

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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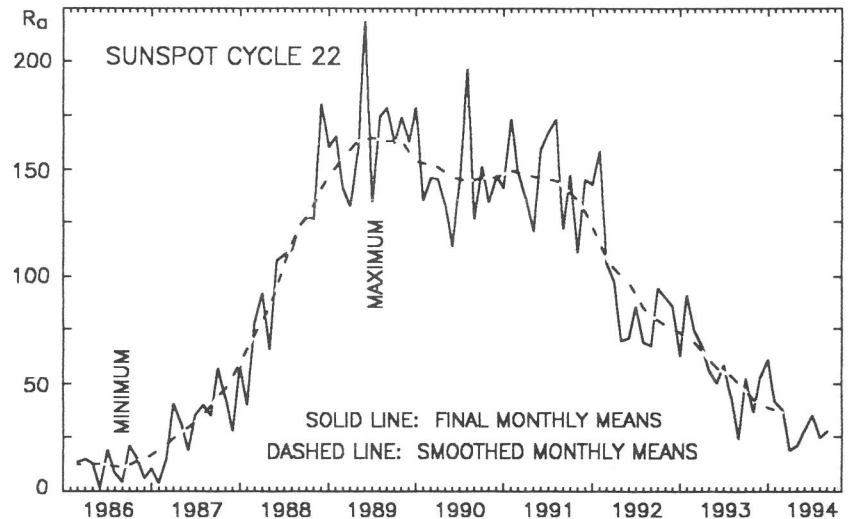
September 1994

American Relative Sunspot Numbers for September

	R _a Final				
1)	42	11)	15	21)	0
2)	50	12)	10	22)	10
3)	58	13)	10	23)	13
4)	58	14)	10	24)	14
5)	63	15)	9	25)	20
6)	60	16)	9	26)	26
7)	56	17)	13	27)	28
8)	49	18)	22	28)	22
9)	45	19)	15	29)	12
10)	31	20)	0	30)	18

Mean: 26.3

Number of reports: 96



September Summary: Solar activity was low and very low during much of September. The geomagnetic field was initially active to quiet. Beginning on the 7th intervals of minor to severe storm conditions occurred, associated with a recurrent coronal hole. The > 2 MeV electron fluence began to rise on the 7th.

A coronal mass ejection occurred on the 11th, located near NOAA/USAF Region 7773 (S07, L105, CAO), the site of a long-duration class C8.7 flare followed by a short > 10 MeV proton enhancement at satellite altitude. During the 10th and 11th, the geomagnetic field again experienced intervals of minor to severe storming related to a coronal hole. Thereafter the field returned to quiet or active levels. The > 2 MeV electron fluence was high and very high throughout the second week of September.

A second small proton enhancement at geosynchronous altitude occurred on the 16th. The source of this phenomenon is not certain, but it is believed to have originated behind the solar limb, possibly in departed Region 7773.

Solar activity was very low between the 17th and 22nd. No sunspots were present on the visible hemisphere on the 20th-21st. The (coronal hole related) > 2 MeV electron fluence was high and very high at the beginning of the period, then began to decline. The geomagnetic field was mostly quiet.

Activity continued at a low and very low level during the remainder of September. A filament erupted in the Sun's NW quadrant on the 23rd, but otherwise little of note occurred. The geomagnetic field was quiet to active with periods of minor to major storm conditions which may have been related to a small coronal hole. The > 2 MeV electron fluence was in the normal to moderate range. The smoothed monthly-mean American Relative Sunspot Number for March 1994 decreased to 35.2, a rate somewhat less than that experienced recently.

The mean estimated American Relative Sunspot Number for 1-14 October is 36. Solar activity was very low and low during the first two weeks of October. The geomagnetic field was initially quiet, but increased to storm levels late on the 2nd as a result of a favorably positioned coronal hole. Shortly thereafter - around midday on the 3rd - the > 2 MeV Electron fluence exhibited a rapid rise into the high range where it remained throughout the remainder of the first week. On the 9th, the strongest flare thus far during October, a class C7/1N flare, occurred in Region 7785 (S09, L063, CAI). The geomagnetic field returned to quiet to active levels on the 8th, although a minor storm disturbance occurred on the 11th due to a coronal hole. The > 2 MeV electron fluence declined to moderate on the 12th.

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

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Note: Network contributors are urged to submit their reports via these media whenever possible.

