

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

Peter O. Taylor, editor
 P O Box 5685
 Athens, GA 30604-5685 USA



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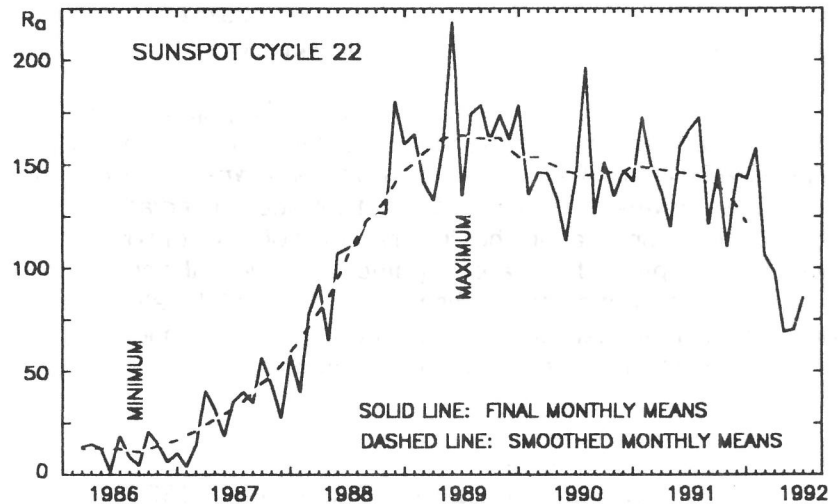
July 1992

American Relative Sunspot Numbers for July

		R _a Final	
1)	77	11) 140	21) 64
2)	69	12) 142	22) 66
3)	66	13) 117	23) 56
4)	68	14) 132	24) 43
5)	74	15) 140	25) 33
6)	85	16) 151	26) 49
7)	90	17) 128	27) 57
8)	92	18) 106	28) 45
9)	107	19) 71	29) 54
10)	124	20) 68	30) 53
		31) 46	

Mean: 84.3

Number of reports: 99



July Summary: Activity varied from low to high during the first nine days of July. One class X, and seven class M flares were recorded. The class X, and six of the class M events were spawned by a single spot-group, NOAA/USAF Region 7220 (S12, L029, EKI). A seventh M-level event was optically uncorrelated. The class X flare (X1.2/1B Tenflare) occurred on the 8th, accompanied by a 2695 MHz radio burst. However, its location and signature did not allow significant terrestrial effects to occur. That event was followed on the 9th by a second major flare (M6.7/2B). The geomagnetic field was generally quiet or unsettled, with brief periods of storm conditions early in the interval.

Solar activity was low, then moderate and high, between the 10th and 16th. Region 7229 (N23, L315, CSO) spawned July's eighth class M flare (M1.0/SN) on the 14th. Region 7222 (S11, L014, FKI) - the largest spot-group on the disk during the week - followed with a second such event (M2.7/1N) several hours later. On the 16th, Region 7222 combined with nearby Region 7220 to produce a third class M flare; a major event rated M6.8/2B (Tenflare). The magnetic field was quiet to active during the period, with occasional storm conditions at high-latitudes. A portion of the latter activity appears to be related to coronal hole effects.

The Sun's activity level was predominately low with one day in the moderate range between the 17th and 23rd. Region 7220 was credited with the week's strongest flare, a M2.0 X-ray event on the 18th associated with a bright surge on west limb. Region 7227 (N13, L319, BXO) produced the only other class M flare during the period, a M1.0/SF which also occurred on the 18th. Other events of interest included impulsive prominence activity on the SW limb on the 20th, and an eruptive prominence identified with Region 7229 as it approached the Sun's west limb on the 22nd-23rd. The magnetic field was quiet or unsettled until the 22nd when storm conditions linked to a coronal hole occurred.

Activity was low or very low during the remainder of July. No flares attained class M status. Additional events included an eruptive prominence on the SW limb on the 24th which extended out to 0.28 solar radii, a few small filaments which disappeared from the central disk on the 26th, and a second prominence which erupted on the west limb near the solar equator on the 27th. The geomagnetic field was quiet to unsettled with a brief period of storm conditions on the 28th. The smoothed mean American Relative Sunspot Number for January, 1992 is 121.5.

The estimated mean American Relative Sunspot Number for 1-14 August is 91. Solar activity was mainly low during this interval; only five flares reached class M intensity. The geomagnetic field was especially disturbed during the first week of August due to a combination of conditions ranging from a disappearing filament on the 1st to flare and coronal hole effects.

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

NOTE TO OBSERVERS: EFFECTIVE IMMEDIATELY, Our DECnet (SPAN) address has changed from 9555 to 34367. Our area code for FAX messages has also changed from 404 to 706. All other addresses, regular mail and e-mail, remain as before.

