

Directions for Observing Tides on the Arctic Coast  
of Alaska, for a period of 3 or more days.

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1 Procure a wooden staff whose length is somewhat greater than the extreme fluctuation in sea level which occurs at the place of observation.

2 Divide the staff into feet and tenths of feet, and place the appropriate number opposite each foot mark, beginning with "0" at the lowest foot mark on the staff.

3 Fix the staff in a vertical position, either by fastening it to some solid object, as a pile or well-driven stake, or by driving it securely into the bottom of the shallow water.

4 The numbers on the staff should increase upward, that is, with the rise of the tide.

5 Wherever convenient, or whenever the observations are to extend over a period of more than a few days, the height, above the zero of the staff, of a near-by and permanent mark upon the shore should be ascertained. This will enable the observer to replace the staff should it be knocked down before his observations are completed, especially to permit of more observations being made at another time.

6 The kind of time used should be carefully specified and the way of obtaining the time noted. The accuracy of the time used is a very important item in these observations.

7 Give the exact location of the staff by means of a sketch or description, or both.

8 At half hour intervals (on the even hour and half hour) record the height of the surface of the water by writing first, the number of the foot mark at or just below the surface of the water; second, the number of tenths, if any, that this foot mark is below the surface of the water. Record the time of the observation. If for any reason the observation can not be taken on the exact hour or half hour, it should be taken as soon thereafter as possible, and the time noted, and subsequent observations taken on the hour and half hour as before. Observations extending through all 24 hours of the day have much greater value than have those made during day-light hours only.

9 In reading the height upon the staff, unless the surface of the water be perfectly smooth, note the height midway between the crest and the trough of the waves.

10 The heights may either be read to the nearest tenth of a foot, or by estimation, to hundredths of a foot.

11 Note, if possible, and record, the direction of the current at each observation.

12 The observations are wanted for the coast, and not for an inland lagoon where the tide has but imperfect access.