

The DIRECTOR, Meteorological Office, to the SECRETARY, Marine Department.

SIR,—

Wellington, 8th May, 1912.

The work of this branch of the service has been carried on regularly throughout the year, and with some rather important developments.

Special storm warnings have from time to time been issued and posted up on all telegraph and telephone offices in the areas affected, and each warning has hitherto been amply justified by results. This, through the generosity and enterprise of the Telegraph Department, has not been made a charge upon the Weather Bureau.

Master mariners have also in greater numbers applied for special forecasts by prepaid or collect telegram, and expressed their appreciation of services rendered. There have been a larger number of inquiries in other directions for forecasts by telegraph.

The Mackenzie Country settlers have also expressed gratitude for warnings of all the storms that have affected their interests, and warnings are now sent to Fairlie in code at 6d. per word for distribution by telephone to various post-offices in that area. In that district, in which a snowstorm has in days gone by killed 75 per cent. of the sheep, it is now proposed to have greater extension of telephones, and the wider distribution of the forecasts will undoubtedly add to their value.

Wireless telegraphy has been carefully watched and experiments made which, as soon as the new high-power stations are equipped, will, we hope, lead to greater confidence in prediction and wider knowledge of atmospheric conditions. The corrections for the barometers will, however, have to be carefully attended to, and great care and judgment exercised, or false alarms may be raised through trusting to erroneous readings which would predicate violent storms. A few aneroids of superior construction have been supplied to some ships, and very interesting results have been attained. His Majesty's warships the "Pioneer," "Challenger," "Powerful," "Encounter," and "Cambrian" have given the fullest and most useful reports; and the "Moeraki," "Moana," "Wimmera," "Aorangi," "Ulimaroa," "Remuera," "Roserie," "Manuka," "Maheno," "Tahiti," "Athenic," "Marama," "Talune," "Turakina," "Makura," "Maitai," and other vessels have also sent in ocean reports from time to time.

With the experience gained it is now proposed to issue a short code for position of ship, wind (direction and force), barometer, weather, and sea, in five words giving the necessary particulars to our registered address, "Weather, Wellington." Both to the officers of the ships and the wireless operators our very best thanks are due for their praiseworthy efforts, which will, we trust, lead to the establishment of a useful ocean weather service. The Secretary of the General Post Office will, as soon as the time is ripe and codes have been distributed, allow us in return to issue at 11 p.m. every night weather reports for Russell, Wellington, and Bluff, giving the state of sea in the straits, and occasional advice as to storm-centres. Master mariners who have taken marine meteorology as a subject for examination, or studied the science, will appreciate these reports.

Examination of ships' logs and reports from intercolonial and Home boats in the Southern Hemisphere, hitherto neglected in this country, now assume an importance undreamt-of before the advent of wireless telegraphy. The publications of the British Meteorological Office, the American Weather Bureau, and the Deutsche Seewarte are of immense value to the shipping of the world, and many ships travelling in New Zealand waters regularly report to those offices, and it is to be regretted that we cannot avail ourselves of the stores of information on marine meteorology, which are of special interest to us regarding storms, &c., that now pass by our doors.

A Dine's anemometer is being installed on Mount Etako, the new wireless station at Wellington. This will show the force of every gust of wind as well as give a record for the twenty-four hours. A Robinson anemometer has been established at the station during building operations, and comparisons made between its results and those at the observatory at the Alexandra Barracks. The total daily velocity is nearly double at the higher altitude than at the lower. Another Dine's anemometer has been ordered for the new observatory on the Thorndon Esplanade, and then very interesting comparisons will be possible not only for averaging the daily force and velocity, but for the several gusts and squalls from time to time.

The new observatory-site upon Thorndon Esplanade near the old saluting battery meets every need, and is leased from the City Council at a nominal rental. It is hoped that its exposure to sunshine, rain, &c., will not be interfered with for many years by buildings in the vicinity. The instruments will all be moved as soon as possible, and it is believed that the site will afford truer means than have yet been obtained for all the climatic elements of Wellington. At the suggestion of G. C. Simpson, Esq., D.Sc., Chief Meteorologist to the British Antarctic Expedition, a small building containing the Dine's anemometer, &c., will be used for cloud observations through a lens in the roof, and probably also a camera obscura. As an adjunct to the Campbell-Stokes sunshine-recorder, a sundial will be erected; it is engraved to show appropriate mean and true time at a glance. This observatory will, it is to be hoped, next year take rank as a first-class station, the first in New Zealand, keeping continuous records of all climatic elements.

There has been considerable delay in obtaining the full order of instruments from England, partly on account of strikes, and I regret to say that the stations at Dunedin and Hokitika in the South Island have not yet been renewed, and the higher-level stations at Bealey and Mount Egmont are not yet established, but the instruments are now ready. The North Island inspection has not yet been completed, but must shortly be undertaken.

During the past year I have had occasion to visit Australia on private business, and took advantage of the opportunity to visit the Head Office of the Commonwealth Weather Bureau at Melbourne, where Mr. H. A. Hunt, the Commonwealth Meteorologist, offered me every kindness and courtesy in his power. I also visited the Sydney Observatory under the Divisional Officer, Mr. Stewart Wilson, and obtained an insight into the working of the whole service. I visited the