

Uncertainties and limitations in simulating tropical cyclones

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Abstrak

The thesis work was in two major parts: development and testing of a new approach to detecting and tracking tropical cyclones in climate models, and application of an extreme value statistical approach to enable assessment of changes in weather extremes from climate models. The tracking algorithm applied a creative phase-space approach to differentiate between modeled tropical cyclones and their mid-latitude cousins. A feature here was the careful attention to sensitivity to choice of selection parameters, which is considerable. The major finding was that the changes over time were relatively insensitive to these details. This new approach will improve and add confidence to future assessments of climate impacts on hurricanes.