

The usual Meteorological Report, in pamphlet form, including the returns from amateur as well as Government observers, is in course of preparation.

It should be mentioned also that the exchange of the daily meteorological records by the different telegraph officers in the Colony, is still continued as previously, and exhibits, in a useful form, especially for persons interested in shipping, the state of the weather each day at 9 a.m., at 27 different stations throughout the Colony.

ASTRONOMICAL OBSERVATORY.

The transit observations for regulating the telegraph time are still made by the the Ven. Archdeacon Stock, assisted by Mr. John Kebbell, who has also given valuable assistance during the past year in repairing and cleaning the mechanism of the astronomical clock and other instruments.

Excepting an interval of a few weeks, when it was found necessary to change the mercury in the pendulum bob, the astronomical clock has now gone continuously for two and a half years, with most satisfactory results on the whole.

The duty of setting the starting clock, which communicates the time each hour to the Telegraph Office, and also drops the time ball at noon, is performed by the Meteorological Observer every morning; the rates and errors of the clocks being duly entered in the Observatory books, which are kept for the purpose.

Mr. Kebbell suggests the desirability of adding to the mechanism of the astronomical clock an adjustment for altering the rate without requiring the pendulum to be stopped, in which recommendation I concur.

The work done at the Observatory hitherto has only been that connected with the regulation of the mean time of the Colony; but I have to report that Mr. Ellery, the Astronomer to the Victorian Government, has again represented the desirability of exchanging chronometers, for the purpose of determining the difference of longitude of New Zealand from Melbourne, with a view of preparing for the observation of the transit of Venus in 1874.

The observations for determining an independent meridian, made by Mr. Jackson, Chief Surveyor, are no doubt valuable*; but I consider that the former report, by Mr. Ellery on the subject,† indicates the desirability of checking Mr. Jackson's meridian, by reference to one that has been established by instruments of superior power and longer conducted observations.

Mr. Ellery states, in a letter dated 6th instant, "I shall be glad to do all I can to assist in the matter of the exchange of chronometers, and could lend one or two for the purpose. All that is necessary is to arrange with some of the captains of the Melbourne steamers, in whom you will meet with every desire to help."

30th August, 1872.

JAMES HECTOR.

* *New Zealand Gazette*, No. 12, 1871.

† Report in the longitude of Wellington, Appendix Journals, House of Representatives, 1870, D. 27.