

# Solar Bulletin

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THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION  
540 NORTH CENTRAL AVENUE  
RAMSEY, NEW JERSEY, U.S.A.



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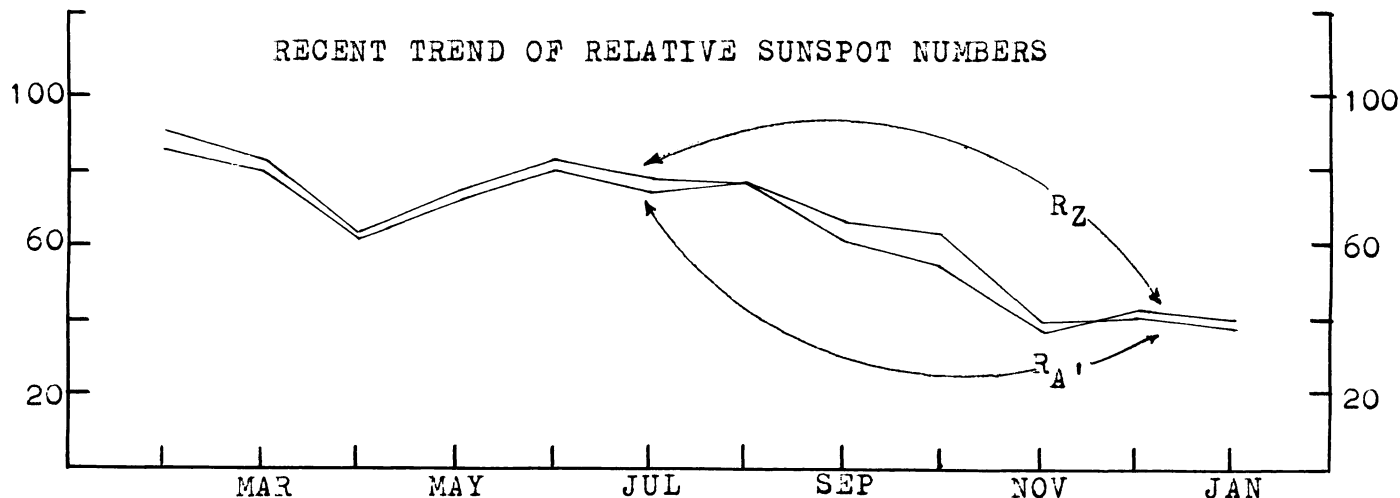
## SOLAR ACTIVITY DURING JANUARY

Thirteen ionospheric disturbances were recorded by the Solar Division's observers during January. Of the thirteen events, six were classified as 1- or rather small events. Basically, the activity continued at a low level.

On page two is reproduced the event of the 3rd of the month as recorded by the SES (Sudden Enhancement of Signal) method at Latrobe, Pennsylvania. Note that two different radio stations were recorded, giving two traces on the same chart. The 34.5 kHz station responded with a quite typical increase in amplitude with the event. The 73.6 kHz station, responded with only a very slight decrease in signal amplitude, a response that has commonly been called an "inverted SES".

Several observers noted that the relative size of the sunspots on the visible disk of the sun on the 11th and 12th were relatively smaller in size than those usually associated with flares, especially flares of the size noted on the 11th. On page two is reproduced the first three events of the 11th as recorded by the SEA (Sudden Enhancement of Atmospherics) method at Louisville, Kentucky. The wide width of the trace line was caused by lightning strokes from a nearby thunderstorm.

The mean of the American sunspot numbers fell slightly to 38.8. Sunspot activity declined to a very low level at the end of the month. A decaying group which was the only one present on the solar disk, became invisible late on the 28th leaving the sun spotless for the second time during the waning of the present cycle. It had previously been spotless for a few hours on 11th October. This time the spotlessness lasted throughout a whole day, the 29th, but early on the 30th two new small groups formed, one of which persisted through the 31st.



AMERICAN ( $R_A$ ) AND ZURICH ( $R_Z$ ) RELATIVE SUNSPOT NUMBERS, JANUARY 1973

DAY	$R_A$	$R_Z$		DAY	$R_A$	$R_Z$
1	35	45		16	15	11
2	60	53		17	32	27
3	58	55		18	43	42
4	67	60		19	41	47
5	70	72		20	45	60
6	85	83	Monthly Means	21	46	62
7	64	66		22	55	62
8	66	60	$R_A$ = 38.8	23	47	60
9	65	70		24	46	50
10	55	55	$R_Z$ = 42.2	25	27	39
11	47	52		26	15	27
12	27	32		27	11	8
13	23	35		28	10	14
14	17	15		29	1	7
15	12	10		30	11	16
				31	7	13

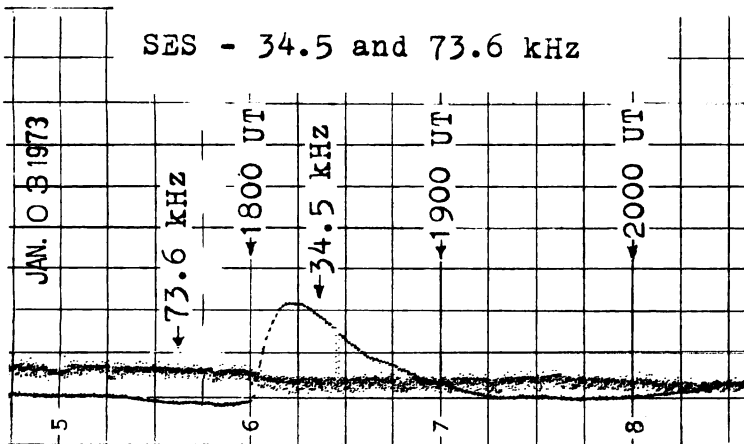
SUDDEN IONOSPHERIC DISTURBANCES RECORDED DURING JANUARY 1973

DAY	MAX	SEA	SES	DEF	OBSERVERS	DAY	MAX	SEA	SES	DEF	OBSERVERS
2	1646		1-	4	A19,33	11	1905	1	1	5	A1,8,19,21,26,28,30,31,33,35,36,37
3	1811	1	1+	5	A1,19,21,26,28,30,31,33,36	11	2135		1-	5	A1,21,30,31,37
4	2040		1-	5	A19,21,30,31,33,36	12	1652		1-	5	A1,19,21,30,33
10	0630		1+	2	A31	12	1724		1-	5	A1,19,21,33,36,37
11	0059		2	5	A30,31	12	1829	1	1	5	A1,8,19,21,26,30,31,33,36,37
11	1719	1	1	5	A1,8,19,21,23,26,28,31,33,35,36,37	12	1945		1-	4	A1,19,21,33,37
11	1811	2+	2+	5	A1,8,19,21,23,26,28,30,31,33,35,36,37	Dr. V. Barocas, Preston, U.K. reports by letter, "No Events"					

A19, Latrobe, Pennsylvania

3 January 1973

SES - 34.5 and 73.6 kHz



A26, Louisville, Kentucky

11 January 1973

SEA - 27 kHz

