

regarding weather conditions in New Zealand as they affect flying, the selection of sites for an airship-base, and the preparation of plans for the extension of the existing meteorological service which will be required when airship services are in operation. In connection with the flying that was done in the course of this visit, and also on other occasions, forecasts have been issued to aviators travelling over parts of the Dominion.

FORECASTING.

Wherever possible, attempts have been made to increase the value of the forecast by indicating the general situation. This will enable weather sequences and the forecast to be much better understood and will have a considerable educative value. A long-felt want has been satisfied by the issue of the evening forecast on Saturday and Sunday evenings and holidays as well as other days. This service, however, constitutes a severe tax on a forecasting staff of two, and it may not be found possible to continue it. The week-end issues, together with the inclusion of forecasts for the eastern Tasman Sea, have greatly increased the value of the forecast, especially to mariners. It is hoped that an adequate return has thus been given for the reports received from vessels in surrounding waters. The number of these is continually increasing, and they afford a very great assistance. The Union Steamship Company especially is deserving of thanks for assistance in this direction.

The availability of the forecast to the public, especially the farming community, and consequently its value has been greatly increased by its issue twice daily from the stations of the radio-broadcasting companies. During the coming year it is hoped to include reports from about sixteen stations in the New Zealand area with the evening forecast as broadcasted by wireless, so that mariners and others with a working knowledge of meteorology will be able to draw their own charts and so secure the maximum benefit from the forecast service.

RAINFALL DATA.

A commencement has been made of the preparation of a new annual rainfall map of New Zealand. When this is completed, attention will be directed to the provision of other data regarding rainfall to meet the requirements more especially of the engineering profession. Thirteen new rainfall stations have been established, and the distribution is gradually being improved.

MISCELLANEOUS.

Numerous requests for meteorological information of various kinds have been received during the year from other Government Departments and private individuals. The use being made in this manner of the records collected by the Meteorological Office is being rapidly increased. Meteorological conditions are perhaps of greater importance to the man on the land than to any other class of the community, and there are numbers of researches in which valuable co-operation with the Department of Agriculture should be possible.

Owing to the extension of the railway-works at Thorndon, the site of the meteorological station there had to be surrendered. A new site was chosen at Kelburn, on the reserve near the Dominion Observatory. In the circumstances, this must be considered a good location, and it is anticipated that it will be permanent. Towards the end of the financial year a proposal was made to erect an office for the Meteorological Branch near the meteorological station. This would enable a much closer watch to be kept on weather conditions, and should in many ways lead to great efficiency.

SHORT SUMMARY OF THE WEATHER FOR 1927.

Perhaps the most important feature of the year was the very low average velocity of the prevailing westerly winds as compared with other years. The absence of westerlies affected the climate in various ways. The rainfall on most of the west coast of the South Island was reduced. There were few hot, drying winds in Canterbury and other eastern districts. As a result the growth of grass and herbage was unusually luxuriant, and the effect of dry spells was felt remarkably little. Tides, also, appear to have been influenced, reports indicating that they were lower than usual on the west coast and just as consistently good on the east coast. Though we have no record of them, it is probable that ocean currents, also, were seriously affected.

Cyclonic storms were unusually frequent, and this again was probably associated with the absence of westerly winds. In spite of the latter, however, pressure systems moved from the westward with unusual speed.

Rainfall was above normal over the greater part of the North Island. In the South Island there were large areas in the central inland districts and the south where an excess was recorded, but elsewhere the totals were mainly below the normal.

The year was, on the whole, a cold one, temperatures averaging about a degree below normal. Sunshine was less than the average in most parts, but above it in Taranaki and the western portions of the South Island. In the winter and spring months snow lay unusually low down on the mountains, especially in the South Island, and was very thick.

Conditions were generally favourable to agricultural pursuits with an excellent growth of feed and a good yield from crops.

A summary of the observations from some of our more important stations follows.