A Science Service Feature

Released upon receipt
but intended for use
August 1, 1932

? WHY THE WEATHER ? Mailed July 25, 1932.

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TIDAL WAVES

Scientific purists long insisted that the term "tidal wave" should be applied only to the regular twice-daily rise of the sea under the pull of the moon and the sun, but nowadays scientific and popular usage agree in applying it to sudden irregular rises not due to lunisolar attraction. There is now an international "Commission for the Study of Tidal Waves," with headquarters in Paris, and it has lately promulgated the following definitions:

"'Tidal wave' is the name commonly given to the unexpected rising of the sea and the consequent flooding of coastal regions. The flooding may be produced by two very different causes: 1. Earthquake floods are caused by dislocations of the earth's crust, of seismic or volcanic origin. 2. Storm floods are caused by atmospheric depressions, and are thus of meteorological origin.

"In the case of earthquake floods the influx of the sea is very sudden; it is followed -- or occasionally preceded -- by a sudden withdrawal of the sea far away from the shore. The sea may rise locally to 100 feet above mean sea level. In a storm flood the influx of the sea is progressive and relatively slower, and the individual waves are somewhat irregular. The sea returns gradually to its original level without first with-drawing beyond it. The water usually rises less than ten feet."

With regard to the last statement it should be remarked that the amount of rise depends in part on the configuration of the shore. The storm tide caused by the Backergunge Cyclone of 1876, on the coast of India, inundated low-lying lands at some points to a depth of 40 feet, causing enormous loss of life.

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