# METEOROLOGICAL BRANCH.

## REPORT BY THE DIRECTOR, 1932-33.

### GENERAL.

The most important event of the year from the point of view of the meteorologist was the successful inauguration of the International Polar Year on the 1st August, 1932. The zeal with which the scheme is being carried out by the peoples of Europe and America, in spite of the financial straits in which most of the countries concerned are labouring, illustrates the value attached in the Northern Hemisphere to research on the lines covered. Valuable theoretical results have already been obtained in the researches in wireless telegraphy and terrestrial magnetism, the observations having thrown considerable light on the nature of the radiations from the sun which are responsible for magnetic storms, auroræ, and the ionization of the upper atmosphere to which the phenomena of the Heaviside layer are due.

In meteorology the results will not be known until the collected observations come to be discussed by various committees of experts. Numbers of stations have been established in the Arctic regions and are carrying out the organized programmes. The total activity is greater than was hoped for, several nations, which in the preliminary stages had promised no assistance, making substantial contributions. In the Southern Hemisphere, unfortunately, much less is being done. There is no station on the Antarctic Continent itself. Instruments for special researches in terrestrial magnetism have been provided by the International Polar Year Commission for several Southern Hemisphere stations, including the Christchurch Magnetic Observatory. Under the direction of Professor Florance, experiments are being carried out at Victoria University College, largely with apparatus lent by the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, on the height of the Heaviside layer. At the Meteorological Office extra observations, including an hourly record of the cloud on certain "term days" are made according to the general plan. As New Zealand's representative on the International Commission, I am kept informed of all developments.

In other directions little advance has been possible owing to the limitations imposed by the successive economies of the past three years. Considerably greater use continues to be made of the records collected and published by the Meteorological Office. The same is true in regard to the weather forecasts. Farmers, particularly, are tending more and more to regulate their daily activities in accordance with the weather forecast.

### OBSERVING-STATIONS.

Again there have been several requests for the establishment of climatological stations at places whence no observations are at present available. Though, especially in some cases, the observations would have been of considerable interest, these requests have had to be refused as being beyond the resources of the Branch.

Rainfall records are now published from nineteen new stations. These are all well placed and will supplement our knowledge of the distribution of the rainfall in a useful manner. Six of the gauges are the property of the observers themselves. Five of the older stations have lapsed for various reasons.

The only inspection possible was in Taranaki, where the majority of the stations were visited in the course of a hurried journey, which, however, exhausted the funds available. Among those visited for the first time were Riversdale, Inglewood, and Opunake, which have been maintained continuously for fifty-one and forty-five years respectively by Miss Nora Trimble and Mr. A. D. Moore. Both have furnished excellent notes of various meteorological phenomena in addition to rainfall. Records of this type are extremely valuable in connection with the study of climatic changes, periodicities, and the factors controlling the weather generally. The country owes a debt of gratitude to the observers concerned.

There is urgent need for more inspection, particularly of climatological stations. Brief inspection would often prevent errors or accidents leading to loss of observations which, even if confined to a short period, seriously detracts from the record of a station.

I wish again to thank the many observers who so cheerfully devote much of their time to the making and tabulating of observations in the public interest.

#### FORECASTING.

As indicated above, the interest in the weather forecasts continue to grow, particularly amongst the farming community. Many requests for special forecasts have been received. Amongst the requirements of those making these requests have been suitable weather for (1) burning off bush or scrub, (2) cutting hay, (3) the movement of small vessels, such as launches, from port to port across the open sea, (4) the leading of prospecting expeditions into mountainous areas, and (5) for invalids and elderly people to make a sea journey. In the very great majority of cases the forecasts supplied have been quite successful.

I wish to acknowledge the ever cordial co-operation of the officers of the Telegraph Branch of the Post and Telegraph Department.

With the general public, meteorology is apt to be regarded as synonymous with weather forecasting. Such is far from being the case, and, indeed, weather forecasting is not the most important part of the subject. Even were it so, an intensive study of climate and weather from the theoretical aspect would be necessary if any advance were to be made. Among scientific pursuits, forecasting