Interannual Variability of SST Intraseasonal Oscillation in Southwest Indian Ocean

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The southwest Indian Ocean attracts more and more attentions in climate change studies for its high sensitivity to ocean-atmosphere interaction. In boreal winter, the MJO events occurred here can cause strong SST intraseasonal oscillations (hereafter SSTISO) which may feed back to atmospheric processes, and the amplitude of SSTISO is due to the MJO surface forcing and the oceanic vertical stratification. In interannual timescale, the variabilities of atmospheric and oceanic processes may result in the interannual variability of SSTISO. In our preliminary studies, satellite retrieval SST data has been used to reveal a significant interannual variability of SSTISO in southwest Indian Ocean where a thermocline dome exists. Then, atmospheric and oceanic contributions are examined, and it shows that both MJO heat flux forcing and oceanic subsurface processes are important to the SSTISO interannual variability. And it also obviously shows that strong SSTISO events favor to occur at an atmospheric background of westerly zonal wind.

Reference：

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