

# Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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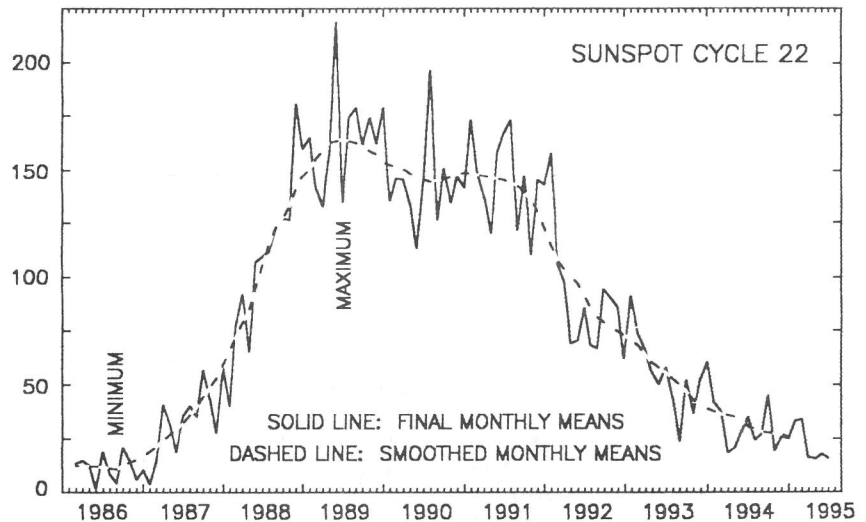
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July 1995

## American Relative Sunspot Numbers for July

		R <sub>a</sub> Final				
1)	29	11)	17	21)	13	
2)	22	12)	19	22)	9	
3)	14	13)	13	23)	0	
4)	16	14)	15	24)	0	
5)	24	15)	19	25)	0	
6)	29	16)	17	26)	7	
7)	30	17)	16	27)	7	
8)	25	18)	15	28)	0	
9)	26	19)	24	29)	0	
10)	20	20)	23	30)	0	
				31)	12	

Mean: 14.9  
Number of reports: 93



**July Summary:** Solar activity was very low and low during the first week of July. The eighteen-day period of spotlessness in the Sun's Southern Hemisphere ended on the 6th with the appearance of NOAA/USAF Region 7888 (S11, L340, CAO). Other events of interest included a long duration C9/1B flare on the 2nd in Region 7887 (N10, L042, CAO) and small filaments which disappeared from the SE solar quadrant on the 3rd, and NW quadrant on the 7th. The geomagnetic field was quiet to unsettled with scattered high-latitude reports of minor storm conditions on the 1st. The >2 MeV electron fluence was normal.

Activity continued to be very low during the second week of July. A moderate-size filament disappeared from the Sun's SW quadrant on the 12th/13th, but little other noteworthy activity occurred. The geomagnetic field was quiet.

