



## **Abrupt transition of the ITCZ over Bay of Bengal**

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The Bay of Bengal shows a unique feature during boreal summer in the tropics. The Sea surface temperatures (SST) in the basin is found to have a weak gradient in the northern hemisphere and a strong gradient in the southern hemisphere. There are two favorable locations for the ITCZ, one near equator ( $5^{\circ}$  S) and other off-equator ( $15^{\circ}$  N).

In this paper, we have used an atmospheric general circulation model with a zonally symmetric aqua planet configuration to examine the sudden transition between equatorial and off-equatorial ITCZ. The equatorial ITCZ is shown to be temporally and spatially more coherent than off-equatorial ITCZ. The off-equatorial ITCZ forms as a consequence of an easterly wave accompanied by westerly wind burst in the boundary layer. The westerly wind burst is shown to be associated with enhanced surface fluxes which are followed by the enhanced precipitation off the equator. The lifecycle of the off-equatorial ITCZ is found to be approximately 30 days. The spatial scale of the easterly wave determines the spatial scale of the off-equatorial ITCZ.