Spatial Variation of D20 - SLA Relationship in Arabian Sea

Sudheer Joseph[1]

[1] *Indian National Centre for Ocean Information Services, P.O.Box-21, IDA Jeedimetla P.O, Hyderabad, Andhra Pradesh, India*
e-mail: sjo@incois.gov.in

Argo and altimeter provide us with complimentary datasets today to understand the oceanic processes in a hitherto unavailable time and space scales. Here we explore the relationship of the depth of 20 degree isotherm (D20) computed from Argo grided data with the Sea level anomalies (SLA) obtained from Topex/Jason Altimeter for a period from 2002 to 2006. The spatial map of SLA-D20 correlation shows that the maximum correlation (>0.9) exists near the south-east tip of India, widely known as the warm-pool region which is also one of the trigger points of west ward propagating Rossby waves. One of the four dominant correlation minima occurs parallel to the axis of maximum variance of wind in western Arabian sea, parallel to the African coast, and other two minima are located on either side of the equator near the southern tip of India and the fourth one is located along the equator between 60-70^oE. As per the existing literature, except in very energetic regions like Kuroshio extension, altimetric SLA is excepted to reflect the variability of D20. We demonstrate that such exceptions exists in Arabian sea as well. The reason for the variations are explained using the vertical modes of oscillations.