

Classification of Squall Line Evolutions near the Mississippi River in Illinois

An Abstract of

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ABSTRACT

The purpose of this study is to investigate how squall lines evolve as they cross the Mississippi River into Illinois by creating a climatology. Also, the frequency of each evolution and evolutionary pattern, in terms of annual, monthly, and diurnal occurrence, is determined in order to identify patterns.

Surface analysis maps and national radar reflectivity mosaics are used to identify squall lines in the study area. Once squall lines are identified, Level-III base reflectivity is analyzed in ArcGIS to assign squall lines and their resulting evolutions to one of four

evolutionary patterns: 1) squall line, 2) squall line, 3) squall line, and 4) squall line.