White-Light Flare Update

Donald Neidig, Philip Wiborg and Lou Gilliam (*National Solar Observatory/Sacramento Peak*) have recently submitted a joint paper, "Physical Properties of White-Light Flares Derived From Their Center-to-Limb Distribution," to *Solar Physics*. The WLF observations of several **Solar Division** collaborators (M. Alexescu/Romania, R. Battaiola/Italy, K. Fujimori/Japan and H. Keller/Switzerland) are included in this research, which focusses on the characteristics of WLFs and solar atmospheric regime. In expressing his appreciation to the editor for forwarding these data, Dr Neidig goes on to explain:

'When you read the paper you will note that the heliographic location that allows the greatest discrimination among various flare models is near the limb (on the disk, within 15° of the limb). Contributions by skilled amateur observers are greatly appreciated in this work. In fact, this is an area where amateurs could make a significant contribution in building a statistical base. However, it is necessary that any such observations be carefully recorded and documented; this would include the active region location, the Universal Time of flare start or maximum to within a minute, the approximate duration of the event, a description of the flare (brightness relative to the surrounding photosphere, color, shape; a drawing would be helpful), and a description of the observing instrument (location, aperture, focal length, filter bandpass, etc.).'

Observers should note that, as in the past, any future observations of these powerful events should be sent to the editor for preliminary verification. When this is completed, confirmed reports will be forwarded to Dr Neidig.

- editor -

Sudden Ionospheric Disturbances (SES) Recorded During June 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	1244	1+	5	10	1316	1+	5	19	2340	1+	5	25	0106	1-	5
4	0414	1	5	10	2000	1-	5	20	0434	1+	5	25	0616	3	5
4	1655	1+	5	10	2133	1-	5	21	1132	1-	5	25	1100	1-	5
4	1914	1-	5	11	1400	2	5	21	1213	1	5	25	1414	2+	5
5	1422	1+	5	11	1914	2	5	21	1257	1-	5	25	1756	3	5
5	1613	1	5	11	2250	1-	5	21	2105	1+	5	25	1819	1-	5
5	1911	2+	5	12	0430	1-	5	23	0235	1-	5	25	2005	3+	5
5	2259	1-	5	12	0701	1-	5	23	0315	1-	5	26	0410	1	5
6	0926	1-	5	13	0726	1-	5	23	0731	1-	5	26	1253	1-	5
6	1116	1+	5	13	1243	1	5	23	1100	2+	5	26	1303	1-	5
6	1404	1+	5	13	2131	1	5	23	1538	1-	5	26	1320	1	5
6	1957	1-	5	15	1050	1-	5	23	1600	1	5	26	1606	1+	5
7	0144	2+	5	15	1200	1-	5	23	1746	1	5	26	1712	2	5
7	1241	1-	5	15	1314	1-	5	23	1845	2	5	27	0205	1	5
7	1317	1-	5	15	1900	1	4	23	1940	1-	5	27	1228	1-	5
7	1445	2	5	16	1534	1-	5	23	2038	1+	5	28	0508	3	5
7	2021	1	5	16	1733	2	5	23	2125	1	5	28	1405	2+	5
8	0846	2+	5	16	2059	1-	5	23	2217	2	5	28	1653	1-	5
8	1331	1-	5	17	1053	1	5	23	2327	1+	5	28	1711	1	5
8	1444	1-	5	17	1202	1-	5	24	0115	1-	5	28	2334	2	5
8	1453	2+	5	17	1736	1-	5	24	0942	1+	5	29	0832	1	5
8	1600	2	5	17	1858	1-	5	24	1207	1-	5	29	1909	1	5
8	1755	1	5	18	1936	2+	5	24	1245	1-	5	30	1008	2	5
8	1901	1	5	18	2031	2	5	24	1623	1+	5	30	1240	2	5
8	2230	1-	5	19	1118	1-	5	24	1705	1	5	30	1420	1+	5
9	0633	1	5	19	1427	1-	5	24	1854	1+	5	30	1615	1	5
9	1130	1-	5	19	1540	2	5	24	2132	1+	5	30	1743	1	5
9	2100	1	5	19	1733	1-	5	24	2357	1+	5	30	2112	1	5

SID Analysts: J. Ellerbe; S. Hansen; J. Knight; A. Stokes; M. Taylor; P. Taylor; B. Wingate

DECnet: 34367::ptaylor INTERNET: ptaylor%SELVAX.dnet@east.gsfc.nasa.gov FAX: [USA] 706-353-2336

NOTE: Network contributors are urged to submit their reports via these services whenever possible.