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? WHY THE WEATHER ?

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STORM WAVES AND CURRENTS

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Early writers on tropical cyclones seem to have assumed that the great waves and swells produced by these storms spread out more or less uniformly in all directions from the center. Dr. I. M. Cline, of the U. S. Weather Bureau, who has devoted special attention to the subject of storm waves for many years, points out the fallacy of this idea in a recent article. The winds in the right-hand rear quadrant of the storm have a direction nearly the same as that in which the storm is traveling, and with a "fetch" of two or three hundred miles they raise much bigger waves than those developed in other parts of the storm area, where the direction of the winds is constantly changing. "The waves and swells developed in that part of the cyclone," says Dr. Cline, "range from 20 to 50 feet in height, as determined by the velocity of the wind. Waves and swells so developed move forward with a velocity only a few miles per hour less than the velocity of the winds which produce them. The speed of some of these waves and swells is more than 40 miles per hour while that of the cyclone may be only 12 to 15. At such speeds the waves and swells soon move through the right-hand half of the cyclone and after passing out of the cyclonic area travel on with little change of speed and reach the coast far in advance of the arrival of the storm."

With the storm waves and swells are associated powerful currents, which can do much damage along coasts. In the tropical cyclone of August 14-17, 1915, the center of which moved inland a little distance to the west of Galveston, Texas, the Trinity Shoals gas and whistling buoy, the weight of which was 21,000 pounds, anchored with a 6,500-pound sinker and 252 feet of anchor chain weighing 3,500 pounds (total weight 31,000 pounds), was carried 8 to 10 miles coastwise to the westward. This buoy was anchored in 42 feet of water and was 100 miles to the right of the path followed by the center of the cyclone.

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