

A.A.V.S.O.

SOLAR DIVISION BULLETIN.

Neal J. Heines, Editor.

May 1949.  
Number 42. Page 98.

560 Broadway.  
Paterson 4, New Jersey.



Twice each year AAVSO'ers look forward to meeting old friends and making new acquaintances, seeing familiar landscapes and discovering new, ironing out old problems and attacking new ones, new thoughts, new ideas are presented and so we go forward. Always we regret that distances deprive us of the presence of many members of the AAVSO who could contribute much to its welfare. These we miss.

In our next bulletin we hope to tell you what transpired at the meetings with respect to things of solar interest and the activity of the Solar Division.

As announced in our last Bulletin the present Supplement contains two interesting reports on seeing conditions in the west; that of Mr. T. P. Maher of Arlington, Oregon, and Mr. Howard D. Thomas of Coulee Dam Washington.

We present a portion of a letter, received with Mr. Maher's report, which you will find interesting;

"Enclosed you will find a comparative chart for 1947 and 1948 which I think is very interesting for several things, as you will note the difference of the two magnifications for the two years and the resulting differences in the percentages of seeing the spots and the resulting Provisional Sunspot Numbers, especially

A.A.V.S.O.

MAY 23 1949



in the Excellent Column as compared with both Zurich and the American Number.

Another thing that has pleased me very much was the 98% in the Excellent column for my 17/8" objective. If I can get this high a percentage there is no object in my wanting to ever change to a higher or better instrument.

Also I think the better seeing as reflected in the number of days of excellent seeing will compare very favorably with any other location in the United States considering that this figure is only for the time of sunrise to about ten o'clock in the morning. (Occupational responsibilities deprive Mr. Maher from additional observations) ---- I know that there are many days that the sun has come out very brilliantly later in the day."

We point out that due to the additional data provided by Mr. Maher we were unable to show the totals in a similar manner as in other reports of this nature. We have added the letters A, B, C, and D to the Poor, Fair, Good and Excellent columns in order to show the totals in sequence (below the main body of data) followed by the respective percentages. Any comment or criticism should be sent direct to Mr. Maher at, Vendome Hotel, Arlington, Oregon. The third column "C" is the Zurich column; the fourth, "D" the U.S.

The H.W. Clough paper, "AN APPARENT EARTH-EFFECT UPON SUNSPOT ACTIVITY" is in distribution. Comment or criticisms should be sent direct to Mr. Clough at Castile, New York.

We have added another PROJECT to the activity of the AAVSO Solar Division, MEASUREMENTS OF THE SOLAR RADIATION. Mr. Gene Waters of 108 Filkerson Street, Jefferson City, Missouri has completed a self-designed pyrheliometer to obtain values and your Director has purchased a General-Electric RADIATION METER, price \$40.00. These can be obtained from Central Scientific Co., 1700 Irving Park Road, Chicago 13, Illinois. This meter gives a direct reading. Calibration is 0 to 2 gram-calories per square centimeter per minute. The RADIATION RECEIVER is a sensitive thermocouple specially designed for radiation work. It is mounted in an evacuated glass bulb. The thermocouple element is in the form of a thin strip, 2 mm wide, rolled down to a thickness of a fraction of a mil. Contact Mr. Waters for particulars on his design. We would appreciate additional observers in this project and will publish results periodically.

#### STATISTICS.

The total number of observed groups for the month of March was-----54  
 The total number of Days With Sunspots for March was----- 31  
 Zurich's Provisional Relative Sunspot Number for March was-----158.1  
 Mean (monthly) Sunspot Area (U.S. Naval Observatory) March was-----3429  
 \* The highest sunspot group number as assigned at Solar Division Headquarters on April 14th was 162. It was a small group of 2 spots located in the North Belt, just outside the Central Zone about two days past the Central Solar Meridian about 8 degrees above the unipolar spot nearer the Solar Equator. It was visible only one day.  
 \* This information is given in order that the Solar Division observers may check their group counting each month.

