

GENERAL.

Longitudes of Pacific Islands.—The importance of this work was urged in last year's report, and as the determination of the longitude of Tahiti has been successfully carried out it is recommended that steps be taken to determine the longitudes of the islands of New Zealand.

Seismograph.—The Milne seismograph has been attended to regularly. The pier on which the seismograph is mounted has water round it after every rain. The Public Works Department have had the matter in hand, and it is hoped that the water can be prevented from getting to the pier.

Long-period Variable Stars.—Professor Edward C. Pickering, Director of the Harvard College Observatory, Cambridge, Mass., U.S.A., forwarded a large number of photographs, 8 in. by 10 in. in size, of regions surrounding southern long-period variable stars, with the magnitudes of comparison stars marked thereon. He asked the co-operation of astronomers in New Zealand to make systematic observations of these variables. Some of the photographs have been supplied to astronomers, and others are available, on application, to those who will undertake to make the observations. The importance of continuous observations of variable stars of long period has frequently been urged, and, as these objects are specially suitable for observation by amateurs provided only with small telescopes, it is hoped that some systematic observations will be undertaken in New Zealand.

Lectures on Astronomy.—During the year the following lectures and addresses have been delivered by me on astronomy: "Notes on Californian Observatories" (illustrated by lantern-slides); "Notes on the Eclipse of the Sun on July 30," with photographs; "Wireless Time-signals"; "Southern Long-period Variable Stars"; "The Hartness Turret Telescope" (illustrated by lantern-slides); and one by Mr. C. J. Westland, F.R.A.S., on "Methods of Calculating Moonrise."

In conformity with the policy of the Hon. G. W. Russell, Minister in Charge of the Observatory, that lectures on astronomy should be delivered in other towns in New Zealand, I delivered two lectures on "American Observatories" before the Wanganui Astronomical Society and the Manawatu Philosophical Society. As a result of the lecture in Wanganui the Astronomical Society there has offered me the use of the society's equatorial telescope. This 9½ in. telescope, by Cooke and Sons, York, England, is the largest telescope in New Zealand. It is well mounted, and has a good driving-clock. It is expected that much valuable work will be undertaken as a result of this offer.

Admiralty Chronometers.—A number of Admiralty chronometers and a chronometer watch are deposited at the Observatory.

Precision Clock.—An order for a modern precision clock was placed with the maker before the war, but on the outbreak of war it had to be cancelled. Consequently arrangements for increased efficiency in the time service have to be deferred until such time as precision clocks can be obtained.

Accommodation for Observers.—Unlike other Observatories there is no provision for residences at the Observatory. The provision of residences for the Observers at the Observatory would increase the efficiency with the present equipment very considerably, and would make the whole of the night available for observations, receipt of wireless time-signals, &c., instead of only a portion of the night as at present.

Office Accommodation.—The office accommodation is very limited, and more room is urgently required for office and library. Many valuable gifts of astronomical publications, star-catalogues, star-charts, &c., have been received, but limitations of space have restricted their use. Accommodation will also be required for the mercury arc rectifier.

It is recommended that a library-room should be added to the Observatory, where those interested may be able to consult the astronomical publications. With the provision of a suitable library many gifts of astronomical publications from New Zealand friends may be reasonably expected.

Eclipse of Sun.—An annular eclipse of the sun was observed on the 30th July, 1916, when, with the assistance of members of the Astronomical Section of the Wellington Philosophical Society, a number of photographs were obtained and visual observations made.

Occultation of Saturn.—An occultation of the planet Saturn by the moon took place on the evening of the 4th March, 1917. The predictions of this occultation were supplied to a number of astronomers at different places. At Wellington the occultation was observed in cloudy weather. Members of the Astronomical Section took part in the observations. The times of disappearance and reappearance were recorded on the chronograph, and agreed very closely with the predictions made.

Publications presented to the Library.—Many valuable publications have been presented to the library, and for them grateful thanks are tendered to the donors. The French Government presented all the astrographic charts and catalogues of the Paris, Toulouse, Bordeaux, and Algiers Observatories; while the Mexican Observatory of Tacubaya presented its portion of these charts and catalogues. Most of the large Observatories present their publications to the library; consequently the library is beginning to be a representative one, and is useful for astronomers in New Zealand.

New Zealand Standard Time.—New Zealand standard time is for the meridian 172° 30' east of Greenwich, and is 11 h. 30 m. in advance of Greenwich time. As it appeared that many advantages would be gained by making New Zealand standard time exactly twelve hours in advance of Greenwich mean time, the subject was discussed at the Wellington Philosophical Society, and a resolution from the society was forwarded to the Government urging the desirability of the alteration. The Government was unable, however, to take any action at present in this matter.

Historical Records.—In conformity with the policy of preserving historical records it is suggested that the observing-stations used by astronomers, when special parties visited New Zealand to observe the transits of Venus, are worthy of preservation. Much valuable observing was done at these stations, including observations for latitude and longitude.

Considerable interest has been taken in this Observatory by astronomers in the Northern Hemisphere, as it is recognized that New Zealand offers from its position special facilities for