Some Solar Eclipse Expeditions of 1930 and 1932.

By Prof. F. J. M. STRATTON.

THE two total solar eclipses of this year are not attracting organised expeditions from Great Britain. The first one, on April 28, was annular over most of its path, though it was total along a narrow belt not more than half a mile wide from just north of San Francisco across Nevada and Idaho to a point north of Virginia City in Montana. The uncertainty in the position of the belt was estimated at a quarter of a mile, and totality was nowhere longer than 1.5 sec. An eclipse of this kind may be valuable for the investigation of the flash spectrum at different levels, and observing parties went not only from the nearby observatories of Mt. Hamilton and Mt. Wilson, but also from the Allegheny Observatory. It is to be hoped that answers have been obtained to some of the problems which, with the aid of clouds, have been eluding eclipse observers for the past few years.

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culties which must face these parties in arranging their eclipse camps, but may also appreciably add to the interest of the expeditions. Dr. C. E. Adams is going as leader of the New Zealand expedition and Prof. S. A. Mitchell as leader of the American party.

FIG. 2.

The next eclipse which is likely to be widely observed is that of Aug. 31, 1932, visible in Canada and in the Eastern United States (Fig. 1). The next ordinary General Assembly of the International Astronomical Union will be held about a week later at some nearby centre in the United States, so that a number of astronomers from other continents may be expected to observe this eclipse alongside of their Canadian and American colleagues.

Five years ago Prof. Todd began collecting weather observations along the track of this eclipse, and in 1929 Prof. Slocum took over from him the task of collecting and collating the data. He has published the results of the observations to date in *Popular Astronomy* for April, and with his permission some of his data are reproduced here. As will be seen from Fig. 2, the chances of success are about one-half at most stations between Hudson Bay and the coast of Maine. Only the intermediate stations are considered by Prof. Slocum, who suggests that the best place for a camp is some distance back from the Maine coast, perhaps between East Baldwin and Fryeburg.

South of the St. Lawrence River in Canada, as also in the States, the central line is readily accessible by rail, and it should be easy to spread a number of observing parties along the central line. At Yamachiche, on the St. Lawrence River, there is a large Marconi wireless station. At Drummondville, Sherbrooke, and Magog good accommodation would be available, but there should be none of the difficulties that frequently await eclipse expeditions in out-of-the-way parts of the world, and a well-distributed set of parties may hope to secure a reasonable proportion of successful observations.

It should be added that totality lasts about 100 seconds, that the width of the belt of totality is about 80 miles, and that its south-western edge runs from Montreal to the coast of Massachusetts midway between Salem and Gloucester.

FIG. 1.

Oct. 21-22, is visible from the small island of Niuafoou in the Tonga Islands and near sunset in Chile and Patagonia. Totality lasts 2 minutes. The New Zealand government and the United States Naval Observatory are sending expeditions to Niuafoou. A recent volcanic outburst which partially destroyed the island will add to the diffi-