

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS — SOLAR DIVISION

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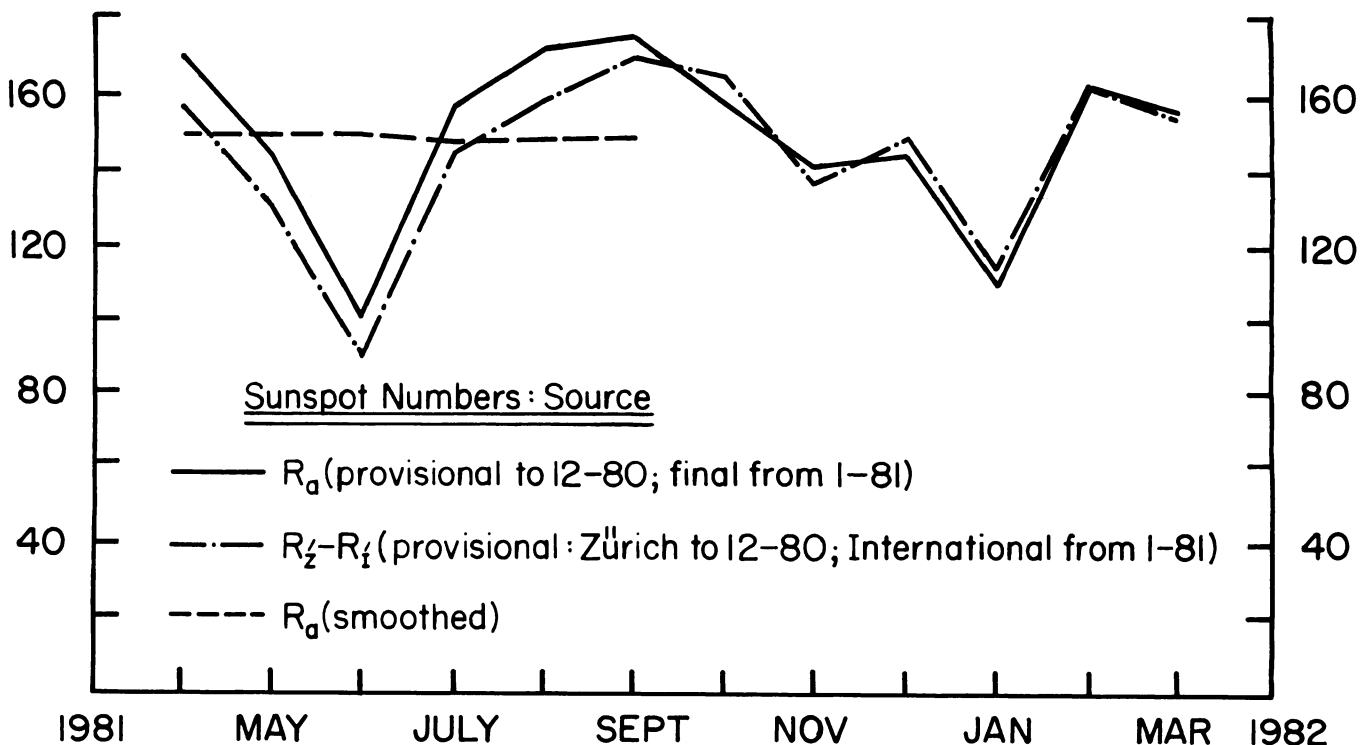
Number 3

March 1982

SOLAR ACTIVITY DURING MARCH 1982

Sunspot data are given in the graph at the bottom of this page and in the table of sunspot numbers (R_a and R_f) by days on page 2. Overall, sunspot numbers dropped slightly during March 1982, but remained at relatively high levels, as the monthly mean for AAVSO sunspot numbers decreased from 161.0 in February to 155.5 in March. Daily sunspot numbers varied less than in previous months. The number of groups by days was almost constant throughout the month, variability of daily numbers being due primarily to appearance and development of several groups with large numbers of individual spots. Activity started at a high level, with two groups of 50+ spots visible during the first week, then fell until a low of 118 was reached on the 9th, as the two large groups rotated around the limb. Numbers climbed through the 17th, when a high of 183 was reached, as two groups of 20+ spots, and a single complex group of 70+ spots rotated into view and developed on the disc. After decreasing through the 24th, the activity rose toward the end of the month, as two middle-sized groups of 20+ spots and several smaller groups of 10+ spots reappeared around the limb.

