

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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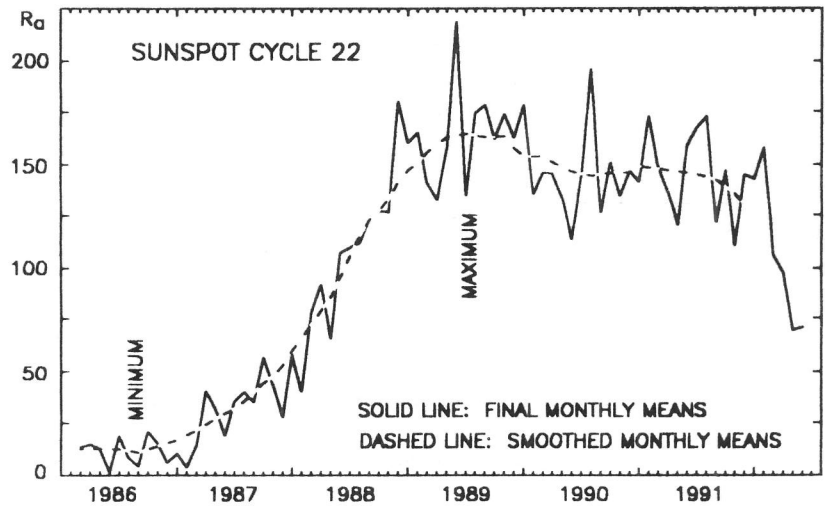
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June 1992

American Relative Sunspot Numbers for June

		R _a Final			
1)	32	11)	87	21)	61
2)	47	12)	106	22)	76
3)	74	13)	88	23)	83
4)	88	14)	81	24)	79
5)	81	15)	62	25)	66
6)	78	16)	65	26)	54
7)	67	17)	72	27)	33
8)	64	18)	61	28)	51
9)	81	19)	72	29)	71
10)	78	20)	58	30)	73

Mean: 69.6
 Number of reports: 100



June Summary: Solar activity was low and very low between the 1st and 4th; no flares exceeded class C intensity. The number of disappearing filaments typically rises during the declining portion of a solar cycle. In keeping with this characteristic, filaments exited the Sun on a daily basis through the 3rd. However, little or no terrestrial effects from these phenomena were encountered, and the geomagnetic field was mostly quiet.

The Sun's activity level was low and moderate from the 5th through 11th. On the 7th, NOAA/USAF Region 7186 (N08, L119, DSI) spawned the first class M flare (M2.7/2B) to be recorded since May 8th, and followed with a second such event - rated M1.5/1B - on the next day. The magnetic field experienced periods of minor storm conditions from the 8th through the 11th. The earlier of these disturbances do not appear to be related to a particular solar event, however the source of later disruptions may be the M1 flare described above, or coronal hole activity.

Activity varied from very low to low between the 12th and 24th; only class C or lesser-intensity solar flares were recorded. An eruptive prominence stretching outward to 0.47 solar radii was observed on the SW limb on the 21st, but otherwise the Sun was relatively quiet.

The geomagnetic field experienced storm conditions ranging from minor to severe (depending upon latitude) on the 12th, possibly related to a class C flare which occurred on the 9th. The source of unsettled conditions immediately thereafter may be coronal hole activity and/or a filament disappearance on the 12th. A brief period of minor storming on the 24th was probably linked to coronal hole activity.

On the 25th, Region 7205 (N10, L311, DKC) produced two class M flares (M1.0/1N, M1.4/1B) and the first class X flare since February: a Tenflare with an intensity/optical rating of X3.9/2B. A proton event related to this activity began later that day.

Solar activity ranged between low and high during the remainder of June. One class X, and three class M flares (M1.2/1F and optically un-correlated M1.1 and M1.6 events) occurred. One of the class M flares and the lone X-level event (X1.8/SF Tenflare) were produced by Region 7205; the latter flare when the spot-group was two days behind the Sun's west limb.

