	18·0	17·9	19·3	18·2
December	21·0	21·3	23·6	20·8
Year	20·6	20·3	20·6	19·7

III. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MAXIMUM TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	81·7	84·1	82·3	84·5
February	87·0	89·0	86·6	89·4
March	91·7	93·5	91·4	94·7
April	93·6	94·3	92·4	97·0
May	91·9	91·7	88·7	94·2
June	85·0	84·5	80·4	86·7
July	82·1	82·3	77·4	82·1
August	82·3	82·2	78·6	82·4
September	82·4	84·1	80·6	83·9
October	82·4	84·1	81·7	85·0
November	80·3	82·2	80·2	82·7
December	79·5	81·8	79·9	82·1
Year	85·0	86·2	83·3	87·1

IV. TABLE SHOWING THE ABSOLUTE MAXIMUM TEMPERATURE RECORDED AT THE FOUR OBSERVATORY STATIONS SINCE 1893.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	90·5	91·2	89·1	93·0
February	93·5	95·4	95·0	97·0
March	98·3	99·0	97·9	101·0
April	101·1	100·9	99·4	103·0
May	100·8	100·4	100·2	102·8
June	96·6	97·6	93·7	100·2
July	91·1	91·9	88·2	92·3
August	91·9	93·0	86·6	91·0
September	90·7	91·9	90·2	95·1
October	89·3	91·2	88·5	95·9
November	88·3	88·2	86·4	91·1
December	87·5	88·8	87·4	90·1
Year	101·1	100·9	100·2	103·0

V. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF MINIMUM TEMPERATURE.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	58·1	60·3	56·0	62·1
February	60·7	63·7	58·5	65·7
March	65·0	67·3	62·6	70·1
April	69·4	70·1	66·7	72·5
May	69·1	69·7	67·1	71·4
June	67·0	68·1	66·1	69·7
July	66·2	67·0	65·2	68·5
August	65·9	66·5	64·7	68·1
September	65·7	66·5	64·4	67·7
October	65·3	66·6	64·3	67·8
November	62·3	64·3	60·9	64·5
December	58·5	60·5	56·3	61·3
Year	64·4	65·9	62·7	67·4

VI. TABLE SHOWING THE ABSOLUTE MINIMUM TEMPERATURE RECORDED AT THE FOUR OBSERVATORY STATIONS SINCE 1898.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	48·9	51·7	45·9	52·0
February	51·2	54·1	46·9	56·3
March	52·3	57·9	49·4	61·2
April	58·3	61·3	58·1	59·3
May	61·8	60·4	58·4	59·3
June	59·4	62·0	52·4	63·8
July	61·7	62·8	59·1	62·5
August	61·9	62·0	59·7	64·7
September	59·2	59·3	56·8	63·3
October	56·0	57·4	53·4	59·9
November	52·0	52·6	46·5	51·3
December	43·7	50·0	42·7	51·2
Year	48·7	50·0	42·7	51·2

VII. TABLE SHOWING THE DISTRICT MONTHLY AND ANNUAL RAINFALL NORMALS.

Districts	January	Feb.	March	April	May	June	July
	Inches	Inches	Inches	Inches	Inches	Inches	Inches
Bangalore ...	0·12	0·15	0·40	1·28	4·02	2·62	3·14
Kolar ...	0·20	0·12	0·35	1·00	3·00	2·41	3·18
Tumkur ...	0·09	0·13	0·22	1·10	3·24	2·52	2·69
Mysore ...	0·14	0·16	0·41	1·99	4·88	2·37	2·24
Hassan ...	0·09	0·15	0·29	2·01	4·04	5·38	8·45
Shimoga ...	0·09	0·06	0·25	1·51	2·85	10·99	18·90
Kadur ...	0·14	0·12	0·38	1·88	3·56	13·80	23·93
Chitaldrug ...	0·09	0·12	0·18	0·99	2·63	2·44	2·58
State ...	0·12	0·13	0·31	0·46	3·58	4·79	7·15

