

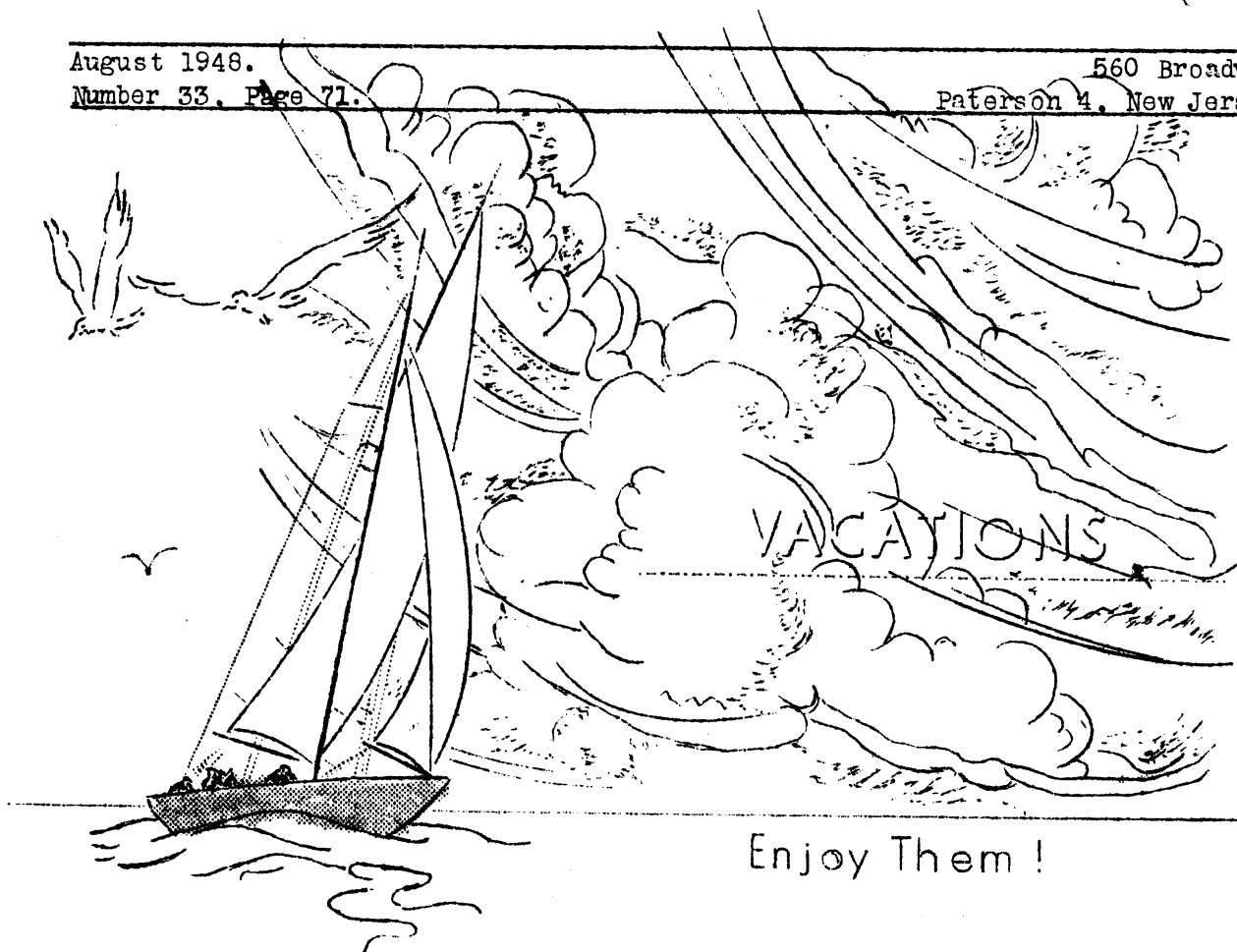
A.A.V.S.O.

SOLAR DIVISION BULLETIN.

Neal J. Heines, Editor.

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560 Broadway.  
Paterson 4, New Jersey.



This is the time of the year when most of us have a short respite from routine duties and obligations. Many of our observers who have portable telescopes take them along and carry on the work they love so much. This holds true also of those engaged in research. Many problems are solved and new ideas have their origin when more time for contemplation is available. Certainly one comes back from such a period refreshed with new enthusiasm.

