

**REPORT ON STRONG WIND AND
THUNDERSTORM OCCURRENCE IN JASIN,
MALACCA AND MUAR, JOHORE**

**Prepared by:
Malaysian Meteorological Department
Ministry of Science, Technology and Innovation
14 AUGUST 2010**

INTRODUCTION

This report is about the occurrence of strong winds that has happened in the evening of 13 August 2010 at Bazaar Ramadhan, Jasin Malacca where three deaths and eighteen injuries were reported in the incident. On the same day, strong wind occurrence also happened in Simpang Baba, Bakri, Muar, Johore and as many as 60 houses were damaged during the incident.

RAINFALL AMOUNT ANALYSIS FROM 2.00 PM UNTIL 8.00 PM ON 13 AUGUST 2010

Rainfall amount recorded in Malacca Meteorological Station and AWS Jasin and Alor Gajah are shown in Table 1.

State	Station	Time						
		2.00 pm	3:00 pm	4:00 pm	5:00 pm	6:00 pm	7:00 pm	8:00 pm
Malacca	Malacca	0.0	0.0	0.0	0.0	38.8	3.2	0.2
	Jasin	0.0	0.0	0.0	0.0	22.8	3.4	0.0
	Alor Gajah	0.0	0.0	4.8	3.1	0.0	0.0	0.3

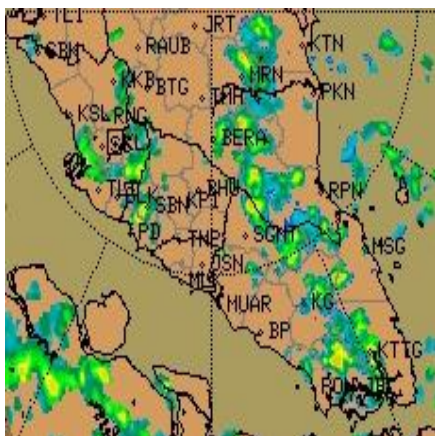
Table 1: Rainfall amount (mm) recorded in Malacca, Jasin and Alor Gajah

Rainfall amount recorded in Johore AWS are shown in Table 2.

State	Station	Time						
		2.00 pm	3:00 pm	4:00 pm	5:00 pm	6:00 pm	7:00 pm	8:00 pm
Johore	Felda Lenga	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Hospital Tangkak	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Pertanian Pagoh	0.0	0.0	0.8	6.4	0.0	0.0	0.0

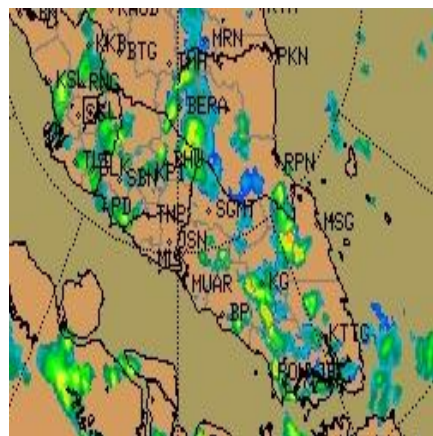
Table 2: Rainfall amount (mm) recorded in Johore AWS

WEATHER RADAR IMAGERIES FROM 2.00 PM UNTIL 8.00 PM ON 13 AUGUST 2010 FOR PENINSULAR MALAYSIA



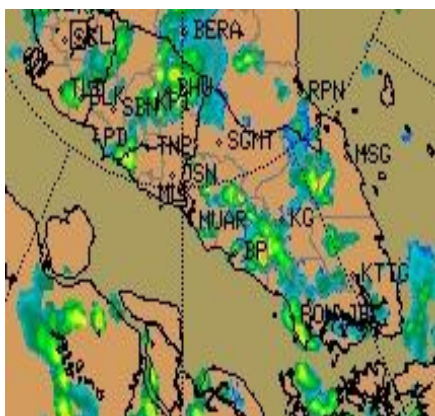
2.00 pm, 13 August 2010

Raining over central region of Johore, Pahang, Selangor and Negeri Sembilan. In Malacca, no apparent cloud cluster was observed.



