

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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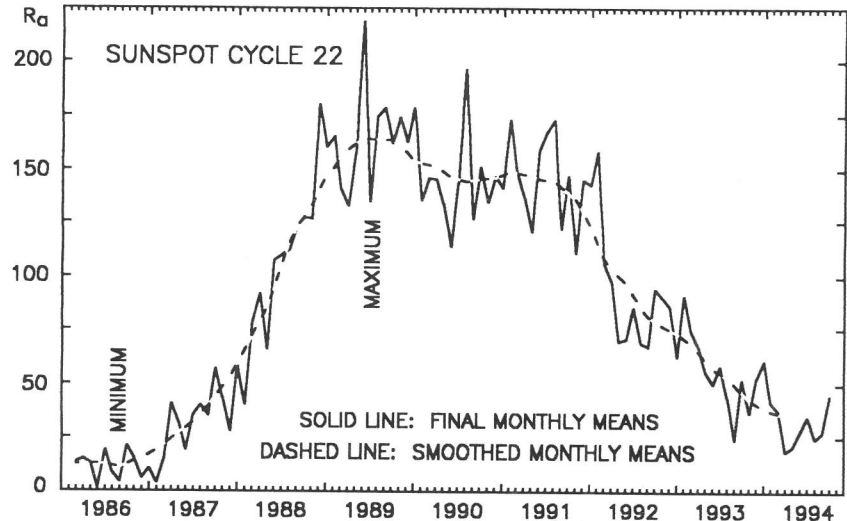
October 1994

American Relative Sunspot Numbers for October

R _a Final	
1) 17	11) 49
2) 18	12) 44
3) 19	13) 44
4) 29	14) 60
5) 41	15) 56
6) 54	16) 52
7) 48	17) 44
8) 43	18) 51
9) 50	19) 60
10) 52	20) 51
	21) 38
	22) 33
	23) 28
	24) 17
	25) 25
	26) 50
	27) 56
	28) 56
	29) 57
	30) 56
	31) 56

Mean: 43.7

Number of reports: 96



October Summary: Solar activity was very low and low during the first week 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 week.

Activity was very low during week two, with the exception of the 9th when a class C7/1N flare erupted in NOAA/USAF Region 7785 (S09, L063, CAI) and activity entered the low range. The geomagnetic field was quiet to active on most days, although minor storm conditions were recorded on the 11th due to a small coronal hole. The > 2 MeV electron fluence was initially high and very high, then declined on the 12th.

A long-duration class M3.2/1F Tenflare occurred on the 19th in Region 7790 (N11, L257, CSI). This event was a proton producing flare that is believed to have accompanied a coronal mass ejection. A proton enhancement (35 p.f.u. at > 10 MeV) occurred at satellite altitude during the morning hours of the 20th. However, the geomagnetic field was quiet to unsettled and the > 2 MeV electron fluence was normal.

Week four saw a continuation of low and very low solar activity and active geomagnetic conditions. A sudden impulse (24 nT) was recorded on the 22nd, likely as a result of the M3 Tenflare and associated eruption on the 19th. A magnetic storm and proton enhancement occurred as the shock passed the Earth. On the 25th, Region 7792 (S09, L174, CSO) spawned a C4.7/SF flare and strong Type II radio burst; a coronal mass ejection is believed to have accompanied this event. The > 2 MeV electron fluence entered the moderate to high range on the 25th.

