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www.elsevier.com/locate/csr

PII: S0278-4343(17)30134-6
DOI: https://doi.org/10.1016/j.csr.2018.02.003
Reference: CSR3727

To appear in: *Continental Shelf Research*

Received date: 16 March 2017
Revised date: 9 November 2017
Accepted date: 11 February 2018

Cite this article as: Chiranjivi Jayaram and P.K. Dinesh Kumar, Spatio-Temporal Variability of Upwelling along the Southwest Coast of India based on Satellite Observations, *Continental Shelf Research,* https://doi.org/10.1016/j.csr.2018.02.003

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Abstract

Upwelling phenomenon along the eastern boundaries of global ocean has received greater attention in the recent times due to its environmental and economic significance in the global warming and the scenario of changing climate as opined by IPCC AR5. In this context, the availabile satellite data on sea surface winds, sea surface temperature (SST), sea level anomaly (SLA) and chlorophyll-a concentration (*Chl-a*), for the period 1981 – 2016 were analyzed to identify the coastal upwelling pattern in the Southeastern Arabian Sea (SEAS). Synergistic approach, using winds, SST, SLA and *Chl-a* revealed that strong upwelling was prevailing between 8°N and 12°N. During the study period, geographical differences existed in the peak values of upwelling favorable conditions considered for study. Analysis of the alongshore winds which are conducive for upwelling were observed to be curtailed towards the northern part of the study region between 2005 and 2010. Also, the strength of upwelling reduced during the strong ENSO years of 1997 and 2015. Linear regression based trend analysis of upwelling indices like Ekman transport, SST and chlorophyll along the coast, during the upwelling period, revealed slight increase in the strength towards the southern region while it decreased to the north during the study period.

Keywords: Coastal upwelling, southwest coast of India, Ekman Transport, SST, SLA