

Continuous records are still being obtained at the New Plymouth tidal station of the tide curve from the self-registering tide-gauge, and other meteorological data, together with the temperature of the sea.

The mean values for each month of the temperature of the air, surface of the sea, and height of the barometer from the 1st April, 1920, to the 31st March, 1921, are given below:—

*New Plymouth Tidal Station.—Mean Monthly Values.*

Date.					Barometer.	Attached Thermometer.	Temperature of Air.	Temperature of Sea.
1920.					In.	Deg. (F.)	Deg. (F.)	Deg. (F.)
April	..	..	..	..	30·16	59·26	59·30	58·90
May	..	..	..	..	29·90	52·81	53·16	55·52
June	..	..	..	..	30·14	51·47	51·30	53·20
July	..	..	..	..	30·19	49·07	48·55	51·45
August	..	..	..	..	29·94	49·68	49·00	49·51
September	..	..	..	..	30·06	52·63	53·47	51·60
October	..	..	..	..	30·17	56·61	56·67	54·52
November	..	..	..	..	30·01	58·67	58·23	54·50
December	..	..	..	..	30·03	61·71	62·84	56·13
1921.								
January	..	..	..	..	30·12	65·90	67·32	59·36
February	..	..	..	..	30·13	63·21	64·29	58·25
March	..	..	..	..	30·12	61·51	63·10	58·71

Considerable difficulty has been experienced in preparing some of the diagrams of the self-registering tide-gauges of Dunedin, Lyttelton, and to a lesser extent Westport, for measurement at the exact local mean-time hours, due apparently to defects in the mechanism of the various tide-gauges. The diagrams show in some cases the recording-pencil to be marking in advance of the clock, in others behind the clock, occasionally exceeding half an hour in time, this necessitating an adjustment whenever met with, which not only takes up time but also leaves a certain element of doubt as to whether the adjustment represents the true tidal curve. With the introduction of new tide-gauges, and further co-operation on the part of the authorities concerned, difficulties of this nature should be almost entirely eliminated.

The substitute for the apparatus, or abacus, designed by Sir George Darwin for facilitating the reduction of tidal observations has been devised and completed by the purchase of 150 celluloid strips, cut and ruled to required size, and mounting these strips on heavy linoleum (also cut to required size) with small brass pins. This substitute, while being neither as strong nor as ornamental in appearance as the original apparatus purchased twelve years ago from the Cambridge Scientific-instrument Company, answers its purpose equally well, and has one great advantage—that in the event of breakages it can be repaired at a minimum of cost and time.

**Table 1.—RETURN OF FIELD-WORK EXECUTED BY HEAD OFFICE STAFF FROM 1ST APRIL, 1920, TO 31ST MARCH, 1921.**

Land District.				Standard Surveys				Rural Standard Surveys				Other Work.	
				Completed.		In Progress.		Completed.		In Progress.			
				Miles.	Cost per Mile.	Miles.	Total cost.	Miles.	Cost per Mile.	Miles.	Cost per Mile.		
Auckland	..	..	..	32·9	£ 41·82	14	£ s. d. 639 10 0	..	..	..	£ ..	£ s. d. 160 5 2	
Wellington	..	..	..	..	..	..	492 2 6	..	..	28	25·72	123 11 5	
Hawke's Bay	..	..	..	..	..	40	1,121 3 9	..	..	..	..	..	