The AAVSO Indirect Solar Flare Patrol detected 130 Sudden Enhancements of VLF Signals (SEs) during March, many fewer than the 184 in February. Greatest frequencies were found on the 24th (10), 30th (11), and 31st (14), with 40% (52) of the month's events occurring during the last week. No SEs were noted on March 1, 14, 16, or 20. Importance 3 events dropped to 5, while Importance 4 stayed at 2. A very nice record by A48 of the signal on 21.4 kHz for March 24 shows 6 SEs clearly and 5 or 6 more "possibles." Readers might wish to compare the recording with the tabular listing.



SUDDEN IONOSPHERIC DISTURBANCES (SESS) RECORDED DURING MARCH 1982

Records were received from A1, 9, 19, 26, 28, 31, 43, 48, 49, 50, 51, 52, 54, 55, 56

Day	Max	Imp	Def	Observers	Day	Max	Imp	Def	Observers	Day	Max	Imp	Def	Observers
2	16:04	1	5	A9,19,31	22	16:30	2	5	A1,19,26,31,48,50,55	31	04:17	1-	5	A43,52
2	16:44	1	5	A31	22	18:04	1-	5	A19,31,55	31	05:43	2	5	A31,43,52,55
2	18:48	1	5	A9,31,49,55	22	18:23	1-	5	A19,31,55	31	06:26	2+	5	A31,43,52,55
2	20:36	1	5	A9,31,49,51,55	22	18:41	1	5	A1,9,19,28,31,48,49,51,55	31	08:40	2	5	A43,52
3	04:26	1-	5	A52	22	20:21	1-	5	A9,31,55	31	14:46	2+	5	A1,26,31,48,51,54,55
3	16:45	1-	5	A1,9,19,26,28,31,48,50,51,54,55,56	22	21:23	1-	5	A31	31	15:15	1-	5	A26,31,48,51,55
4	01:02	1-	5	A43	23	18:53	1	5	A9,31,55	31	15:36	1	5	A26,31,48,51,54,55
4	01:53	1	5	A43,55	23	19:44	1-	5	A9,31,55	31	19:03	1-	5	A1,9,26,31,48,51,55
4	06:15	1	5	A52	23	20:22	1-	5	A31,55	31	19:51	1+	5	A1,9,26,31,48,51,55
4	16:10	2+	5	A1,31,55	23	21:13	1	5	A9,31,55	31	21:23	2+	5	A9,28,31,49,55
4	16:53	1-	5	A1,19,31,48,50	24	00:32	1-	5	A43	31	22:30	2+	5	A1,19,26,28,31,49,51,54,55,56
4	20:36	2+	5	A31,55	24	14:08	1-	5	A51,54	31	23:18	1+	5	A31,55,56
4	21:00	1	5	A19,31,55	24	15:45	1	5	A31,49,55					
4	22:24	1-	5	A31,54,55,56	24	16:29	1	5	A19,31,48,55					
5	02:30	1	5	A31,43	24	17:13	1+	5	A1,9,19,26,31,48,49,50,51,54,55,56					
5	02:50	2	5	A31,43,56	24	17:36	1	5	A1,9,19,31,48,49,50,51,54,55					
5	08:52	1+	5	A31,52	24	17:46	2	5	A9,19,31,48,55					
5	17:14	1	5	A9	24	19:24	1-	5	A31,55					
5	18:34	1-	5	A1,9,19,31,48,51,55,56	24	20:17	3	5	A1,9,19,26,31,48,49,50,51,54,55,56					
5	19:45	1	5	A1,9,19,31,48,51,54,55,56	24	22:00	3	5	A9,19,26,31,48,49,50,51,54,55,56					
5	19:57	1	5	A1,9,19,31,48,51,55	25	01:51	1	5	A31,43,55,56					
5	21:01	1-	5	A9,19,31,55	25	03:13	1-	5	A31,43,55					
5	21:16	1-	5	A9,19,31,55	25	06:27	2+	5	A31,43,56					
6	05:17	1	5	A31,43,52	25	14:25	1	5	A1,19,26,31,48,49,51,54,55					
