

Throughout the year 172 earth-movements were recorded, of which sixteen were remote or distant shocks, the remainder being purely local or having their origin within six hundred miles of Samoa. Thirteen shocks were sufficiently strong at Apia to be reported as felt by individuals.

METEOROLOGY.

Continuous records have been obtained throughout the year of the barometric pressure, temperature, sunshine, wind direction and force, and rainfall. The following table gives a summary of the data for pressure, temperature, and rainfall :—

1923.					Pressure : Mean Daily Value, in Inches.	Temperature : Mean Daily Value, in Degrees Fahrenheit.	Rainfall, in Inches.
January	..	..	..	..	29.78	80.6	18.71
February	..	..	..	..	29.80	80.2	18.20
March	..	..	..	..	29.76	79.8	51.08
April	..	..	..	..	29.86	79.5	9.24
May	..	..	..	..	29.86	79.3	6.97
June	..	..	..	..	29.87	77.9	6.61
July	..	..	..	..	29.88	78.4	3.98
August	..	..	..	..	29.92	78.1	6.04
September	..	..	..	..	29.87	77.9	4.37
October	..	..	..	..	29.90	78.3	3.12
November	..	..	..	..	29.82	78.1	7.89
December	..	..	..	..	29.82	78.9	12.33
Year	..	..	..	..	29.84	78.9	148.54

The year was unmarked by any outstanding events. The Samoan Islands have continued their good fortune to be free from any cyclones or gales. The precipitation during May and June, 1923, was slightly under the normal, and the precipitation during the present rainy season, November-March inclusive, has been 62.04 in., which is 7.53 in. less than the average of the past thirty-four years. The mean temperature for the year 1923 was 78.9° F., the highest temperature, of 91.1° F., occurring on the 24th February, and the lowest, of 65.3° F., on the 16th September. The mean barometric pressure was 29.84 in., with the maximum value of 30.03 in. on the 14th June and 9th October, and minimum value of 29.57 in. on the 7th March.

Atmospheric Electricity.—Continuous records of the electrical potential of the atmosphere have been obtained at the land station in the grounds of the Observatory. These records have been reduced and the results analyzed and abstracted. The records and computations have been forwarded monthly to the Department of Terrestrial Magnetism of the Carnegie Institution of Washington.

A special reinforced-concrete observation-house has been constructed in the shallow water inside the reef, about one-third of a mile from the shore. This building has been equipped with a Benndorf electrometer giving a second record of potential-gradient, free from the disturbing land agencies which are present at the station in the Observatory grounds. There are, however, small changes in the electrical conditions in the vicinity of the house, introduced through the rise and fall of the tides. In order to obtain a measure of these effects a tide-gauge of the most modern type has been obtained.

Upper-air Work.—During the past year an investigation has been started on the currents existing in the upper air. Beginning in June, 1923, pilot balloons have been set free on every opportunity in which there seemed a reasonable possibility that the sky would be clear for thirty minutes, in which time a free balloon would reach an altitude of three miles. Up to the 31st March 104 balloons had been inflated and released, but for various reasons it had been only possible to follow fifty to the heights desired. The greatest observed altitude reached by a balloon was 13.1 miles, on the 15th December.

Results of the observations of the upper-air currents for those days selected by international agreement have been forwarded to the Commission Internationale pour l'Exploration de la Haute Atmosphere, Kristiania, Norway.

The United States Weather Bureau has given the Observatory on indefinite loan a special balloon plotting-board and accessory scale, a special balance which indicates as well as weighs the amount of hydrogen necessary to inflate a balloon, and a complete and generous supply of the Weather Bureau reduction form. The Canadian Meteorological Service has given a theodolite to enable observations to be taken at a second station. This will allow the rate of ascent to be determined by triangulation and make possible a determination of the vertical air currents.

South Pacific Weather-reporting System.—During April, 1923, and from the 1st November to the present, weather reports have been sent twice daily to the Apia Wireless Station for broadcasting. In the trade-wind season, from May to October, only one report a day, at 9 a.m., has been forwarded to the station.

The following stations transmit their reports to Apia, and are under the general supervision of the Observatory : Tahiti, Rarotonga, Nukualofa, Suva, Norfolk Island, and New Hebrides.

The Observatory has compared and furnished standardization certificates for eleven aneroid barometers, and rated six ships' chronometers.

Time-service.—Correct time has been supplied regularly at 9 a.m. every morning throughout the year to the Post Office, and twice a week to the pilot-station for firing the noon gun.