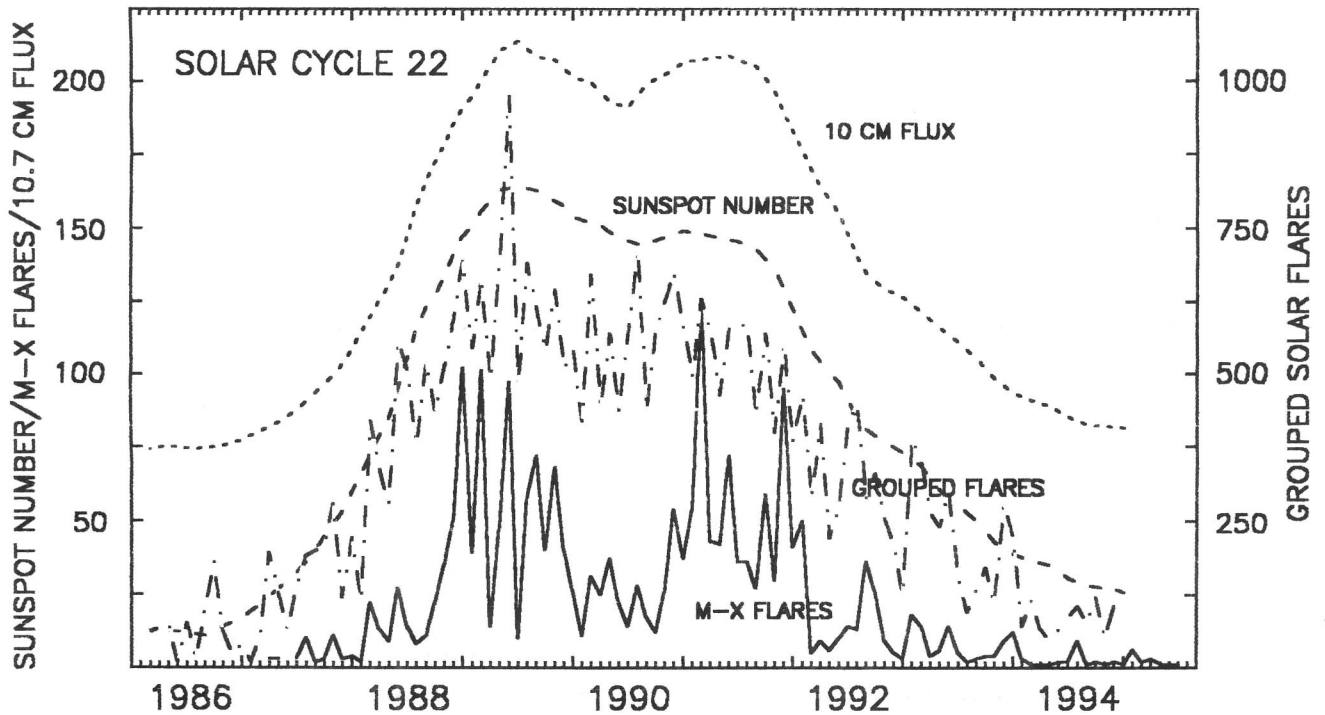
The third week of July saw a repeat performance of the now familiar pattern of very low daily solar activity levels. During the first half of the period sunspot activity was limited to a single group, Region 7890 (N04, L279, DAO), as it passed across the visible hemisphere and gradually dissolved. Minor (and scattered high-latitude major) storm conditions on the 16th and early 17th are thought to have been instigated by a sudden short-term increase in solar wind density (i.e., a coronal transient). After a brief lull, a second surge later on the 17th appears to have been rooted in a favorably positioned coronal hole. Otherwise, the field was quiet or unsettled. The >2 MeV electron fluence climbed into the moderate to high range on the 17th and remained at that level throughout the week.

Solar activity continued to be very low during the balance of July. A sudden impulse followed by several hours of minor to major geomagnetic storming occurred early on the 24th, but in general conditions were in the quiet or unsettled range. The >2 MeV electron fluence was normal from the 24th on. The smoothed mean American Relative Sunspot Number for January 1995 is 24.7.

The mean estimated American Relative Sunspot Number for 1-14 August is 13. **FLASH:** On August 12th, Region 7899 (S20, L215) -- a small reverse-polarity sunspot-group (compared with the current cycle) -- emerged on the visible hemisphere. Although the region was located at a lower-than-expected latitude, many experts agree that it is likely to be one of the first groups from the new solar cycle. Other similar groups have appeared in recent months (Region 7893, S18 on July 26th; Region 7872, N13 on May 14th). At the time of their emergence these regions were thought to be located at too low a latitude to be associated with cycle 23 since new cycle groups typically emerge at latitudes of 25-degrees or more. However, in retrospect, these regions may also have been from the new solar cycle. If this scenario is correct, the minimum of cycle 22 and onset of cycle 23 should occur between May and December 1996.

[A Portion of the above information was obtained from SELDADS]

## Solar Cycle 22 Activity Update



The solar activity indices are those current as of 14 August 1995. The data were obtained from the following sources: (smoothed monthly) sunspot number -- AAVSO Solar Division; (smoothed monthly) 10 centimeter radio flux, class M and X solar flare totals -- SESC PRE; grouped solar flares -- Solar-Geophysical Data.

-- the editor --

### Sudden Ionospheric Disturbances (SES) Recorded During June 1995

Records were received from A5,9,40,50,59,61,62,63,65,68,69,70,71,72,73,74,75,76,77,78,80,81,82,83,84,85

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def
4	1230	1-	5	5	2150	1	5	9	1423	1	4	18	1326	1-	4
5	0730	1-	5	6	1445	1+	5	11	0035	1-	5	29	1620	1-	4
5	1350	2	5	8	1022	1-	5								

**Analysts:** J. Ellerbe; S. Hansen; M. Hayden; P. King; A. Landry; R. Papp; G. Rosenberg; A. Stokes; M. Taylor; P. Taylor; L. Witkowski

Frequencies recorded (kHz): 16.8; 18.3; 19.6; 20.3; 21.4; 23.4; 24.8; 28.5; 30.6; 48.5; 51.6;

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