Changes in mean precipitation over Malaysia based on multi-model regional climate simulations of SEACLID/CORDEX Southeast Asia

Ester Salimun¹, Fredolin T. Tangang¹², Jing Xiang Chung¹, Ju Neng Liew¹, Supari Supari³
¹National University Of Malaysia, Malaysia, ²Ramkhamhaeng University, Thailand, ³Agency For Meteorology Climatology And Geophysics, Indonesia, Korea

*Corresponding author
Email: ester@ukm.edu.my

This study investigated the changes in mean precipitation over Malaysia by the end of 21st century based on the ensemble of multi-model simulations of Coordinated Regional Climate Downscaling Experiment Southeast Asia (CORDEX-SEA). Two emission scenarios chosen were the RCP 4.5 and RCP 8.5 and the projection periods were divided into early century (2016-2035), middle century (2046-2065) and late century (2080-2099). Overall, for RCP4.5 Malaysia was projected to be drier especially in mid and late century. The percentage changes from early to mid century is high, while relatively low in the second half of the 21st century. Peninsular Malaysia was projected to gradually become significantly drier by the end of 21st Century but East Malaysia was projected to gradually become significantly wetter especially for JJA and MAM seasons. As for the RCP8.5, Peninsular Malaysia was projected to be drier while East Malaysia was projected to be wetter especially during JJA and MAM seasons as 21st century progresses. The percentage of changes for the RCP8.5 from early to late century was expected to increase gradually.

Keywords: CORDEX-SEA, SEACLID, Climate change, precipitation, Malaysia