

REPORT OF THE DIRECTOR OF THE METEOROLOGICAL OFFICE FOR THE YEAR ENDED 31st MARCH, 1941.

The Hon. the MINISTER OF DEFENCE.

I HAVE the honour to submit the following report on the work of the Meteorological Office for the year ended 31st March, 1941.

GENERAL.

The slight reduction in the work of the Meteorological Office resulting from the curtailment in civil aviation has been more than offset by increased commitments to meet the demands of the defence Services, and the training of newly recruited staff is still a prominent activity. In addition, to provide the necessary training in the preparation of ballistic wind data, a three months' course of instruction covering the observation and computation involved in pilot balloon ascents was given to six specially selected non-commissioned officers from Territorial artillery units during 1940, and a similar course, attended by eleven Territorials, was in progress at the close of the year.

CLIMATOLOGY.

There was a steady demand for reliable information concerning a wide range of subjects connected with the climatology of New Zealand and its dependencies, and in nearly every case the Office was able to supply the data desired. The majority of requests for detailed statistical information originated in other Government Departments, but numerous inquiries were sent in from varied business, professional, and educational sources. Many minor questions from private individuals were received and answered.

The year closed with sixty-eight climatological stations in New Zealand, together with eight in its dependencies, furnishing monthly returns giving daily values of maximum, minimum, and 9 a.m. temperatures, humidity, and rainfall, while many in addition show values of sunshine, barometric pressure, soil temperature, and daily run of wind. The newly established stations include those at Karamu and Wairoa, originated for the facial-eczema investigation.

In addition, there is a rainfall organization, consisting of a network of approximately 500 stations, in which very few changes have been made during the year. Many of these voluntary observers supply with their monthly return a detailed weather diary from which much useful information is extracted.

Further observational material is obtained through the Aerodromes Branch of the Public Works Department, which gathers particulars of wind and weather, especially relating to cloudiness and visibility, from the various aerodrome sites under its control. This office scrutinizes the returns and provides abstracts of the weather conditions.

At Wellington, hourly values are tabulated of pressure, air temperature, relative humidity, wind force and direction, rainfall, sunshine, cloud amount, and visibility. Similar tabulations are prepared of several of the elements for Auckland, Ohakea, Wigram, and Alexandra.

FORECASTING.

On 22nd December, 1940, censorship restrictions were applied to all weather reports or forecasts by radio, whether broadcasts in plain language or sent in International Code. This involved the suspension of the broadcasting of the general and district forecasts, the farmers' forecast, and the forecasts and reports for aviation and shipping. The disadvantages resulting from the elimination of the afternoon farmers' forecast from the programmes of the main national stations was partly relieved by providing for publication, in addition to the district forecast, a "further outlook" (where desired) by the newspapers concerned. The "further outlook" gives an indication of the general conditions to be expected on the day or two succeeding the period covered by the forecast. While it must of necessity be less accurate than the twenty-four-hour forecast, it is useful for the farmer, especially in planning such operations as haymaking, shearing, fruit-spraying, &c.

Apart from the broadcasts, all the other forecasts for the use of the general public and civil aviation services have been maintained, and there has been a steady increase in the number of requests for individual forecasts for specific purposes relating to aerial mapping, engineering, farming, &c. A number of new routine forecasts for defence Services have also been introduced. The Meteorological Office at Auckland has continued to provide special forecasts required for the trans-ocean flying services, and the Wellington Office has provided those used by the internal commercial air services.

Six synoptic charts are prepared each day. These are based on observations made at 6 a.m., 9 a.m., noon, 3 p.m., 6 p.m., and midnight at stations in New Zealand, and include also information from Australia and the Pacific islands. Two new weather-reporting stations in New Zealand were established during the year, and the frequency of reports from certain existing stations was increased.

AIR FORCE STATIONS.

The Meteorological Officers attached to the R.N.Z.A.F. stations at Wigram, Ohakea, and Blenheim have continued to give regular courses of lectures to pilots in training. The syllabus follows closely a corresponding course given to pupil pilots in England.

In addition, forecasts are supplied for all local flying operations and cross-country flights. To reduce unnecessary duplication of work, weather charts for certain of the synoptic hours only are plotted on the Air Force stations, and developments in the situation during the remaining period, as revealed by the charts analysed in Wellington, are communicated to the stations by means of regular conference telephone calls. Full synoptic reports, including pilot balloon observations, are made at each of these stations.