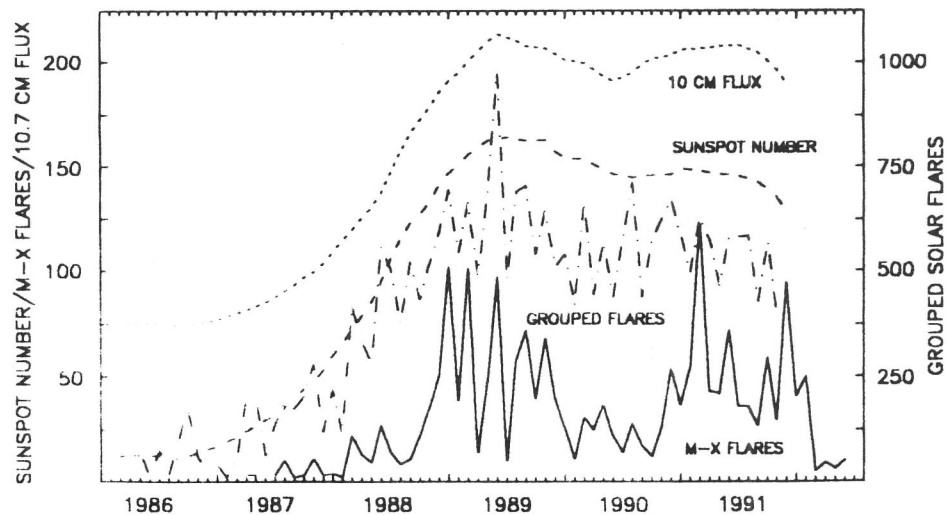
The proton event sparked by the class X flare which erupted on the 25th peaked on the 26th (390 p.f.u.), dipped below event threshold, rose again, and ended on the 29th. Ground level protons were reported by some stations. A long filament located to the east of Region 7205 disappeared on the 25/26th. A sudden impulse associated with the X3 flare was recorded on the 27th; a major geomagnetic storm associated with these activities began on the 29th and ended near midday on the 30th. The smoothed monthly-mean for December, 1991 is 128.6.

The estimated mean American Relative Sunspot Number for 1-14 July is 97. Activity during this interval has increased when compared with that recorded in June. One class X, and nine class M solar flares have been detected during the

first two weeks of July. In addition to the class X event, one of the M-level flares was a major event ($\geq M5$). Relative sunspot numbers have also increased, with as many as eleven spot-groups present on one day. Geomagnetic activity has been mostly in the quiet to unsettled range, with occasional storm conditions at some latitudes.

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

NOTE to Observers: As solar cycle twenty-two declines, sunspot observers are cautioned to be especially alert to the presence of the smaller and fainter-type sunspot groups, particularly those which appear near the limbs. These types of groups will form an increasingly large proportion of the daily relative sunspot number as minimum approaches.



-- editor --

Solar Activity Indices During Cycle Twenty-two

Sudden Ionospheric Disturbances (SES) Recorded During May 1992

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

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	De
1	1148	1-	5	5	1910	1	5	15	0025	1-	5	24	1345	1-	5
1	1609	1-	5	5	1933	2	5	15	0403	1-	5	24	2223	1-	5
1	1730	1	5	5	2015	2+	5	15	1428	1-	5	24	2317	1-	5
1	1859	1-	5	5	2103	1+	5	17	2118	1	5	25	1311	1-	5
1	2259	1	5	6	0431	2	5	18	1654	1-	4	25	1407	1-	5
2	0000	1-	5	6	1003	1-	5	18	1705	1-	5	25	1639	1-	5
2	1552	1-	5	6	1240	1	5	18	1746	1	5	25	1939	1-	5
2	1613	2	5	6	1922	1-	5	18	1843	1	5	26	0848	1	5
2	1716	1-	5	7	1207	1-	5	18	1939	1	5	26	2004	1	5
2	1830	2+	5	7	1400	1-	5	18	2219	1-	5	27	0111	1	5
2	2224	1-	5	7	1535	1+	5	18	2307	1-	5	27	1129	1-	5
3	0855	2+	5	7	1807	1-	5	19	1138	1+	5	27	1200	1-	5
3	1742	1-	5	7	2153	1-	5	19	1546	1+	5	27	1439	2	5
3	1939	1	4	7	2349	1-	5	20	0908	1-	5	27	1536	1-	5
4	0015	1-	5	8	1207	1	5	20	1615	1-	5	27	2000	1-	5
4	0446	2+	5	8	1336	1-	5	21	0613	1-	5	27	2229	1-	5
4	0940	2+	5	8	1524	3	5	21	0715	1-	5	28	1514	1	5
4	1134	2+	5	8	1803	1-	5	21	1222	1-	5	28	1815	1-	5
4	1345	1-	5	9	2007	1+	5	21	1344	1-	5	29	0530	1-	5
4	1408	1-	5	9	2338	1-	5	21	1400	1-	5	29	1026	1+	5
4	1430	1	5	10	1515	2	5	21	1809	2	5	29	1303	1-	5
4	1536	1-	5	10	1715	1-	5	22	1446	1-	5	29	1448	1-	5
4	1730	2	5	11	0644	1-	5	22	1726	1	5	30	1759	1-	5
4	1847	1-	5	11	1309	1-	5	22	2001	1-	5	30	2217	1-	5
4	2019	3	5	12	1755	1	5	23	0054	1-	5	31	0916	1	5
5	1332	1-	5	12	1830	1	5	23	1233	1-	5	31	1246	1	5
5	1510	1	5	13	1429	1	5	23	1659	1	5	31	1458	1-	5
5	1651	1	5	14	0040	1-	5	23	2240	1-	5	31	1658	2	5
5	1713	1+	5	14	1603	1	5	24	1029	1-	5	31	2353	1+	5
5	1805	1	5	14	2119	1	5								

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