MAR 23 1949



We are pleased to announce the publication of the present method used by the National Bureau Of Standards Radio Propagation Laboratory for the "REDUCTION OF SUNSPOT-NUMBER OBSERVATIONS". It can be found in PUBLICATIONS of the ASTRONOMICAL SOCIETY OF THE PACIFIC, February 1949, Volume 61, Number 358, Palo Alto, California. The Solar Division expects Reprints and will distribute same when received.

### PUBLICATIONS.

"AN APPARENT EARTH-EFFECT UPON SUNSPOT ACTIVITY" -----H.W.Clough  
Popular Astronomy March 1949, VolLVII, Number 3.

"Year Book Number 47" Carnegie Institution Of Washington" covers 1947-48. Filled with valuable astronomical Information and Solar data. Copies \$1.00 each, 235 pages.

Last year we gave you information concerning "ASTRONOMY CHARTED" This is a valuable set of astronomical charts published by Mr. Ralph A. Wright. Mr. Wright has informed us that now he has made an addition to his valuable wares; 35 MM Astronomical Slides; 24 Slides in the Set, 11 chart slides and 13 Mount Wilson Sky Pictures for \$8.50. Full details can be obtained concerning both from, ASTRONOMY CHARTED, 4 Mason Street, Worcester, Massachusetts. This is valuable material for the individual as well as for local societies for talks on Astronomy.

### SUPPLEMENT TO MAY BULLETIN

(A)

### SEEING CONDITIONS

Data of Mr. Howard D. Thomas.  
512 First, Coulee Dam, Wash.

Instrument: 4" apr. Newt. Reflector, 66X.

	POOR			FAIR			GOOD			EXCELLENT		
	Ri	Ra		Ri	Ra		Ri	Ra		Ri	Ra	
Jan	0-	0-	0-	2-	150-	264-	1-	136-	181-	6-	758-	842-
Feb	0-	0-	0-	1-	82-	124-	0-	0-	0-	3-	362-	357-
Mar	1-	36-	125-	1-	159-	161-	3-	369-	494-	12-	1080-	1111-
Apr	3-	350-	653-	4-	823-	944-	5-	1082-	1226-	10-	2083-	2083-
May	3-	341-	506-	1-	202-	337-	7-	1351-	1494-	13-	2560-	2527-
Jun	2-	352-	418-	1-	177-	187-	11-	2232-	2287-	9-	2098-	1908-
Jul	0-	0-	0-	3-	396-	468-	5-	815-	890-	23-	4324-	4348-
Aug	0-	0-	0-	2-	297-	395-	1-	248-	274-	25-	4947-	5074-
Sep	0-	0-	0-	1-	121-	189-	3-	427-	529-	20-	3100-	3246-
Oct	1-	112-	174-	6-	790-	946-	10-	1525-	1642-	8-	1479-	1403-
Nov	2-	206-	276-	5-	486-	668-	6-	745-	785-	3-	296-	258-
Dec	1-	131-	211-	3-	525-	473-	2-	415-	334-	0-	0-	0-
Totals	13	1528	2326	30	4208	5156	54	9340	10136	132	23087	23157
			64.5%			81.1%			92.1%			99.17%

Obs. Days J-9, F-5, M-17-A-22, M-24, J-23, J-31, A-28, S-24, O 25, N-16, D-6.  
Cloudy days 84 - Obs Days 230.

Percentage Visibility 1948-----24.37

For additional break-down on final figures of 24.37% write Mr. Thomas. Mr. Thomas uses a weight Factor for 10x0; P-x1, F-x2, Gx3; E-x4.

WE CAN USE MORE OF THESE REPORTS.

