

comparisons was to test the accuracy of the predictions. The results compare favourably with the comparisons between actuals and predictions at Indian ports, published by the Tidal Branch of the Survey of India; these comparisons being derived from predictions based upon harmonic constants evaluated by the same method of reducing tidal observations, by harmonic analysis, as that adopted in New Zealand.

The actual heights of high and low water as obtained from the self-registering tide-gauge records have been corrected for barometric pressure at Auckland, Wellington, and Bluff. Barograph records were not available for the Port of Westport. The errors of the predictions thus determined are tabulated in the three tables herewith appended.

No. 1.—Percentages and Amounts of the Errors in the Predicted Times of High Water and Low Water at Four Standard Ports for the Year 1921.

Port.	Number of Comparisons between Actual and Predicted Values.	Errors not exceeding 15 Minutes.	Errors over 15 Minutes and under 30 Minutes.	Errors over 30 Minutes and under 45 Minutes.	Errors over 45 Minutes.
HIGH WATER.					
Auckland	705	80	17	3	0
Wellington	705	89	9	2	0
Bluff	695	90	10	0	0
Westport	683	80	15	4	1
LOW WATER.					
Auckland	705	87	12	1	0
Wellington	705	84	13	3	0
Bluff	694	82	17	1	0
Westport	684	86	13	1	0

No. 2.—Percentages and Amounts of the Errors in the Predicted Heights of High Water and Low Water at Four Standard Ports for the Year 1921.

Port.	Number of Comparisons between Actual and Predicted Values.	Mean Range of Spring Tides in Feet.	Errors not exceeding 6 in.	Errors over 6 in. and under 12 in.	Errors over 12 in.
HIGH WATER.					
Auckland	705	8.8	82	18	0
Wellington	705	3.4	95	5	0
Bluff	695	8.0	86	14	0
Westport	682	9.5	72	24	4
LOW WATER.					
Auckland	705	8.8	80	19	1
Wellington	705	3.4	96	4	0
Bluff	694	8.0	70	27	3
Westport	685	9.5	71	23	6

No. 3.—Table of Average Errors in the Predicted Times and Heights of High and Low Water at Four Standard Ports for the Year 1921.

Port.	Mean Range of Spring Tides in Feet.	Average Errors.					
		Of Time in Minutes.		Of Height in Terms of the Range.		Of Height in Inches.	
		H.W.	L.W.	H.W.	L.W.	H.W.	L.W.
Auckland	8.8	11	9	0.037	0.039	4	4
Wellington	3.4	9	9	0.066	0.068	3	3
Bluff	8.0	8	9	0.043	0.058	4	6
Westport	9.5	10	9	0.049	0.051	6	6
General mean	10	9	0.049	0.054	4	5