



Diurnal cycle of precipitation over the eastern Indian Ocean off Sumatra Island during different IOD phases

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Difference of diurnal cycle of precipitation over the eastern Indian Ocean off Sumatra Island between positive and negative Indian Ocean Dipole (IOD) phases was investigated by using regional numerical model. During negative IOD phase, which are defined by the Dipole Mode Index of Saji et al., prominent precipitation peak was simulated over the land during evening, while early morning precipitation over the ocean was simulated. The early morning precipitation tends to migrate toward the Indian Ocean during morning, which is similar to previous observational results. On the other hand, in positive IOD phase, not only that the precipitation peak was shifted around northern area where the sea surface temperature was relatively warm, but the migration of convections were not simulated clearly above the cold sea surface. According to the results, it is favorable to keep the convection above warmer sea surface especially for the developing convections over the ocean. Moreover, the amount of precipitation in southern target area during negative phase was almost three times as large as it in positive phase. It is important to figure out the changes of precipitation in various phenomena to control water resource.