

Solar Bulletin

THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS— SOLAR DIVISION

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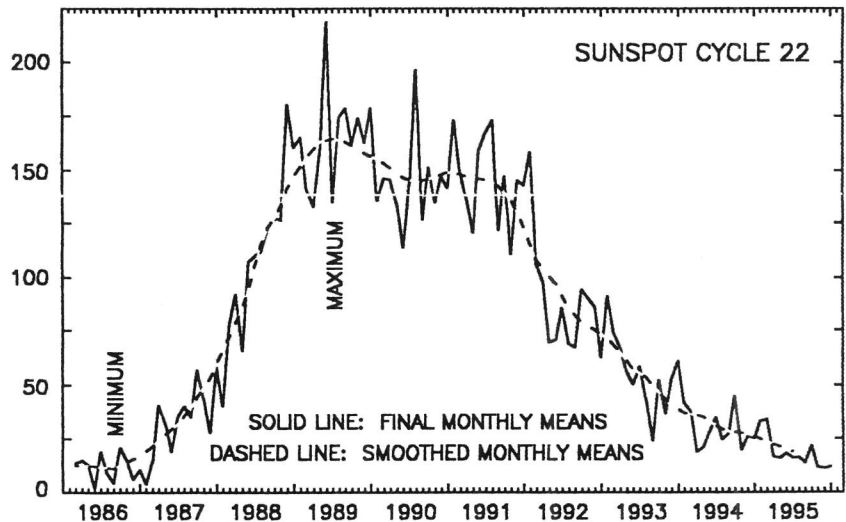
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American Relative Sunspot Numbers for January

| | | R _a Final | | | |
|-----|----|----------------------|---|-----|----|
| 1) | 13 | 11) | 0 | 21) | 8 |
| 2) | 16 | 12) | 0 | 22) | 2 |
| 3) | 20 | 13) | 0 | 23) | 0 |
| 4) | 29 | 14) | 0 | 24) | 7 |
| 5) | 40 | 15) | 0 | 25) | 0 |
| | | | | | |
| 6) | 38 | 16) | 0 | 26) | 9 |
| 7) | 31 | 17) | 0 | 27) | 9 |
| 8) | 34 | 18) | 0 | 28) | 10 |
| 9) | 16 | 19) | 0 | 29) | 9 |
| 10) | 10 | 20) | 0 | 30) | 17 |
| | | | | 31) | 12 |

Mean: 10.9
Number of reports: 92



January Summary: Several readers have requested an explanation of the daily solar activity rating which is used frequently in the **Summary**. Briefly, the rating is based on changes in the solar atmosphere typically associated with solar flares. According to *Space Weather Operations*, a very low rating is assigned when X-ray events during the day are weaker than class C; low after class C activity; moderate when 1-4 class M events occur; high after that number is exceeded, or 1-4 M5 or greater X-ray events are recorded; and very high after 5 or more class M5 or greater intensity events occur. Events rated M5 or greater are considered to be of major intensity.

The first four days of the new year continued the long string of very low solar activity levels, although the index climbed to low on the 3rd as a result of a class C1 flare in NOAA/USAF Region 7938 (N12, L187, DSI). Other events of note included a long series of optically-uncorrelated class B X-ray bursts on the 3rd/4th. The geomagnetic field continued to be quiet, with a short interval of minor storm conditions on the 3rd. The >2 MeV electron fluence was normal.

Solar activity was again low on the 5th after the eruption of a second class C1 flare in Region 7938, then declined to the now-familiar very low range between the 6th and 10th. Sunspot appearance during this interval was limited to three groups in the Northern Hemisphere. The geomagnetic field was mostly quiet through the 12th.

