

VII.—CLIMATE AND METEOROLOGY.

THE CLIMATE OF CANADA SINCE CONFEDERATION.

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It has been proved by geologists that in geological time the climate of the world has undergone great changes, and many historians and archæologists have in recent years carried on investigations as to whether in historical times there has been any appreciable change in the climates of the countries for which exist either written records or evidences provided by the remains of man's handiwork.

It has been thought by some that there are evidences of increasing desiccation in Asia and southern Europe, while in the western hemisphere, in central America and adjacent territories, the disappearance of a by-gone civilization has been explained as resulting from a change of climate which has rendered uninhabitable a land obviously once well suited to man's best desires.

It has, however, been found that there are many conflicting data, and as the question stands to-day the general consensus of opinion is that while there have been pulsations of both long and short periods during which departures from average have been quite pronounced both as regards temperature and precipitation, yet there have not been appreciable progressive changes in either direction.

In view of these facts we may be fairly sure that in the seasons in Canada of the fifty years since Confederation there have been variations such as have occurred down through the centuries and will occur in the future, but we need not expect to find any definite climatic change. There is, however, one factor which may have to some extent affected the climate of eastern Canada and that is deforestation and yet, be it said in a somewhat guarded manner, the records that we possess do not indicate that this factor is as important as it was once thought to be.

In inspecting the charts showing the curves of winter temperature for the different parts of Canada during the past 50 years, the most obvious fact is that the variations from average are largest in the western provinces and that they diminish gradually eastward towards the Atlantic coast. At Edmonton the mean temperature of the winter of 1887 was -4° , while that of 1889 was 22° ; the lowest winter monthly average, -14° , occurred in January, 1886, and the highest winter monthly, 22° , occurred in both January and February, 1889. Winnipeg shows even a greater range, with a mean winter temperature of -9° in 1886 and a mean of 19° in 1878. The lowest monthly mean was -16° in January, 1883, and the highest 23° in February, 1878.

At Toronto the coldest winters were those of 1875 and 1904 with a mean of 17° , followed closely by 1918 with a mean of 18° . The warmest winter was in 1890 with a mean of 30° and the next warmest 1906 with a mean of 28° , which give a difference of 13° between the warmest and the coldest winters. The coldest winter monthly mean recorded was $10^{\circ}\cdot2$ in February, 1875, and the warmest January mean was 32° in 1880 and the warmest February was $30^{\circ}\cdot3$ in 1882.