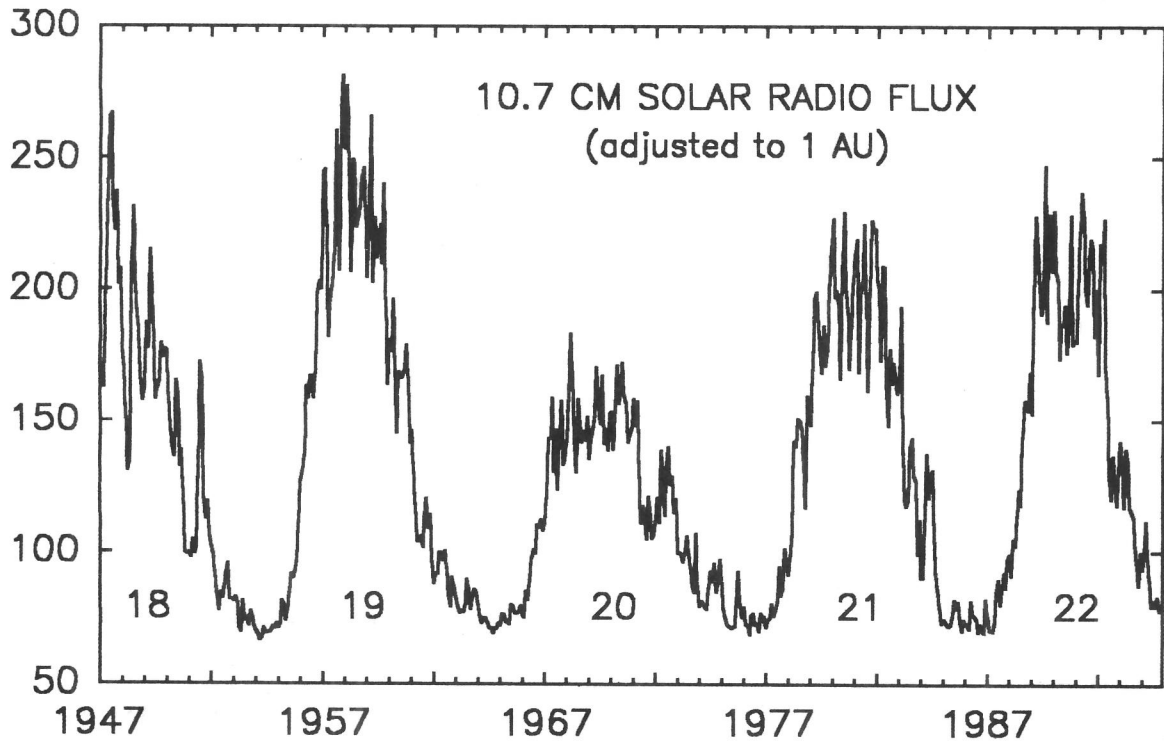
Activity continued to be low and very low during the remainder of October. Two moderate-sized filaments disappeared from the Sun's Southern Hemisphere on the 28/29th. A sudden impulse followed by a minor to severe geomagnetic storm occurred early on the 29th, and a brief magnetopause crossing was observed by the GOES-7 spacecraft shortly after midday. The events were linked to the long-duration flare and related eruption on the 25th.

Conditions returned to near-normal levels late on the 29th, but by the 30th had once again become disturbed - this time in association with a Southern Hemisphere coronal hole. The > 2 MeV electron fluence dipped to normal on the 29th, but then rose to high rapidly, as the latter disturbance began. These phenomena resulted in a large number of aurorae sightings between the 28th and 30th. The smoothed-mean American Relative Sunspot Number for April 1994 declined to 35.0; for the second month in a row, a shallower decline than in recent months.

The mean estimated American Relative Sunspot Number for 1-14 November is 26. Solar activity was very low and low during the first two weeks of November. No class-M or greater-intensity solar flares were recorded.

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

Solar 10.7 Centimeter Radio Flux; 1947-1994



Sudden Ionospheric Disturbances (SES) Recorded During September 1994

Records were received from A9,40,50,59,61,62,63,65,67,68,69,70,71,72,73,74,75,76,77,78,80,81,82,83,84,85

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def
1	0822	1	5	3	1148	1-	5	6	1442	1-	5	10	1422	1-	5
1	0928	2+	5	3	1252	1+	5	6	1624	1-	5	10	1445	2	5
1	1216	1	5	3	1341	1-	5	7	0827	1-	5	11	1540	1-	5
1	1805	1+	5	3	1554	2	5	7	2058	1	5	25	1927	1-	5
2	0045	1	5	3	1730	1-	5	8	0120	1-	5	30	0806	1-	5
2	1315	1-	5	5	0055	1-	5	8	2242	1-	5	30	1224	1	5
2	1652	1+	5	6	0050	2	5	9	1816	1-	5	30	1400	1-	5
2	2002	1	5	6	1200	1	5	10	0954	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

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