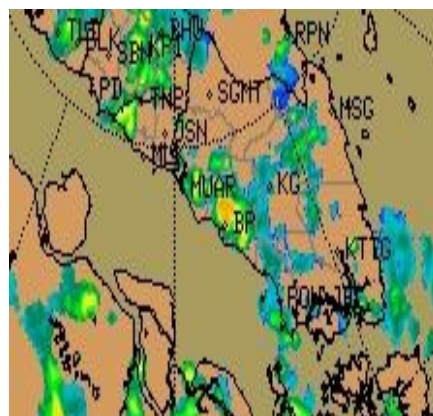
3.00 pm, 13 August 2010

Rain clouds over the central Johore moved to western Johore. Rain cloud in Pahang moved westwards across Peninsular Malaysia.



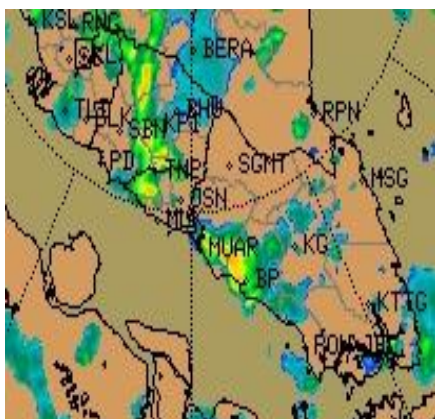
3.30 pm, 13 August 2010

Raining over Muar and Batu Pahat (Johore). In Malacca, rains started over Alor Gajah.



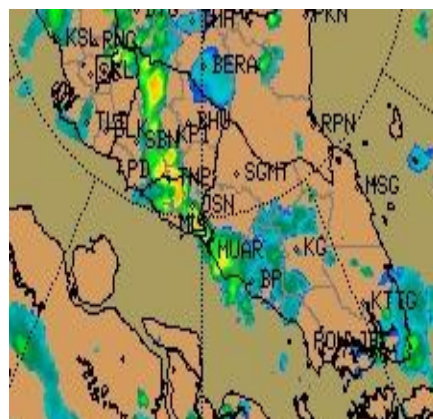
4.00 pm, 13 August 2010

The rain intensity over Muar, Batu Pahat and Alor Gajah, Malacca increased.



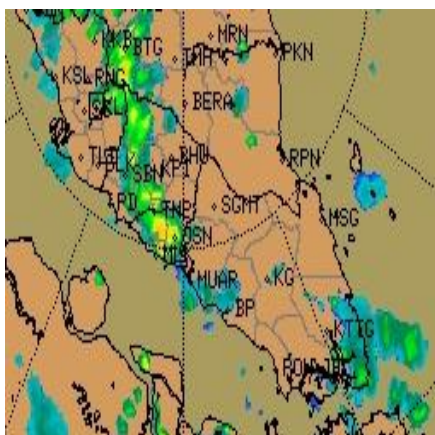
4.30 pm, 13 August 2010

Thundercloud cluster over Negeri Sembilan, (Alor Gajah) Malacca and Muar (Johore) expanded.

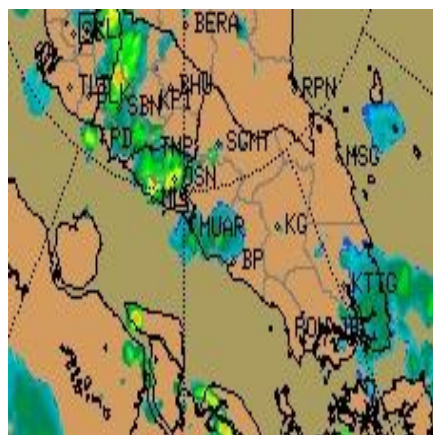


5.00 pm, 13 August 2010

Thundercloud cluster over Negeri Sembilan, Malacca and Muar (Johore) expanded further. The thunderstorm cloud cluster covered almost entire state of Malacca.



