

**PARALLEL SESSION A : BENEFITS OF DOWNSCALING
A2: MODELS OF THE COUPLED REGIONAL CLIMATE SYSTEM**

**Influence of ocean and atmosphere coupling in a regional climate simulation
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. From previous studies, atmosphere-only simulations have a tendency to produce higher number of cyclones compared to observations. In this study, REMO coupled with the Max Planck Institute Ocean Model or ROM, 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 typhoon activities. The aim is to identify the importance of the atmosphere-ocean coupling in the CORDEX Southeast Asia domain. The model domain spans 80 E to 180E and -15 S to 40 N, with a horizontal resolution of 50- and 25 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. Preliminary results indicate that the warm and wet biases over the ocean in the uncoupled simulations are reduced in the coupled simulations especially during the typhoon season. The frequency of typhoon occurrences is lower compared to the uncoupled model and is comparable to observations.

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