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Pemanfaatan teknologi satelit inderaja oseanografi untuk penentuan lokasi kesesuaian budidaya rumput laut eucheuma cottonii di Perairan Tarakan = The Use of remote sensing oceanographic technology for location determination of seaweed cultivation areas of eucheuma cottonii in the Tarakan water

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Abstrak

Satelit inderaja oseanografi Aqua MODIS dan altimetri digunakan untuk mempelajari perubahan lingkungan suhu, klorofil-a dan arus permukaan perairan Tarakan terhadap variabilitas ENSO dan Musim, agar diperoleh pemahaman dinamika oseanografi selama perioda El Nino, La Nina, dan Normal, Musim Barat dan Timur. Analisis tingkat kesesuaian lokasi budidaya Eucheuma cottonii menggunakan pengukuran langsung pada 11 stasiun sampling tanggal 11 Juli 2013 di perairan pantai Amal dan Mamburungan, dan P. Sadau dengan parameter suhu, salinitas, kecerahan, turbiditas, pH, nitrat, fosfat, dan kalium.
Hasil penelitian menunjukkan faktor lingkungan sangat dipengaruhi variabilitas ENSO dan Musim. Perairan timur Tarakan memiliki tingkat kesesuaian lebih tinggi daripada bagian barat. Arus Lintas Indonesia (ARLINDO) mempengaruhi transfer massa air dari kolam panas Pasifik Barat memasuki perairan utara dan barat Tarakan. Analisis tingkat kesesuaian lokasi budidaya dengan metoda equal interval menunjukkan perairan pantai Amal sampai bagian selatan memiliki kesesuaian paling tinggi dan pantai Mamburungan dan P. Sadau dengan kesesuian sedang. Analisis tingkat kesesuaian di perairan Tarakan menggunakan data satelit inderaja memberikan informasi pada perioda El Nino berada di pantai Amal dan Tanjung Simaya; perioda La Nina di Tanjung Simaya dan Juata, perioda Normal di Tanjung Binalatung dan Simaya, Musim Barat di Tanjung Simaya dan Juata, dan Musim Timur di pantai Amal dan Tanjung Selayang.
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Remote sensing oceanography of Aqua MODIS and altimetry have been applied to study environmental changes of sea surface temperature, chlorophyll-a, and surface current in the Tarakan water against ENSO and Monsoon variability in order to know dynamical oceanography during El Nino, La Nina, and Neutral peroid, Northwest monsoon/NW, Southeast monsoon/SE. The suitability level analysis of seaweed cultivation of Eucheuma cottonii used 11 sampling stations on 11 July 2013 in the Amal and Mamburungan beaches and Sadau island with parameters of temperature, salinity, brightness, turbidity, acidity, nitrate, phosphate, and kalium.
The results showed that environmental changes are affected by ENSO and monsoons. The suitability level in the eastern is better than western Tarakan water. The Indonesian throughflow plays important role in transferring water masses from warm pool in western tropical Pacific entering northern and western Tarakan. Analysis of suitability level using equal interval method indicates that from Amal beach to southern part has the highest suitability level while Mamburungan beach to Sadau island are moderate level. The suitability level analysis using satellite oceanography implied potential areas for seaweed cultivation of Eucheuma cottonii in the Amal beach and Cape Simaya during El Nino; Capes of Simaya and Juata during La Nina; Capes of Binalatung dan Simaya during Neutral period; Capes of Simaya and Juata and Amal beach and cape Selayang during Northwest and Southeast monsoon, respectively.