Think of the Sun, however, it seem now that there will be no respite for it until at least 1952, it certainly has been very busy the past two or three months with plenty of activity still in the picture this coming fall and until, or perhaps through, next spring. We believe that because of the present (July) activity or rather, the inactivity of the south belt the values will be somewhat lower when reductions have been completed.

We received a very interesting letter from Mr. James Hillebrand this month. His academic work at Notre Dame University since last fall, deprived him of the use of his telescope there but his mind was ever on the solar work in which he is intensely interested. "Jimmie" is always figuring something out. See the Bulletin Supplements of January 1948 and June 1948. In looking over his data he thought that one of the observed groups had record returns and asked for definite information on the record long-lived group. Because this may be useful to others we give

this information verbatim. It is taken from Russel-Dugan-Stewart, Text Book, "Astronomy" Vol.1; p.201; par.233 , which reads as follows;

" Duration of the spots " .

Most sunspots are very short-lived phenomena. One fourth of all those shown on the Greenwich photographs lasted but a single day, and as many again, from, two to four days. These, as might be expected, were small spots; the larger ones are far from permanent. Out of some six-thousand (6000) groups observed in thirty-three years, only four hundred-sixty-eight (468) were observed to have a continuous existence into a second rotation of the sun, One hundred-fifteen (115) into a third, twenty-five (25) into a fourth, twelve (12) into a fifth, and but one into a sixth. In a single recorded instance ( 1840 - 1841 ) a spot persisted for eighteen months." This is the record thus far.

"Jimmie's next item was , " How about a Solar Division Library ? ". We, here, beleive it a splendid idea and have prepared a Questionaire for you to fill out as a supplemant to this Bulletin. When you have completed this please send same to Mr.James Hillebrand , 3508 Kensington , Detroit 24 , Michigan, who will prepare a summary for this office. Prompt action is very essential in order to arrive at a definite conclusion . Many of our Research affiliates no doubt will have Reprints that will be very useful to our observers and perhaps some duplicate volumes. An intense follow-up will be made just as soon as we receive the necessary summarization from Mr.Hillebrand. The Bulletin will announce results as soon as received.

Along the line of the above and preceeding item "Duration Of The Spots" we have sent for publication a paper prepared by Dr.James C.Bartlett on Solar Book-keeping which contains valuable information for observers and research workers alike. As soon as acceptance is assured we will make same known through the Bulletin.

In the last Bulletin, July 1948, No. 32, we asked that observers enter the ( Wolf ) Relative sunspot number to their reports. Instructions were included but we would like to add that it would be very advantageous if these numbers were written in , in red ink , or, red pencil.

With this Bulletin you will receive the New Form with a column added to it with the heading "R" where the Relative Numbers are to be placed hereafter. In addition to the new column we have extended the width of column "3" to  $\frac{3}{4}$ " instead of  $\frac{1}{2}$ " , which allows additional room for the individual Group Count.

Because a number of observers do not have previous issues of the Bulletin we again provide the Wolf Formula.

" Sunspot periodicity was exhaustively studied by Wolf at Zurich, who represented the spottedness by a system now called, Wolf's Sunspot Relative Numbers. These are computed by the formula :

$$r = k ( 10 g + f ).$$

in which  $r$  is Wolf's number,  $g$  the number of groups and single spots observed,  $f$  the total number of spots which can be counted in these groups and single spots combined, and  $k$  the multiplier which depends upon the condition of observation and the telescopes employed. Wolf took  $k$  as unity for himself when observing with a three inch telescope with a power of 64. A less favored or less assiduous observer would receive  $k$  greater than unity and one with

a larger telescope and good opportunities for observing would receive a fractional value of  $k$ . Wolf's numbers seem arbitrary, but are found by photographic comparisons to be closely proportional to the spotted areas on the sun. One hundred as a sunspot number corresponds to about 1/500 th., of the sun's visible disc covered by spots, including umbras and penumbras. "

### STATISTICS.

The total number of observed groups, here, for the month of June was 57.  
Total number of days with spots was 30.

Zurich's Preliminary Relative Sunspot Number was for June, 167.6 .

\* The highest number, as assigned at Solar Division Headquarters on July 16th., was 287, this was a medium sized group which made its first appearance on the 15th as coming from the invisible hemisphere on the east limb, in the south belt. This group was not visible at the early morning observation and was first seen at 1740 U.T. here.

