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Comment

Interactive comment on “The efficiency of the WRF model for simulating typhoons” by T. Haghroosta et al.

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General comments

In this study, the authors have attempted to evaluate the various physics schemes available with WRF for simulating tropical cyclones (TCs). It would be great if the authors can clarify a few points listed below

Line 5, page 293: Generally, when the TC is strong, one would expect more cooling of the ocean surface due to enhanced vertical mixing and upwelling. So I'm not sure why SST is over-predicted when the TC is stronger and vice versa.

Lines 10-20, page 293: The sensible heat flux at the air-sea interface, to the first order,

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depends on the wind speed and the air-sea temperature difference. On the other hand, the latent heat flux depends on the moisture difference at the air-sea interface and the wind speed. These heat fluxes, especially under the strong winds of a TC, are dominated by the wind speed. So I wonder why best estimates of latent and sensible heat fluxes occur in different simulations.

Correlation coefficients may be evaluated for statistical significance.

What is the role of model resolution in the results obtained? Is there a possibility that the results obtained have a dependence on the model spatial resolution?

Through this study, the authors advocate the use of a certain combination of physics schemes for simulation of TCs using the WRF model. However, unless physical justification is provided, it is hard to generalize these results.

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 2, 287, 2014.

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