

Concrete Cisterns.—Reinforced-concrete cisterns to the Department's design were erected at Saletagaloa, Falelima, Falealupo, and at Matavai in Savai'i. These cisterns are erected alongside of churches in localities where piped supplies are not possible. Further cisterns are in the course of erection, and will be continued until all villages dependent on rain-water are supplied. The redwood tanks at Faiaai, Vaipu'a, Fogatuli, Aopo, and Letui have been repaired, and the guttering and down-pipe put in order. An 800-gallon and a 600-gallon iron tank were erected at Fusi, and a 600-gallon tank at Manase, in Savai'i. Repairs and improvements to bathing and drinking pools have been carried out during the year.

WHARVES.

A new jetty in hardwood, 60 ft. by 12 ft., was built on the old Tivoli jetty site, and has had considerable use, and is of distinct advantage to merchants at the eastern end of the town. Work was commenced on the new wharf at the Customs; considerable difficulty was experienced at first owing to the unstable bottom. A number of test bores were driven, and the difficulty has been overcome. The construction of the wharf is going forward in a satisfactory manner, and should be completed by June of present year. The portion already completed is in constant use by the small trading-craft. This wharf is the nucleus of what will eventually be a deep-sea berth for ocean-going vessels, thus cheapening the cost of goods exported from and imported into the Territory.

STREET-LIGHTING.

This service has been carried out continuously during the year. Four new traffic-control lamps have been erected at the junction of the four principal streets with the main beach road.

SURVEYS.

New or proposed water-supplies have been surveyed and a comprehensive survey made of the proposed railway at Mulifanua.

CONTRACTS.

During the year the Department instituted a system of contracting for labour on work by local tradesmen, and it has functioned very successfully, being of advantage to the men concerned in so far that it brightened them up considerably when they were forced into competition, and departmentally it eased the pressure to a certain extent on the pay staff.

APIA OBSERVATORY.

During 1926 the Apia Observatory has carried on a broad programme of observations in terrestrial magnetism, seismology, and meteorology. Each of these fields has been covered fairly comprehensively at Apia, and, through the Observatory's leadership, some progress has been made in co-ordinating the meteorological effort of other institutions and stations in the South Pacific.

TERRESTRIAL MAGNETISM.

On photographically-recording instruments continuous records were obtained of variations in the earth's magnetism. On other instruments thirty-five independent determinations in absolute units were made of the horizontal magnetic force, seventy-nine determinations of declination, and eighty-three of inclination. By means of these the average hourly values obtained from the photographic records were expressed in absolute units. The average value of the declination, horizontal and vertical force, for the past three years are given in the following table:—

Magnetic Elements at Apia, 1924-26.

				Declination :	Horizontal Force :	Vertical Force :
				East.	Gammas.	Gammas.
Mean, 1924 ..	..	..	..	10° 19.2'	35249	20453
Mean, 1925 ..	..	..	..	10° 22.8'	35239	20453
Mean, 1926 ..	..	..	..	10° 26.1'	35216	20446

In collaboration with other observatories, quarterly reports on the character of the magnetic disturbances occurring each day were forwarded to the Comité Meteorologique International, Be Bilt, Holland. A statement describing magnetic storms, giving their time of commencement and the variations in their intensity, has been prepared quarterly and published in the *Journal of Terrestrial Magnetism*. In February, 1927, a general summary of the magnetic observations for 1926 was sent to the Admiralty and to various hydrographic offices and investigators.

SEISMOLOGY.

The Observatory is equipped with a 1,000 kg. horizontal seismograph and a 180 kg. vertical seismograph, both of Wiechert design. During the year these instruments recorded 280 earth-movements, which were classified as follows: 143 instrumental, of local origin and very feeble; 24 local, not reported felt; 16 reported felt; 56 with epicentres less than 1,000 km. distant, the majority of them in the Tongan Deep; 41 with epicentres more than 1,000 km. distant. The most severe local shock occurred on the 16th March, 1926, at 6.08, local time, with an intensity at least 4 on the Rossi-Forel scale, 1-10. The seismograph was slightly damaged and temporarily put out of action. The wiring of the time-recording circuit had become so corroded that the entire circuit had to be rewired in September, taking almost a fortnight, during which no records were obtained.