KODAIKANAL SOLAR, GEOMAGNETIC AND IONOSPHERIC DATA
(JANUARY—MARCH 1959)

Curves showing (a) Kodaikanal daily relative sunspot numbers, (b) daily areas of calcium prominences and (c) daily areas of H-alpha dark markings are given on page 353. Tables 1 to 4 below summarise the data on solar and geomagnetic phenomena. The hourly median values of critical frequency and virtual height for the ionospheric layers are given in Table 5.

TABLE 1

Prominent sunspot groups

Kodaikanal Serial No. of spotgroup	Mean latitude	Date of central meridian passage	Total area (millionths of the Sun's visible hemisphere at central meridian passage)
11331	12° N	Jan 11	2142*
11348	18° N	Jan 22	1247
11351	8° N	Jan 23	1638
11353	14° N	Jan 25	1342
11388	7° N	Feb 16	882
11393	18° N	Feb 21	1516**
11425	12° N	Feb 18	1323
11426	27° N	Feb 18	1738

*It was slightly larger before central meridian passage **Area as measured on 20 February

TABLE 2

Solar Flares

Date	Time in GMT			Co-ordinates		Importance	H-alpha line width	Remarks
	Beg.	Max.	End.	Mean latitude	Mean longitude			
	h m	*h m*	*h m*				Å	
Jan 11	03 11	..	..	16° S	63° W	1	..	Observed in spectrohelioscope
Jan 25	02 17	02 20	02 23	17° N	43° W	2	1·4	Observed in spectrohelioscope and spectroheliogram
Jan 26	08 55	09 02	09 06	17° N	57° W	2	2·0	Observed in spectrohelioscope
Jan 27	02 10	02 30	02 35	13° N	75° W	2	1·6	Do.
Feb 10	03 54	..	03 58	9° N	75° E	1	2·0	Observed in spectrohelioscope. The brightening was of very short duration
Feb 11	06 25	06 27	06 50	7° N	58° E	2	2·3	Observed in spectrohelioscope and spectroheliogram
Mar 16 (*i*)	04 02*	..	04 12	11° N	20° E	2	2·0	Do.
Mar 16 (*ii*)	09 26*	..	09 37	29° N	37° E	2	2·0	Do.
Mar 21	02 00*	..	02 35	12° N	36° W	2	1·8	Do.
Mar 24	10 10*	..	10 37	28° N	75° W	2+	>5·2	Do.
Mar 25	06 15*	..	06 23	16° N	62° W	2	2·3	Do.

*Time of first observation of the flare and not the beginning of the flare itself

TABLE 3

Sudden disappearance of prominence and H-alpha dark markings

Phenomenon	Date and time (GMT) of phenomenon when last seen	Co-ordinates of phenomenon		Remarks
		Mean latitude	Mean longitude	
Dark marking	Feb 11 0900	30° S	28° E	Disappeared between 11th and 12th. Actual disintegration was not observed
Dark marking	Feb 18 0630	13° S	63° E	Disappeared between 18th and 19th. Actual disintegration was not observed
Prominence	Mar 29 0638	30° S	90° W	Disappeared between 0638 and 0850 GMT. Actual disintegration was not observed

TABLE 4

Principal magnetic storms

Greenwich date 1959	Storm-time				Sudden commencement				C-figure degree of activity[4]	Maximal activity Greenwich day	Ranges		
	GMT of beginning		GMT of ending[1]		Type[2]	Amplitude[3]							
						D	*H*	*Z*			*D*	*H*	*Z*
	h	*m*	*d*	*h*		′	γ	γ			′	γ	γ
Jan 9	14	58	11	10	s.c.	1	38	23	m	10	6	191	46
Jan 25	08	58	26	17	s.c.	1	28	12	ms	26	4	261	81
Feb 11	07	56	12	14	s.c.	2	69	18	ms	11	6	338	87
Feb 16	00	01	17	09	...	—	—	—	m	16	4	223	58
Feb 25	02	28	26	22	s.c.	1	50	21	s	25	8	469	86
Mar 26	08	42	29	18	s.c.	3	89	24	s	27	10	520	95

The following symbols and conventions have been used according to recognised practice—

