

Abstract Submitted
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**Investigating the Effects of Grid Resolution of WRF Model for
Simulating the Atmosphere for use in the Study of Wake Turbulence¹**

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The Weather Research and Forecasting (WRF) Model is a nested-grid, mesoscale numerical weather prediction system maintained by the Developmental Testbed Center. The model simulates the atmosphere by integrating partial differential equations, which use the conservation of horizontal momentum, conservation of thermal energy, and conservation of mass along with the ideal gas law. This research investigated the possible use of WRF in investigating the effects of weather on wing tip wake turbulence. This poster shows the results of an investigation into the accuracy of WRF using different grid resolutions. Several atmospheric conditions were modeled using different grid resolutions. In general, the higher the grid resolution, the better the simulation, but the longer the model run time. This research was supported by Dr. Manuel A. Rios, Ph.D. (FAA) and the grant “A Pilot Project to Investigate Wake Vortex Patterns and Weather Patterns at the Atlantic City Airport by the Richard Stockton College of NJ and the FAA” (13-G-006).

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