A.A.V.S.O.

SOLAR DIVISION BULLETIN.

Neal J.Heines,Editor.

December 1948. 560 Broadway.
Number 37. Page 83. Paterson 4,New Jersey .

MERRY CHRISTMAS

" ---- How many old recollections, and how many dormant sympathies, Christman-time awakens ! ----- Many of the hearts that throbbed so gaily then,have ceased to beat; many of the looks that shown so brightly then,have ceased to glow, the hands we grasped, have grown cold, the eyes we sought, have hid their luster in the grave; and yet the old house, the room, the merry voices and smiling faces, the jest, the laugh,the most minute and trivial circumstance connected with those happy meetings crowd upon our mind at each recurrence of the season as if the last assemblage had been but yesterday. Happy,happy Christmas , that can win us back to the delusions of our childish days,recall to the old man the pleasures of his youth,and transport the traveler to his own fireside and pleasant home".

CHARLES DICKENS.

Solar Division Headquarters has for their observers, sets (3 each) of Annual Charts on which your observational data can be recorded. They will be sent upon request. Provision has been made to record the number of observations of sunspots not alone, but for Variable Stars, Meteors,and general astronomical observations as well.

ERRATA.

On page 80 of the November Bulletin a typeographic error appears on the seventh line . After the words "with Research" we find (580. Kindly correct this to read (58).

STATISTICS.

The total number of observed groups, for the month of October was 49.
The total number of days with sunspots was 31.
Zurich's Provisional Relative sunspot number for October was 136.5 .
Mean (monthly) sunspot area,(U.S.Naval Observatory) for the month of September was 1825.
* The highest sunspot group number as assigned at Solar Division Headquarters on November the 20th., was 490, it was assigned to the most easterly group in the south belt.
* This information is given in order that the Solar Division observers may chect their group counting each month.

PUBLICATIONS.

As announced in the September Bulletin No 34.,p.76 , Dr.Bartlett's paper, "SOLAR BOOKEEPING" now appears in POPULAR ASTRONOMY in the current Issue, Vol-LVI Number 9, November 1948. This Paper should be read by both the Research and Observing sections of the Solar Division as it contains valuable solar information concerning the life of individual sunspots.

In the same Issue of POPULAR ASTRONOMY,WE FIND a very interesting and instructive contribution by our Solar Division Executive Committee Member,Mr.H.B.Rumrill, Conestoga Road, Berwyn , Pa, on"Telescope Tripods" . The writer has seen this arrangement of Mr.Rumrill and pronounces it excellent. Comments on the above papers , I am sure, will be appreciated by the authors. Mr.Bartlett"s address is number 300 Eutaw Street, Baltimore 1, Maryland.
In this same issue we find an interesting account of"The Partial Solar Eclipse of November 12th.,1947 by our Peruvian observer , Mr. Victor A.Estremadoyro. Drop a note to Mr.Estremadoyro,who reads English fluently. It will be appreciated.

There is an abundance of wealthy material in this November issue of POPULAR ASTRONOMY , MUCH OF WHICH, is of interest to Solar observers.

The "ASTRONOMICAL JOURNAL" Vol.54. No.2, October 1948, has the following Abstracts; which are of interest to solar people;

"Theory Of The Ionosphere"------- Dr.D.H.Menzel
"Association of solar corona and prominence" Dr.W.O.Roberts.
"Changes in ionization and radio reception during the sunspot period 1944-1947 " Dr.H.T.Stetson.

Scientific American .

"THE SUN" ---------- Armin J.Deutsch.
(Instructor Of Astronomy at Harvard University)

"Our star, the source of all life on this planet,is a hugh engine producing radiation by the transmutation of elements. An astronomer presents a comprehensive report of what has been learned about the sun thus far. ".

This article is must for all solar investigators and observers alike. INTRODUCE YOURSELF ALSO TO THE NEW SCIENTIFIC

AMERICAN YOU WILL THOROUGHLY ENJOY THE MANY SCIENTIFIC ARTICLES IN THIS REORGANIZED MEDIUM. If you cannot obtain this issue from your News Dealer write; SCIENTIFIC AMERICAN INC., Scientific American Building, 24 West Fortieth Street, New York 18, New York.

Most solar people are very much interested in weather. Some of these have established a modest weather station. This office has found a source of supplyfor a limited number of sales of a sling Psychrometer at $1.50 each. Write, Mr,Joseph Brawer, 731-24th Street, Paterson 4, New Jersey. The psychrometers are war surplus. They are without handle, this however can easily be made ortaken from gadgets around the house. A wick is also necessary, we bought a pair of womens white shoe strings which are tubular and cut from them the necessary size ,secured same around the wet bulb with thread and this works entirely satisfactory. There is quite some computation necessary to determine the Relative Humidity but this can be eliminated by buying fromthe Bendix Aviation Corporation, Friez Instrument Division,Baltimore , Maryland,a Psychrometric Slide Rule, Part Number 502025, these are made of Celluloid are adout 6 inches long and one makes a direct reading in a few moments of time. The Psychrometer is well made and cost the government considerable more than the present selling price.

If one desires to plan the establishment of a complete weather station all supplies can be purchased from Science Associates located at 401 North Broad Street , Philadelphia 8, Pennsylvania. Here on finds available,electric Wind Vane and Anometer sets with inside regristration. A box with lights indicate direction of the wind and the speed in miles per hour. Maximum and minimum thermometers, rain gages etc.

—HAPPY-NEW-YEAR—

-1949-

SUPPLEMENT TO DECEMBER BULLETIN.

ON

THREE MONTHS MOVING AVERAGES .

We have had numerous requests for the proceedure of application of the three months moving averages to observed data, and/or,other known data. The great value of this method is to ascertain the trend of activity of the sunspot cycle or other trends.

We have selected,as a source the book "CYCLES" by Edward R Dewey and Edwin F.Dakin, which is published by, Henry Holt and Company , New York. Mr.Dewey is very much interested in the Solar Division,and, as we have mentioned before in this bulletin this book should be in the hands of all our observers who take this work seriously. The information given below is but a very small fraction of valuable material found in the work.

"MOVING AVERAGES"

" The simple arithmetic moving average is a flexible mathematical method of smoothing data. The data so smoothed are often used as a trend.

Moving averages may be of any number of terms desired. The process of computing a simple arithmetic moving average is illustrated in the following table:

Computation of a three year moving average of an index of wholesale prices; 1931 - 1939

(A) Year	(B) Index	(C) 3-year moving total of index, centered	(D) 3-year moving average of index, centered. (The data in Col. C ÷ 3)
1931	73		
1932	65	204	68
1933	66	206	69
1934	75	221	74
1935	80	236	79
1936	81	247	82
1937	86	246	82
1938	79	242	81
1939	77		

The first average in Col."D" is $\frac{73 - 65 - 66}{3} = 69$ and so on.

A 5-year moving average would be computed the same way, using five terms in stead of three. Thus :.(You will need the book for additional information of the moving averages of different values, and other applications.