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Mechanisms of interannual sst variability in the Somalia upwelling region

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Summer upwelling SST off the coasts of Somalia has been shown to have an important role in the interannual variability of the monsoon precipitations along the indian western ghats. Here we use a coupled model to investigate the interannual variability of the mixed layer heat budget in the Somalia upwelling region. This approach with a CGCM guarantees a closed heat budget whereas OGCM only may present some limitations when dealing with SST damping terms especially. From analysis of interannual variability of heat budget, we can see that strong SST anomalies are linked to subsurface processes (due to upwelling). However, horizontal advection from the south always counteract the latter effect, while atmospheric term can be both opposite or of the same sign as subsurface term. We will discuss these results in the frame of the highly dynamical environment of the Somalia current system (Southern Gyre, Great Whirl, cold wedges).