1. Approximate time of ending of storm construed as the time of cessation of reasonably marked disturbance movements in the traces
2. s.c. = sudden commencement ... = gradual commencement
3. Signs of amplitudes of *D* and *Z* taken algebraically ;
   (*D*—reckoned negative being westerly)
   (*Z*—reckoned positive being vertically downwards)
4. Storm described by three degrees of activity ;
   m—for moderate (when range is less than 250γ)
   ms—for moderately severe (when range is between 251γ and 400γ)
   s—for severe (when range is above 400γ)

TABLE 5

Beginning from January 1952, systematic ionospheric observations are being made at Kodaikanal with the Automatic Multi-frequency Ionosphere Recorder (Type C-3) made by the National Bureau of Standards, U.S.A. The general electrical characteristics of the instruments are given below—

(*a*) Supply voltage—90 to 260 volts AC single phase

(*b*) Supply frequency—50 to 60 cps

(*c*) Power load—approximately 30 amperes at 115 volts

(*d*) Pulse recurrence frequency—from 10 to 90 pps

(*e*) Frequency sweep time—7½, 15 or 30 seconds and 30, 60 or 120 seconds

(*f*) Frquency sweep range—1 to 25 megacycles

(*g*) Frequency sweep interval—5, 15, 30 or 60 minutes

(*h*) Height ranges—0-500, 0-1000, 0-4000 kilometres

(*i*) Peak-pulse power—approximately 10 kilowatts

Ionospheric data (Median values)

Kodaikanal (10·2°N, 77·5°E) January 1959

Time (hrs)	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000) F2
00		9·3	260				..	2·70
01		9·1	260				4·8	2·80
02		8·5	260				4·2	2·80
03		8·4	250				..	2·90
04		7·6	230				..	3·05
05		6·5	220				..	3·20
06		5·8	250				..	2·85
07	..	9·6	260	..	115	2·6	G	3·00
08	..	11·7	240	..	110	3·3	8·5	2·70
09	..	12·3	230	..	110	..	10·6	2·35
10	..	11·7	220	..	..	..	11·6	2·20
11	..	11·1	210	..	..	..	11·8	2·20
12	..	10·8	200	..	..	..	12·2	2·10
13	..	10·8	205	..	..	..	12·0	2·10
14	..	11·2	220	..	110	..	11·6	2·10
15	..	11·4	235	..	110	..	10·6	2·10
16	..	11·4	245	..	110	..	8·8	2·15
17	..	11·2	270	..	120	..	7·5	2·15
18		U10·6	310				..	U2·05
19		9·6	400				..	2·05
20		9·1	360				..	2·15
21		U9·8	330				..	U2·30
22		10·1	295				..	2·60
23		U9·8	260				..	U2·65

Ionospheric data (Median values)

Kodaikanal (10·2°N, 77·5°E) February 1959

Time (hrs)	h'F2	foF2	h'F	foF1	h'E	foE	foEs	(M3000) F2
00		11·2	240				..	2·70
01		10·6	240				..	2·90
02		U9·6	235				..	U2·90
03		8·0	240				4·1	3·00
04		7·9	240				..	3·00
05		6·2	225				..	3·15
06		5·5	255				..	2·90
07	..	9·8	260	..	120	2·6	7·0	2·85
08	..	11·9	240	..	110	3·2	9·4	2·60
09	..	12·8	230	..	110	..	11·6	2·40
10	..	12·8	220	..	..	..	13·0	2·30
11	..	12·4	215	..	..	..	13·4	2·20
12	..	12·1	210	..	..	..	13·4	2·15
13	..	12·4	210	..	..	..	13·5	2·15
14	..	12·6	220	..	..	..	12·8	2·15
15	..	12·6	225	..	..	..	12·7	2·15
16	..	12·2	240	..	115	..	10·4	2·10
17	..	12·2	260	..	120	..	8·6	2·10
18		11·0	305				..	2·05
19		9·4	420				..	2·00
20		U 9·7	400				..	U2·15
21		U10·6	360				..	U2·30
22		U11·4	280				..	U2·55
23		U11·4	255				..	U2·65

