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? WHY THE WEATHER ?

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Waterspouts are not uncommon over warm ocean waters such as the Gulf Stream in late summer and fall, when they occur either with overrunning cool winds from the land or in the turbulent front of a hurricane. They are, however, not unknown over cooler waters, for they may occur wherever violent thunderstorms are found, for example, one in New York harbor a month ago. The classic waterspout of meteorology was the grand one that passed Martha's Vineyard in 1896. From the characteristics of this spout, and the temperature, moisture and wind conditions associated with it have been computed the intricate dynamics of such whirls and tornadoes.

A waterspout is really a sort of marine tornado, for when a tornado passes onto a lake it becomes a waterspout, and when a waterspout runs ashore it is likely to develop into a characteristic tornado. Like the tornado, the waterspout requires to start it a strong turbulence accompanying rapid ascent. Such conditions occur most readily when warm, moist air at one level is very unstable with respect to appreciably cooler air above it, or when the strongly converging gusts in a hurricane start numerous upward whirls. Curiously, the spout grows down from above, the upper portion of the column is not drawn up from the lake or ocean but is fresh water, sometimes snow, condensed from the humid air. This is demonstrated when a spout crosses a vessel. When the waterspout touches the ocean salt spray is whisked up into the lower part of the whirl and the sea water may rise 8 or 10 feet within the core of the whirl where the pressure is but three fourths or two thirds of an atmosphere.

(Tomorrow: Thunderstorms Decreasing)
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