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20<sup>th</sup> century rainfall variability and the role of large scale climate events within Indo-Pacific region from IPCC AR4 models, reanalysis and observations

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## Abstract

The performance of Intergovernmental Panel on Climate Change Assessment Report No. 4 (IPCC AR4) models in simulating rainfall variability within Indo-Pacific region is being investigated. Data from 21 different climate models together with National Centre for Environmental Prediction reanalysis and other rainfall observations is being compared. The observational data sets were taken from gridded rainfall Indonesian observation data sets as well as a comprehensive set of high-resolution grids of monthly climate for the globe from the Climatic Research Unit (CRU) datasets.

The focus of the study is firstly, a model comparison in simulating historical rainfall variability in the region, and secondly, an investigation of the models sensitivity in simulating large scale climate events such as the El Nino Southern Oscillation and the Indian Ocean Dipole and its relationship with the rainfall variability over the region. Particular attention also upon the simulation of multi-decadal rainfall variability in the Indo-Pacific region.