Kodaikanal (10·2°N, 77·5°E) March 1959

00		11·8	255				..	2·90
01		11·5	240				..	2·85
02		11·0	235				..	2·90
03		9·6	230				..	3·00
04		8·7	235				..	3·05
05		7·6	230				..	3·15
06		7·8	260		..	..	..	2·95
07	..	10·9	250	..	115	2·8	7·0	2·85
08	..	12·7	235	..	110	..	10·8	2·50
09	..	13·3	225	..	..	..	11·8	2·30
10	..	12·4	220	..	..	..	13·4	2·20
11	..	11·8	215	..	..	..	13·6	2·20
12	..	11·8	215	..	..	..	13·6	2·15
13	..	12·3	210	..	110	..	13·2	2·15
14	..	12·7	220	..	115	..	13·0	2·15
15	..	12·9	230	..	110	..	11·8	2·15
16	..	13·1	240	..	120	3·3	8·6	2·15
17	..	12·8	260	..	120	..	8·0	2·10
18		11·9	300				..	2·05
19		U 9·8	450				..	U 1·95
20		U 10·0	430				..	U 2·00
21		U 10·8	400				..	U 2·25
22		U 11·7	320				..	U 2·50
23		U 10·8	270				..	U 2·60

Time : 75·0°E
Sweep : 1·0 Mc. to 25·0 Mc. in 27 seconds

Kodaikanal Observatory, Kodaikanal
27 April 1959

A. K. DAS
Deputy Director General of Observatories

The symbols and terminology used are in accordance with the recommendations of the Special Committee on World-wide Ionospheric Soundings to the U.R.S.I./A.G.I. in its first report (Brussels, 2 September 1956)

