

earthquakes were recorded. Particulars of the numbers of the earthquakes registered on the three machines are given in the following table :—

1928.	Machine Milne.	Machine Milne-Shaw (N.-S.).	Machine Milne-Shaw (W.-E.).	Remarks.
January ..	18	23	23	
February ..	29	44	44	
March.. ..	27	34	36	
April	7	18	18	
May	13	15	16	One shock lost on Milne-Shaw (N.-S.).
June	17	20	21	
July	14	20	17	
August ..	13	19	17	One shock lost on Milne-Shaw (E.-W.) owing to lamp burning out.
September ..	15	20	22	
October ..	18	19	20	
November ..	19	25	25.	One shock lost on Milne-Shaw (E.-W.) owing to clock stopping.
December ..	21	27	28	

Inequality in the number of shocks recorded on each seismograph is due to the following causes (other than those stated above) :—

- (1) The Milne machine is less sensitive than the Milne-Shaw machines ; it therefore does not record many of the smallest shocks.
- (2) The Milne-Shaw (N.-S.) component appears to be specially susceptible to disturbance by high winds ; therefore very small shocks are occasionally not traceable on the records.
- (3) A few very feeble shocks have been recorded on one Milne-Shaw machine only, possibly on account of directional effect.

Officers of the Post and Telegraph and Marine Departments and private observers have given valuable assistance in the reporting of earthquakes felt by them in New Zealand.

The total number of earthquake-shocks felt in New Zealand for the year 1928 was 80 ; 60 of these were felt in the North Island and 23 in the South Island. In three cases the same shock was felt in both Islands. The maximum intensity of the shocks felt in 1928 was 8 on the Rossi-Forel scale. The maximum intensity of shocks felt in 1921 and 1922 was 8 ; in 1923 was 6 ; in 1924 was 7 ; in 1925, 1926, 1927, and 1928 was 8 on the same scale.

Fifty-seven reports were received from the officers of the Post and Telegraph Department, eight from the Marine Department, forty-six from other observers, and 136 from the newspapers.

An article on "Earthquakes in New Zealand" was prepared for and published in the New Zealand Year-book. Maps have been prepared showing in considerable detail the distribution and intensity of the earthquake-shocks felt in New Zealand ; these are now being made ready for publication.

The work in seismology has increased very considerably since the new Milne-Shaw seismograph has been running, and a further addition to the work has been caused by the installation of the second Milne-Shaw seismograph. In addition to the technical reports on the earthquakes, contact prints are made of all important records and are sent to other observatories.

The old Milne machine has proved its usefulness in a number of cases where the local shocks have been strong enough to throw the Milne-Shaw machines out of action.

During the year 1928 earthquake reports have been received from fifty-eight observatories.

Steps are now being taken to obtain seismographs suitable for recording local earthquakes. By means of these seismographs it is hoped that some precise knowledge of the origins of New Zealand earthquakes may be obtained.

Earthquakes in New Zealand, 1928.

Table I is a general summary of all earthquakes experienced in New Zealand during the year 1928. The table gives the day and hour of each shock, the towns or districts where felt, and the maximum intensity reached.

Statistics for sixteen of the principal towns in New Zealand show that the southern portion of the North Island was by far the most active area in 1928. Wellington recorded the greatest number of shocks (eight) during the year, New Plymouth six, and Napier six. In the South Island there was considerable activity in the west-coast districts, most of which occurred in the months of March and December. Westport and Queenstown each experienced five shocks during the year.

Seismic activity was greatest during the first three months, and showed a decline towards the close of the year. The maximum number of shocks (seventeen) occurred in March, and the minimum (three) in November.

Table II gives the distribution of earthquakes in each month of 1928, and the number occurring in each Island ; also the maximum intensities. The total number of separate shocks felt during the year was eighty, sixty of which were felt in the North Island and twenty-three in the South Island, three being felt in both Islands. The maximum intensity was 8 on the Rossi-Forel scale. This was