

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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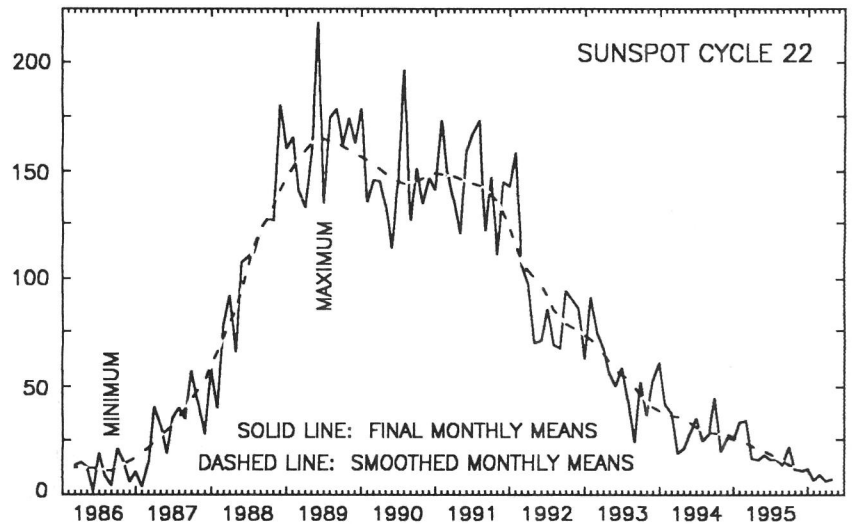
Volume 52 Number 5

May 1996

American Relative Sunspot Numbers for May

		R _a Final			
1)	0	11)	29	21)	0
2)	0	12)	18	22)	1
3)	0	13)	18	23)	1
4)	0	14)	16	24)	0
5)	0	15)	14	25)	0
6)	15	16)	11	26)	0
7)	13	17)	9	27)	0
8)	13	18)	6	28)	0
9)	13	19)	0	29)	0
10)	19	20)	0	30)	0
				31)	0

Mean: 6.3
Number of reports: 90



May Summary: The Sun was relatively quiet until May 5th when class C flare activity picked up, boosting the daily activity level into the low range. The first of these events -- a C3 on the 5th detected by the *GOES* spacecraft, and a C2 on the 6th -- were without optical correlation. A coronal mass ejection may have occurred in conjunction with flare activity on the 5th. Class C flares (C2, C1 and C2 respectively) also erupted in **NOAA/USAF** Region 7962 (S05, L257, DSO) on the 7th and 8th (2). This group may have marked the return appearance of old Region 7957. The geomagnetic field was in the quiet to unsettled range throughout the first nine days of May, and the daily >2 MeV electron fluence was normal.

Solar activity was mostly very low between the 10th and 16th. The lone exception occurred when Region 7962 (S07, L257, DSO) produced a single class C1 flare on the 11th. The highlight of the period, however, was the appearance on the 10th of Region 7963 (N25, L243, BXO), the first verified high-latitude spotted region from the coming solar cycle. Its spotted presence on the visible hemisphere was fairly short (two days), but such mileposts are important to those of us who eagerly await the arrival of Cycle 23. The geomagnetic field was quiet to unsettled or active, and the daily >2 MeV electron fluence continued to be in the normal range.

Region 7962 -- by any standard a prolific flare producer for this cycle phase -- exited the visible hemisphere on the 17th, leaving the disk spotless until the 22nd when new cycle Region 7965 (S38, L074, AXX) made a brief appearance as a spotted group. Other than the fading on the 22nd and 23rd of small filaments in the northern hemisphere of the Sun, little noteworthy activity occurred between the 17th and 23rd. The geomagnetic field continued to be at quiet to unsettled or active levels, and the >2 MeV electron fluence was normal.

Activity was very low during the remainder of May. Beginning with the 24th, the visible hemisphere was spotless. New cycle Region 7965, which produced spots on the 22nd only, continued its transit of the disk as H-alpha plage until fading on the 28th. Several spotless new cycle plage regions appeared during the month. The geomagnetic field was quiet to unsettled, and the >2 MeV electron fluence was in the normal range. As expected, the smoothed mean American Relative Sunspot Number for November 1995 continued its decline, dropping to a value of 11.8.

The estimated mean American Sunspot Number for 1-15 June is 10. Solar activity was very low between June 1st and 15th. New cycle spotted Region 7967 (N35, L327, AXX) was present on the Sun's visible hemisphere on the 1st and 2nd, but little other noteworthy activity occurred. The geomagnetic field was mostly quiet with occasional periods of unsettled conditions until the 6th, when minor storming occurred. The latter occurrence has been attributed to an earlier filament disappearance. The >2 MeV electron fluence was normal.