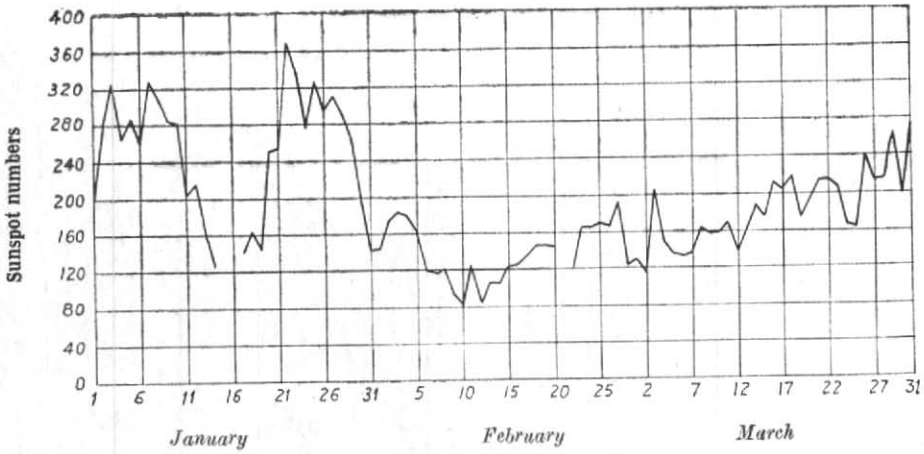

Fig. 1 (a). Kodaikanal daily relative sunspot numbers

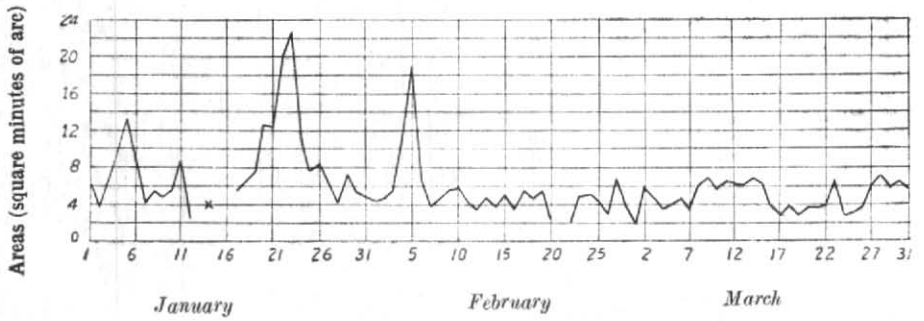

Fig. 1 (b). Daily areas of calcium prominences

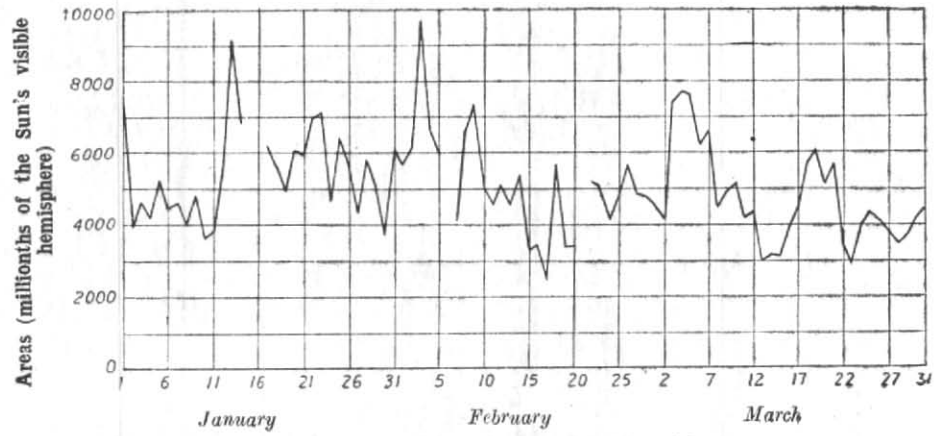

Fig. 1 (c). Daily areas of H-alpha dark markings

NOTE—Breaks in the graphs are due to lack of observations

MAGNETIC OBSERVATORY, ALIBAG (BOMBAY)

Three-hourly indices of Geomagnetic Activity

(K 9=300 γ)

(Scale values of variometers in γ mm : D=11·3; H=4·4; Z=2·5)

Greenwich day	JANUARY 1959				FEBRUARY 1959				MARCH 1959			
	K-indices		Sum	Character of the day*	K-indices		Sum	Character of the day*	K-indices		Sum	Character of the day*
1	1323	2211	15	Ca	2333	3330	20	S	4234	4553	30	Sa
2	3322	3221	18	S	1433	5433	26	S	3334	4343	27	Sa
3	3432	2221	19	S	2224	4434	25	S	2332	3433	23	S
4	1332	3321	18	S	3333	4454	29	S	3322	2442	22	S
5	3323	4344	26	Sa	2334	4443	27	Sa	1221	1242	15	S
6	3333	4454	29	Sa	2324	3342	23	S	2322	1221	15	Ca
7	3332	2323	21	S	2222	2231	16	Ca	2222	2332	18	Ca
8	4332	3444	27	S	2122	4223	18	S	3221	1321	15	Ca
9	3223	5654	30	M	3332	3222	20	S	1222	2212	14	Ca
10	4324	4445	30	Sa	2211	1223	14	Ca	1333	2212	17	Ca
11	3222	3334	22	S	2357	4533	32	Ma	2222	2222	16	S
12	3222	3343	22	S	2334	2222	20	S	3334	3342	25	Sa
13	3333	2432	23	S	2223	3443	23	S	1332	2213	17	S
14	2143	3322	20	S	3323	5542	27	Sa	1332	3222	18	S
15	3322	2221	17	Ca	2444	3442	27	Sa	2223	2112	15	Ca
16	2235	3542	26	Sa	3454	6654	37	M	2334	2112	18	S
17	3322	4432	23	S	4321	2111	15	Ca	1322	2112	14	S
18	4333	2332	23	S	1111	2211	10	C	1222	2214	16	S
19	2221	2232	16	Ca	2223	3231	18	Ca	2323	3211	17	Ca
20	2212	2221	14	Ca	1223	2211	14	Ca	3423	2111	17	S
21	1222	2322	16	Ca	1222	2222	15	Ca	2322	2321	17	Ca
22	2442	3222	21	S	3324	3323	23	S	2432	2213	19	S
23	3233	3122	19	S	3344	4110	20	S	2342	2332	21	S
24	2321	1210	12	Ca	1122	2122	13	Ca	2333	3322	21	S
25	1234	6553	29	M	4476	6653	41	G	2353	4443	28	M
26	2535	5421	27	M	3353	5434	30	M	2457	7545	39	G
27	1433	3422	22	S	2233	4643	27	M	5365	7665	43	G
28	2223	2232	18	S	3333	5553	30	M	3344	6555	35	Ma
29	2244	4443	27	Sa					5545	4552	35	M
30	3323	2242	21	S					2443	2212	20	Sa
31	3343	2321	21	S					1332	3243	21	S

*At Bombay, since 1883, a day is classed as (1) a quiet day, or a day of (2) small, (3) moderate, (4) great or (5) very great disturbance, the letters distinguishing the respective classes being C, S, M, G and VG. For representing intermediate conditions of activity of the smaller period movements, sub-classifications Ca, Sa and Ma are used. Roughly speaking a storm having a range over 225γ in the variations of the horizontal force during the first twentyfour hours after its commencement is classed as "Very Great". It is "Great" if the range is between 150γ and 225γ, "Moderate" if the range is between 65γ and 150γ, "Small" if the range is less than 65γ. The range is however not the only criterion used in assigning the character of a storm. The oscillations in the magnetograms are duly taken into account in determining the class to which a particular storm should belong.

