Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Physical Patterns Associated with 27 April 2011 Tornado Outbreak[1] FERNANDA RAMOS, University of Puerto Rico at Mayaguez, THOMAS SALEM, National Weather Service, Memphis, TN — The National Weather Service office in Memphis, Tennessee has aimed their efforts to improve severe tornado forecasting. Everything is not known about tornadogenesis, but one thing is: tornadoes tend to form within supercell thunderstorms. Hence, 27 April 2011 and 25 May 2011 were days when a Tornado Outbreak was expected to arise. Although 22 tornadoes struck the region on 27 April 2011, only 1 impacted the area on 25 May 2011. In order to understand both events, comparisons of their physical features were made. These parameters were studied using the Weather Event Simulator system and the NOAA/NWS Storm Prediction database. This research concentrated on the Surface Frontal Analysis, NAM40 700mb Dew-Points, NAM80 250mb Wind Speed and NAM20 500mb Vorticity images as well as 0-6 km Shear, MUCAPE and VGP mesoscale patterns. As result of this research a Dry-Line ahead of a Cold Front, Dew-points $^{\circ}$5C and higher, and high Vorticity valueswere synoptic patterns that influenced to the formation of supercell tornadoes. Finally, MUCAPE and VGP favored the possibility of tornadoes occurrence on 25 May 2011, but shear was the factor that made 27 April 2011 a day for a Tornado Outbreak weather event.

[1]Meteorology Program at University of Puerto Rico at Mayaguez

Fernanda Ramos
University of Puerto Rico at Mayaguez

Date submitted: 10 Nov 2011 Electronic form version 1.4