

CLOUD MAPPING IN PENINSULAR MALAYSIA
BY USING NOAA IMAGES

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2004

Tarikh	Waktu Pemulangan	Nombor Ahli	Tanda tangan

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USING NOAA IMAGES

By

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This project is submitted in partial fulfillment of the requirements for the
Degree of Bachelor of Science (Marine Science)

FACULTY OF SCIENCE AND TECHNOLOGY
KOLEJ UNIVERSITI SAINS DAN TEKNOLOGI MALAYSIA

2004



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ACKNOWLEDGEMENTS

I would like to deliver my heartiest gratitude and deepest appreciation to my supervisor Dr. Maged Mahmoud Marghany and second supervisor Prof. Madya Dr. Khalid Bin Samo for their guidance and advice until I successfully finish my project work.

Heartfelt thanks to Encik Ku Kassim Ku Yaacob, Encik Mohammad Nasir Bin Mohammad Kasni, Encik Mohammad Bin Ibrahim, and other workers in SEAFDEC for their help and guidance in my project work.

I am very grateful to Encik Suffian and Puan Noora in assisting my project work.

I am also thankful to all my friends for their help and support especially Johnson Koh, Ching Hui, David Yao, Yi Ching, Mei Ling, Seong Seng, Boon Poh, Poh Oo, Meng Ho, Yu Yao, Wai Ken, Lu Fung, and Swee Lan. For lack of this, maybe I cannot finish this project work successfully.

Last, I am also grateful to my beloved family for their support during this project. Thank you all of you.

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LIST OF ABBREVIATIONS

APT	-	automatic picture transmission
AVHRR	-	Advanced Very High Resolution Radiometer
ESSA	-	Environmental Science Services Administration
HRPT	-	high-resolution picture transmission
ISCCP	-	International Satellite Cloud Climatology Project
NE	-	Northeast monsoon
NOAA	-	National Oceanic and Atmospheric Administration
POES	-	Polar Orbiting Environmental Satellite
SEADFDEC	-	South East Asia Fishery Development Center
SW	-	Southwest monsoon
TIROS	-	Television and Infrared Observation Satellite
VHRR	-	Very High Resolution Radiometer
a.m.	-	<i>ante meridiem</i>
h	-	hour
m	-	meter
p.m.	-	<i>post meridiem</i>

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ABSTRAK

Malaysia merupakan sebuah negara maritim yang terletak di kawasan Khatulistiwa. Cuaca di Malaysia adalah panas dan kelembapannya adalah tinggi. Awan memainkan peranan yang penting dalam aspek cuaca. Pada masa kini, kelajuan dan pergerakan awan adalah penting dalam amaran cuaca. Tujuan projek ini adalah untuk mengkaji kelajuan dan pergerakan awan semasa Monsun Timur Laut dan Monsun Barat Daya di kawasan semenanjung Malaysia. Kelajuan dan pergerakan awan dikaji dengan menggunakan gambar satelite NOAA. (National Oceanic and Atmospheric Administration). Cara ini boleh digunakan sebagai suatu cara dalam aspek amaran cuaca. Berdasarkan kajian, awan bergerak menuju ke arah Barat Daya semasa Monsun Timur Laut dan ia bergerak ke arah Timur Laut semasa Monsun Barat Daya. Ujian statistik telah membuktikan kelajuan awan adalah berbeza semasa dua mousun ini. Awan bergerak dengan kelajuan yang lebih tinggi semasa Monsun Timur Laut jika dibandingkan dengan Monsun Barat Daya. Jadual mengenai taburan jenis awan di semenanjung Malaysia telah dibuat berdasarkan maklumat yang diperolehi daripada Jabatan Kaji cuaca Malaysia. Keputusan menunjukkan kehadiran jenis awan yang hampir sama jenis di semenanjung Malaysia semasa Monsun Barat Daya. Keputusan menunjukkan kawasan pantai timur semenanjung Malaysia terdapat kehadiran jenis awan yang berlainan jika berbanding dengan kawasan lain di semenanjung Malaysia semasa Monsun Timur Laut.

ABSTRACT

Malaysia is a maritime country, which situated at the equatorial region. The climate of Malaysia is warm and humid throughout the year. Clouds play important roles in the climates. Nowadays, clouds movement and velocity were considered as an important part in weather forecasting. This project aims to investigate the cloud movements and velocity during Northeast monsoon and Southwest monsoon periods in Peninsular Malaysia. The cloud movements and velocity were determined by using the NOAA (National Oceanic and Atmospheric Administration) satellite AVHRR images. This method could be used for weather forecasting. From the study, clouds moved toward southwest direction during the Northeast monsoon and it was moved toward northeast direction during the Southwest monsoon. The statistical test (T-test) showed that the cloud speed was significant difference between this two monsoon seasons. Cloud speed is higher during Northeast monsoon season than Southwest monsoon season. Cloud distribution charts were created by using the data from Malaysia Meteorological Service. The results from the cloud distribution chart showed the type of clouds present were similar during the Southwest monsoon season in whole Peninsular Malaysia. However, the types of clouds development during the Northeast monsoon along east coast of Peninsular Malaysia are differenced compare to the clouds type in other places of Peninsular Malaysia.