

ROYAL ASTRONOMICAL SOCIETY OF CANADA  
Standing Committee on Observational Activities  
Programme for Solar Eclipse of July 20, 1963

Bulletin No. 2

Basic Observation Programme

February 15, 1963

In this bulletin we present an outline of the basic observation programme for the July 20th eclipse. The programme has been divided into three main sections, as follows:-

- A. PRECISION OBSERVATIONS, which includes all observations requiring precise timing and recording, with the use of stopwatches, short-wave radio, meteorological instruments, etc.
- B. PHOTOGRAPHIC PROJECTS, which includes photography of all phases of the eclipse, with and without telephoto lens, filters and other accessories.
- C. VISUAL OBSERVATIONS, made with and without optical aid, and including sketches and drawings.

The attached outline will simply give you some idea of the extent of the programme and the equipment required so that you can make some preliminary preparations. For each of the three main sections, a separate bulletin will shortly be issued, giving instructions for each project and a standard report form. Subsequent bulletins will discuss other aspects, such as the selection of an observing site and the organization of a field station.

In planning the basic programme, we appreciated the helpful advice and encouragement received from Malcolm Thomson and J. S. Locke of the Dominion Observatory. The little booklet prepared by Dr A. Vibert Douglas for the 1932 eclipse contained many suggestions that are still useful. We have also drawn on the experience of the Montreal Centre which organized a five-day expedition to observe the 1954 solar eclipse.

Enthusiasm is certainly mounting. To date we know of four Centres that are planning field expeditions. Dr Scatliff of the Winnipeg Centre is organizing a group that will travel by rail to Willbeach, Manitoba, which is on the C.N.R. line to Churchill. Individual members of the Edmonton Centre have tentative plans to travel north. Le Centre Francais de Montreal is organizing a field trip to the Grand'mere region and has already issued a questionnaire to its members. The Montreal Centre has plans under way for two or more field stations in the Province of Quebec. In addition, individual members of other Centres - Toronto, Hamilton, Niagara Falls, Ottawa and Halifax - have expressed their intention of viewing the eclipse from locations in Quebec or Maine.

We would like to hear about your plans as they develop. Suggestions for the observation programme are still welcome. We especially want to know about any special projects you are undertaking.

Additional copies of this bulletin are available on request.

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A. PRECISION OBSERVATIONS

Equipment Required

- |                                   |                                                                                                              |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1. Duration of Totality           | Stopwatch, short-wave radio or reliable clock                                                                |
| 2. Contacts )                     | Stopwatch, short-wave radio or tape recorder,<br>telescope with Herschel wedge, etc. or<br>projection screen |
| 3. Occultation of Sun-spots ) - - |                                                                                                              |
| 4. Flash Spectrum                 | Stopwatch, short-wave radio or tape recorder,<br>telescope with prism or diffraction grating                 |
| 5. Shadow Bands                   | Compass, white background                                                                                    |
| 6. Meteorological Data            | Barometer, thermometer, anometer, photometer                                                                 |
| 7. Radio Reception                | Short-wave receiver, signal strength meter                                                                   |

B. PHOTOGRAPHIC PROJECTS

Special Equipment

Still Photographs (b&w or colour)

- |                                        |                                                                                                                                                           |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Partial Phases, Baily's Beads, etc. | Telephoto lens, dense neutral filters                                                                                                                     |
| 2. Totality - (a) Corona - shape )--   | Telephoto lens, tripod or mount with clock<br>drive, (a) rotating sector shutter, (b) red<br>and blue filters<br>Single lens reflex, telescope with drive |
| (b) Corona - colour )                  |                                                                                                                                                           |
| (c) Prominences                        |                                                                                                                                                           |
| 3. Shadow Bands                        | Compass, tripod, white background                                                                                                                         |
| 4. Changes in Landscape Illumination   | Tripod                                                                                                                                                    |
| 5. Spectroscopic: (a) Flash Spectrum   | Tripod, prism or diffraction grating<br>Spectroscope with slit, telescope with drive                                                                      |
| (b) Corona                             |                                                                                                                                                           |

Motion Pictures

- |                           |                                      |
|---------------------------|--------------------------------------|
| 1. Partial Phases         | Dense neutral filters                |
| 2. Totality               | Telephoto lens                       |
| 3. Landscape Illumination | No special equipment                 |
| 4. Shadow Bands           | Compass, tripod, white background    |
| 5. Onrush of Shadow       | No special equipment, tripod helpful |

C. VISUAL OBSERVATIONS

Equipment Required

- |                                    |                                  |
|------------------------------------|----------------------------------|
| 1. Corona                          | Unaided eye or telescope         |
| 2. Solar Prominences               | Telescope, preferably with drive |
| 3. Aurora - presence or absence of | Unaided eye                      |
| 4. Stars Visible during Totality   | Unaided eye                      |
| 5. Effects of Bird & Animal Life   | Unaided eye or binoculars        |