



Drying projection over western maritime continent during Southwest and Northeast monsoon seasons

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In the maritime continent, the precipitation variability is large and recently, this region experiences longer dry season and more number of severe drought events that are threatening the human life, such as, water supply for daily life and agriculture, and unhealthy air quality due to the increased number of wildfires. Global warming has been known to contribute to the rainfall anomalies around the world, and present study investigate the extent to which the drying conditions are going to be happened in 21st century over western part of the maritime continent (WMC), where the population is much larger than the eastern part, during both active Southwest (SW) and Northeast (NE) monsoon seasons. A future change in the precipitation over WMC is suggested from our analyses of the Coupled Model Intercomparison Project Phase 5 (CMIP5) models. In addition to CMIP5, we analyse the downscaled data of nine selected CMIP5 models to examine if there is modification in the drying projection when higher resolution data are used. While the north and south of equator show out of phase in the precipitation change, the region around equator shows decreased precipitation during both the SW monsoon in June-July-August-September (JJAS) and the peak of NE monsoon in February (FEB). The drying projection is robustly shown in FEB when Intertropical Convergence Zone (ITCZ) shift to the southern hemisphere, but the same robustness is not shown in JJAS when the monsoon over South China Sea is active. The detail results, including the mechanisms and the impacts of tropical climate features (such as, warming Pacific Ocean, monsoon, ITCZ) that drive the drying projection, and the possible reasons causing different degree in the robustness between two seasons, will be shown in the presentation.