As a matter of fact, the secret system either never comes to light or proves to have no sound basis. Gradually its possessor and his forecasts fade away into oblivion. The third class of forecaster gives as the ground of his pronouncements theories which to any one with any knowledge of physics are either totally impossible or highly improbable. But nothing is too fantastic to prevent its gaining a certain amount of publicity. The number of systems based on lunar phenomena is extraordinary. The majority are mutually exclusive. If one were correct, the others could not be. Now, any such theory can be proved to be right or wrong by means of available statistics. Yet such a course is never followed. The secret of the popularity enjoyed by the two classes of forecaster mentioned is that they assess the correctness of their forecasts themselves. They seldom have any knowledge of the weather away from their own districts except that which may be gained from the newspapers, but their readers generally have less and their memories are short. Consequently claims to success accompanied by plausible references to outstanding occurrences anywhere within a radius of a thousand miles or more are usually accepted by a large number. To try to correct such impressions through the columns of the ordinary newspaper is hopeless.

Upper-air Observations.

Observations of wind in the upper air by means of pilot balloons have been continued at Wellington throughout the year on all working-days. The normal programme is for one observation per day, but on the "term days" of the International Polar Year an additional one is made. The results of similar observations at the Christchurch Magnetic Observatory are received daily by telegraph for use in connection with the forecast. They are valuable, particularly because the surface-winds at Christchurch are often very local in origin and give little indication of the general wind régime. The co-operation of Mr. H. F. Skey, Director of the Christchurch Observatory, is gratefully acknowledged. Observations of visibility are made at 9 a.m. daily. The movement of medium and upper clouds is recorded as opportunity occurs. These latter observations are a very useful supplement to the pilot-balloon observations. They give information regarding the winds at heights to which the balloon is seldom followed, particularly at a place like Wellington, where low cloud is of frequent occurrence.

Publications.

There are published monthly in the Government *Gazette:* (1) Daily observations of pressure, temperature, &c., at the Kelburn Observatory, Wellington; (2) a note on the weather of the Dominion for the month; (3) a summary of the temperature observations at climatological stations other than Wellington; and (4) total rainfall and number of days' rain for all rainfall-stations. A table of the total rainfalls, differences from average, and greatest day's fall in the year is published annually.

The Meteorological Office publishes and annual volume of "Meteorological Observations" containing monthly and annual means of pressure, sunshine, wind, temperature, and other climatological data for upwards of forty stations.

Reprints of these publications are obtainable for the cost of postage.

The article of climate for the volume of "Land Utilization in New Zealand," to be published under the auspices of the Institute of Pacific Relations, has been completed, and, presumably, the volume will appear shortly.

The series of "Meteorological Office Notes" which have been appearing from time to time in the *Journal of Science and Technology* has been continued. The object of this series has been to summarize and thus make available to the public the results of the records which have been accumulated by the Service during past years and to treat of special problems and phenomena as they arise. In this way data regarding the climate and weather of the country are being accumulated in a readily accessible form. Without such sifting and co-ordination of data, theoretical advance is impossible. At the same time the information has numerous practical applications in the various professions. This year the following numbers have appeared:—

No. 11: Some Meteorological Data for 1930 and 1931.
No. 12: The Canterbury "Northwester."
No. 13: The Wairarapa Floods of August, 1932.

The first of these contains (*a*) tables of the total amount of bright sunshine recorded at the Kelburn Observatory for each hour of the day in each month in 1930 and 1931, (*b*) the average rainfall for each hour of the day throughout the year at Kelburn for 1930 and 1931, and (*c*) a map showing for the Dominion the differences between the rainfall recorded in 1931 and the average annual totals. The year 1931 was a wet one in western districts from Auckland southwards, parts of the ranges of the South Island having as much as 40 in. in excess of the average. In eastern districts it was very dry, large areas having a shortage of more than 10 in.

The Canterbury northwester, which is the subject of the second note, is the well-known Föhn wind of the Canterbury Plains. The reasons for the warmth and dryness of the wind and its erratic nature are explained. The Southern Alps have a profound effect on a current of air advancing from the north-west across the Tasman Sea, and the Canterbury northwester is only one of the manifestations of this. The flow in the lower levels is interrupted, and that at the higher levels correspondingly accelerated. The northwester is consequently not nearly so strong on the west coast as in the open ocean, while on the mountain-tops it is very strong and steady. It does not necessarily descend to the Plains on crossing the divide. The hotter the Plains are the more likely it is to descend. The northwester thus blows most frequently and strongly and covers a greater area on the Plains in the afternoon and evening hours than at other times of day. It is common for a north-easterly wind to prevail on the east coast when a northwester blows in the upper air. The air in the northeaster is cooler and denser than that in the northwester, which therefore rises over it. A weather-chart for a day on which a north-westerly gale occurred is reproduced in the paper, and various features described are clearly illustrated by it.