6	06:53	1+	5	A31,43,52,56	25	16:35	2+	5	A1,19,26,31,48,49,50,51,54,55,56					
7	03:15	2+	5	A31,43,52,55,56	25	17:30	1-	5	A31,55					
7	13:57	1-	5	A48,54	25	22:23	1	5	A31,55,56					
7	18:48	1-	5	A31	25	23:22	2	5	A31,55					
7	20:11	2	5	A31	26	03:54	1-	5	A43					
7	22:36	1	5	A31	26	05:56	1	5	A31,43,55					
8	19:52	2	5	A1,9,19,26,31,48,50,51,54,55,56	26	07:15	1	5	A31					
8	20:23	3+	5	A1,9,19,26,31,48,51,55,56	26	15:02	1	5	A1,19,26,28,31,48,49,50,51,54,55					
9	16:44	4	5	A31,55,56	26	16:55	1+	5	A31,55					
9	22:00	4	5	A31,55,56	26	23:06	1+	5	A31,55					
10	03:11	2	5	A31,43,56	27	02:24	1-	5	A31,43,55					
10	16:18	2	5	A31,55	27	14:23	3+	5	A1,19,26,31,48,49,50,51,54,55,56					
10	18:51	1	5	A1,9,19,26,31,48,50,51,55,56	27	15:22	1-	5	A1,26,31,48,50,51,54,55,56					
11	18:15	1+	5	A31,55	27	18:38	1	5	A1,31,55					
12	15:03	1	4	A26	27	18:46	1-	5	A31,55					
13	12:58	1+	5	A1,48,49	27	22:15	1	5	A31,55					
15	23:58	2	5	A31,55,56	28	03:14	1-	5	A31,43,55,56					
17	14:32	1-	5	A1,51	28	04:42	1	5	A43					
17	22:04	1-	5	A31,50,55	29	15:01	1-	5	A1,19,28,48,51					
18	04:22	1	5	A43,52,55,56	29	18:20	1-	5	A1,19,26,31,48,55					
18	14:00	1-	5	A19,26,48,49,51,54	29	18:59	1-	5	A1,9,19,26,28,31,48,49,50,51,55					
18	17:57	1-	5	A1,19,26,31,48,50,51,55	29	19:50	1	5	A9,19,26,31,55					
18	20:45	1-	5	A31,48	29	21:14	1	5	A1,19,31,50,51,55					
18	21:39	2	5	A1,19,26,28,31,48,49,50,51,54,55	30	02:44	1+	5	A31,43,55,56					
18	22:37	1-	5	A31,55	30	05:43	3	5	A31,43,55,56					
19	04:56	2	5	A31,52,55,56	30	07:17	1-	5	A43,52					
19	09:34	2	5	A52	30	08:46	1	5	A31,52					
19	15:45	2+	5	A1,19,26,28,31,48,49,50,51,55,56	30	14:29	2+	5	A1,19,31,50,55,56					
19	15:56	2+	5	A19,26,31,48,51,55,56	30	16:09	1+	5	A1,19,31,50,55,56					
19	21:02	1	5	A1,9,19,26,28,31,48,49,51,54,55	30	16:50	2+	5	A1,9,19,31,50,55					
21	15:43	1-	5	A31,50,55	30	18:48	2	5	A1,9,31,50,55					
21	18:02	1	5	A1,9,19,26,31,48,49,50,51,55,56	30	20:13	1-	5	A31,55					
21	19:08	2+	5	A1,9,19,26,31,48,49,50,51,54,55,56	30	21:04	1	5	A1,31,55					
22	14:17	1-	5	A19,28	30	23:45	2	5	A31,43,50,55,56					
					31	01:34	1+	5	A43,55,56					
					31	02:19	1-	5	A43					

March 1982		
RELATIVE SUNSPOT NUMBERS (R):		
AAVSO (a), INTERNATIONAL (I)		
Day	R _a	R _I '
1	166	167
2	180	174
3	182	175
4	180	177
5	178	163
6	169	165
7	157	146
8	136	140
9	118	116
10	126	122
11	120	119
12	148	135
13	162	155
14	151	153
15	149	140
16	157	156
17	183	180
18	170	168
19	174	167
20	160	149
21	153	153
22	152	146
23	136	144
24	124	122
25	136	152
26	138	147
27	170	182
28	176	189
29	169	169
30	163	162
31	136	132
Mean	155.5	153.7

