A STUDY ON THE CORRELATION OF SEA SURFACE TEMPERATURE (SST) IN SOUTH CHINA SEA AND PRECIPITATION AT EAST COAST OF PENINSULAR MALAYSIA USING SATELLITE IMAGERY

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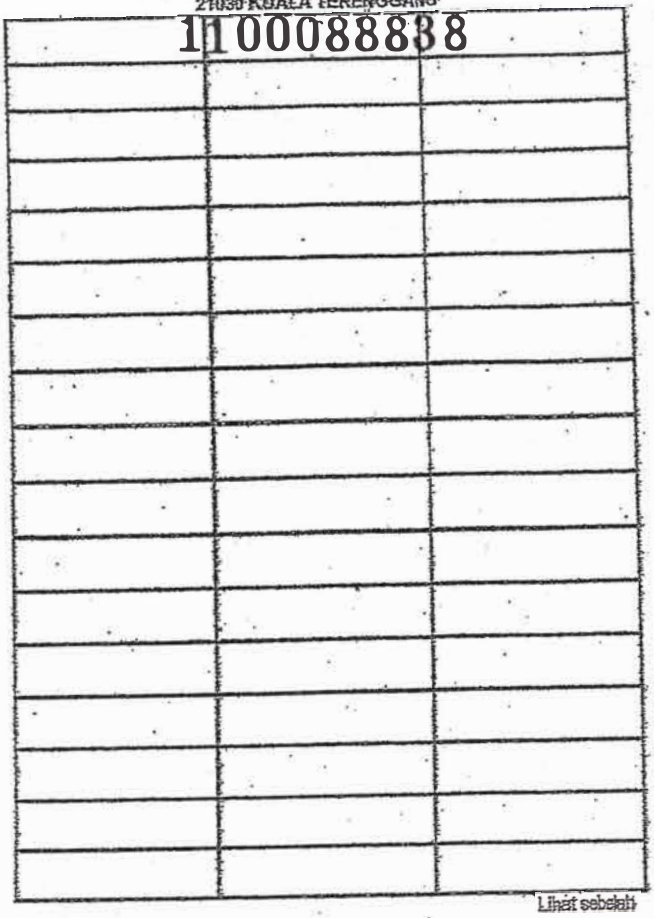
A study on the correlation of sea surface temperature (SST) in South China Sea and precipitation at east coast of Peninsular Malaysia using satellite imagery / Nurul Ashikin Ismail.



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A STUDY ON THE CORRELATION OF SEA SURFACE TEMPERATURE (SST) IN SOUTH CHINA SEA AND PRECIPITATION AT EAST COAST OF PENINSULAR MALAYSIA USING SATELLITE IMAGERY

By

NURUL ASHIKIN ISMAIL

Research Report submitted in partial fulfillment of
the requirements for the degree of
Bachelor of Science (Marine Biology)

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DEPARTMENT OF MARINE SCIENCE
FACULTY OF MARITIME STUDIES AND MARINE SCIENCE

DECLARATION AND VERIFICATION REPORT

FINAL YEAR RESEARCH PROJECT

It is hereby declared and verified that this research report entitled:
Study on the correlation of sea surface temperature (SST) in South China Sea and precipitation at east coast of Peninsular Malaysia using satellite imagery by Nurul Ashikin Ismail, Matric No. UK 17016 have been examined and all errors identified have been corrected. This report is submitted to the Department of Marine Science as partial fulfillment towards obtaining the Degree of marine biology, Faculty of Maritime Studies and Marine Science, Universiti Malaysia Terengganu.

Verified by:

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Official stamp:

Date: 26/4/2011

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SST	-	sea surface temperature
SCS	-	South China Sea
NEM	-	North East Monsoon
SWM	-	South West Monsoon
ENSO	-	El-Nino Southern Oscillation
ITCZ	-	Intertropical Convergence Zone
MODIS	-	Moderate Resolution Imaging Spectroradiometer

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ABSTRACT

The study was conducted on the chosen areas which were the South China Sea area and the east coast of Peninsular Malaysia. Precipitation data from 2005 until 2010 were obtained from the Department of Irrigation and Drainage and analyzed in order to determine the precipitation pattern at the east coast of Peninsular Malaysia. The data received were from the 30 rainfall stations that were chosen randomly, both inland and costal. As for the SCS SST data, images of MODIS satellite were downloaded from 2005 until 2010. The images were then processed in order to extract the SST value. From the analysis conducted, the precipitation pattern was similar throughout the six years chosen. SCS SST ranges from 16°C up to 35°C and the range varies according to month. From the study, it was determined that precipitation has a weak correlation with the SST of SCS.

KAJIAN TERHADAP HUBUNGAN ANTARA SUHU PERMUKAAN LAUT DI LAUT CINA SELATAN DENGAN KADAR HUJAN DI PANTAI TIMUR MALAYSIA MENGGUNAKAN IMEJ SATELIT

ABSTRAK

Kajian telah dijalankan terhadap kawasan yang dipilih iaitu Laut Cina Selatan dan Pantai Timur Malaysia. Data hujan diperolehi daripada Jabatan Pengairan dan Saliran daripada tahun 2005 sehingga 2010 telah dianalisa bagi mendapatkan taburan hujan di kawasan pantai timur Malaysia. Data yang diperolehi adalah daripada 30 buah stesen hujan yang terletak di perairan pantai dan darat dipilih secara rawak. Bagi data suhu permukaan laut, imej-imej daripada satelit MODIS telah dimuat turun dari tahun 2005 sehingga 2010. Imej-imej tersebut telah diproses bagi mendapatkan hasil terakhir iaitu nilat suhu permukaan laut di Laut Cina Selatan. Daripada analisa yang telah dijalankan, didapati bahawa nilai suhu permukaan laut berada di dalam lingkungan 16°C sehingga 35°C mengikut bulan-bulan tertentu. Bagi taburan hujan pula, didapati bahawa corak taburan hujan adalah hamper sama bagi keenam- enam tahun yag dipilih. Dapat disimpulkan bahawa terdapat hubungan yang lemah antara taburan hujan dan suhu permukaan laut di Laut Cina Selatan.