

these returns, through the courtesy of the Rev. Dr. Ryerson, Chief Superintendent of Education in Ontario, and of Mr. Alexander Marling, of the Education Office, I have been systematically favoured with the temporary use of the monthly returns from the ten grammar school stations in Ontario. I am also under obligations to the Rev. C. Dade, M.A., of Georgetown, Ontario, for the use of a daily register of observations made by him at Toronto during the ten years that preceded the establishment of the Toronto observatory, and from which some deductions will appear further on. *

For the four stations on the Northern Railway, at Stayner, Bramley, Aurora, and Thornhill. I am indebted to the public spirit of the Managing Director, Mr. F. W. Cumberland, M.P.P., through whose influence the agents in charge of the railway stations were induced to undertake the duty of observers, and who also with great liberality charged himself with the cost of the instruments.

The Meteorological stations at Rimouski and Truro are maintained by Mr. Sandford Fleming, Chief Engineer of the Intercolonial Railway, whose devotion to science has been well known in Canada for many years, and who, at very considerable personal cost, supplied a set of the usual instruments to each of four points on the Intercolonial, namely: Rimouski, Dalhousie, Newcastle, and Truro. As some delay has occurred in the organization of the stations at Dalhousie and Newcastle, they have not been included in the list.

Very efficient aid has been afforded to the furtherance of meteorological enquiry through the good offices of Mr. Brydges, Managing Director of the Grand Trunk Railway, and of Mr. W. K. Muir, Managing Director of the Great Western, both of whom have furnished me with circular letters, inviting the voluntary co-operation of the station masters along their lines to act as observers if requested by me to do so, or to give their assistance in other ways. It has been a matter of great regret that the insufficient supply of instruments at my command for lending has greatly limited the extent to which I could avail myself of the opportunities so generously afforded to me, especially as with hardly an exception I have met with a most cordial acquiescence when I have requested any of these gentlemen to undertake the office of observer. Mr. Geo. L. Reid, Chief Engineer of the Great Western, has placed me under great obligations by very valuable assistance accorded to me, and indeed from everyone connected with the railways who have been aware of the object in view, I have met with uniform courtesy and consideration.

My acknowledgments are further due to Messrs. Cumberland, Brydges, and Muir, as well as to the Manager of the St. Lawrence and Ottawa Railway, Thos. Reynolds, Esq., for free passes on their several lines, granted in connection with this service, to myself and assistants.

Dr. Smallwood, of Montreal, Mr. Geo. Murdoch, C.E., of St. John's, New Brunswick, and Mr. F. Allison, of Halifax, besides supplying me with their own monthly contributions, have been instrumental in putting me in communication with other observers in their respective Provinces. To Mr. Allison I am indebted for all the Nova Scotia correspondents, except the observer at Truro, and it has been through his energy that several new points of observation have been set in operation in that Province.

I shall now give a selection from the results derived from the documents which I have received or to which I have otherwise had access during the past year.

With respect to the new stations, the short time that they have been in operation of necessity renders the reports from them too fragmentary as yet to allow of any systematic tabulation; there are facts, however, to be gathered from comparing different stations in a single month or even in a single day, which help to prove that though a single observatory may be sufficient for the determination of the periodic variations, the absolute values of the meteorological elements, even over a moderate extent of country, can be procured only by greatly multiplying the points of observation.

In the first instance I have placed in juxtaposition the mean temperatures of a single day, as given by sundry stations in Ontario, and also the means for June, and have included for comparison the ten grammar school stations. It is necessary to mention that the means are not strictly comparable, inasmuch as the combinations of hours are in many cases not alike. *

If the object proposed in this comparison had been to determine the precise differences between point and point, allowance would have been necessary for this want of uniformity; but as it is designed only to bring out the fact that the differences are often considerable, the correction for Diurnal variation has been neglected.

MEAN Temperatures at various Stations in Ontario for the month of June, 1879, and on June 27:

	Barné.	Belleville.	Corrwall.	Dundas.	Fitzroy Harbour.	Goderich.	Glencoe.	Georgina.	Hamilton.	Ingersoll.	Pembroke.	Peterborough.
June 27	85°0	79°0	79°4	84°2	84°7	78°3	78°5	.....	87°0	.....	81°9	84°3
Mean for June...	70°8	71°5	71°6	68°7	73°8	65°9	67°0	72°9	70°8	69°7	70°5	71°9

	Paris.	Simcoe.	Stratford.	Speedie.	Stayner.	Thornhill.	Toronto.	Windsor.	Widder.	Mean for Ontario.	Mean Fluctuation.
June 27	80°0	80°5	77°8	.....	82°7	78°8	77°6	81°3	73°7	81°1	2°5
Mean for June.....	72°5	69°6	67°6	67°0	67°3	65°9	67°3	69°9	66°8	69°5	2°1

* I have elsewhere referred to the unequivocal proofs of a progressive change in the distribution of temperature through the year, and in the annual rainfall; and I earnestly invite any person who,