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FURTHER TESTS OF OPERATIONAL MESOANALYSIS

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May 5, 1958

To further test the practicability of operational mesoanalysis, the author has, during the past 3 years, accumulated and studied a number of cases concurrent with and following his case study published in this issue [1]. Of 11 cases involving meso-Lows (or, in several instances, suspected meso-Lows) all were depicted either by the intersections of two instability lines or by the intersection of an instability line with an eastward-extending line of activity which separated rain-cooled air on its north side from the tropical air on its south side. Within these 11 meso-Lows some 81 tornadoes were involved.

A significant discovery was that the absolute pressure falls at the surface, as detected by altimeter settings recorded in the vicinity of the meso-Low, indicated a frequency within the hour before tornado occurrence that would, at least 50 percent of the time, require an observer to file a "pressure falling rapidly" report.

Meso-Lows or troughs, as depicted by the analysis with the most reasonably closed or virtually closed isobars, ranged in radius of curvature from 10 nautical miles to 40 nautical miles—with an average of 26.

Because of the macroscale of the ordinary synoptic reporting network, operational mesoanalysis relies on the *increment-of-time* changes in weather. This reliance necessarily requires, therefore, a dedication on the part of the observer in filing significant reports; viz., rapid changes in pressure, sudden increases in temperature, and even the altimeter setting although it is not mandatory in the special weather report.

REFERENCE

1. B. W. Magor, "A Meso-Low Associated with a Severe Storm," *Monthly Weather Review*, vol. 86, No. 3, Mar. 1958, pp. 81–90.

U. S. GOVERNMENT PRINTING OFFICE: 1958