Plinius Conference Abstracts,
Vol. 11, Plinius11-208, 2009
11th Plinius Conference on Mediterranean Storms

The High Resolution Hurricane Test

G.J. Tripoli and the High Resolution Hurricane Test Team
The University of Wisconsin, Madison, WI, USA

It has been suggested that an answer to the hurricane intensity forecast problem is to use very high cloud-resolving resolution in operational forecast models. In consideration of this hypothesis, the United States National Atmospheric and Oceanic Administration commissioned a major study to take place over the past 1.5 years whereby the hypothesis would be tested with 6 different hurricane models featuring different dynamics cores and different physics. These models included the GFDL hurricane, Navy COAMPS, the WRF-ARW, WRF-AHW, WRF-NMM, and the UW-NMS. The experiment design was to choose and optimal mix of historic hurricanes where good observations of intensity at land fall existed and run 5 day model forecasts with 3 different resolutions of about 9-12 km (low resolution), 3-4 km (medium resolution) and 1-1.5 km (high resolution) and document how much the forecast improved in each case. The project focused on 10 storms over 2-12, 1-5 day forecast periods, for a total of 67 simulations. Not all groups completed all 67 simulations, but there were sufficient results to reach a stunning conclusion. The results of these tests suggested that little or no improvement in intensity prediction was achieved with high resolution.