

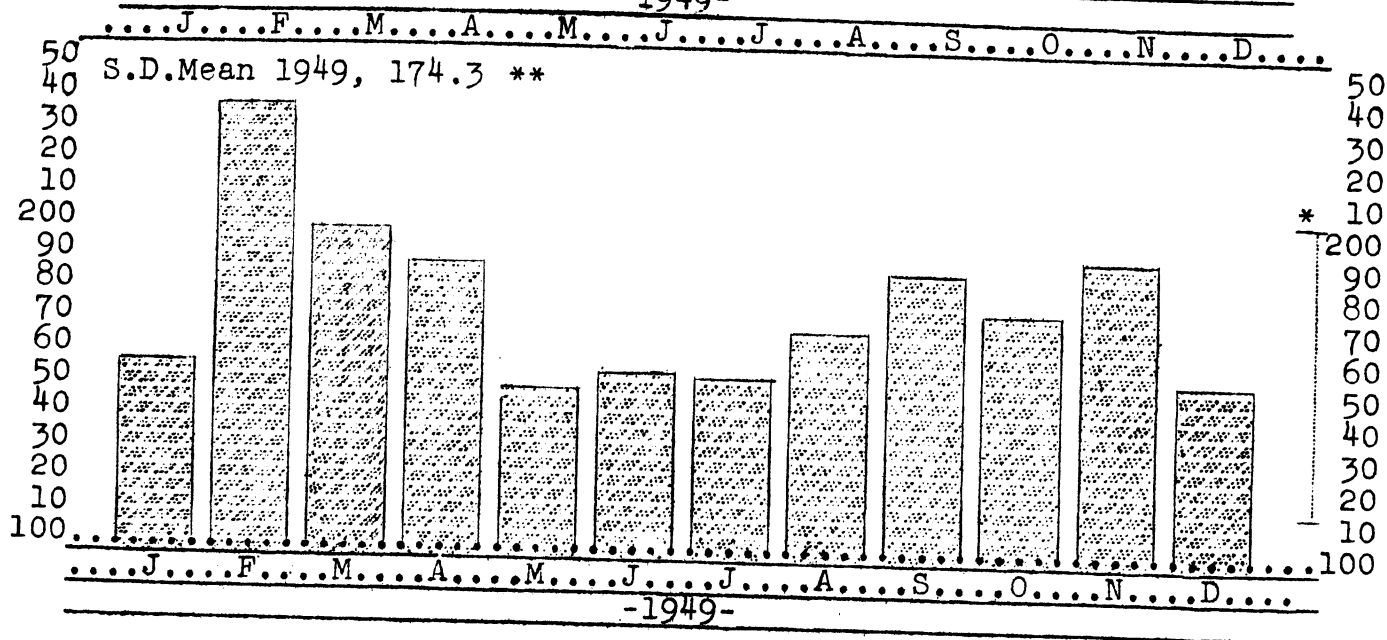
A.A.V.S.O.  
SOLAR DIVISION BULLETIN.  
Neal J. Heines, Editor.

February 1950.  
Number 50. Page 121.

560 Broadway.  
Paterson 4, New Jersey.

AAVSO SOLAR DIVISION PRELIMINARY RELATIVE SUNSPOT NUMBERS.

-1949-



Jan. 153.3	Jul. 153.6
Feb. 228.0	Aug. 163.7
Mar. 198.8	Sep. 183.7
Apr. 190.7	Oct. 172.2
May. 147.4	Nov. 190.9
Jun. 154.5	Dec. 152.1

\* 1947 Range.

\*\* Nat'l. Bureau Of Standards.

If we count the sunspot groups, and spots, new each day, as in the Wolfer Method, then for 1949, as observed at Solar Division Headquarters, we have the following:

Number of	groups whole disc	-----	2651
"	" sunspots " "	-----	25541
"	groups Central Zone	-----	1079
"	" sunspots " "	-----	13961

Number of groups North of solar equator	-----	1442
" " " South " " "	-----	1209
" " sunspots North " " "	-----	13917
" " " South " " "	-----	11624
" " days with sunspots	-----	365
" " " without sunspots	-----	0
" " solar observations for 1949	-----	660
" " observing days for 1949	-----	298
" " groups gone	-----	487
" " new groups	-----	490

### SUNSPOT GROUP HISTORY

This information differs from the Wolfer Method in that it counts each group but once, gives its place of origin, as observed, and, its place of disappearance, to all of which, time-values are shown.  
( 490 groups were observed here, in 1949.)

Total of all north groups	-----	270
Total of all south "	-----	220
	Combined Totals	490

Total of all minus groups, ie., groups having died on the visible solar hemisphere ----- 284

Total of all plus groups, ie., groups that have passed on, to the invisible hemisphere ----- 197

Total of all doubtful groups ----- 9

Combined Totals 490  
Total of all groups giving their visible period in terms of days, North groups above the line, South below.

*D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	?	(doubtful)
N	6	39	32	21	24	11	10	8	10	9	14	14	35	21	8	1	7	
S	2	35	25	21	12	8	15	3	9	11	10	12	21	20	4	1	1	

T 8 74 57 42 36 19 25 11 19 20 24 26 56 41 12 2 8 -----490  
\* (D, Days; N, North; S, South; T, Combined Totals.)

