

Non-instrumental Reports.

Much valuable information has been obtained during the year from the non-instrumental reports of earthquakes as felt in different part of New Zealand. These reports are sent in to the Observatory by officers of the Marine Department, officers of the Post and Telegraph Department, and also by a number of private observers. The information from the non-instrumental reports is used to assist in the determination of epicentres, and in the preparation of maps showing the distribution of seismic intensity.

The following is a summary of all earthquakes reported as felt in New Zealand in 1931 :—

Month.	Number of Earthquakes reported.				Maximum Intensity (R.-F. Scale).	Locality of Maximum.
	North Island.	South Island.	Both Islands.	Total.		
1931.						
January ..	4	41	..	45	5	Kahurangi Point.
February ..	33	21	6	48	10	Hawke's Bay.
March ..	24	37	3	57	7	Hawke's Bay
April ..	15	24	3	36	7	Hawke's Bay.
May ..	31	27	1	57	8-9	North Hawke's Bay.
June ..	26	9	..	35	7	Opotiki, Wairoa.
July ..	29	9	3	35	7	Hinakura, Porangahau, Farewell Spit.
August ..	12	14	1	25	5	Hawke's Bay.
September ..	20	12	1	31	8	Opetiki.
October ..	15	6	..	21	5	Hawke's Bay.
November ..	9	12	3	18	6	Buller District.
December ..	10	13	..	23	5	Taumarunui.
Totals ..	228	225	21	431	10	

It will be seen from the above summary that the total number of earthquakes felt in New Zealand for 1931 was 431, the number experienced in each island being approximately equal.

The following table gives the number of earthquakes in 1931 in which the maximum intensity reached various numbers on the Rossi-Forel scale of intensity :—

Month.		Rossi-Forel Intensity.										Totals.
		1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	
1931.												
January	4	21	17	3	..	..	..	..	..	45
February	2	17	11	9	6	1	1	..	1	48
March	6	15	20	9	6	1	..	..	..	57
April	8	15	9	2	2	..	..	..	36
May	1	6	12	25	9	3	..	..	1	57
June	1	7	10	8	6	2	1	..	..	35
July	4	13	9	4	2	3	..	..	35
August	3	6	12	4	..	..	..	..	25
September	1	5	10	10	3	..	1	1	31
October	1	7	5	6	2	..	..	..	21
November	1	8	5	1	3	..	..	18
December	2	12	8	1	..	..	..	23
Totals	4	47	137	146	60	24	9	2	1	431
Per cent. totals	0.9	10.8	31.7	33.7	13.8	5.5	2.7	0.5	0.2	100.0

The maximum intensities reported in each of the past ten years were : 1922, 8 ; 1923, 6 ; 1924, 7 ; 1925, 8 ; 1926, 8 ; 1927, 8 ; 1928, 8 ; 1929, 10 ; 1930, 8 ; 1931, 10.

The Hawke's Bay Earthquake.

The outstanding seismic feature of the year was the disastrous Hawke's Bay earthquake on February 3rd. The epicentre of this earthquake was located on the coast-line of Hawke's Bay, from five to fifteen miles north of Napier. A detailed study of the seismograph records indicated that the seat of disturbance was probably from ten to fifteen miles beneath the earth's surface. The main shock was felt over practically the whole Dominion, and exceeded R.-F. 8 at many places in the Gisborne and Hawke's Bay districts.