Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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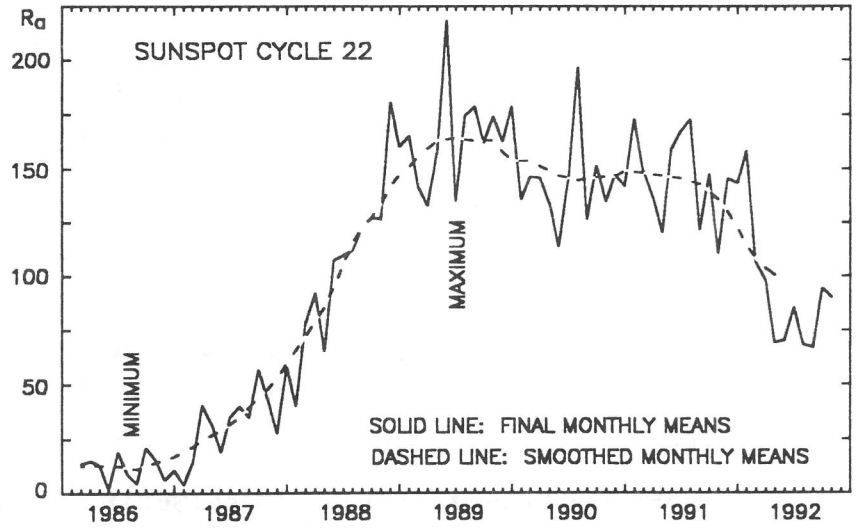
American Relative Sunspot Numbers for November

	R_a Final				
1)	102	11)	80	21)	90
2)	84	12)	79	22)	88
3)	65	13)	57	23)	109
4)	83	14)	69	24)	109
5)	88	15)	76	25)	113
6)	87	16)	89	26)	114
7)	93	17)	100	27)	112
8)	74	18)	98	28)	97
9)	77	19)	102	29)	83
10)	78	20)	102	30)	74

Mean: 89.1
Number of reports: 99



November Summary: Solar activity was primarily low during the first six days of November, although events on one day resulted in a high activity level. On November 2nd - over a day beyond west limb passage - NOAA/USAF Region 7321 (S25, L070, EKC) produced the most powerful solar flare since June, 1991: a X9.0 Tenflare. It is interesting to note that this event was only the tenth class X flare to occur during 1992. Otherwise, the Sun was relatively quiet, with only one (optically uncorrelated) class M flare recorded.

The proton event which began on October 30th after the eruption of a class X1/2B flare in Region 7321, reached maximum (10 MeV) on October 31st, and ended on the 6th. This event, eventually bolstered by effects of the X9 flare mentioned above, surpassed the 100 p.f.u. threshold for approximately one hour on the 2nd. The associated polar cap absorption ended on the 3rd. A sudden impulse (60 nT at Boulder), probably linked to the X1 flare, was recorded on the 1st.

Activity continued to be low between the 7th and 17th; no solar flares occurred which exceeded class C intensity. An active prominence was observed on the Sun's east limb near the equator on the 9th, and a moderately-sized filament disappeared from the SE quadrant on the 10th. The geomagnetic field was quiet to unsettled during the first two days of the period, with brief intervals of storm conditions from the 9th to 13th.

Solar activity climbed into the moderate range on the 18th after the eruption of a class M1.3/2N flare in Region 7345 (S24, L063, EAI). Region 7345 was the return appearance of the spot-group previously numbered 7321; a region which produced X1 and X9 flares (see above) last rotation. Otherwise, activity was low. The Earth's magnetic field was quiet to unsettled during the period.

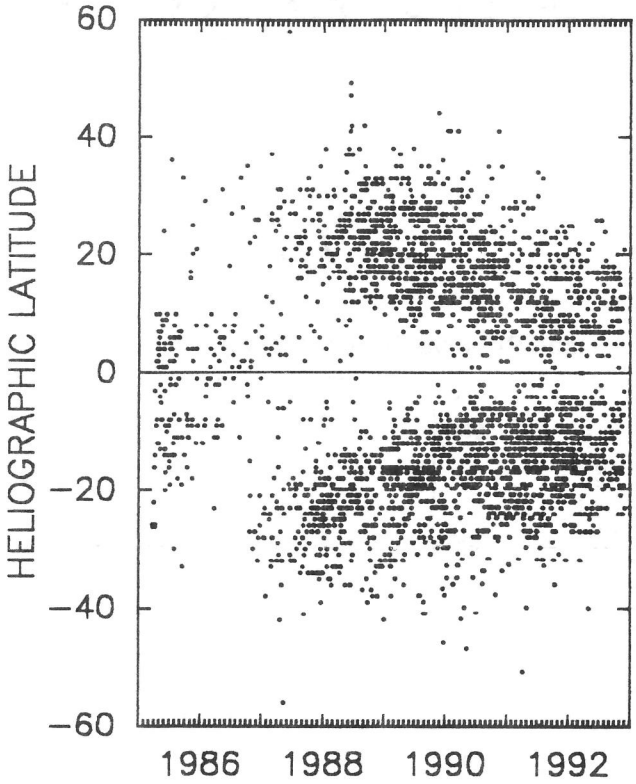
Activity was low and moderate during the remainder of November. Regions 7348 (N13, L342, DAO) and 7342 (S08, L136, CSO) each spawned class M flares - on the 22nd and 23rd respectively. An uncorrelated class M flare was also recorded on the 22nd. The final two class M flares during November were produced by two rather nondescript spot-groups: southern Regions 7351 (BXO) and 7353 (CRO) each spawned single events on the 29th and 30th.

