

## THE RELATIONSHIP OF OCEANOGRAPHIC PARAMETERS AND CORALS CONDITION IN WAKATOBI ISLANDS THE RELATIONSHIP OF OCEANOGRAPHIC PARAMETERS AND CORALS CONDITION IN WAKATOBI ISLANDS

Ivonne Milichristi Radjawane<sup>1\*</sup>, Adi N.S. Utomo<sup>2</sup>  
Ivonne Milichristi Radjawane<sup>1\*</sup>, Adi N.S. Utomo<sup>2</sup>

<sup>1</sup>Faculty of Earth Sciences and Technology, Institute of Technology Bandung, <sup>2</sup>Oceanographic Study Program-ITB

<sup>1</sup>Faculty of Earth Sciences and Technology, Institute of Technology Bandung, <sup>2</sup>Oceanographic Study Program-ITB

This research aims to evaluate the relation of some oceanographic parameters to coral conditions in Wakatobi Islands. The evaluated parameters are temperature and salinity in water surface and in 30 m depth, and also chlorophyll-a concentration in surface. The correlation of those parameters with hard coral cover area is evaluated using correlation matrix. The data of hard coral cover area was acquired from COREMAP-LIPI program in 2001, 2005, 2006, 2007, and 2009, and from TNC-WWF joint-program in 2003. Parameter oceanographic data used here was obtained from NOAA-AVHRR satellite from 1990 to 2009, while chlorophyll-a data was obtained from Seawifs satellite from 2000 to 2009. Temperature and salinity data in 30 m depth and surface salinity are from Hycom model in 1992-2010.

Observation shows that surface temperature rises 1.80 degree Celcius while surface salinity rises 0.108 psu. There is negative correlation of hard coral cover with temperature and chlorophyll-a, which means that the higher the temperature or chlorophyll-a the lower the hard coral cover in that area. The change of temperature more that normal coral temperature (25 - 30 degree Celcius), makes zooxanthelae stress and makes the coral can not live. Whereas when chlorophyll-a have a high number, the sunlight will be partly blocked. The distribution of surface temperature and chlorophyll-a gives the indication of upwelling phenomenon on east monsoon session that acts as refuge for the coral to be in their normal temperature.

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