



Influence of ocean and atmosphere coupling in a regional climate simulation: case study on tropical cyclones over the CORDEX Southeast Asia domain

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Coupling of ocean to the atmosphere can potentially improve climate simulations including cyclonic activities within a region heavily influenced by the ocean-atmosphere interactions. In this study, ROM or REMO coupled with MPI Ocean Model, which is a regional atmosphere coupled with a global ocean model, is used to evaluate the impact of the atmosphere-ocean interaction to the tropical climate focusing on the tropical storm activities. The aim is to identify the significance of the atmosphere-ocean coupling in the CORDEX Southeast Asia domain. The model domain spans 80 E to 145E and -15 S to 40 N, with a horizontal resolution of about 37 km and 27 hybrid vertical levels. The model is driven by the ERA-Interim reanalysis and run from the period of 1980 to 2012. To compare the influence of atmosphere-ocean coupling, the atmospheric model is also run uncoupled. Results on the simulated precipitation and temperature are compared to observations as well the changes in the tropical cyclone activity and these analysis will be presented in the poster. Preliminary results indicate that the warm and wet bias over the ocean in the uncoupled simulations are reduced in the coupled simulations especially during the typhoon season.