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WEATHER ON THE REPUBLIC DAY

Introduction

The Republic day in India is celebrated on 26 January every year. Celebrations are arranged in all important towns and places all over the country. What would be the likely weather on the Republic Day is the question that crops up foremost in the minds of all, especially, those who have to arrange for the celebrations. This note aims to present an analysis of the weather of 26 January from the records of past years at twenty important cities in India. The statistics presented here will enable one to get an assessment of the expectancy of rain and cloudiness on 26 January.

Seasonal features of the day

This day coming right in the middle of winter may generally be taken as a bright day in northeast India and the central parts of the country. But the northwest India as well as the extreme south of the country are not free from disturbances causing rain spells during this season. The western disturbances moving across Pakistan, the Punjab (I) and Kashmir during the non-monsoon months cause spells of rainy weather over northwest India and Uttar Pradesh while in the extreme south, the easterly low pressure waves occasionally cause a revival of the northeast monsoon activity accompanied by some weather.

Rainfall on 26 January

Rainfall recorded during 24 hours ending on the morning of 27 January has been studied for the fifty years 1907 to 1956 for the twenty stations, Ahmedabad, Allahabad, Bangalore, Bhopal, Bombay, Calcutta, Cuttack, Gwalior, Hyderabad, Indore, Jodhpur, Kurnool, Madras, Nagpur, New Delhi, Patna, Poona, Shillong, Srinagar and Trivandrum. This will in most cases give the rainfall that occurred practically on the 26th. The data have been taken from the *Indian Daily Weather Reports* and supplemented by data of the State Raingauge Stations included in the *Daily Rainfall of India* volumes, wherever the data were wanting in the *Indian Daily Weather Reports*. It may be mentioned that the hour of measurement of rainfall has changed from time to time, from 8 hrs local time to 8 hrs IST and then to 0830 IST. This variation of time will not, however, affect the statistics materially. Table 1 shows the number of occasions of rainfall recorded at the above stations on 27 January.

It will be seen from Table 1 that Bombay and Poona had no rain on this day

TABLE 1

Number of occasions of rainfall recorded at 0800 IST of 27 January during the period 1907-1956 (50 years)

Station	Number of occasions with rainfall			
	Nil	1-4 cents	5 cents or more	1 cent or more (Total of cols. 3 and 4)
1	2	3	4	5
Ahmedabad	49	0	1	1
Allahabad	39	3	8	11
Bangalore	47	2	1	3
Bhopal	43	2	5	7
Bombay	50	0	0	0
Calcutta	49	0	1	1
Cuttack	49	0	1	1
Gwalior	46	0	4	4
Hyderabad	49	0	1	1
Indore	48	2	0	2
Jodhpur	47	3	0	3
Kurnool	49	1	0	1
Madras	48	1	1	2
Nagpur	46	2	2	4
New Delhi	44	2	4	6
Patna	45	0	5	5
Poona	50	0	0	0
Shillong	47	1	2	3
Srinagar*	27	9	12	21
Trivandrum	46	1	3	4

*Based on data for 48 years only

during the entire 50-year period under study; Ahmedabad, Bangalore, Calcutta, Cuttack, Hyderabad, Indore, Jodhpur, Kurnool, Madras and Shillong had rain on 3 or less number of occasions; Bhopal, Gwalior, Nagpur, New Delhi, Patna and Trivandrum on 4 to 7 occasions; Allahabad on 11 and Srinagar — as is naturally expected — on the greatest number of occasions, *viz.*, 21.

Rainfall around 0800 IST of 26 January

As the hour of observation is near about 8 hrs, Table 1 takes into account the rainfall that has occurred only *after* 8 hrs of 26 January. One cannot get an idea about the weather in the early morning of 26 January from this table. Information about the weather experienced during 3 hours preceding 0830 IST were available in the *Indian Daily Weather Reports* since 1950. The study of these data showed that during the period 1950-1956, drizzle, rain or thunderstorm occurred on one occasion each at Bhopal, Gwalior, New Delhi and Patna and on two occasions at Allahabad. At other stations, weather was dry. Data for Srinagar were not available for the years 1950 to 1954 but it is likely that Srinagar would have experienced precipitation on a number of occasions.

