

ALTERNATIVE MEASURING OF DISSOLVED OXYGEN IN THE WESTERN INDONESIAN SEAS DURING SOUTHEAST MONSOON

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Abstract	<p>The measurement of dissolved oxygen (DO) using the Winkler method has weaknesses, but can be solved by the spectrophotometric method. The purpose of this study was to measure the concentration of dissolved oxygen based on the spectrophotometric method in the western Indonesian Seas during the southeast monsoon of June 2015. The concentration of DO was measured according to the Lambert-Beer law using a wavelength of 466 nm. The results show that the oxygen concentration is high in the western of the Karimata Strait and low in the middle of the strait due to respiration and oxidation of organic matter. The oxygen concentration tends to be homogenous the entire of water column of western part of the Java Sea which indicates water well mixed and their concentration in the surface layer of the Sunda Strait was similar and gradually decreased with depth. The western Indonesian Seas is generally oversaturated corresponding to a quick oxygen air-sea water exchange. The results of the correlation of oxygen measurements between the spectrophotometric method and the sensor show a good performance, so that it can be used as an alternative in measuring dissolved oxygen concentrations and can be used over a wide range of oxygen concentrations in oceanic, fresh water and coastal areas.</p>
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