Impact of improved Ocean initial condition in Climate Forecast System (CFSv2) Hindcast run

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IITM provides seasonal monsoon rainfall forecast using modified CGCM CFSv2. The present operational CFSv2 initialized with the INCOIS-GODAS ocean analysis based on MOM4p0d and 3DVar assimilation schemes. Recently new Ocean analysis GODAS-Mom4p1 using Moduler Ocean Model (MOM) upgraded physical model MOM4p1 is generated. This analysis has shown improvement in terms of subsurface temperature, salinity, current as well as sea surface temperature (SST), sea surface salinity (SSS) and surface currents over the Indian Ocean domain with respect to present operational INCOIS-GODAS analysis (Rahaman et al. 2017; Rahman et al. 2019). This newly generated ocean analysis is used to initialize NCEP Climate Forecast System (CFSv2) for the retrospective run from 2011 to 2018. The simulated coupled run has shown improvement in both oceanic as well atmospheric parameters. The more realistic nature of coupled simulations across the atmosphere and ocean may be promising to get better forecast skill.