Districts	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	Inches	Inches	Inches	Inches	Inches	Inches
Bangalore ...	4·52	6·29	5·55	2·43	0·42	30·95
Kolar ...	3·89	5·77	4·75	3·00	0·54	28·21
Tumkur ...	3·27	5·53	4·91	2·16	0·29	26·15
Mysore ...	2·66	4·38	5·87	2·62	0·44	28·16
Hassan ...	4·81	4·00	5·94	2·94	0·63	38·73
Shimoga ...	10·25	4·67	5·07	1·75	0·39	56·98
Kadur ...	13·59	6·44	6·55	2·46	0·65	73·45
Chitaldrug ...	2·37	4·38	3·59	1·85	0·33	21·95
State ...	5·23	5·18	5·30	2·42	0·45	36·12

VIII. TABLE SHOWING THE DISTRICT SEASONAL RAINFALL NORMALS.

Districts	January and February (cold)	March to May (hot)	June to September (South-West Monsoon)	October to December (N.-E. Monsoon)	Year
	Inches	Inches	Inches	Inches	Inches
Bangalore ...	0·27	5·70	16·58	8·40	30·95
Kolar ...	0·32	4·35	15·25	8·29	28·21
Tumkur ...	0·22	4·56	14·01	7·36	26·15
Mysore ...	0·30	7·28	11·65	8·93	28·16
Hassan ...	0·24	6·34	22·64	9·51	38·73
Shimoga ...	0·15	4·61	45·01	7·21	56·98
Kadur ...	0·26	5·77	57·76	9·66	73·45
Chitaldrug ...	0·21	3·80	11·77	6·17	21·95
State ...	0·25	5·35	22·35	8·17	36·12

IX. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF PRESSURE AT 8 A.M. REDUCED TO 32°F.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
	Inches 26+	Inches	Inches	Inches
January	1·038	1·532	0·914	1·624
February	1·015	1·502	0·895	1·596
March	0·938	1·473	0·872	1·565
April	0·945	1·429	0·827	1·516
May	0·905	1·397	0·796	1·482
June	0·853	1·351	0·740	1·414
July	0·854	1·335	0·740	1·417
August...	0·881	1·385	0·770	1·452
September	0·916	1·408	0·801	1·493
October	0·956	1·445	0·840	1·540
November	0·995	1·478	0·877	1·587
December	1·028	1·513	0·906	1·619
Year	0·948	1·438	0·831	1·526

X. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF WIND VELOCITY IN MILES PER DAY.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	135	147	85	102
February	127	125	84	92
March	121	124	93	91
April	113	127	108	90
May	132	159	138	142
June	195	228	176	171
July	194	228	184	184
August...	172	204	160	168
September	132	162	127	138
October	103	116	87	84
November	114	128	86	91
December	129	159	97	110
Year	139	159	119	122

XI. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF RELATIVE HUMIDITY AT 8 A.M.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
	%	%	%	%
January	79	72	73	61
February	71	68	69	53
March	63	69	65	50
April	71	73	69	61
May	75	76	78	70
June	81	80	86	79
July	86	81	88	83
August	86	81	89	83
September	86	81	89	82
October	82	82	83	76
November	79	76	85	68
December	80	75	86	67
Year	78	76	80	69

XII. TABLE SHOWING THE MONTHLY AND ANNUAL NORMALS OF CLOUD AMOUNT AT 8 A.M.

MONTHS	OBSERVATORY STATIONS			
	Bangalore	Mysore	Hassan	Chitaldrug
January	3·2	3·1	3·2	2·2
February	1·9	2·7	2·9	1·7
March	1·1	2·2	2·1	1·3
April	2·8	4·1	3·6	2·7
May	4·3	5·6	4·8	4·7
June	7·6	7·8	7·8	7·6
July	8·6	8·3	8·8	8·7
August	8·7	8·0	8·1	8·2
September	8·0	7·3	7·5	7·6
October	6·2	7·0	6·2	5·5
November	5·2	5·8	5·3	4·3
December	3·8	4·0	3·9	3·0
Year	5·1	5·5	5·3	4·8

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