

METEOROLOGICAL BRANCH.

REPORT BY THE DIRECTOR, 1931-32.

GENERAL.

The advantages anticipated from the removal of the Meteorological Office to Kelburn have been fully realized during the past year. Much time is saved through being near the Observatory site, and we are able not only to exercise a better supervision over the equipment, but to undertake work which would be impossible, or very difficult, from an office situated in the city. In connection with weather forecasting, it has proved to be a great advantage to have the whole sky continuously in view, and to make frequent and accurate observations of cloud-movement. The more convenient storage of records and publications has greatly facilitated reference and has led to greater efficiency.

FORECASTING.

During the year, owing to representations from bodies concerned with the various aspects of maritime activity, the evening broadcast of weather reports for shipping from the Wellington Radio Station was resumed. Except during a few of the winter months, a special afternoon forecast for farmers has again been issued at 3.30 p.m. from 2YA. In this forecast the endeavour is made to give an outlook for as long a period in advance as possible. From correspondence received, reports, and personal interviews, it is clear that this forecast is much appreciated and that an increasing number of farmers arrange their work in accordance with it.

The number of requests for special forecasts in connection with aviation, shipping (especially small shipping), journeys by launch, invalids requiring to travel, open-air meetings of all kinds, and many other activities continues to increase rapidly.

Enforced economies have led to the further reduction of the number of country towns to which the noon forecasts are sent. There has been some reduction also in the number of regular reporting stations, while most rainfall-stations have had to be instructed to discontinue the telegraphing of reports of heavy precipitation. Except that with increasing development it has been possible to secure a better distribution, the situation with regard to the number of reporting stations, although a contrary view appears to prevail with the public, is now less satisfactory than it has been for very many years. As an illustration of the way in which the forecast may be affected, it may be mentioned that in two cases recently when heavy rain had been predicted for certain districts the reports seemed to indicate that little had fallen. Since the meteorological conditions remained much the same, the forecast was naturally affected. On receipt of the monthly returns from rainfall-stations, however, it was found that flood rains had been experienced in parts of the districts concerned.

A preliminary attempt has been made to apply the Norwegian methods of forecasting to Australian and New Zealand conditions. Very little can be done with the daily telegraphic reports, owing to sparseness of data from Australia, but by plotting on our charts the complete reports, received by post from Sydney through the kindness of the Commonwealth Meteorologist and his staff, it was found that Australia was a very favourable region in which to apply the methods. The situation so far as New Zealand is concerned is not so satisfactory, since there must inevitably be large blank spaces on our charts in the Tasman Sea area and the ocean waters to the eastward. But with the complete Australian data available there is no doubt that a much better insight into the weather processes could be obtained by adopting the Norwegian methods, and there will be occasions, also, when they will be of direct advantage in preparing the local forecast. It is quite likely that in the near future many additional Australian reports will be available by wireless without involving much extra expense.

The cordial co-operation of the Post and Telegraph Department throughout the year is gratefully acknowledged.

OBSERVING-STATIONS.

Five new climatological stations have been established, the equipment in several cases having been paid for by those requiring the resulting information. The demand for the new stations generally arose in connection with some industry—*e.g.*, the production of tung-oil—or some special research, such as that at the Fruit Research Board's orchard at Appleby, near Nelson. Several requests for additional stations have had to be refused, the Branch now having as many as it can cope with.

A number of new rainfall-stations have been set up in districts where they were previously lacking, while seven old ones have lapsed. At some of the new stations the gauges are privately owned.

Very little inspection has been possible, owing to shortage of funds, and supervision has had to be exercised mainly by correspondence. The great majority of observers have shown every desire to maintain a good standard and to follow any suggestions. The quality of the observations is undoubtedly improving. This is especially the case as regards private and voluntary observers. Few people realize the tie that observations made at the same time on every day of the year constitute for these observers, and the thanks of the country as well as of the Meteorological Office are due to them.

UPPER-AIR OBSERVATIONS.

Observations of winds in the upper air by means of pilot balloons have been continued at Wellington throughout the year on all working-days. The results of similar observations at the Christchurch Magnetic Observatory have been telegraphed daily also, and have proved of value in connection with the forecast. Thanks are due to Mr. H. F. Skey for his continued co-operation in this direction. Monthly frequency tables of the upper winds at various heights, classified according to direction and speed, in conformity with an international scheme, have been prepared regularly. Three years' results are now being summarized for publication. Data regarding horizontal visibility and the height and frequency of low cloud will be included. This information will be of value to aviation, especially when any regular flying services are established.