

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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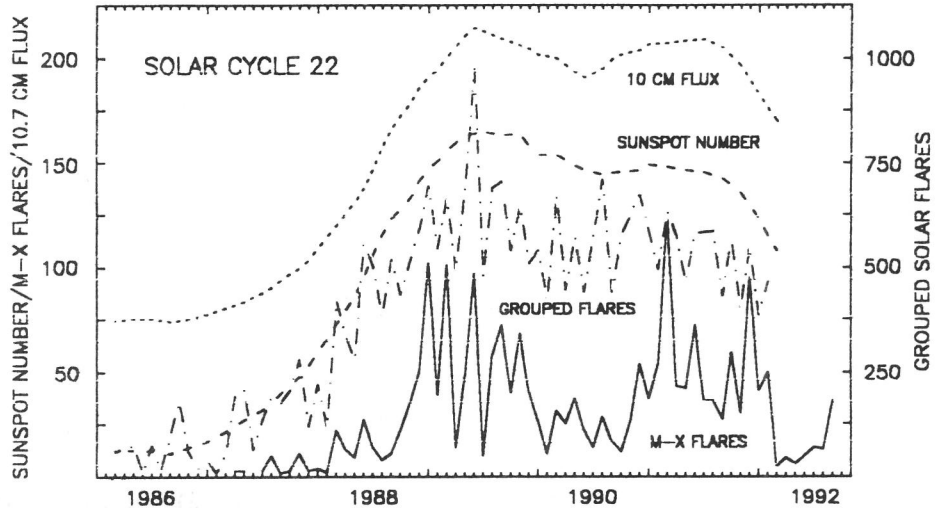
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September 1992

American Relative Sunspot Numbers for September

		R _a Final			
1)	48	11)	61	21)	67
2)	49	12)	71	22)	69
3)	54	13)	84	23)	81
4)	54	14)	80	24)	87
5)	53	15)	70	25)	79
6)	55	16)	68	26)	82
7)	44	17)	63	27)	86
8)	44	18)	58	28)	66
9)	61	19)	68	29)	74
10)	59	20)	68	30)	77

Mean: 66.0
 Number of reports: 98



September Summary: Solar activity varied between low and very low during the first few days of September. The geomagnetic field was quite active however, with periods of major to severe storm conditions linked to a recurrent coronal hole. Aurorae were readily apparent from sites as low as latitude forty-one degrees between the 2nd and 5th of September.

This lull was to be short-lived. NOAA/USAF Region 7270 (S10, L037, EKC) began an onslaught of activity when it produced a class M2.5 flare late on the 4th. During the next five days this event was followed by two class X flares and no fewer than twenty class M flares - two of them major events - all in the same spot group. Region 7276 (N16, L262, DAO), the reappearance of old active Region 7260, rotated onto the visible hemisphere on the 7th and promptly spawned two additional class M events, adding a third on the 8th and a fourth on the 10th. Four class M flares without optical correlation were also recorded on the 6th, 9th and 11th.

Minor to major geomagnetic storm conditions began on the 8th as a result of the class X flares referred to above. Prolonged class M flare activity produced one sudden impulse (52 nT) on the 9th and a second on the 10th (54 nT), along with occasional severe storm conditions and a small Forbush decrease. Numerous reports of aurorae, viewed during the 8-11th time frame, have been received from upper-middle and high latitude locations. The major magnetic storm and Forbush decrease ended around midday on the 11th, and daily activity levels returned to low.

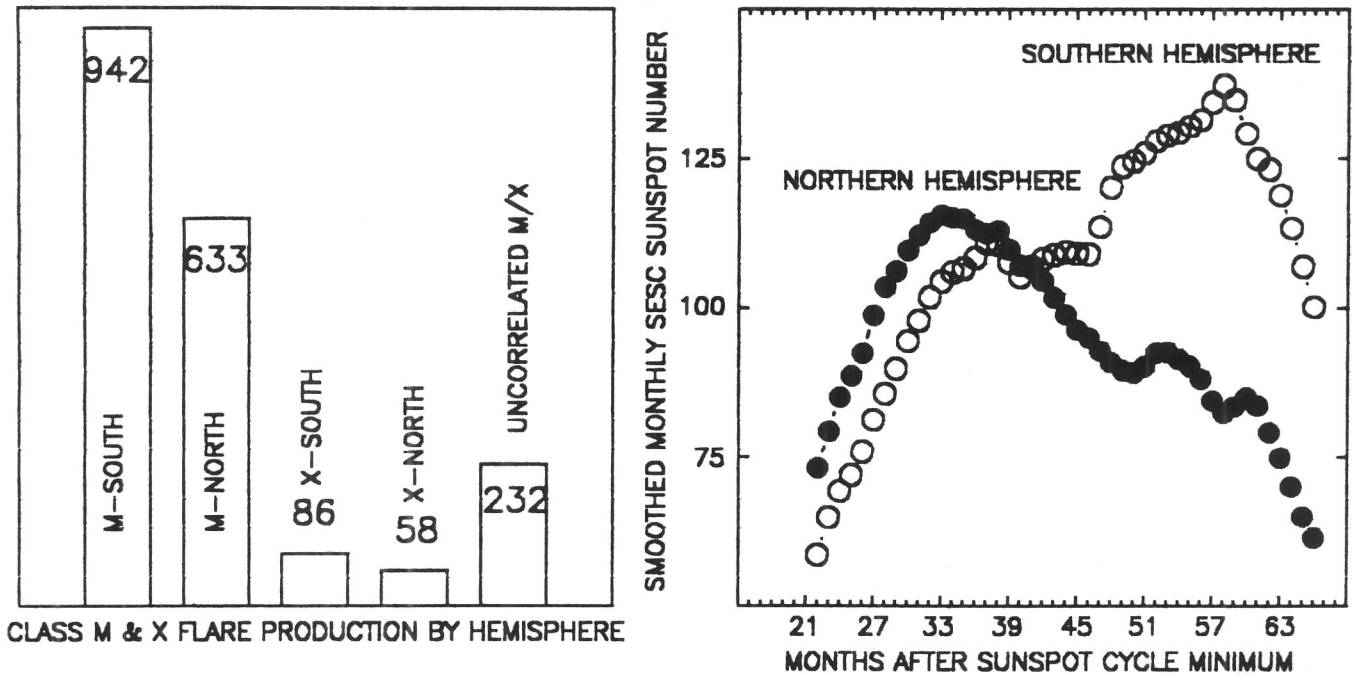
Activity was low until the 15th and moderate on the 16th and 17th. Region 7276 regained some of its former complexity and spawned two additional class M flares on the 16th and two on the 17th. The geomagnetic field was quiet to unsettled with a few periods of active conditions for several days; then a major storm (without an obvious source) began near midday on the 17th, and a small sudden impulse was observed later in the day. Conditions improved to unsettled after noon on the 18th. Aurorae were common in the extreme northern United States and Canada on the 16/17th.

