



Implementation and use of the Model for the Prediction Across Scales (MPAS) for extended, convection-permitting forecast guidance during RELAMPAGO

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This presentation will be devoted to a description of the implementation and use of the Model for the Prediction Across Scales (MPAS) during the Remote sensing of Electrification, Lightning, And Mesoscale/microscale Processes with Adaptive Ground Observations (RELAMPAGO) field campaign, conducted in November and December 2018 in Argentina. MPAS is a global, non-hydrostatic weather and climate model that allows for local grid refinement. A grid-configuration detail of particular relevance during RELAMPAGO was the specification of 3 km grid point spacing over the entirety of South America, with 15 km grid point spacing elsewhere around the globe. Predictions on the 3 km – and thus “convection allowing” – grid over South America were made out to ninety-six hours, in part to help address some of the RELMAPAGO deployment logistics. This extended range convection-allowing guidance was also motivated by the fact that the RELAMPAGO domain was just downstream of the relatively data-void Andes Mountains and Pacific Ocean. The relative skill of the MPAS guidance, especially in terms of the timing and location of convection initiation and subsequent convective mode, will be discussed. A specific example of how MPAS was used to support the planning of the 10 November 2018 supercell deployment (IOP 4) will be shown.