Class X Solar Flares: 1976-1994

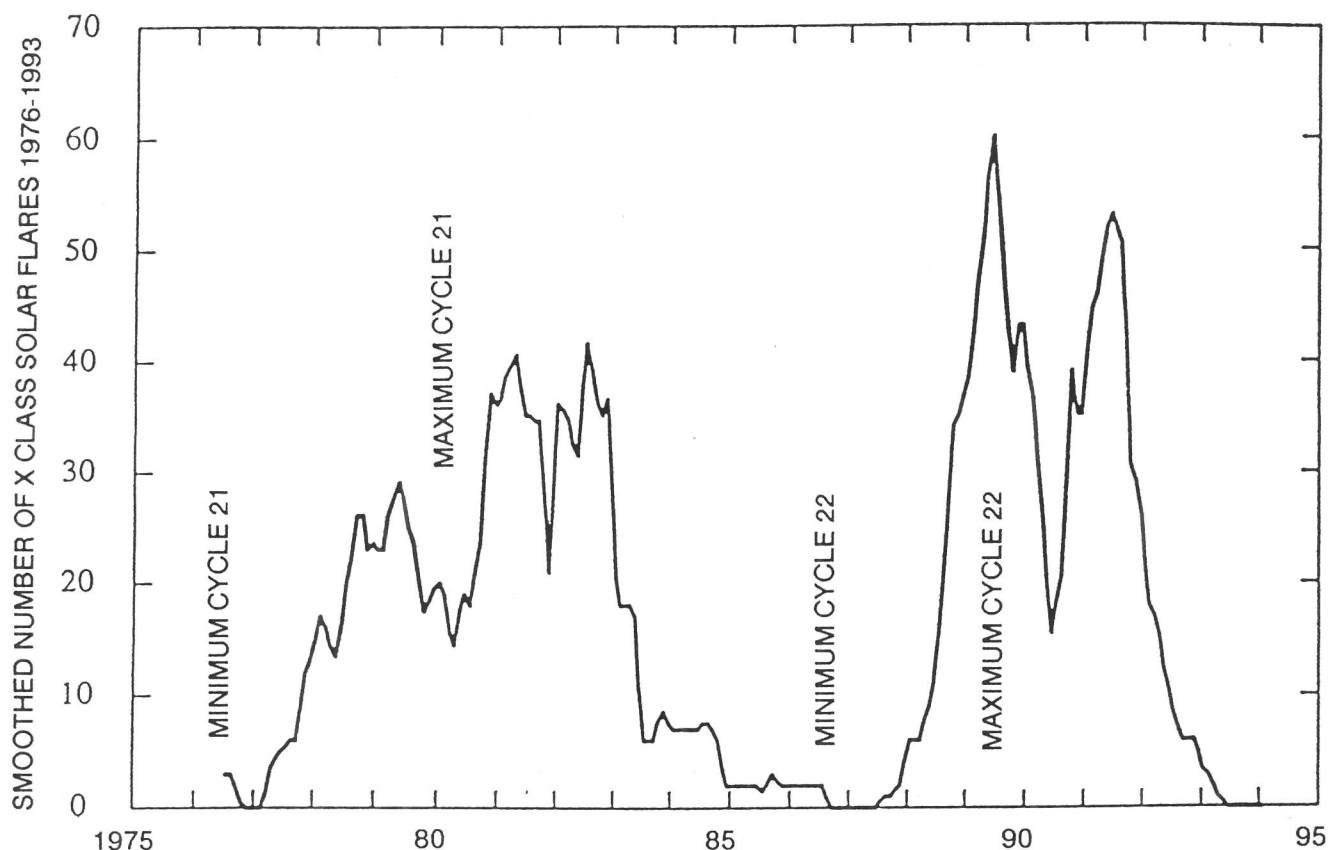


Diagram courtesy of Dr. R.J. Thompson.

Sudden Ionospheric Disturbances (SES) Recorded During August 1994

Records were received from A9,40,50,59,61,62,63,65,67,68,69,70,71,72,73,74,75,76,77,78,80,81,82,83,84

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	De
2	0259	1-	5	15	0700	2	5	20	1346	1-	5	30	1305	1-	5
6	1246	1-	5	15	1250	2+	5	22	0933	1-	5	30	1452	1+	5
12	0713	1	5	15	1723	1+	5	24	1805	1-	5	30	1545	1	5
13	1444	1-	5	15	1954	1-	5	29	0720	1+	5	30	1934	2	5
13	1744	2+	5	16	1248	1-	5	29	1246	2	5	30	1952	2+	3
13	2218	1-	5	16	1321	1-	5	29	1348	2	5	30	2123	1-	5
13	2344	1+	5	16	1512	1-	5	29	1721	2	5	30	2254	1+	5
14	0120	1-	5	16	1800	1-	5	29	1745	2+	5	31	1239	1+	5
14	0602	1	5	17	1345	2	5	29	2310	2+	5	31	1423	1-	5
14	1736	2+	5	17	2000	1	5	30	0829	2	5	31	1700	1+	5
14	1801	2+	3	18	1511	2	5	30	1037	2+	5	31	1833	1	5
14	1953	1	5	18	2047	2	5	30	1200	1+	5				

Analysts: J. Ellerbe; S. Hansen; M. Hayden; J. Knight; A. Landry; R. Papp; C. Ranft; A. Stokes; M. Taylor; P. Taylor; L. Witkowski

Frequencies recorded (kHz): 16.8; 18.3; 19.6; 21.4; 23.4; 24.0; 24.8; 28.5; 30.6; 48.5; 51.6; 73.6; 77.15