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CATCH OF TUNA FISH ON TROLLING FISHING IN INDIAN OCEAN WATERS, SOUTHERN COAST OF EAST JAVA RELATED TO SEA SURFACE TEMPERATURE VARIABILITY

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ABSTRACT

The existence of tuna fish is influenced by environmental factors, such as sea surface temperature and concentration of chlorophyll-a. Information of fishing season is essential in order to support the success of fishing activities. The Indian Ocean has potential resource of tuna fish, particularly bigeye and yellowfin. Most common way to catch tuna is by trolling. This study aimed 1) to describe fluctuation of tuna catch by trolling, 2) to map variability of sea surface temperature, and 3) to determine connection between tuna catch and sea surface temperature. The research was conducted in Indian Ocean Southern Coast of East Java. The data analyses were carried out through 1) analysis of fishing season index, 2) analysis to determine spatial and temporal distribution of sea surface temperature image 3) analysis of correlation between tuna catch and sea surface temperature. The result shows a pattern of tuna catch, which increasing in east season and decreasing in west season. Tuna catch reaches its peak in June. The sea surface temperature in

southern coast of East Java during 2008-2012 has a tendency to spreading with value of 43% variant. The connection between tuna catch and sea surface temperature shows a pattern of increasing catch when the sea surface temperature decreasing.

Key words: catch of tuna, Indian Ocean, sea surface temperature, southern coast of East Java