

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS-- SOLAR DIVISION

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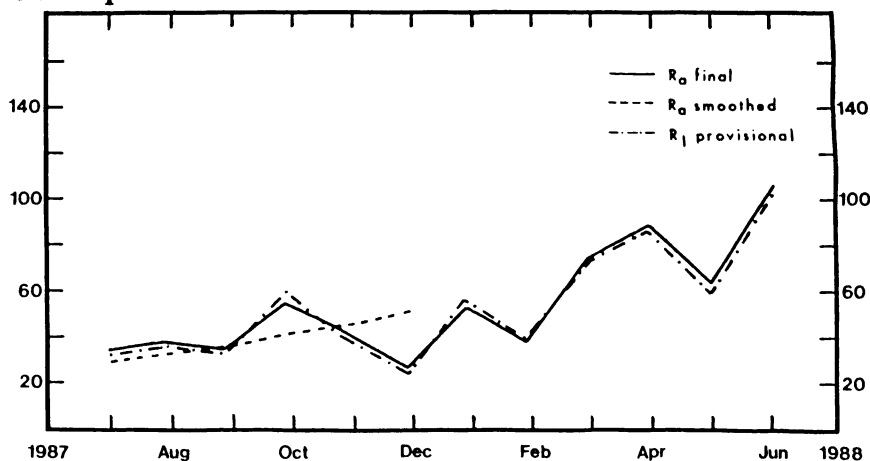
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Relative Sunspot Numbers For June

R_a Final	
1) 100	11) 110
2) 94	12) 81
3) 103	13) 47
4) 110	14) 56
5) 132	15) 68
6) 146	16) 89
7) 155	17) 83
8) 165	18) 69
9) 163	19) 71
10) 137	20) 74
21) 102	
22) 98	
23) 94	
24) 100	
25) 109	
26) 113	
27) 123	
28) 128	
29) 131	
30) 140	

Mean = 106.4



The smoothed mean American Relative Sunspot Number for December 1987 is 52.0, calculated in accordance with the method of Waldmeier.

R_a Final was computed from the reports of sixty-seven members of the international network of American Sunspot Program contributors.

Note: The estimated mean American Sunspot Number for July 1-21 is 106.

It is the Editor's sad duty to note the passing of longtime observer and good friend, David Rosebrugh, on July 6. Mr. Rosebrugh's final report, for July 1988, was numbered 526.

Special White-Light Solar Flare Program

The American Sunspot Program is cooperating with Sacramento Peak Observatory and Dr. Donald F. Neidig, in their effort to compile records and information on white-light flares (WLFs). Dr. Neidig provides this information for **Bulletin** subscribers:

"The following data for a WLF are essential: date, time (UT) of maximum, active region identification, and information on how the observation was made (especially the wavelength, in cases where filters are used). In addition, drawings or other description of the flare in relation to the sunspot environment are of interest. Another item, although difficult to obtain, is an estimate of the flare peak brightness relative to the photosphere outside (but near) the active region where the flare occurs."

"Please note that recent studies indicate that **all** flares are WLFs; the fact that so few have been reported is simply a matter of signal-to-noise ratio, i.e., the difficulty of detecting (usually) weak continuum against the bright photospheric background. Quantitative data, of course, are preferred, but many WLFs are missed by major observatories, and in these cases it is very nice to have qualitative information from skilled observers."

The events are observable with small telescopes. A blue filter with peak transmission near 4300 angstroms and passband width less than 100 angstroms (used in conjunction with normal solar filtering) will increase the contrast of a WLF. A Wratten #47 blue filter is one possible choice. By far, the most productive areas to monitor will be adjacent to large, complex groups with "k" class penumbra: asymmetric or oval penumbrae that enclose two or more umbrae. Those that exceed five degrees in length almost always include both magnetic polarities within the single penumbra and are particularly likely sources.

Contributors are strongly encouraged to report their observation of a WLF event directly to the **Bulletin** Editor, at the address above.

A Prediction for Sunspot Cycle 22

We have employed a technique of graphical analysis and data from the ascending branches of cycles 18, 19, and 21 to arrive at a proposed date and smoothed mean intensity for the maximum of cycle 22.

According to the method, maximum will occur 1990.0, and will attain a smoothed monthly sunspot number equaling 173 ± 17 .

The following smoothed monthly mean values are indicated (parenthesis enclose estimated errors):

January 56 (6); February 60 (6); March 67 (7);
April 74 (7); May 81 (8); June 87 (9).

