

Su, C.-Y., W.-T., Chen, C.-M. Wu, H.-Y. Ma, 2022: Object-based evaluation of tropical precipitation systems in DYAMOND simulations over the maritime continent. *J. Meteor. Soc. Japan*, **100**, 647-659.

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Plain language summary: We evaluate whether the DYAMOND models and the CWBGFS can reproduce the observed relationship between the precipitation features and the horizontal scale of convective systems. The result shows that the models with convection parameterization perform better in some of the metrics, and the models with a finer native resolution are not superior to the others.

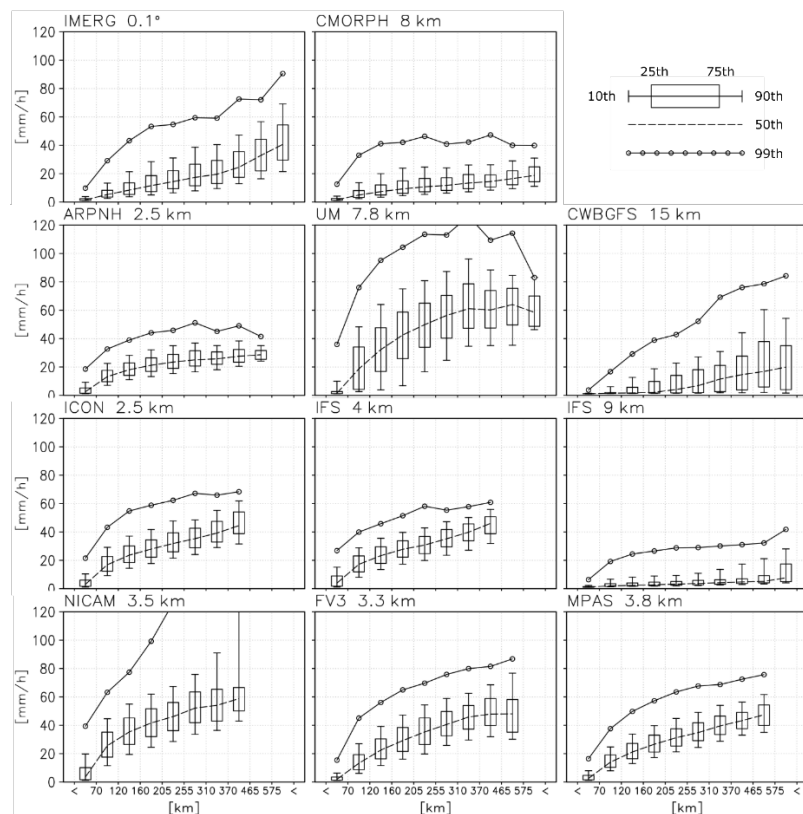


Figure 1. The spectrum of precipitation extremes (y-axis) for different horizontal scales (x-axis) of the convective system. The x-axis is binned to assure a nearly equal fractional contribution to total rainfall in each bin based on the IMERG data. The error bars, box, dashed line, and the circle represents the 10th, 25th, 50th, 75th, 90th, and 99th percentiles of the maximum precipitation intensity of the convective system in each size bin. The top row demonstrates the results from the observational datasets (IMERG and CMORPH). The rest of the panels demonstrate the results from the DYAMOND models and CWBGFS.

Highlight:

Global convection-permitting models with convection parameterization perform better in some of the system-based evaluation metrics, and the models with a finer native resolution are not superior to the others.