

INTERANNUAL VARIABILITY OF RAINFALL IN MALAYSIA

LIM YOO RANG

MASTER OF SCIENCE  
UNIVERSITI PUTRA MALAYSIA  
2001



**INTERANNUAL VARIABILITY OF RAINFALL IN MALAYSIA**

**LIM YOU RANG**

August 2001

Chairman : Prof. Dr. Alexander Lim Chin Peng

Faculty : Science and Technology

**By**

**LIM YOU RANG**

**Thesis Submitted in Fulfilment of the Requirement for the Degree of  
Master of Science in the Faculty of Science and Technology  
Universiti Putra Malaysia**

**August 2001**

**1100053960**

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in  
fulfilment of the requirement for the degree of Master of Science.

**INTERANNUAL VARIABILITY OF RAINFALL IN MALAYSIA**

By

**LIM YOU RANG**

October 2001

Chairman : Prof. Dr. Alejandro Livio Camerlengo

Faculty : Science and Technology

This study addresses (a) the advance and retreat of the NE monsoon, (b) the climatic variability in East Malaysia, and (c) the hourly rainfall distribution in Peninsula Malaysia. Data from 27 principle meteorological stations ranging from 1964 to 1998 has been employed.

The result of this investigation shows that the advance of the NE monsoon starts in November and retreats in January over Peninsula Malaysia. On the other hand, The NE monsoon season arrives in East Malaysia at the end of October. It retreats from East Malaysia in March.

The investigation on the climatic variability of East Malaysia indicates that the climatic variability of East Malaysia does not coincide with the results obtained in Peninsula Malaysia. No definite conclusion has been drawn for this part of investigation

The hourly rainfall distribution in Peninsula is also studied. The result shows that the distribution of the hourly rainfall in Peninsula Malaysia is highly affected by small-scale phenomena with influences of meso-scale phenomena during certain time of a year.

LIM YU RANG

October 2005

Pengarah : Prof. Dr. Alejandro Livio Carreras

Fakulti : Sains dan Teknologi

Kajian ini mengenai: (a) masa dan kedudukan monsun timur, (b) perubahan iklim di Malaysia Timur, dan (c) taburan hujan setiap jam di Semenanjung Malaysia. Data mengenai dan 27 stesen meteorologi utama yang bersempadan dengan sempadan tahun 1964 sehingga 1999 telah digunakan.

Kepulauan Borneo ini menunjukkan bahawa monsun timur itu berlaku dalam bulan November dan bertiada dalam bulan Januari di Semenanjung Malaysia. Selain itu, monsun timur itu juga berlaku di Malaysia Timur pada akhir bulan Oktober dan berundur dari Malaysia Timur dalam bulan Mac.

Di dalam peralihan iklim di Malaysia Timur tidak berkait dengan kedudukan yang diwujudkan di Semenanjung Malaysia. Tetapi, ada kaitan yang signifikan dalam peralihan iklim di Semenanjung Malaysia.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk ijazah Master Sains.

**INTERANNUAL VARIABILITY OF RAINFALL IN MALAYSIA**

Oleh

**LIM YOU RANG**

October 2001

Pengerusi : Prof. Dr. Alejandro Livio Camerlengo

Fakulti : Sains dan Teknologi

Kajian ini mengenal pasti (a) mara dan undurnya monsun timur laut, (b) perubahan iklim di Malaysia Timur, dan (c) taburan hujan setiap jam di Semenanjung Malaysia. Data dikumpul dari 27 stesen kajicuaca utama yang bermula dalam lingkungan tahun 1964 sehingga 1998 telah digunakan.

Keputusan kajian ini menunjukkan bahawa monsun timur laut bermula dalam bulan November dan berundur dalam bulan Januari di Semenanjung Malaysia. Selain itu, monsun timur laut mara di Malaysia Timur pada akhir bulan Oktober. Ia berundur dari Malaysia Timur dalam bulan Mac.

Di dapati perubahan iklim di Malaysia Timur tidak selaras dengan keputusan yang diperolehi di Semenanjung Malaysia. Tidak ada keputusan yang muktamad dapat dikemukakan untuk bahagian kajian ini.

Taburan hujan setiap jam di Semenanjung Malaysia juga dikaji. Keputusan kajian menunjukkan bahawa taburan hujan setiap jam adalah dipengaruhi oleh fenomena skala kecil di samping pengaruh daripada fenomena skala sederhana pada masa tertentu dalam suatu tahun.

I would like to express my greatest appreciation towards my supervisor and chairman, Associate Professor Dr. Muzaffar Liza Osman for his advice and help throughout the project. It has been a great honor to work under his supervision, and his advice is very much appreciated.

My gratitude is also extended to the other members of supervising committee, Professor Dr. Harizan H. Suhaimi, Associate Professor Dr. Saari Hassan and Professor Dr. Mohd. Naif Saadon. Without their constructive advice and comments, this study would not have been completed.

I would like to thank my parents and sisters who provide the confidence and unconditional support. I also gratefully acknowledge my beloved sister for her patience in the writing of this thesis. Finally to YIQian, father love, guidance and encouragement throughout the tough times.

LIM YOU PANG