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# Influence of upwelling induced near shore hypoxia on the Alappuzha mud banks, south west coast of India

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## Abstract

The results of the first time-series measurements spanning 18-weeks (22 April to 20 September 2014) from a coastal environment (Alappuzha, southwest India), where two process of upwelling and mud banks are concurrent during summer monsoon are presented. The upwelling signals were evident from the 2<sup>nd</sup> week of May onwards and the intensity varied widely from 1<sup>st</sup> week of June to 3<sup>rd</sup> week of September. The formation of mud banks was observed during the peak upwelling period (14<sup>th</sup> June) and once formed, they were persistent till the end of monsoon season (September 2014). The time-series evolution of dissolved oxygen levels showed the incursion of hypoxic waters well in to the mud banks during peak upwelling period. The considerable reduction in the dissolved methane levels (300 to < 50 nM) during hypoxia is an anomaly, which may be due to some microbial processes. The incursion of hypoxic waters in to the Alappuzha mud banks is the first observation and is significant because, it can now explain why mud banks are not always good fishing grounds. The present study shows that the fish availability is mainly dependent on the incursion and prevalence of hypoxic waters in the mud banks.

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