

The principal object in publishing the resultant winds is to afford students and others an opportunity to compare the mean isobars with the mean direction of the wind at 8 a. m. and 8 p. m., seventy-fifth meridian time. As stated in a previous letter on the subject, the Bureau does not attempt to combine the elements of force or velocity with that of time. It is conceded that for a special locality where the general atmospheric circulation is modified by local causes, the mean direction of the wind is best obtained by taking into account the element of velocity as you have done. It has been shown, however, that generally the difference in the velocity of the winds from different points of the compass affects the resultant but slightly, either in direction or amount. (See MONTHLY WEATHER REVIEW, December, 1893, page 365, and Coffin's Winds of the Globe.)

In deciding to adopt the present method of computing the mean direction of the wind, we were largely influenced by two considerations, first, a great saving of clerical labor would be effected, and second, the results that would be obtained by the use of the two daily observations, as distinguished from the records by self-registers, would be uniform at all stations of the service. You may be interested in knowing that a comparison of resultant winds, computed by both methods, was carried on throughout 1894. (See Tables VIII and IX, MONTHLY WEATHER REVIEW of that year.)

PROBABLE CLOUDINESS DURING TOTAL SOLAR ECLIPSE OF MAY 28, 1900.

In the MONTHLY WEATHER REVIEW for 1897, p. 394, and 1898, p. 404, Prof. F. H. Bigelow has published his first and second reports, showing the results of special observations made at the request of Prof. D. P. Todd, for the purpose of determining as far as practicable the probability of the occurrence of cloudy weather at different points along the path of totality. The exact location of this path is shown by the narrow band on Chart XI, taken from Professor Bigelow's Bulletin. As many expeditions from astronomical centers throughout the world will be sent to observe the solar and atmospheric phenomena visible in this region during totality, it is important for the astronomer to avail himself of all the information that the meteorologist can furnish so that he may as far as possible diminish the chances of the disappointment that cloudy weather must inevitably bring.

The third and final report by Professor Bigelow, being rather larger than the first and second, will be printed as a bulletin of the Weather Bureau and distributed to astronomers and scientific journals, but some of the results given therein are here quoted for the information of all voluntary observers.

The total eclipse begins on the Pacific Ocean just west of Mexico at sunrise and will be visible at stations located within a narrow band that stretches from that point due eastward over Mexico and the Gulf of Mexico and enters the United States near New Orleans whence it passes northeastward

toward Norfolk and Cape Henry and, finally, after crossing the Atlantic Ocean, Portugal, and Algiers, terminates near the northern end of the Red Sea at sunset. In the United States totality begins near New Orleans at 7:20, local mean time, and ends at Norfolk about 9 a. m., local mean time, or between 1:30 and 1:55 p. m., Greenwich mean time. The respective observers can convert these times into the standards, eastern or central time, by applying the proper differences of longitude. The totality of this eclipse will last only about one and a half minutes for those who are located precisely on the line that marks the center of the path of the shadow of the moon, but will be nothing for those on the boundary lines of the path.

The short lines on Chart XI, numbered (1) to (6), drawn across the path of totality, represent the position of the center of the shadow at intervals of five minutes, as it advances along its path; No. (1) corresponds to 1h. 30m. p. m. and No. (6) to 1h. 55m. p. m., Greenwich mean time.

The observations made by voluntary observers during the past three years give uniformly harmonious results as to the probable state of the sky over this region between 8 and 9 a. m., May 28, 1900. If we classify the observers by States, and consider their observations year by year, and also divide the records into two classes according as they give the general cloudiness of the sky and the special cloudiness in the neighborhood of the sun, we obtain the figures given in the following table:

Summary of results for three years.
[The figures are percentages of cloudiness.]

State.	1897.		1898.		1899.		Means.	
	General sky.	Near sun.	General sky.	Near sun.	General sky.	Near sun.	General sky.	Near sun.
Virginia			44.9	41.7	35.7	34.3	40.3	38.0
N. Carolina ...	35.8	33.3	28.2	25.7	33.3	30.6	32.4	29.9
S. Carolina ...	33.7	32.1	17.5	16.0	26.1	26.7	26.4	24.9
Georgia	18.4	16.0	12.2	10.8	18.5	17.4	16.4	14.7
Alabama	15.2	14.9	17.1	15.7	22.4	22.6	18.2	17.7
Mississippi			23.0	26.4	38.6	31.9	30.8	29.2
Louisiana ...	26.5	21.5	36.4	30.9	35.9	30.6	32.9	27.7

In addition to this table, showing the probabilities in favor of good weather, Professor Bigelow's Bulletin gives a mass of information for the benefit of visiting astronomers, showing the railroads, the hotels, the astronomical conveniences, and the resources for enabling heavy baggage to be transported to the path of totality. Undoubtedly the Weather Bureau observers, both regular and voluntary, will receive many calls for assistance in connection with this eclipse of the sun.

THE WEATHER OF THE MONTH.

By ALFRED J. HENRY, Chief of Division of Records and Meteorological Data.

PRESSURE.

The month of September, 1899, was one of high pressure, great dryness, and a high percentage of sunshine.

As compared with the preceding month pressure was markedly higher in all of the interior districts. The geographic center of the country happens to mark the region of greatest increase in pressure, viz, about two-tenths of an inch, which extended from Nebraska southward to Oklahoma and northern Texas. The increase over the whole country, excepting the Florida Peninsula and the St. Lawrence Valley, was greater than a tenth of an inch.

TEMPERATURE OF THE AIR.

The distribution of monthly mean surface temperature is shown on Chart VI which also shows by appropriate lines the monthly maximum and minimum temperatures. During August temperature was below normal in the western part of the country and above in the eastern. These conditions were reversed during the current month. West of the Mississippi River temperature was from 1° to 4° above normal, while over the remaining areas there was a deficiency ranging from a fraction of a degree in the South Atlantic States to 4° in the region about Lake Superior.

Maximum temperatures of 100° and over occurred over a large area in the Mississippi and Missouri River valleys and