[A Portion of the above information was obtained from **SELDADS** and **BBSO**]

Viewing The Solar-Terrestrial Environment from Australia:

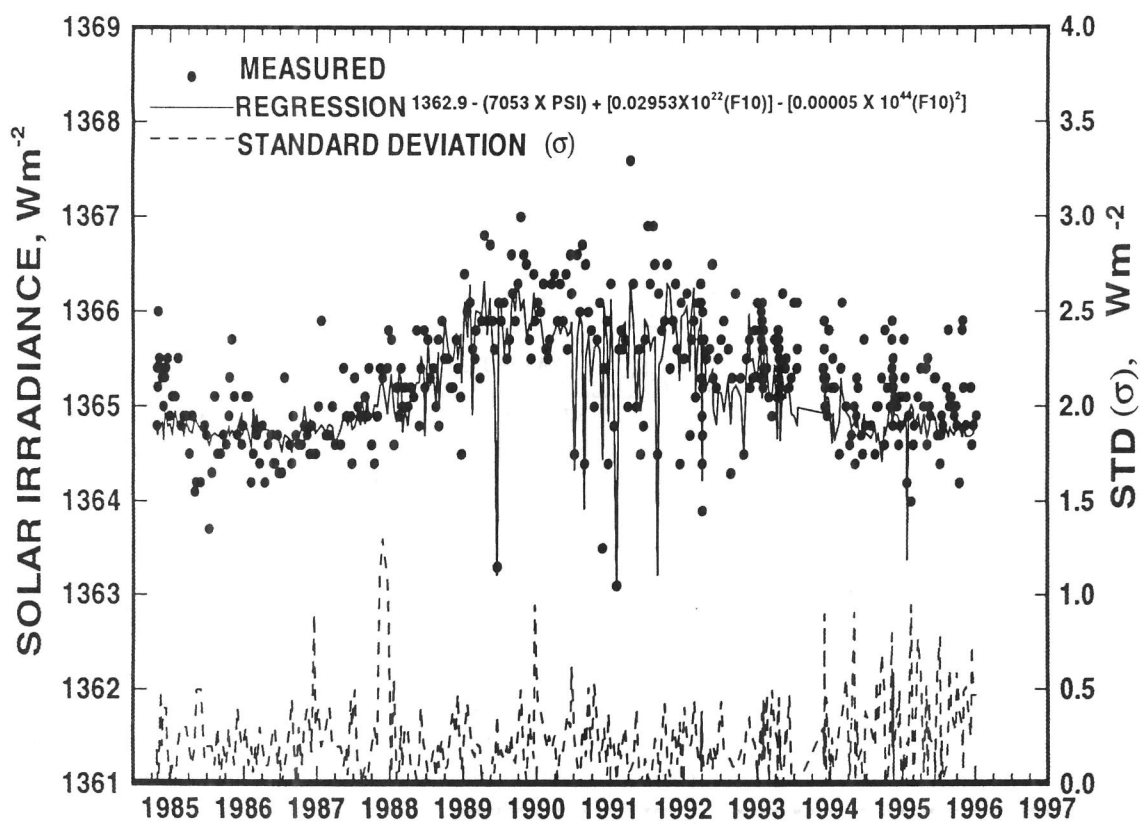
According to Dr. Richard Thompson, Director of the *IPS Radio and Space Services* in Sydney, Australia, the IPS has established a large collection of information pertaining to the Sun and the solar-terrestrial environment (especially HF radio communications) on the World-Wide Web. The IPS Web pages contain information about the Sun; the solar cycle; the geomagnetic field; the ionosphere; the effects of space weather on a range of systems; and a wide range of more general topics.

Thus the IPS pages are a valuable source of material for those wanting to learn more about this interesting subject. The material can be accessed at the following Web address:

<http://www.ips.gov.au/papers>

For more information, contact the editor at any of the addresses listed in this publication.

Earth Radiation Budget Satellite (ERBS) Total Solar Irradiance Measurements



The ERBS total solar irradiance data (orbital averages of instantaneous measurements corrected for angle between instrument optical axis and the Sun and normalized to the mean Earth/Sun distance) for the period October 25, 1984 through December 1995 are plotted along with an empirical regression fit derived from least squares analyses between ERBS irradiances, photometric sunspot index (PSI) and 10.7 cm solar radio flux (F10). The standard deviation of the measurements are plotted at the bottom of the graph. The diagram and related information were taken from Solar-Geophysical Data, Number 620, Part II (April 1996).

Sudden Ionospheric Disturbances (SES) Recorded During April 1996

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

Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	Def	Day	Max	Imp	De
21	1943	1-	4	22	1706	1-	5	23	1730	1-	5	23	1958	1-	5
21	2058	1+	5	23	1620	1-	5	23	1748	1-	5	23	2214	1-	3
22	0448	1-	5												

Analysts: J. Ellerbe; S. Hansen; M. Hayden; P. King; A. Landry; G. Rosenberg; A. Stokes; P. Taylor; L. Witkowski.

Frequencies recorded (kHz): 16.8; 18.3; 19.6; 20.3; 21.4; 23.4; 24.0; 24.8; 30.6; 48.5; 51.6.