Study awal relasi distribusi vortisitas tegangan angin (Wind Stress Curl) dengan upwelling di perairan sekitar Pulau Jawa - Bali

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Abstrak

Identication of upwelling processes reffers to analysis of wind stress curl distribution were held over Java ? Bali sea water and surrounding area. Surface wind data is used as input data to calculate curl of wind stress in WINDWAVE - BMG model. The output are : sea surface current, wind surface field and distribution of wind stress curl. After confirmating with corioly effect in the Southern Hemisphere, can be known that negative curl value haves relation with vertical motion of sea water asresulted by ekman transport. Analysis shows that negative curl near coast over Java Sea which is stretching to Lombok Sea occurs in Desember to April while wessterlies wind of the NW Monsoon actively, it can be guidance and related with season of coastal upwelling in the region. Reversal in the condition, the occurence of coastal upwelling in the south coast of Java Island related with the negative value of wind stress curl that occurs since easterlies wind lives in SE Monsoon episode. The negative curl over Hindia Ocean poorly identified as open sea upwelling that caused by surface layer divergent in located area, so not clearly in this research. Generally, upwelling occurence in field of study is a respons to Monsoon circulation. This study with related datas such as sea surface temperature, chlorophil concentration and mixed layer depth that derrivated from satellite imaging data shows a best confirmation pattern. So applying wind stress curl to recognize upwelling zone is alternative way to maps potential fertilizing of sea water in maritime-continent Indonesia.