

# **Evaluation of WRF Model Simulations of a High Impact Event with Tornado on 31th MAY 2015**

Zhu Dan<sup>1,2</sup>    ZHI Xie-fei<sup>1</sup>    Li Qi<sup>1</sup>

<sup>1</sup> *School of Atmospheric Science, NUIST, Nanjing 210044, China*

<sup>2</sup> *Meteorological Bureau of Changchun, Changchun, 130051, China;*

Tornadoes are furious convective weather phenomena. This study analyzes the tornado event that occurred on 31 MAY 2015 near TongYu County, at Jilin province of northeast China. The tornado developed approximately on 7:35 UTC and was characterized as EF1 (Fujita Scale). The tornado event caused several damages on building and farms. A synoptic survey is presented along with satellite images, radar products and vertical profile of the atmosphere. Additionally, the nonhydrostatic WRF-ARW atmospheric numerical model (version 3.7.0) was utilized in analysis and forecast mode using very high horizontal resolution in order to represent the ambient atmospheric conditions. The WRF-ARW high spatial resolution model appeared to simulate with significant accuracy on the severe convective event.

Key words: tornado, WRF-ARW Model Simulations, ambient atmospheric conditions, satellite images, radar products