

A Science Service Feature

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? WHY THE WEATHER ? Mailed February 5, 1929

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HURRICANE WINDS

Engineers and architects would like to know how hard the winds blow in tropical hurricanes, such as those that visited the West Indies and Florida in 1926 and 1928. Definite information on this subject is lacking, partly because of certain deficiencies in the instruments ordinarily used for measuring wind velocity, and partly because such instruments, when exposed to the full force of a hurricane, are usually damaged or carried away.

When the hurricane of September, 1928, struck San Juan, Porto Rico, the Weather Bureau station at that place was equipped with an anemometer of the 3-cup pattern, recently adopted by the weather services of the United States and Canada. At high wind velocities this instrument gives much more nearly accurate readings than the oldstyle instrument, with four cups. The anemometer at San Juan registered a maximum velocity for a 5-minute period of 150 miles an hour and an extreme velocity (based on the fastest single mile of wind-movement) of 160 miles an hour. It may be assumed, however, that these figures do not represent the extreme force attained during brief gusts, of a few seconds' duration. Moreover, the instrument was, as usual, blown from its support, after having successively lost its three cups, probably before the height of the storm, was reached.

During the same hurricane the trunk of a royal palm at Naranjito, Porto Rico, was pierced by a pine board torn from the side of a building 300 feet distant. The board was 10 feet by 3 inches by 1 inch and the tree was 14 inches in diameter. After the storm the board was found sticking in the palm trunk, through which about half its length had passed. A very similar case was reported from Cuba in connection with the hurricane of October, 1926. Laboratory experiments ought to be undertaken for the purpose of determining, at least approximately, what force of wind was required to accomplish these feats.

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