

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION

R. B. AMMONS, EDITOR
UNIVERSITY OF MONTANA
411 KEITH AVENUE
MISSOULA, MONTANA 59801 USA



Volume 38

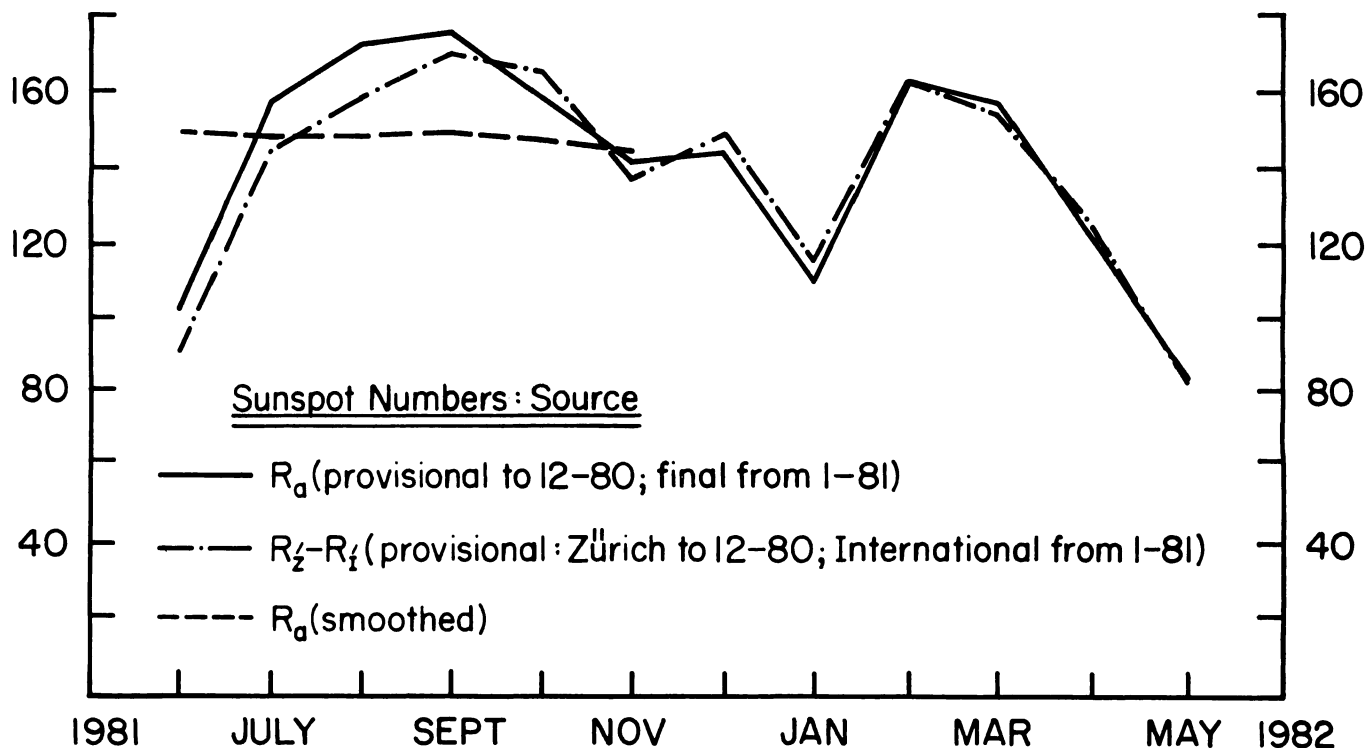
Number 5

May 1982

SOLAR ACTIVITY DURING MAY 1982

Sunspot data (R_a and R'_I) for May 1982 are given in the table of daily numbers on page 2, while recent monthly means appear in the graph at the bottom of this page. Activity decreased sharply during May, the monthly mean reaching 82.6, its lowest since August 1978. The 12-month smoothed mean dropped to 141.6, its lowest in three years. Daily AAVSO final numbers were low during the first half of the month, with the development of a single middle-sized group (25+ spots) dominating the activity. The low of 49 occurred on the 14th, when this group rotated around the limb, leaving only small groups, each with 1 to 4 individual spots. Numbers climbed quickly after the 15th, as an active region comprising several small groups and one large group appeared over the east limb. The large group grew in size as it moved across the disc, and the high of 129 occurred on the 22nd, when the group reached its peak of 60+ individual spots. Numbers decreased to the end of the month, as the large group decayed, then rotated around the west limb with five other groups on the 28th and 29th.

The 75 Sudden Enhancements of VLF Signals (SEs) detected in May by the AAVSO Indirect Solar Flare Patrol are listed on page 2. Activity was at a somewhat higher level than in April (60 events), but much lower than in February (184) and March (130). Of the 75 May events, 63 occurred in the second half of the month, with 12 on the 28th and 9 on the 29th, while there were 8 days with zero frequency in the first half. There were only 3 events of Importance 3 and none of Importance 4. Two records are reproduced: (1) a 60 kHz tape from A55, suggesting the extreme sensitivity which can be achieved if local noise level is low; (2) a 29.5 kHz tape from A19, showing that atmospherics need not interfere with recording and scaling SEs.



