

INTRODUCTORY REMARKS.

A prominent object in Rainfall observations is the determination of the aggregate amount of rain that falls in any district of a country during any period of time.

Now, experience shews that the distribution of rain is very partial, one place being often visited by a heavy shower, while another, only a mile or two distant, receives little or none.

Hence, as regards short intervals of time, conclusions based on observations at a few points are liable to be very fallacious. In long periods the inequalities may probably to a great extent be balanced; but as far as they are due to permanent local causes, they would be made apparent also in the aggregate rainfall in long periods.

From what has been stated, it appears that in order that local inequalities, whether due to casual or permanent causes, may be eliminated from the results, and correct conclusions may be attained, the stations for rain observations should greatly exceed in number those at which observations of the other elements are necessary; so that for one station where a complete set of observations is made, three or more times daily, the rainfall should be measured at fifty points or more.

This pamphlet is designed chiefly to explain the mode of measuring the depth of the rain and snow which falls at any place in successive periods of twenty-four hours as well as in shorter intervals, with the method of registering the observations and of reporting them to the Central Meteorological Office of Canada; but it also relates to the registration of the *times* when rain and snow falls, as well as the weather that prevailed during each day, and the occurrence of atmospheric phenomena.

In order that intending observers who might be willing to devote a few minutes daily to the measurement of the rain, may not be deterred from doing so by the apparently large demand on them implied by the headings of the several columns and the explanations thereon, they are requested to notice that *the essential part of the work which they are invited to undertake is that of recording the depth of the rain or snow once each day in the morning*, and that at a station which is primarily a *Rain Station*. Information on the other matters named in the headings of the several columns, although very useful, is to be regarded as of secondary importance.

The following list of the other columns, placed in the order of their importance, is given for the general guidance of observers who may be