MAY 23 1949



## SUPPLEMENT TO MAY BULLETIN

(B)

Data of Mr. T.P. Maher

8x TELESCOPE				1947				ARLINGTON, OREGON.								
M	POOR				FAIR				GOOD				EXCELLENT			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
J	6	420	820	819	3	196	379	362	3	161	252	307	4	250	377	386
F	2	115	306	254	4	234	513	459	5	320	594	627	8	491	986	1046
M	1	56	137	175	4	279	454	510	7	470	816	803	13	1023	1646	1747
A					3	138	435	400	7	471	1150	1054	19	1413	2729	2637
M	3	303	641	593	6	579	1069	1029	10	1190	2022	1913	12	1649	2669	2823
J	1	44	120	114	2	88	236	211	10	692	1722	1543	14	1312	2542	2527
J					3	154	453	450	5	344	939	800	20	1535	3358	3272
A					5	345	684	650	13	1314	2880	2912	12	1129	2245	2578
S					1	150	181	231	11	1230	2063	2188	14	1744	2425	2531
O					2	246	410	434	6	630	1083	1104	4	477	759	816
N					3	224	373	416	9	694	994	1086	4	413	513	622
D	1	61	97	128	3	152	313	380	9	731	1088	1117	1	58	99	104

## TOTALS

POOR				FAIR				GOOD				EXCELLENT			
A-	14	5.1%		A-	39	14.3%		A-	95	34.8%		A-	125	45.8%	
B-	999	47.1%		B-	2785			B-	8247			B-	11494		
C-	2121	48.1%		C-	5500	50.6%		C-	15603	52.9%		C-	20348	56.0%	
D-	2083			D-	5532	50.3%		D-	15454	53.4%		D-	20889	55.0%	

DAYS: J-16; F-19; M-25; A-29; M-31; J-27; J-28; A-30; S-26; O-12; N-16; D-1

TOTAL: 273 Days

TOTAL PERCENTAGE OF SEEING DAYS: 74.8%

36x TELESCOPE				1948				ARLINGTON, OREGON.								
M	POOR				FAIR				GOOD				EXCELLENT			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
J	1-	59-	109-	134	3-217-	276-	332		9-	787-	967-	1193	2-	215-	219-	265
F					4-228-	267-	371		9-	719-	804-	1017	5-	445-	427-	597
M					1-142-	108-	105		7-	424-	591-	616	14-	1244-	1404-	1572
A					1-145-	166-	170		6-	1044-	1054-	1202	11-	2352-	2112-	2498
M					1-145-	288-	264		4-	914-	1080-	1166	17-	2710-	2620-	2878
J					1-153-	126-	153		6-	1253-	997-	1256	15-	3832-	2832-	3566
J									3-	442-	353-	486	25-	4878-	3622-	4662
A					1-133-	117-	135		5-	1057-	758-	1020	15-	3329-	2474-	3312
S													21-	3513-	2756-	3403
O									6-	994-	916-	1079	11-	1796-	1444-	1756
N	2-193-	140-	204		2-161-	171-	217		7-	815-	622-	943	4-	595-	451-	646
D	1-107-	85-	148		2-224-	320-	388						8-	1252-	1239-	1552
TOMATOES																

## TOTALS:

A-	4	1.7%		A-	16	7.0%		A-	62	27.0%		A-	148	64.3%	
B-	359	107.5%		B-	1448			B-	8449			B-	26161		
C-	334	73.9%		C-	1839	78.7%		C-	8142	100.8%		C-	21600	125.8%	
D-	486			D-	2135	67.8%		D-	9978	84.7%		D-	26707	98.0%	

