Meso-α Scale Examination of the 29 March 2000 Dauphin Island Alabama 'Wedge Tornado's' Pre-Storm Environment

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ABSTRACT

During the afternoon of 29 March 2000, an extraordinarily large and long-lived supercell thunderstorm produced a wedge tornado south of Dauphin Island, Alabama. The tornado, accompanied by very large-diameter hailstones, was easily seen swirling around the vortex and was captured on video by a citizen. Using North American Regional Re-Analysis Data (NARR) available every three hours, this presentation focuses on a short time period leading up to tornadogenesis. Soundings and hodographs were modified for the time and location of tornado occurrence. Special focus is given to the examination of meso-α scale event kinematics, the regional evolution of both thermodynamic instability and vertical wind shear parameters and observed surface outflow boundary evolution. A comparison is also made as to how this tornado's ambient vertical wind shear magnitude and vertical distribution compares to thirteen other well-documented tornado-producing supercells in close proximity to Mobile Alabama since 1994.