

Current Modelling Of Indonesian Waters From Multi-Satellite Altimetry

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Indonesia is the largest archipelago in the world, with 70% of its territory is sea. Optimization of potential of the sea requires the availability of ocean dynamics data, one of which is ocean current. Current is the movement of water horizontally and vertically that occur within a relatively wide area. Its vertical component does not significantly affect the magnitude and direction of current, so that the horizontal component of the movement became a major component. Considering the current occurs in a relatively wide area, it will require the right technology for current determination, one of which is based on satellite altimetry data. Current modeling based on satellite altimetry data in principle uses that a magnitude and velocity of the current is proportional to the gradient of sea level. This study used multi-satellite altimetry data, those are: Topex/Poseidon, Jason and Envisat in current modeling. Some new global geopotential models were evaluated for sea level anomaly computation prior to current computation. The results showed that the sea level anomaly based on the EGM2008 geoid model produce the most realistic current model. Furthermore, the Topex / Poseidon and Jason altimetry satellite produce clearer and more realistic current model than the Envisat altimetry satellite data.

Keywords: Current modelling, Topex/poseidon, Jason, Envisat, EGM2008

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