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Poster.2: . **The Importance of Grid Spacing in Simulating Organized Convective Storms**

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Abstract

Mesoscale Convective Systems (MCSs) provide a majority of precipitation in the tropics and some mid-latitude regions. They also cause a significant amount of flooding and other hazards in the regions they occur.
Simulating MCSs is challenging due to the complex interaction between processes that range from synoptic scales to microscales. Here we use the Weather Research and Forecasting (WRF) model to simulate well observed MCSs in the central U.S. and the Amazon basin with model grid spacings ranging from hydrostatic scales (12 km) to turbulence resolving scales (125 m). We evaluate these simulations with a range of observations from the U.S. Department of Energy (DOE) Atmospheric Radiation Measurement (ARM) sites, satellite data, and in-situ measurements. The goal is to understand how MCS characteristics change with model grid spacing, to detect systematic model biases, and to identify efficient model settings that allow to simulate MCSs reliabely in weather and climate models.