The corresponding international character figures can be determined from the following—

Bombay Character	International Character	Bombay Character	International Character
C, Ca	0	M, Ma	2
S, Sa	1	G, VG	2

Colaba, Bombay
6 May 1959

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Director, Colaba and Alibag Observatories

DAILY OZONE DATA—INDIA

(From direct sun observations on 3112/3323 Å and 4536/3323Å)

Assumed α (3112) = 1·233 and α' (3323) = 0·071

NEW DELHI

(Lat. 28°35′N, Long. 77°12′E)

Date	JANUARY 1959			FEBRUARY 1959			MARCH 1959		
	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky
1	14	0·265	Clear	15	0·278	Clear	16	0·237	*Cs* 4
2	15	0·270	,,	10	0·274	Haze	16	0·249	(*Sc, Cu*) 2, *Ci* 1
3	15	0·262	,,	10	0·275	(*Ac, As*) 6, *Cs* 2	16	0·255	Hazy
4	10	0·267	(*Sc,Cu*)4, *Ac* 2	15	0·283	*Cu* 5, *Ci* 1	16	0·263	Clear
5	15	0·282	Clear	15	0·285	*Sc* T	16	0·257	,,
6	15	0·271	,,	16	0·275	(*Ci, Cs*) 3	16	0·269	,,
7	15	0·263	*Sc* 2, *Ac* 3	15	0·269	*Ci* 4	16	0·271	,,
8	15	0·270	Clear	15	0·265	Clear	16	0·261	,,
9	15	0·274	(*Cs, Ci*) 6	16	0·269	(*Cs, Ci*) 5	16	0·271	,,
10	15	0·290	(*Cs, Ci*) 4	15	0·266	(*Cs, Ci*) 2	16	0·286	*Ci* 1, hazy
11	15	0·286	Clear	15	0·253	Hazy	16	0·274	Clear
12	15	0·286	*Ac* 3	15	0·275	*Cu* 2, hazy	16	0·282	Hazy
13	15	0·285	Clear	16	0·303	*Sc* 4, *Ac* 2	16	0·287	,,
14	15	0·275	,,	15	0·285	*Ac* 3, (*Cc, Ci*)1	16	0·277	*Ci* 2
15	10	0·283	(*Cs, Ci*) 5	16	0·287	Haze	16	0·266	*Ci* 2
16	16	0·278	(*Sc, Cu*) 2, (*Ac, As*) 3	16	0·290	Clear	16	0·287	*Ci* T
17	15	0·271	*Ci* 2	16	0·281	,,	16	0·278	Clear
18	10	0·270	(*Ac, As*) 6	09	0·285	(*Ac, As*) 4	16	0·294	,,
19	10	0·274	*Ac* 2	16	0·285	*Sc* 2, *Ac* 4	16	0·277	,,
20	16	0·265	*Cu* 3, *Ac* 5	16	0·274	(*Cs, Ci*) 5	16	0·258	*Ci* 1
21	No observation		Dense fog, *St* 8	16	0·275	(*Cc, Ci*) 3	16	0·250	(*Cs, Ci*) 2
22	No observation		Dense fog, *St* 8	16	0·279	*Ac* 2	16	0·262	Clear
23	15	0·270	(*Sc, Cu*) 2	16	0·277	(*Cs, Ci*) 6	16	0·269	*Ci* 1
24	15	0·269	(*Cc, Ci*) 4	16	0·269	Clear	16	0·287	*Ci* T, hazy
25	15	0·282	(*Cc, Ci*) T	16	0·278	,,	16	0·275	(*Cs, Ci*) 6
26	10	0·286	*Cu* 1, *Ac* 2	16	0·259	,,	16	0·254	Dust haze
27	16	0·274	*St* 4	16	0·258	(*Cs, Ci*) 4	16	0·253	Hazy
28	No observation		Bad weather	16	0·249	(*Cc, Ci*) 3	16	0·278	*Ci* T, hazy
29	15	0·281	*Sc* 2				16	0·265	(*Sc, Cu*) 5, (*Ac, As*) 2
30	15	0·281	(*Sc, Cu*)T				16	0·282	*Cu* 4
31	15	0·282	Clear				16	0·273	*Cu* 2, *Ac* 3