Solar activity was low and very low during the remainder of September. No flares reached the class M intensity threshold. Region 7270 (see above) returned on the 24th and was designated Region 7294 (S12, L045, HSX). A sudden impulse (15 nT) was recorded at Boulder on the 25th. A large (~40 degree) filament disappeared from the Sun's SE quadrant on the 29th. The geomagnetic field was mostly quiet or unsettled until the 29th when isolated instances of major to severe storming occurred. Conditions subsided to minor storm levels on the 30th. Aurorae were widely observed across the northern United States and Canada on the 28/29th and 30th/1st. This disturbance may be related to several solar filaments which disappeared on the 24th, and/or coronal hole activity. The smooth-mean American Relative Sunspot Number for March, 1992, declined to 107.1.

The estimated mean American Relative Sunspot Number for 1-14 October is 93. The Sun continued to be fairly active during the first half of October. Eight class M flares have been recorded in this interval; none were major events.

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

Hemispherical Activity During Solar Cycle Twenty-Two



Sudden Ionospheric Disturbances (SES) Recorded During August 1992

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

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def
1	1056	1-	5	6	1447	1+	5	17	1023	1+	5	21	0847	1+	5
1	1832	1-	5	6	2043	1-	5	17	1423	1	5	21	0937	2	5
2	0120	1-	5	7	1458	1+	5	17	1701	1	5	21	1032	1	5
2	1010	2	5	7	2058	1	5	17	1844	2	5	21	1106	1+	5
2	1353	1	5	8	1259	1	5	17	2039	1	5	21	1200	2	5
2	1421	1+	5	8	1616	1	5	17	2118	2	5	21	1248	1-	5
2	1504	1-	5	8	2011	2	5	18	0002	2	5	21	1445	1-	5
2	1810	1-	5	9	1254	1-	5	18	1328	1+	5	21	1833	2	5
2	1931	2+	5	9	1537	1	5	18	1411	1-	5	22	0722	2+	5
2	2022	1-	5	9	1646	1+	5	19	0608	1-	5	22	0847	1-	5
2	2302	2+	5	10	0812	1	5	19	0945	1-	5	22	1240	1+	5
3	0307	1	5	10	1209	1	5	19	1228	1-	5	22	1338	2	5
3	0632	1-	5	10	1943	1+	5	19	1944	1+	5	22	1440	1-	5
3	0702	2+	5	10	2102	1+	5	19	2011	2+	5	22	1511	2+	5
3	1010	1-	5	10	2230	1+	5	20	0644	1	5	22	1714	1-	5
3	1316	1-	5	11	0132	1-	5	20	0907	2+	5	22	2151	1-	5
3	1845	2+	5	11	1349	2	5	20	1213	2	5	23	0717	2+	5
3	2046	1-	5	11	2227	2	5	20	1433	2	5	23	0922	1-	5
4	0725	2	5	12	2036	2	5	20	1514	1	5	23	1631	1-	5
4	1335	1	5	13	1951	1+	5	20	1612	2	5	23	1954	1+	5
4	1510	2	5	14	0000	2	5	20	1725	2	5	23	2043	1	5
5	1425	1	5	14	1926	1-	5	20	1802	1	5	24	0959	2+	5
5	1500	1+	5	15	0750	1-	5	20	2036	2+	5	25	1702	2+	5
5	1631	1-	5	15	1737	2	5	20	2209	2	5	25	1908	2+	5
5	2127	1+	5	16	1358	1	5	20	2245	2	5	29	1718	2	5
6	1221	1-	5	16	1553	1-	5	21	0017	2	5	30	0707	1+	5

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