

## **P18 Role of topography on the diurnal cycle of precipitation in the Maritime Continent**

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Understanding the multi-scale interactions between the diurnal cycle in the Maritime Continent (MC) and large-scale circulation remain a challenge to the atmospheric community. The goal of this study is to understand the role of topography on the diurnal cycle of precipitation using the WRF model. In the control simulation, we integrate the WRF model over the MC at 27km horizontal grid spacing for the month of April, 2009. During this time, an MJO event crossed the MC. The simulated precipitation was compared with 3-hourly TRMM precipitation. To test the influence of topography on the diurnal cycle in MC, a series of sensitivity experiments are conducted. In the first sensitivity experiment, we remove all the topography. In the second and third experiments, we remove all topography above 2000m and 1000m, respectively. The comparison of these simulations will demonstrate the role of topography in the MC. In another set of experiments, we remove one major island at a time and all the islands inside the model domain. Also we will use different topographic data sets of different resolution to show the sensitivity of our results on the accuracy of representation of topographic data set in the model.