Geomagnetic storm conditions associated with a recurrent coronal hole occurred during the third week of the month. Other events of interest included the disappearances of thirty and nine-degree-long filaments from the Sun's NE quadrant on the 27th/28th. For the first time since June, 1988, the smoothed mean American Relative Sunspot Number dropped below 100; the May, 1992, value is 99.5.

The estimated mean American Relative Sunspot Number for 1-14 December is 86. Three class M flares have been recorded during this interval. None were major events.

[A portion of this information was obtained from the **SELDADS** data-base.]

Butterfly-Diagram Showing the Locations of Emerging Sunspot Groups During Cycle Twenty-Two



(From data contained in Preliminary Report and Forecast of Solar Geophysical Data and Solar-Geophysical Data.)

Sudden Ionospheric Disturbances (SES) Recorded During October, 1992

Records were received from A3,9,40,50,59,61,62,63,65,66,67,68,69,70,71,72,73,74,75,76.

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	De
1	1001	1-	5	10	0715	1+	5	24	0910	1-	4	28	2047	1	5
1	1631	1-	5	10	1234	1	5	24	1329	1-	5	29	0740	2	5
1	2155	2	5	10	1405	1	5	24	1622	1-	5	29	1108	1+	5
2	0747	2	5	10	1728	1+	5	25	1243	1	5	29	1419	1-	5
2	1054	1-	5	11	0204	1-	5	25	1329	1-	5	29	1457	1	5
2	1252	1	5	11	1758	1+	5	25	1700	1	5	29	1615	2	5
3	1831	1+	5	11	2259	1	5	25	1742	2	5	29	1644	1	5
3	2005	1-	5	12	1636	1-	5	25	1848	2+	5	29	1703	1	5
3	2046	1	5	12	1900	1	5	25	2007	1+	5	30	0703	1	5
4	0029	1-	5	12	1923	1-	5	26	1501	1-	5	30	0808	2	5
4	1603	1-	3	12	2154	1-	5	26	1602	2	5	30	0904	1-	5
4	1616	1-	5	13	0014	1-	5	26	1636	1+	5	30	1132	1	5
4	2000	2	5	13	1305	1	5	26	1810	3	5	30	1304	1	5
4	2225	2+	5	13	1610	1+	5	26	2001	1-	5	30	1333	1-	5
5	0652	1-	5	14	1935	2	5	26	2005	2	5	30	1350	2	5
5	0927	2	5	18	1158	1-	5	27	0658	1+	5	30	1430	1-	5
5	1521	2+	5	18	1400	1-	5	27	0738	1	5	30	1546	1	5
5	1857	1-	5	19	0940	2	5	27	0830	1+	5	30	1618	2+	5
5	1937	1	5	19	1315	1+	5	27	0939	1	5	30	1713	3+	5
6	1217	1+	4	19	1759	2	5	27	1140	1	5	31	1031	2+	5
7	0757	1	5	20	0913	1-	5	27	1355	1-	5	31	1154	1	5
7	1014	2+	5	20	1212	1-	5	27	1404	2	5	31	1216	1-	5
7	1214	1-	5	20	1347	1-	5	27	1628	1-	5	31	1306	1-	5
7	1504	2+	5	22	1053	1-	4	27	1704	1-	5	31	1414	1-	5
7	1941	1-	5	22	1531	1-	5	28	0848	1-	5	31	1423	1	5
7	2004	1-	5	22	1845	1+	5	28	1012	1	5	31	1544	1	5
7	2013	1-	5	22	1929	1-	5	28	1152	1-	5	31	1643	1-	5
7	2045	2	5	22	2014	1-	5	28	1409	2	5	31	1659	1	5
7	2149	1-	5	22	2033	1+	5	28	1532	1	5	31	1755	1-	5
8	1351	1-	5	23	1613	2	5	28	1805	1-	5				

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