NOTE—The cloud amounts are in oktas

DAILY OZONE DATA—INDIA

(From direct sun observations on 3112/3323 Å and 4536/3323 Å)

Assumed $\alpha(3112) = 1{\cdot}233$ and $\alpha'(3323) = 0{\cdot}071$

MT. ABU

(Lat. 24°36′ N, Long. 72°43′ E)

Date	JANUARY 1959			FEBRUARY 1959			MARCH 1959		
	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky
1	16	0·250	Nearly overcast	09	0·242	Hazy	10	0·242	Clear
2	16	0·253	,,	10	0·245	Hazy, dusty	10	0·254	,,
3	16	0·250	(*Cu*, *Ci*) 2	16	0·246	Overcast	No observation		
4	10	0·254	Nearly overcast	16	0·246	Clear	17	0·239	Sl. haze
5	16	0·257	Clear	16	0·245	,,	09	0·241	Hazy
6	16	0·251	,,	16	0·243	,,	09	0·242	,,
7	16	0·242	,,	16	0·238	,,	17	0·242	,,
8	16	0·237	*Cu* 2 *Ci* 3	16	0·231	,,	16	0·236	,,
9	16	0·238	Sl. haze	16	0·235	,,	17	0·245	,,
10	16	0·246	Clear	10	0·237	,,	17	0·245	,,
11	16	0·245	,,	17	0·237	,,	16	0·249	Clear
12	16	0·246	,,	16	0·239	,,	No observation		
13	16	0·250	,,	16	0·257	,,		,,	
14	10	0·247	,,	16	0·255	,,		,,	
15	16	0·246	*Cu* 3, *Ci* 2	10	0·261	(*Cu*, *Ci*) 2	17	0·241	Nearly overcast
16	16	0·255	(*Cu*, *Cs*) 2	16	0·250	*Cu* T, hazy	10	0·235	Hazy, dusty
17	10	0·255	Nearly overcast	16	0·243	Sl. haze	16	0·239	Clear
18	No observation		Overcast	17	0·241	(*Cu*, *Ci*) 2	17	0·246	*Ci* 2
19	,,		,,	16	0·242	Sl. haze	17	0·237	Hazy
20	16	0·242	Clear	16	0·248	(*Cu*, *Ci*) 2	17	0·245	Hazy, dusty
21	16	0·246	,,	16	0·245	Hazy	16	0·247	Hazy
22	16	0·246	,,	16	0·241	Clear	16	0·252	Sl. haze
23	16	0·257	Hazy	17	0·243	,,	17	0·255	Clear
24	No observation		Overcast	17	0·245	,,	17	0·245	,,
25	10	0·255	Overcast	17	0·249	,,	17	0·245	Hazy
26	10	0·242	Clear	No observation			17	0·237	Hazy, dusty
27	16	0·250	,,		,,		16	0·238	Hazy
28	16	0·250	Nearly overcast	10	0·243	Clear	10	0·245	Clear
29	16	0·239	Hazy				10	0·253	,,
30	16	0·241	Clear				17	0·255	,,
31	10	0·231	,,				17	0·255	,,

NOTE—The cloud amounts are in okta-

DAILY OZONE DATA —INDIA

(From direct sun observations on 3112/3323Å and 4536/3323Å)

Assumed α (3112) = 1·23 and α' (3323) = 0·08

KODAIKANAL

(Lat. 10°14′N, Long. 77°28′E)