\* This information is given in order that the Solar Division observers may check their group counting each month.

### Special.

We would like more participants in the Robert's project. Those who are contributing are doing splendid work and the data has proved of great importance to the High Altitude Observatory of Harvard University at Climax, Colorado, see Bulletin Supplement for January 1948.

Good News Flash Dr. Donald H. Menzel's Book "The Sun" ( I believe that will be the title ) is at the publisher for printing. Full details as to its procurement will be given as soon as it is available.

One may also care to buy a copy of Dr. M. Waldmeier's book " Sonne Und Erde " ( German Text ) from Genossenschaft Buchergilde Gutenberg , Morgartenstrasse 2, Zurich, Switzerland. Price 7.20 Francs (tax included)

For those of you interested in our Migratory Bird Project be sure to read, " Bird Migration and the Concept of Continental Drift " released in the current issue of Science July 9, 1948, Vol. 108. No. 2793 pp. 23-30.

YOUR CHAIRMAN WILL BE VERY BUSY THE LAST TWO WEEKS OF AUGUST - we hope.



# SPECIAL AUGUST SOLAR DIVISION SUPPLEMENT

## ON SEEING CONDITIONS.

To the previous reports submitted and published in former Bulletin Supplements we add two more . That of Mr. Demetrius P. Elias of Athens Greece and Mr. T. P. Maher of Oregon.

Mr. Elias.    Days Observed 243.                      1947

Date	Poor	Fair	Good	Excellent
Jan	3- 500- 403	4- 798- 526	4- 909- 545	0
Feb	4- 704- 439	2- 485- 326	14-3098-1815	2- 703- 318
Mar	2- 357- 234	3- 854- 517	19-4465-2496	2- 584-295
Apr	0	5-1165- 718	16-4009-2291	3- 635- 351
May	0	6-1306- 984	10-2851-1966	6-2573-1756
Jun	0	7-1447-1112	10-2090-1742	9-1921-1279
Tot. 7 Mos.				
11	1971 1391	29-6327-4460	78-18409-11707	28-7606-4972
%	141.7	141.9	157.2	153.0

Aug	1- 174- 135	5- 957- 761	10-2378- 1852	8-2448- 2091
Sep	2- 722- 537	3- 587- 487	11-2252- 1738	8-2505- 1732
Oct	3- 552- 486	1- 180 -158	11-2604- 2034	1- 276- 221
Nov	1- 278- 219	4-1075- 739	9-1804- 1137	5-1364- 785
Dec	3-538 - 336	1- 281- 155	7-1718- 944	3- 876- 407
Tot. 5 Mos.				

10-2264-1713	14-3080-2300	48-10756-7705	25-7549-5236
132.2	133.9	139.6	143.6

1948 Totals.

21-4325-3104	43-9407-6760	126-29165-19412	53-15125-10208
136.8	139.1	150.2	148.2

Final 28.7%

Mr. Maher.    Two Instruments.

1947

2" . 8-X Refractor    Days Observed 89

Date	Poor	Fair	Good	Excellent
Jan	6- 420- 820- 819	3- 196- 379- 362	3-161- 252- 307	4-260 - 377- 386
Feb	2- 115- 306- 254	4- 234- 513- 459	5-320- 594- 627	8-491 - 986-1045
Mar	1- 56- 137- 175	4-279 - 454- 510	7-470- 816- 803	13-1023-1646-1747
Apr	0-	3-138 - 435- 400	7-471-1150-1054	19-1413-2729-2637
Tot.	9- 591-1260-1848	14-847 -1781-1731	22-1442-2812-2791	44- 3177-5738-5816
	46.8	47.6	50.6	55.4

1-7/8" Refractor    Days Observed 73

Jan	13- 59-109-134	3-217-276-332	9- 787- 967-1193	2- 215- 219- 265
Feb		4-228-267-371	9- 719- 804- 1017	5- 445- 427- 597
Mar		1- 42-108-105	7- 424- 591- 516	14-1244-1404-1572
Apr		1-145-166-170	6-1044-1054-1202	11-2352-2112-2498
Tot.	1 - 59-109-134	9-632-817-978	31-2974-3416-4028	32-4256-4162-4932
	54.1	77.4	87.1	102.3

2" 8-X 31.36%

1-7/8" Refractor 32.9%



JUL 26 1948