

Using Remote Sensing Data For Yellowfin Tuna Fishing Ground Forecasting in Vietnamese Offshore Areas

Nguyen¹ D.T. and Doan²V. B.

¹*Research Institute For Marine Fisheries (RIMF),
224 Lelai str., Haiphong, Vietnam, thanhrimf@gmail.com*
²*Vietnam National University (VNU),
334 Nguyen Trai str., Hanoi, Vietnam, bodv@vnu.edu.vn*

Abstract: The general study of relationship among environment – biosphere – human has become a good trend in order to predict the change of natural resources during a few last decades. In case, some of the factors can be impacted to the school of fish which can be oceanographical and biological conditions. A basic recruitment factor is used to access to describe biomass needing to consider relationship environmental conditions related to the first state of growth of individual of school of fish.

The aim of this paper is to analyze temperature data from remote sensing data storing and managing on the Themis Viewer software which is set up into MOVIMAR project, located at the Research Institute For Marine Fisheries (RIMF) for yellow tuna fish forecasting monthly. The Themis Viewer software allows users exploring sea surface temperature (SST) data from different sources including AVHRR on NOAA-19, MODIS on AQUA and TERRA, SEVIRI on MGS and on GEOS, The spatial resolution of data is 0.04 degree and 0.02 degree in medium and high resolution respectively. Structure of data contains mainly information such as time, position and SST. Fisheries data collection has been carried out on board of longline gear in the different programs including survey, observer and logbook throughout projects since 2000. The data are stored at the RIMF, yellowfin tuna data has generated from these data. The parameters as catch per unit effort (CPUE) and temperature structure have been used to make yellowfin tuna fishing ground forecasting monthly based upon the multivariate regression equations, its unit is kg per 100 hooks. Therefore, the results have shown on the mapping forecasting pointing out levels of CPUE indexes monthly.

Temperature is directly related to the abundant habitat of schools of fish in the tropical sea area like Vietnamese seawater, the levels of CPUE index per 0.5 square nautical mile on the monthly mapping forecasting of yellow tuna fishing ground in the Vietnamese offshore areas based upon the relationship of temperature to yellowfin tuna.

Keywords: Fishing ground forecast, remote sensing data, sea surface temperature, yellowfin tuna.