DAYS: J-15; F-18; M-22; A-18; M-22; J-22; J-28; A-21; S-21; O-17; N-15; D-1

TOTAL: 230 Days

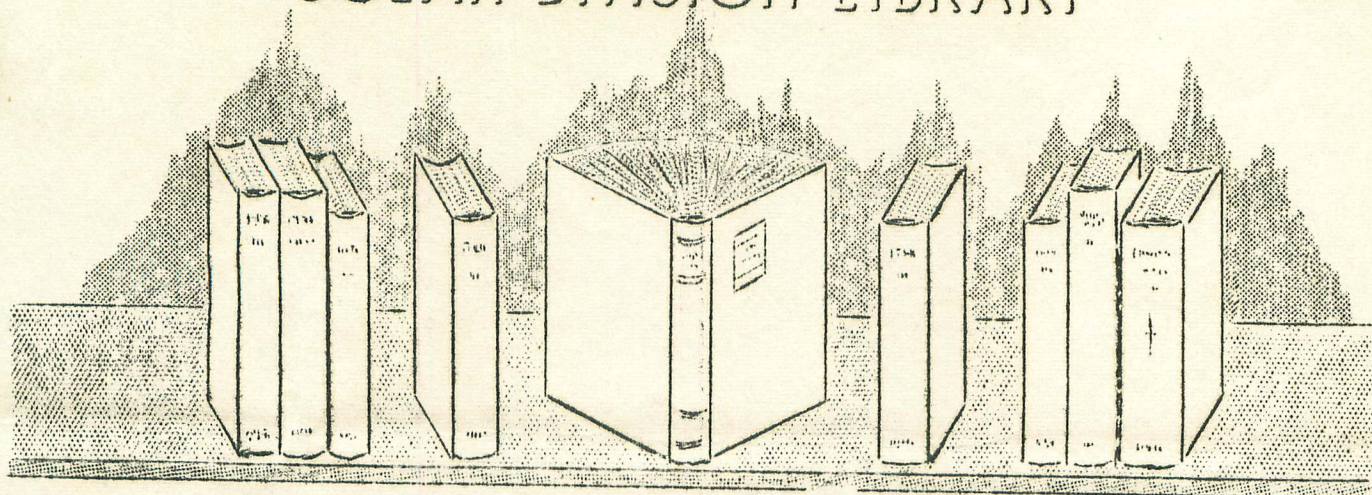
TOTAL PERCENTAGE OF SEEING DAYS: 62.8%

MAY 23 1949

H. C. V. S. O.



# SOLAR DIVISION LIBRARY



## BOOK LIST.

Donor Hillebrand.

1. Distribution Of Sunspots In Longitude ----- Hazel M Losh.  
(Extra Activity Zones) three copies.

2. A Review Of Lake Angelus Prominence Observations-Mr Math-Sawyer.  
Donors (Combined Gift); Aldrich Astro. Society, Worcester, Mass., Gene  
Waters, J. Hillebrand, R. Spalding.

3. Man And The Stars ----- Dr. H. T. Stetson.

4. Earth, Radio and The Stars -----

5. Sunspots And Their Effects From A Human Point Of View.

6. Chemistry Of The Sun ----- Dr. Norman Lockyer.

7. Le Soleil (in French) ----- Amédée Guillemin.

8. The Motion And Distribution Of Sunspots ----- O. A. Akesson.

Donor-D. W. Rosebrough.

9. Solar Relations To Weather ----- H. Helm Clayton.

Donor. Carlos Gartia-Mata.

10. Solar And Economic Relationships ----- C. Gartia-Mata.

Donor Mrs Ellsworth Huntington. (Widow of the Late E. Huntington.

11. Civilization And Climate ----- E. Huntington.

12. Memoir To Ellsworth Huntington ----- S. Visher.

Donor Heines.

13. Spots On the Sun (Many Drawings and notes) ---- R. C. Carrington.

14. Sunspot Drawings. (Sept. 20 - 6, 1850.) Father Benedict Sestine

15. Pub. Federal Observatory Switzerland; Sunspots 1890 1892.

16. Physik der Sonnen-und-Himmelsstrahlung. ----- Dr. C. Dorno

17. Sunspots In Action ----- Dr. H. T. Stetson.

18. Nautical Almanac ----- U. S. Naval Obsvty.

19. Cycles In History ----- E. F. Dakin

20. Cycles Rythms And Periodicities ----- E. H. Huntington

21. Measuring Solar Variation ----- C. G. Abbott

22. Weather Effect Of Solar Variation ----- C. G. Abbott.

23. A Representation Of The Sunspot Cycle ----- C. N. Anderson.

24. Sunspots And Abundance Of Animals ----- D. A. MacLulich.

25. Tree Rings And Climate Through the Centuries -- W. A. Harwood.

26. The Sun's Short Regular Variatio And its large  
Effect on Terrestrial Temperatures. ----- C. G. Abbott.

27. Cycles In American Mammals ----- W. J. Hamiltin jr

NUMBERS 19 - 27 are Reprints from The Foundation  
For The Study Of Cycles.