SUDDEN IONOSPHERIC DISTURBANCES (SESs) RECORDED DURING MAY 1982

Records were received from A1, 9, 19, 26, 28, 31, 46, 49, 50, 51, 52, 54, 55, 56, 57

May 1982
RELATIVE SUNSPOT NUMBERS (R):
AAVSO (a), INTERNATIONAL (I)

Day	Max	Imp	Def	Observers	Day	Max	Imp	Def	Observers
1	23:16	1	5	A31,50	25	12:56	1-	5	A19
2	15:30	2+	5	A1,9,19,26,28,31,46,49,50,51,54,56	25	19:12	1-	5	A19,55,56
2	17:27	1-	5	A19,31	26	07:11	2	5	A31,52,55,56
3	15:58	1-	4	A31	26	17:36	1	5	A1,9,19,26,28,31,49,50,55,56,57
3	16:28	1-	5	A1,19,26,31,50,51	26	18:52	1-	5	A49,55
3	18:45	1-	5	A1,9,19,26,28,31,46,51	27	16:15	1-	5	A19,31,46,55
3	19:08	1	5	A1,9,19,26,28,31,46,50,51,56	27	18:45	1-	5	A31,55
3	20:38	1-	5	A31,46,50	28	01:20	1+	5	A31,46,52,55
6	04:00	2	4	A31,56	28	03:14	1+	5	A31,52,55
10	13:18	1-	5	A19,51	28	03:35	1-	5	A31,55
12	02:09	1	5	A31,46,56	28	08:30	1	5	A31
14	16:35	1	5	A1,9,19,26,28,31,46,51	28	14:31	1-	5	A1,19,26,28,31,50,51,55,57
16	07:27	1	5	A52	28	15:02	1-	5	A1,19,26,31,50,51,55,57
17	23:30	1	5	A9,31,46,56	28	15:35	2	5	A1,9,19,26,28,31,46,50,51,55,57
18	02:15	1+	5	A31,55,56	28	16:44	1	5	A31,55
18	12:19	2	5	A1,19,46,52,54	28	17:13	2+	5	A1,9,19,26,28,31,46,50,51,55,56
18	21:30	2	4	A9,31	28	18:27	1-	5	A9,46,55
19	05:45	1+	5	A52,55	28	19:28	1-	5	A1,9,19,26,28,31,46,55
19	17:51	1	5	A1,19,31,51,55	28	23:47	1-	5	A31,46,55
19	18:18	2	5	A1,19,31,50,51,55	28	01:36	1-	5	A31
19	19:45	1-	5	A31,55	29	02:15	1+	5	A31,55
19	20:57	1+	5	A1,31,49,50,55	29	06:17	2	5	A31,52
20	02:00	1-	5	A31,55,56	29	13:03	1-	5	A1,19,49,51
20	05:45	1+	5	A31,52,55	29	13:30	1	5	A1,19,26,31,49,50,51
20	14:26	3	5	A1,19,31,46,50,54,55,57	29	17:04	2+	5	A1,9,19,26,28,31,46,49,50,51,54
20	21:30	1-	5	A31,55	29	20:27	1+	5	A1,9,19,26,31,46,49,50,51,55
21	14:30	2+	5	A1,19,26,31,46,50,51,55,57	29	21:05	2	5	A1,9,19,26,31,46,49,50,51,55
21	19:00	1-	5	A31	29	22:07	3	5	A1,9,19,26,28,31,46,49,50,51,55,57
21	20:09	2	5	A1,19,26,31,46,49,51,54,55,56	30	01:21	1	5	A31,46,55,56
21	22:02	2	5	A31,46,49,50,51,54,55	30	03:45	2	5	A31,56
22	00:45	2	5	A31,46,50,55,56	30	06:01	3	5	A31,52,56
22	02:30	1-	5	A31,55,56	30	10:26	2	5	A52
22	03:04	2	5	A31,52,55,56	30	19:55	2	5	A1,9,19,26,31,46,50,51,55
22	07:26	2	5	A31,52,55,56	30	22:50	2+	5	A9,19,26,31,46,49,50,51,55,56
22	14:47	1	5	A1,19,26,31,50,56					
22	17:08	2+	5	A1,19,26,28,31,46,50,51,55,56					
22	18:07	1+	5	A1,19,31					
23	02:56	1+	5	A31,52,55,56					
23	12:55	1+	5	A1,19,26,31,49,51,52					
23	16:37	1	5	A1,19,31,46,49,55,56					
23	18:49	1+	5	A1,9,19,26,31,46,49,50,51,54,55,56					

Day	R _a	R _I
1	67	63
2	53	57
3	56	46
4	62	58
5	65	63
6	73	64
7	72	69
8	80	89
9	56	47
10	56	53
11	63	58
12	71	75
13	72	78
14	49	58
15	54	52
16	67	69
17	82	76
18	90	89
19	107	110
20	110	112
21	103	98
22	129	121
23	114	107
24	109	110
25	98	88
26	116	117
27	127	130
28	120	108
29	96	102
30	70	66
31	73	89
Mean	82.6	81.4

