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Impact of Horizontal Resolution on Indian Summer Monsoon in coupled Atmosphere-Ocean Regional Model over CORDEX-SA

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The correct representation of air-sea coupling is crucial towards improving the Indian summer monsoon. In this study, a coupled atmosphere-ocean regional model ROM is employed to investigate the impact of horizontal resolution (0.44° and 0.22°) in simulating the mean Indian summer monsoon characteristics and associated dynamical and thermodynamical processes. Regional model, REMO, and global ocean model, MPIOM is taken as atmospheric and ocean components of the coupled system. Interestingly, ROM at both resolutions performs well in simulating the mean monsoonal characteristics. However, increasing horizontal resolution from 0.44° to 0.22° adds value in simulating the JJAS mean precipitation by reducing the biases both over ocean and land. The detailed results from the analysis will be discussed in the general assembly.

Keywords: Indian summer monsoon, coupled regional model, horizontal-resolution, CORDEX-SA

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