Date	DECEMBER 1958			JANUARY 1959		
	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky
1	08	0·214	Clear	09	0·206	Clear
2	09	0·220	*Cu* 2	09	0·214	,,
3	08	0·228	Clear	16	0·222	,,
4	No observation		Fog	08	0·226	,,
5	,,		,,	09	0·222	*As* 1, *Ci* 2
6	08	0·216	*Ci* 1	09	0·217	Clear
7	09	0·218	*Cs* 2	09	0·221	,,
8	No observation		Overcast	08	0·220	,,
9	,,		,,	09	0·221	,,
10	,,		*Cu* 3, *Cs* 4	08	0·221	Passing *Sc* 4
11	,,		*Cu* 7	No observation		*Sc* 4, *Ci* 1
12	,,		Overcast	09	0·229	Clear
13	,,		*Sc* 7	No observation		Overcast
14	,,		Rain	,,		,,
15	,,		Overcast	,,		,,
16	,,		*Cu* 2, *Sc* 2, *Ci* 2	,,		,,
17	,,		*Cu* 4, *Sc* 3	10	0·221	*As* 1, *Ci* 2
18	08	0·218	Clear	17	0·217	*Sc* 3, *As* 1
19	09	0·220	,,	Unreliable observation		
20	09	0·220	*Cu* 2, *Ac* 4	09	0·222	Clear
21	09	0·220	Clear	Unreliable observation		
22	09	0·216	Thin *Cs* 1	09	0·231	Clear
23	09	0·216	*Sc* 4	09	0·228	,,
24	09	0·214	Thin *Cs* 3	09	0·232	,,
25	09	0·211	Thin *Cs* 2	09	0·232	,,
26	09	0·214	Passing *Sc* 6	17	0·231	,,
27	09	0·218	Thin *Cs* 2	08	0·230	,,
28	09	0·218	Clear	Unreliable observation		
29	09	0·217	*Cs* 1	09	0·229	Clear
30	09	0·216	Clear	09	0·230	,,
31	08	0·213	,,	No observation		Overcast

NOTE—The cloud amounts are in oktas

DAILY OZONE DATA—INDIA

(From direct sun observations on 3112/3323 Å and 4536/3323Å)

Assumed α (3112) = 1·23 and α' (3323) = 0·08

KODAIKANAL

(Lat. 10°14′ N, Long. 77°28′ E)

Date	FEBRUARY 1959			MARCH 1959		
	Hours (IST)	Ozone amount (cm-atmos)	State of sky	Hours (IST)	Ozone amount (cm-atmos)	State of sky
1	No observation		Overcast	09	0·237	*Ci* 3
2	,,		,,	09	0·235	Thin *Ci* 2
3	,,		,,	09	0·241	Clear
4	,,		*Cu* 6	16	0·221	,,
5	,,		*Cu* 4, *Sc* 3	16	0·240	*Sc* 2, *Ci* 4
6	09	0·236	Hazy	No observation, power shut-down		
7	09	0•233	,,	09	0·235	Clear
8	11	0·241	,,	09	0·231	,,
9	09	0·240	Clear	16	0·238	*Ci* 4
10	11	0·241	*Cs* 4, *Ci* 2	09	0·238	Thin *Ci* 4
11	No observation		*Cs* 4, *Ci* 3	09	0·238	Clear
12	08	0·233	Thick *Cs* 3	09	0·235	,,
13	16	0·242	Thick *Cs* 3	09	0·238	,,
14	17	0·242	Thin *As* 1	09	0·238	Thin *Cs* 1
15	08	0·226	Hazy	09	0·237	Clear
16	09	0·229	Clear	08	0·235	*Cs* 3, *Ci* 2
17	10	0·230	Thin *Cs* 1	08	0·229	Hazy
18	09	0·228	Clear	09	0·237	,,
19	09	0·230	,,	09	0·249	Clear
20	09	0·229	*Cs* 2, *Ci* 1	09	0·239	,,
21	No observation		Overcast	09	0·241	Hazy
22	11	0·241	*Cs* 4	08	0·237	Thick *Cs* 1
23	09	0·237	Clear	09	0·237	*Cs* 3
24	16	0·231	Hazy	17	0·246	Clear
25	16	0·236	Thin *Cs* 2	09	0·249	Hazy
26	09	0·231	*Ci* 1	08	0·254	Thin *Cs* 1
27	Unreliable observation			09	0·245	Hazy
28	08	0·229	*Cs* 4, *Ci* 4	08	0·237	Thin *Cs* 3
29				08	0·241	Hazy
30				09	0·248	Thin *As* 5
31				16	0·249	Hazy

NOTE—The cloud amounts are in oktas