## Validation of the Net Heat Flux Computed in Regional Ocean Modeling System (ROMS) Using the Observations from RAMA Moored Buoys

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The Regional Ocean Modeling System (ROMS) is the core of the Indian Ocean Forecasting System (INDOFOS), which is the operational Ocean forecasting system functioning at Indian National Centre for Ocean Information Services (INCOIS) since January 2010. The model is forced with the analyzed and forecast atmospheric forcing fields from the National Centre for Medium Range Weather Forecast (NCMRWF, New Delhi) T252L64 model. The ROMS uses bulk aerodynamic formulation by Fairall et al (1996)<sup>1</sup> for the flux correction of SST. The SST simulated by the model is fed back to the equations to compute the turbulent fluxes. While analyzed and forecast fields of net shortwave and net longwave radiation are supplied to the model from the NCMRWF model for the computation of the net heat flux (to be used for the flux correction in SST), the latent and sensible heat fluxes are computed internally using the atmospheric fields from NCMRWF model. It is well known that the net heat flux plays a very important role in determining the variation in the sea surface temperature. In the present study, we attempt to quantify the error in net heat flux and its individual components (viz, sensible heat flux, latent heat flux, shortwave radiation and longwave radiation) which are used for the flux correction of the sea surface temperature simulation in ROMS by comparing them with those computed using the met-ocean parameters measured by the RAMA moored buoys<sup>2</sup>. We use the same methodology described by Fairall et al.<sup>1</sup> to compute latent and sensible heat fluxes at two different locations (90E, 15N and 80.5E, EQ) for the period 1-Jan-2009 to 31-Dec-2009 for which the model simulation as well as continuous buoy observations are available.

Keywords : Regional Ocean Modeling System, air-sea fluxes, Indian Ocean Forecasting System.

## **References:**

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