Details will appear in the forthcoming issue of **J.A.A.V.S.O.**

<pre> ===== R Provisional 1) 101 11) 108 21) 95 2) 96 12) 77 22) 92 3) 100 13) 47 23) 91 4) 105 14) 53 24) 87 5) 114 15) 65 25) 111 6) 145 16) 87 26) 107 7) 141 17) 76 27) 111 8) 151 18) 67 28) 116 9) 173 19) 70 29) 121 10) 144 20) 77 30) 127 Mean = 101.8 </pre>	<p style="text-align: center;">Predicted Smoothed American Sunspot Numbers (McNish - Lincoln Method)</p> <p style="text-align: center;">January (65); February (71); March (76); April (81); May (87); June (92).</p> <p style="text-align: center;">Solar Geophysical Data, 525, Part I, 13.</p>
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Sunspot Bulletin, 1988, 6.

Sudden Ionospheric Disturbances Recorded During June

Records were received from A1,3,9,19,26,46,49,50,59

Day	Max(UT)	Imp	Def	Observer(s)	Day	Max(UT)	Imp	Def	Observer(s)
1	16:07	2	5	A49,50,59	25	20:02	2	5	A59
2	13:45	1+	5	A3,49,59	26	11:02	1-	5	A26
2	16:00	1	5	A3,49,59	26	12:42	2	5	A26,50,59
2	18:13	2+	5	A3,59	26	13:50	2	5	A26,46,49,50,59
3	19:25	1+	5	A3,26,49,59	27	14:43	2	5	A19,26,50,59
4	15:53	1+	5	A26,49,50,59	27	16:18	1-	5	A19,26,50,59
5	18:35	2+	5	A26,50,59	27	18:21	1+	5	A19,59
5	20:12	2+	5	A3,19,26,49,50,59	27	19:54	1+	5	A19,26,46,50,59
7	14:30	2	5	A19,59	27	23:03	1	5	A26,59
8	16:35	1	5	A19,26,59	28	11:15	1-	5	A19,46,59
9	17:05	2+	5	A19,26,46,50,59	28	11:22	2+	5	A19,26,46,59
11	14:43	1+	5	A26,50,59	28	13:27	1+	5	A19,26,50,59
15	22:41	2+	5	A19,26,50	28	13:59	1	5	A19,26,50,59
16	13:21	2+	5	A26,50,59	28	15:26	1	5	A19,50,59
21	13:22	1+	5	A26,59	28	17:01	1-	5	A19,59
21	23:38	1	5	A26,46,49,59	28	17:02	1	5	A19,46,50,59
22	14:18	1-	5	A19,26,49,50,59	28	17:27	2	5	A19,26,46,50,59
22	16:40	1-	5	A19,46,49,50	28	19:22	1+	5	A19,59
22	16:48	2	5	A19,46,49,50,59	28	20:01	2+	5	A19,46,59
22	22:41	2+	5	A3,19,26,46,49,50,59	28	21:34	1+	5	A19,26,46,59
23	13:18	1-	5	A59	28	22:30	1+	5	A19,26,46
23	17:51	2+	5	A3,9,19,26,46,49,50,59	29	11:17	1-	5	A19,26,46,59
23	19:17	2	5	A59	29	12:36	1+	5	A19,26,46,59
24	12:35	2	5	A3,19,26,46,49,50,59	29	13:30	1	5	A19,26,59
24	13:52	1-	5	A3,19,26,49,50,59	29	14:21	1	5	A19,26,59
24	14:08	2	5	A3,19,26,46,49,50,59	29	15:36	2	5	A19,26,59
24	16:05	2	5	A3,9,19,26,46,49,50,59	29	16:51	1+	5	A19,26,46,49,50,59
24	16:45	2+	5	A3,9,19,26,46,49,50,59	29	17:52	1	5	A59
24	18:34	1+	5	A3,19,26,46,49,50,59	29	18:22	1+	5	A19,26,46,49,50,59
24	19:20	1+	5	A3,19,26,46,49,50,59	29	20:16	2+	5	A3,19,26,46,49,50,59
24	21:25	2+	5	A3,9,19,26,46,49,59	30	12:51	2+	5	A3,26,46,49,50,59
25	11:15	1	5	A26,46,49,59	30	14:41	2	5	A19,26,46,49,50,59
25	11:46	1	5	A26,46,49,59	30	15:39	2	5	A19,59
25	12:51	2	5	A26,46,49,50,59	30	16:33	1	5	A19,46,49,59
25	15:03	2+	5	A26,49,50,59	30	17:27	2	5	A19,26,49,50,59
25	16:40	2	5	A3,9,26,46,49,50,59					

The American Sunspot Number and related information is available through the CompuServe Information Service, INFOPLEX, MCImail, and through domestic and international Telex/TWX. Contact the Editor for details.

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