

STUDIES OF CHLOROPHYLL-A CONCENTRATION AND SST DISTRIBUTION FOR FISH  
OPTIMIZATION LOCATION USING SATELLITE REMOTE SENSING



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### **3. Acknowledgements**

Setinggi-tinggi penghargaan dan terima kasih diucapkan Universiti Teknologi MARA melalui RMI kerana memberi peruntukan yang membolehkan kajian ini dilakukan. Ribuan terima kasih diucapkan buat Agensi Remote Sensing Malaysia yang telah membekalkan data-data satelit untuk kegunaan penyelidikan ini. Terima kasih juga diucapkan kepada semua pihak yang terlibat secara langsung dan tidak langsung bagi membolehkan penyelidikan ini disiapkan dengan sempurna. Tidak lupa juga buat semua individu yang telah memberikan kerjasama dan sokongan di dalam menjayakan penyelidikan ini

## 5. Report

### 5.1 Executive Summary

Phytoplankton is the principal producers in marine life, whether offshore, inshore or seashore. Chlorophyll and sea surface temperature (SST) are the main parameters of phytoplankton detection. Chlorophylls are complex molecules found in all photosynthetic plants, including phytoplankton (microscopic plants dispersed in the waters). Sea surface temperature (SST) is a dynamic spatial element. It has been frequently studied to enhance resource management of marine. Recently, chlorophyll and SST can be detected by using satellite remote sensing technology. Its capability provides synoptic view of the earth environment from global to local scale. Variation of ocean colour reveals difference category of productive areas; where phytoplankton, upwelling activities and other compound of animals--including fish--are traced. In this study, remote sensing imaging of MODIS are used to study the map the chlorophyll-a concentration and the distribution pattern of SST 'intensity' at Northern Region Coast of Peninsular Malaysia. The MODIS images in year 2006, 2007 and 2008 of three (3) different monsoon period i.e. north east monsoon period (January), inter-monsoon period (March) and south west monsoon period (June) are used. Maps generated from ATBD MOD19 shows the existence of chlorophyll-a concentration variability based on the different monsoon period and the shore area. Maps of SST distribution show the average range of SST for the three (3) years is within 25 °C to 34 °C for the period. However, the pattern is varies and hard to clearly define. Maps generated from MODIS - ATBD 25 MOD 28 show the existence of SST distribution variability based on the different monsoon period and the shore area. Based on the Chlorophyll-a concentration and SST distribution of MODIS data 2008, the potential area for fish optimization points location were identified and mapped.