Total of all groups born on the visible northern hemisphere	-----	168
" " " " " " " southern	-----	141
" " " " " " " invisible northern	-----	101
" " " " " " " southern	-----	79
" " " doubtful groups	-----	1
	Combined Totals	490

Total of all groups born on the N. visible hemisphere & died on same	126
" " " " " " " S " " " " "	97
" " " " " " " N " " " " "	
" " " " " " " the N. invisible hemisphere.	41
" " " " " " " S. visible hemisphere & passed on to	
" " " " " " " the S. invisible hemisphere	43
" " " " " " " N. invisible hemisphere and died on the	
" " " " " " " north visible hemisphere	36
" " " " " " " the S invisible hemisphere & died on the	
" " " " " " " south visible hemisphere	27
" " " " " " " the N invisible hemisphere & passed on to	
" " " " " " " the N invisible hemisphere again.	62
" " " " " " " the S invisible hemisphere & passed on to	
" " " " " " " the invisible hemisphere again.	50
Total of all doubtful groups in historical data	8

Combined Totals ----- 490

All above totals are the results of daily data. Some of this data will be graphed and distributed later.

It is our custom each year to provide the Zero Rotation Period for the use in the Solar Division. This data has been supplied by the National Bureau of Standards (Miss J. V. Lincoln). It is as follows.

Rotation Number	U.T. or GCT 1950	Rotation Number	U.T. or GCT. 1950
1289	Jan. 16.52	1295	Jun. 29.15
1290	Feb. 12.86	1296	Jul. 26.36
1291	Mar. 12.19	1297	Aug. 22.59
1292	Apr. 8.49	1298	Sep. 18.85
1293	May 5.74	1299	Oct. 16.13
1294	Jun. 1.96	1300	Nov. 12.43
		1301	Dec. 9.74

Word has been received here that the American Astronomical Society awarded Dr. Helen S. Hogg, of the David Dunlop Observatory in Ontario, Canada, the Anne J. Cannon prize for her outstanding work on variable stars in Clusters. Dr. Hogg is a past President of the AAVSO and is very much interested in the work of the Solar Division. CONGRATULATIONS!!! Mrs. Hogg.

In the near future we will issue a revised Instructions Leaflet containing new items.

Prof. Gleissberg informs us that the proof-sheets are at hand for the next report of his Foreshortening Project. Distribution will be forthcoming.

### Statistics

The total number of observed groups for the month of December was-- 35  
The total number of days with sunspots for December was ----- 31  
Zurich's Provisional Relative Sunspot Number for December was --- 118.9  
Mean (monthly) sunspot Area (U.S. Naval Observatory) for Nov.

\*The highest sunspot group Number as assigned at Solar Division Headquarters on Jan. 21 was 19. It represented an average sized group in the north belt on the east limb.

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

Predictions of the smoothed monthly Sunspot Numbers for the coming six months are as follows:

1950	
Jan. 112	Apr. 99
Feb. 108	May 95
Mar. 103	June 90

The final (smoothed) Relative Sunspot Number for 1948 was 136.3

Prof. M. Waldmeier  
Director Federal Observatory  
Zurich, Switzerland.

STATISTICS (con't)

Monthly Summary of AAVSO Aurora Reports

December 1949

Date	Time Used EST Time of Obs.	Form, Brightness & Color									Elev- ation	Station
		1			2			3				
		G	HA HB	RA RB	R	D	C	PA PS	F	DS		
11/2	18:05- 23:30	1G									1 2 3	
											20	
11/5	20:00- 23:30	1G										
											20	

Reports from - Charles F. Brooks, Milton, 86, Maine.  
Margaret W. Beardsley, Springfield, Vermont.

Roy A. Seely  
969 Park Ave.  
N.Y., 28, N.Y.

PUBLICATIONS

From the Astronomische Mitteilungen Der Eidgenossisdhan Sternwart  
Zurich Nos 157 and 161 respectively we find

"Aktivitätszonen und Zirkulation in der Sonnenkorona"

"Die Sonnenaktivität in Jahre 1949 "

Prof. M. Waldmeier.

"Heliographische Karten der Potosphäre 1949"

Publications Federal Observatory Switzerland

"Frequency of Flares"

Dodson & Hedgman

Astrophysical Journal Vol. 110; No. 2; pp 242-249

A very interesting paper on Solar Flares giving maps of sunspot area in which these flares originated and in addition spectroheliograms of the flares.

"A Tentative Model of the Sun"

R.H. Woodward

Journal of Geophysical Research Vol. 54 No. 4 Dec. 1949  
pp 387-396.

"On The Mathematical Characteristics Of Sunspot-Variations"- A.F.Cook.  
Same issue as above item; pp.347 - 354.

A further study of the Stewart-Panofsky formula.

"Some Solar And Related Meteorological Periods" ----- H.W.Clough.  
Popular Astronomy Vol. LVII; No 10, Dec.1949 495-500.

Another interesting paper by this  
noted author.

SPECIAL NOTE.

On page 123 under STATISTICS, line 4, THE monthly mean sunspot area is not given due to the fact that we had not received this data before the time of printing this issue. It will be given in the March Bulletin.

The 1950 Spring Meeting of the AAVSO is to be held at State College in early May. Keep this time open. Full details will be released by the AAVSO Recorder in the near future and will be published in this Bulletin as well.