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ABSTRACTS



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Fish predictions using satellite retrieved information for fuel efficient fishing in the coastal waters of India

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Remote sensing based chlorophyll data, retrieved for the coastal waters of southwest coast of India during the upwelling bloom, can be positively correlated to oil sardine landings during upwelling event. Satellite retrieved ocean colour data (chlorophyll) can act as a surrogate for most shoaling phytoplankton feeders especially oil sardine off the west coast of India. Indian Remote Sensing Satellite P4 Ocean Colour Monitor (IRS P4 OCM) / MODIS derived chlorophyll concentration and National Oceanographic Aerospace Administration Advanced Very High Resolution Radiometer (NOAA AVHRR) derived Sea Surface Temperature (SST) images have been used to characterise the relationship between the biological (Chlorophyll) and physical variables (SST) in coastal waters and potential fishing zones were delineated. Integrated potential fishing zone (PFZ) forecasts validated for Andaman and Nicobar group of Islands within (PFZs) and outside (non-PFZs) employing different vessel categories *viz.*, gillnetters (n=50), trawlers (n=22) and longliners (n=15) also indicted the positive Benefit Cost Ratio in using the predictions. Increased catch per unit effort at less fossil fuel expenditure as scouting time is less

can be rightly termed as 'green fishing'. But staggered forecasts due to cloud cover often inhibit the continuous predictions of PFZ. The ability of satellite based altimeters to provide data despite cloud cover and also identify the circulation features related to fisheries provides scope for filling the gap left by the traditional PFZ advisories in the presence of cloud cover. Initial studies reveal significant catches occurring in areas between anti-cyclonic and cyclonic circulations where divergence occurs and in areas between two anti-cyclonic circulations where divergence and upwelling occur.

Keywords: Upwelling, fishery, ocean colour, sea surface temperature, potential fishing zone.