

## Sea Surface Salinity Season Variation from MODIS Satellite Data

Saleh T Daqamseh., shattri mansor., M. Mahmud, A.R., Marghany, M., Pirasteh., Zailani, k.

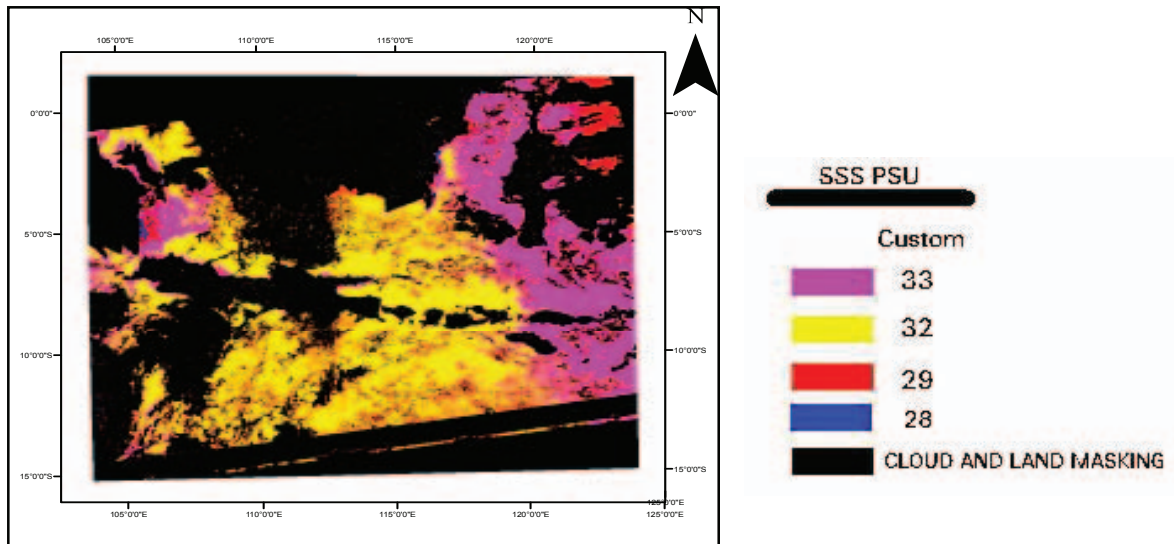
<sup>1</sup>Department of GIS and Geomatic Engineering, ITMA, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia. *Email: saleh17hn@yahoo.com*

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**Abstract** – MALAYSIA is one of the world countries which have the most and important fish species. fish catch from MALAYSIA waters has been declining for the past 4 years,(SMR 2008) this scenario has emphasized the need to adopt study and monitoring ocean parameters SSS, SST and chlorophyll-a changing which linked to fish aggregation and migration. This research introduces a new approach for measuring sea surface salinity (SSS) from Aqua/terra MODIS level 1B reflectance data with 250m and 500m spatial resolutions. 94 In-situ measurements of SSS were compared with coincident MODIS spectral reflectance measurements over the ocean surface. linear regression have been performed on the MODIS data and the ‘in-situ’ measurement datasets of the SSS to retrieve SSS from remote sensing data. A segmentation algorithm was developed to track the velocity changes of salinity frontal zone. These developed models were validated by using real time SSS measurements along Johor coastal waters and SEMPORNA in MALAYSIA and its intend for application to east cost ( MERSING water), Further it can be used after modification over all south china sea because it is oceanographic conditions are unique for each location. Correlation coefficients by analysis method shows that the best correlation results are linear regression from the 500m and 250m spatial resolution MODIS images,  $R^2 = 0.94$  for SSS. The Root Mean Square Error (RMSE) between satellite and ‘in-situ’ data are 1.5 psu for SSS. This paper suggests using temporal satellite data for mobile fishery and future plans for intelligent monitoring and increasing the quality of the management for better decision making in geospatial economic of a country mainly for those countries that.

**Keywords:** Aqua/terra MODIS, Sea Surface Salinity, Linear Model, salinity

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**Figure 1: SSS Map of SEMPORNA-SABAH water - March 30, 2009**

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