Abstract

Indonesia area have area nearly two-thirds of the sea, therefore it is often called as a maritime country with the estimated sustainable potential of marine fishery resources of 6.6 million tons / year. Probolinggo has a 7 km coastline and territorial waters along 20 km with the ocean fisheries production in 2011 amounted to 18347.01 tonnes. However, the min of the technology used by fishermen in Indonesia caused that the utilization of potential fisheries and marine resource less maximal.

The positioning of fishing grounds can be predicted from the parameters of the sea surface temperature and chlorophyll-a by using satellite oceanography. TERRA MODIS satellite can determine the value of the parameters. The algorithm used are algorithm O'Reilly 1998 to determine the concentration of chlorophyll-a and algorithms ATBD (Algorithm Theoretical Basic Document MODIS) 25 to determine the sea surface temperature at this research. Zoning of the fishing grounds are based from the oceanographic parameters from the point of fishing. From this point, it can be seen the values of the oceanographic parameters. This parameter is used to make reference to the determination of areas of potential zones a lot of fish. In April, the potential zones a lot of fish is marked with the value of chlorophyll-a greater than 0.00003 mg / L and the sea surface temperature ranged between 28.2 °C - 30 °C and in June, the potential zones a lot of fish is marked with the value of chlorophyll-a more greater than 0.0002 mg / L and the the sea surface temperatures ranged between 27.9 °C - 31 °C. Image data were observed from the 2010-2013 in April and June.

The results of the determination of the potential zones a lot of fish from 2010 to 2013, in April, the potential zones a lot of fish spread in coastal of Pasuruan, eastern and western coastal of Probolinggo, southern coastal of Sidoarjo, western coastal areas of Situbondo and in June, the potential zones a lot of fish in the Madura Strait spread from coastal of Surabaya to Sidoarjo, eastern coastal of Pasuruan, the east coastal of Probolinggo, eastern coastal of Pamekasan and the Cape Pecinan, Situbondo. The value of sea surface temperature is dominant in April from 2010 and 2013, ranged between 27 °C -30 °C and the lowest dominant value of the concentration of chlorophyll-a decrease from the of 0.001 mg / L until 3x10-6 mg / L and in June, the dominant value of the sea surface temperature are ranging from 27 °C - 29 °C with the lowest dominant value of the concentration of chlorophyll-a decrease from the of 0.0002 mg / L to 0.00003 mg / L. Correlation test result for the SPL in Probolinggo at $R^2=0.176$ with RMSE value = $5.3^\circ C$, while for chlorophyll-a for $R^2=0.247$ with a value of RMSE= 0.33 mg/L and correlation test result for the SPL in Porong at $R^2=0.676$ with RMSE value = $6.7^\circ C$, while for chlorophyll-a for $R^2=0.153$ with a value of RMSE= 0.67 mg/L.

Keyword : Fishing Ground, Algorithm, Chlorophyll-a, Sea Surface Temperature, TERRA MODIS, Fish Catches
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