[EJ] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-OS Ocean Sciences & Ocean Environment

[A-OS13]Physical, biogeochemical, and ecological aspects and their mutual relations in the Indian Ocean

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Recent discovery of new climate modes and development of basin-scale and regional observing systems in the Indian Ocean advance researches on physical, biogeochemical, and ecological aspects of ocean variations. In addition, inauguration of international research programs in the Indian Ocean, such as IIOE-2 and EIOURI, leads high expectation of related studies in earnest both in each of the disciplines and in interdisciplinary ways. This session invites papers on physical, biogeochemical, and ecological aspects in the Indian Ocean and relations among these elements of the ocean variations, to facilitate integrated understanding of the Indian Ocean variability, as well as to stimulate collaborative researches among the relevant scientists.

[AOS13-P04]*Seasonal Variation of the Java Upwelling System Represented in CMIP5 Models*

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Keywords:Java coastal upwelling, CMIP5 model comparison

An upwelling system off the coast of Java is believed to be a key process for local, regional, and global climate, as well as biological and ecological conditions, and their variability by bringing relatively cooler and nutrient rich water from subsurface to surface layer. However, how well this upwelling system is represented in global climate models such as the CMIP5 models is not investigated yet. This paper tries to evaluate the seasonal variation of the Java coastal upwelling in the 12 CMIP5 model outputs, focusing on sea surface temperature, temperature at 50 m depth, and wind stress along the coast of Java. The 12 models are split into four groups, depending on the main factors influencing the representation of the upwelling system in each model. We conclude that balance between upper-ocean responses to local and remote zonal wind stresses and mean depth of the thermocline are some of the major factors determining differences between models. However, further analysis on larger-scale processes, such as surface heat flux, the Indonesian throughflow, and wind field over Indo-Pacific sectorr, is needed in order to explain some particular results.