**Monitoring the Eastern Tropical Pacific Tuna Fishery from Space**

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With support from NASA’s Ecological Forecasting program, we are developing a Tuna Stock Assessment Support System (TSASS), which merges time series of satellite imagery, the ECCO-2 global ocean circulation estimates, climatology from field surveys, and fisheries data on catch and effort. The purpose of this software is to incorporate information on oceanographic conditions into stock assessment for the tuna fishery of the eastern tropical Pacific Ocean. This fishery, which is international and covers thousands of kilometers of ocean surface, is managed by the Inter-American Tropical Tuna Commission, which has gathered a high quality, spatially and temporally resolved 50-year record of catch and effort of skipjack, bigeye, and yellowfin tuna by both long-line and purse seine vessels. TSASS is a plug-in into EASY, a 4-dimensional (latitude, longitude, depth, and time) marine geographic information system. Our analyses of fishery data, remote sensing imagery of sea surface temperature, chlorophyll, and height, and ocean model flow fields provide key information to manage the fishery. This information support definition of the habitat of the 3 species of tuna as determined by sea surface water temperature, concentration of chlorophyll, the depth of the hypoxic layer, and patterns in circulation), estimation of the rates of recruitment of yellowfin tuna, and optimal placement of fishery closure regions to limit catch and by-catch. Our poster will present hypotheses of linkages between surface chlorophyll, the hypoxic layer, circulation, and the rich tuna fishing grounds. We will also demonstrate the TSASS software.

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