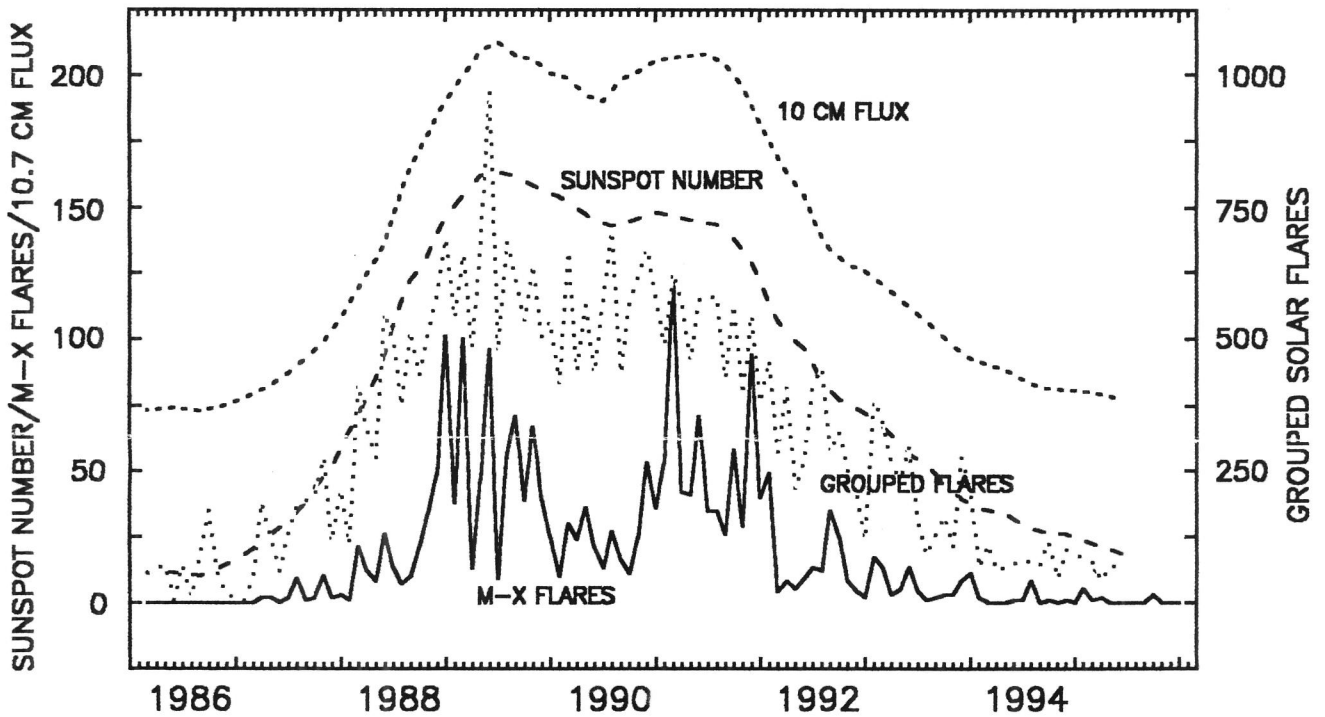
Beginning with the 11th, the Sun's visible hemisphere was spotless until a small spot made a brief appearance late on the 17th; as a result, solar activity continued to be very low. The geomagnetic field was at storm levels on the 13th/14th -- probably due to a coronal mass ejection. Similar conditions on the 15th, however, are attributed to the presence of a geoeffective coronal hole. The daily >2 MeV electron fluence was normal, becoming moderate on the 17th.

Activity was very low throughout the remainder of January. A small filament disappeared from the Sun's NE quadrant on the 21st/22nd, but otherwise the disk was relatively quiet. The geomagnetic field was mostly in the quiet to unsettled range. The >2 MeV electron fluence was moderate through the 19th, declined to normal for several days, and then rose slightly at month's end. The smoothed mean American Relative Sunspot Number for July 1995 is 17.7.

The mean estimated American Relative Sunspot Number for 1-14 February is 1. Solar activity continued to be very low during the first two weeks of February; the only group to appear during this interval was a type-C cluster which rotated around the west limb early on the 3rd. With the exception of sporadic storm conditions (mainly at high-latitudes) during the 10th-14th, the geomagnetic field was relatively quiet. The daily >2 MeV electron fluence remained in the low-moderate and normal range for much of the period, then became high on the 13th.

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

Some Indices of Solar Activity During Solar Cycle 22



Sources: 'SUNSPOT NUMBER' is the smoothed monthly-mean *American Relative Sunspot Number*. The '10 CM FLUX' (radio) values are also smoothed monthly-means. These data, along with the monthly totals of class 'M-X FLARES,' were obtained from the SWO Preliminary Report and Forecast of Solar Geophysical Data. Monthly 'GROUPED FLARE' totals were obtained from Solar-Geophysical Data. (When solar flares are grouped, multiple reports of the same event are lumped together and counted as one.)

-- the editor --

Sudden Ionospheric Disturbances (SES) Recorded During December 1995

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 |
|-----|------|-----|-----|-----|------|-----|-----|
| 13 | 2054 | 1 | 4 | 29 | 1702 | 1- | 4 |

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