

## **Post cyclone spiral eddy in the Bay of Bengal.**

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Bay of Bengal is a semi enclosed tropical ocean basin that is highly influenced by monsoonal winds and receives large volumes of fresh water from both river discharge and rainfall. Bay of Bengal experiences southwest monsoon during June – September and Northeast monsoon during November to February. This is a region which experiences right from depression to super cyclone. Rainfall and fresh river water discharge the upper layers leading to the formation the strong stratified surface layer and there by restricting the turbulent wind driven mixing (Prasanna kumar et. al 2002). We identified the formation of spiral eddy (diameter 300 Km) after the passage of Tropical Super Cyclone 05B (25 Oct – 30 Oct 1999) in the Bay of Bengal. Spiral eddy of high Chlorophyll is observed, in the chlorophyll image derived from IRS-P4 OCM Satellite data. At location where the maximum wind speed was 140 Knots, cyclone induced circular currents sustained for 3 weeks after passage of cyclone, which were responsible for formation of the spiral eddy. Surprisingly phytoplankton (chlorophyll-a) bloom was not seen along the cyclone track, as earlier studies revealed (Fuentes-Yaco et al., 1997; Nayak et al., 2001; Subrahmanyam et al., 2002; Zedler et al., 2002; Lin et al., 2003; McKinnon et al., 2003; Vinaychandran and Mathew, 2003; Babin et al., 2004). The reason could be the strong stratified layer (> 60 m) present in the central BOB. But we observed chlorophyll-a bloom near the coast where less wind speeds (35 Knots) were present. This could be because of shallow (< 10 m) stratified layer. This chlorophyll-a bloom is advected towards east and filaments of high chlorophyll are observed up to 500 Km from the coast and the cyclone induced circular currents created the eddy of high chlorophyll. The eddy has been confirmed using currents derived using OCCAM model. This study reveals the distribution and abundance of chlorophyll-a under a control of physical forcing like cyclones and eddies in the Bay of Bengal.