

A Science Service Feature

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? WHY THE WEATHER ?

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SEA AND SWELL

Waves of the open ocean are of two distinct kinds, known as "sea" and "swell". Sea is due to winds blowing at the time and place of observation. Swell consists of waves that have been raised by winds in some other locality or that have persisted at the place of observation after the winds producing them have died down. It has a long, regular undulation.

The waves stirred up by violent storm travel far and wide over the ocean, gradually diminishing in height but preserving their original length (from crest to crest, or from hollow to hollow) and their original velocity. When they pass beyond the direct influence of the stormy winds they become swell. On exposed shores the swell from distant storms sometimes produces a heavy surf, which may come on, with little or no warning, when the air is calm, or with a wind blowing offshore. The famous "rollers" of Ascension and St. Helena, in the South Atlantic, are supposed to be due to storms thousands of miles away, in some cases.

The marine observers of the United States Weather Bureau and of the British Meteorological Office record sea on a scale of ten degrees, each of which corresponds to certain limiting heights of the waves. The scale runs from "calm", meaning no appreciable sea, up to "precipitous sea", in which the waves are 40 feet or more high from trough to crest.

Swell is recorded on a scale of eight degrees ranging from "no swell" to "abnormal swell".

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