Although the weather information for the early morning were available for 7 years only data about the 'Present Weather', *i.e.*, weather at or during one hour preceding the hour of observation (8 hrs approximately) were available in the *Indian Daily Weather Reports* for the entire period of 50 years. An examination of these data for the 50-year period showed that drizzle, rain or thunderstorm had occurred near about 0800 IST, on one occasion each, at Bhopal,* Bombay, Hyderabad, Madras and Patna, on two occasions at Jodhpur and New Delhi, on three occasions at Allahabad, while Srinagar during the 45 years for which the data were available for that station, had been experiencing snow or rain on eight occasions.

Cloudiness on 26 January

Cloudiness on this national day was also examined. Since 1944, the *Indian Daily Weather Reports* include the observational data for the afternoon hour of observation (1700 IST upto 1949 and 1730 IST thereafter) in addition to the morning data. Data for the earlier years were also available in the *Monthly Meteorological Registers* of the stations under consideration for the years

*Data for Bhopal and Gwalior were available in the *Indian Daily Weather Reports* only for 27 and 16 years respectively

TABLE 2

Percentage frequencies of occasions with mean cloud amounts

Station	Number of years for which data were available	Cloud amount 0	1/8 to 2/8	3/8 to 5/8	6/8 to 7/8	8/8
Ahmedabad	26	38	38	12	12	0
Allahabad	13	39	23	23	15	0
Bangalore	23	13	48	35	0	4
Bhopal	26	35	35	19	11	0
Bombay	26	42	38	8	12	0
Calcutta	13	46	39	15	0	0
Cuttack	9	56	33	11	0	0
Gwailor	9	45	33	11	0	11
Hyderabad	18	28	39	33	0	0
Indore	26	23	46	15	12	4
Jodhpur	24	21	42	25	8	4
Kurnool	19	53	37	0	10	0
Madras	26	4	54	15	27	0
Nagpur	26	15	43	38	4	0
New Delhi	25	24	56	12	4	4
Patna	12	58	17	17	8	0
Poona	24	38	37	17	8	0
Shillong	10	10	10	70	10	0
Srinagar	19	0	5	16	53	26
Trivandrum	26	31	31	19	15	4

TABLE 3

Percentage frequencies of occasions with total cloud amounts at 0800 IST

Station	Number of years for which data were available	Cloud amount 0	1/8 to 2/8	3/8 to 5/8	6/8 to 7/8	8/8
Ahmedabad	50	60	18	6	12	4
Allahabad	50	50	14	8	18	10
Bangalore	49	41	27	14	8	10
Bhopal	27	41	33	11	11	4
Bombay	50	52	26	14	8	0
Calcutta	50	56	14	14	6	10
Cuttack	49	51	12	25	10	2
Gwalior	16	55	13	6	13	13
Hyderabad	50	46	24	12	8	10
Indore	50	56	14	8	12	10
Jodhpur	49	35	27	8	18	12
Kurnool	50	68	16	6	6	4
Madras	50	16	44	24	12	4
Nagpur	50	42	28	10	20	0
New Delhi	50	54	18	14	4	10
Patna	49	70	8	2	16	4
Poona	50	64	16	14	6	0
Shillong	49	64	16	14	4	2
Srinagar	45	9	2	0	33	56
Trivandrum	50	56	14	8	10	12

1931-1943 except Allahabad, Calcutta, Cuttack, Patna and Shillong. It has been possible to study the mean cloudiness, *i.e.*, the average of the cloud amounts observed in the morning and afternoon for the 26-year period 1931-1956. The percentage frequencies of occasions with mean cloud amounts ranging within specified limits on this day are given in Table 2.

It will be seen from Table 2 that while at most of the stations skies were generally clear or lightly clouded, Srinagar was clouded 6/8ths or more on 79 per cent occasions, while Shillong was half or more clouded on 80 per cent occasions.

Data for cloudiness at the time of morning observations were available for most of the stations for the 50 years 1907-1956, Table 3 gives the percentage frequencies of occasions with total cloud amounts at 0800 IST. It will be seen that the percentage frequencies for cloud amounts of 6/8ths and more have increased for most of the stations compared to the corresponding figures for mean cloudiness given in Table 2.

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