

THE SOLAR ECLIPSE.

Arrangements by Commodore Sands for Observations of the Eclipse on the 7th of August.

To Meteorological Observers along the line of totality in the United States :

As the United States Observatory is to have all its available force in the field, expecting to contribute its full share of labor on this occasion, it is desirable that, during the eclipse of the sun, meteorological observations should be made within the belt of totality, with a barometer, a dry-bulb thermometer, a wet-bulb thermometer, a solar thermometer, with blackened bulb, inclosed, if possible, in a glass cylinder from which air has been exhausted, and an actionometer.

The barometer should be suspended in the shade, and, if provided with a thermometer, the temperature should be determined at each reading. The dry and wet-bulb thermometers should be suspended in the shade in such a manner as to prevent, as far as possible, the abnormal influence of radiation from surrounding bodies, and at the same time secure a free circulation of the air.

The solar thermometer should be placed in slender wooden crutches, about six inches above the green grass of a field or lawn, and in a locality where the direct solar rays shall reach it from sunrise to sunset.

Observations with the actionometer should be made in the open air, and the bulb should, as far as practicable, be protected from the influence of air currents.

If possible, observations should be made at each hour of the day and night of the 6th, 7th and 8th of August, beginning at midnight of the 5th.

If observations cannot be made during the night, great care should be taken to make them carefully at each hour of the day.

A careful statement of the character of the weather should be made at each observation.

On the 7th of August observations with the actionometer should begin at 10 A. M., and be made at intervals of thirty minutes until the first contact of the limbs of the sun and moon, when they should be continued at intervals of ten minutes until the last contact, or until sunset. One observation should be made, if practicable, during totality.

The barometer should be read at intervals of twenty minutes while any portion of the sun is eclipsed, and once during totality.

The thermometers should be observed at intervals of ten minutes during the eclipse, and once during totality.

The time of the beginning of the total obscuration should be carefully noted by the clock or watch by which the meteorological observations are timed.

The belt of country in the United States over which the eclipse will appear total is about 140 miles wide, and from the coast of North Carolina stretches away, in a northwesterly direction, through North Carolina, Tennessee, Virginia, Kentucky, Indiana, Illinois and Iowa, and the central line of this belt passes near the following cities and towns:

Leesburg, N. C.; Magnolia, N. C.; Clinton, N. C.; Fayetteville, N. C.; Carthage, N. C.; Lexington, N. C.; Mocksville, N. C.; Wilkesboro, N. C.; Boon, N. C.; Blountsville, Tenn.; Taylorsville, Tenn.; Kingsport, Tenn.; Union, Tenn.; Estlinville, Va.; Bristol, Va.; Mount Pleasant, Ky.; Manchester, Ky.; Mount Vernon, Ky.; Harrodsburg, Ky.; Louisville, Ky.; Corydon, Ind.; Newton, Ind.; Haysville, Ind.; Maysville, Ind.; Bruceville, Ind.; Washington, Ind.; Robinson, Ill.; Greenup, Ill.; Shelbyville, Ill.; Stonington, Ill.; Springfield, Petersburg, Ill., Bath, Ill.; Macomb, Ill.; La Harpe, Ill.; Burlington, Iowa; Mount Pleasant, Iowa; Fairfield, Iowa; Oskaloosa, Iowa; Monroe, Iowa; Mitchellville, Iowa; Des Moines, Iowa; Boonsboro, Iowa; New Munich, Iowa; Lake City, Iowa; Cherokee, Iowa.

All persons who may make such observations as described will confer a great favor if they will forward their observations, together with the errors of their instruments, if known, to the Superintendent of the United States Naval Observatory, Washington, D. C.

Papers circulating in those sections where the eclipse is total will confer a favor and greatly contribute to the success of this enterprise by copying this notice.

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