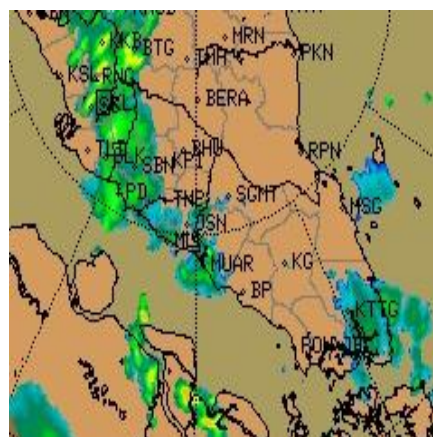
5.30 pm, 13 August 2010
 Raining in Malacca reached the peak intensity. The weather condition had improved in Muar (Johore).



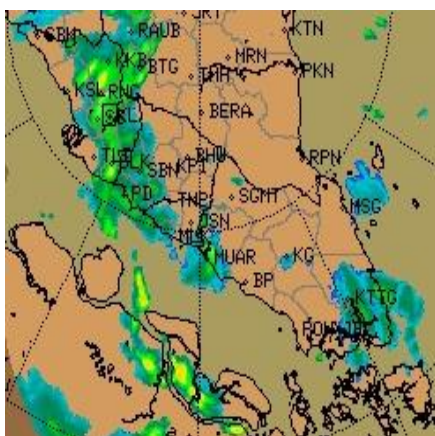
6.00 pm, 13 August 2010
 Thunderstorm cloud cluster expanded, especially over southern Malacca.



6.30 pm, 13 August 2010
 Thundercloud cluster reduced in Malacca.



7.00 pm, 13 August 2010
 Thundercloud reduced further in Malacca.

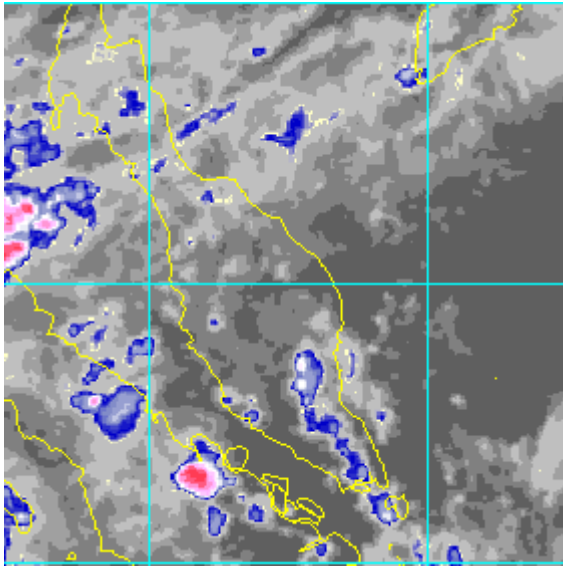


7.30 pm, 13 August 2010
 Rain had stopped in most places in Malacca but light rain still occurring around Alor Gajah and Jasin areas.



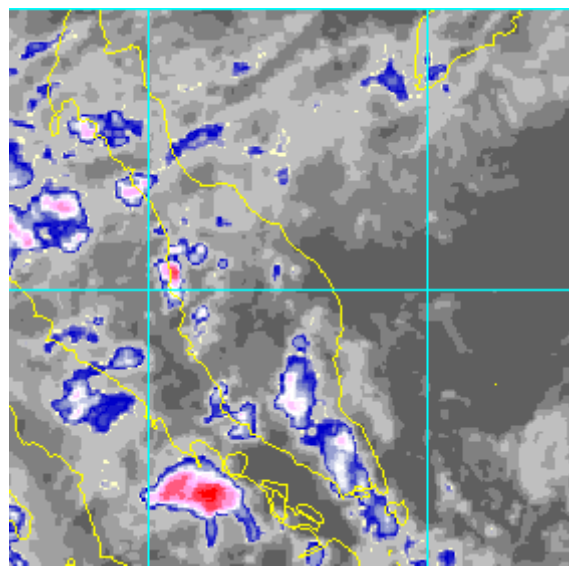
8.00 pm, 13 August 2010
 Rain had stopped at almost entire Malacca. In Muar (Johore), light rain still occurred at one or two places.

WEATHER SATELLITE IMAGERIES FROM 2.00 PM UNTIL 8.00 PM ON 13 AUGUST 2010 FOR PENINSULAR MALAYSIA



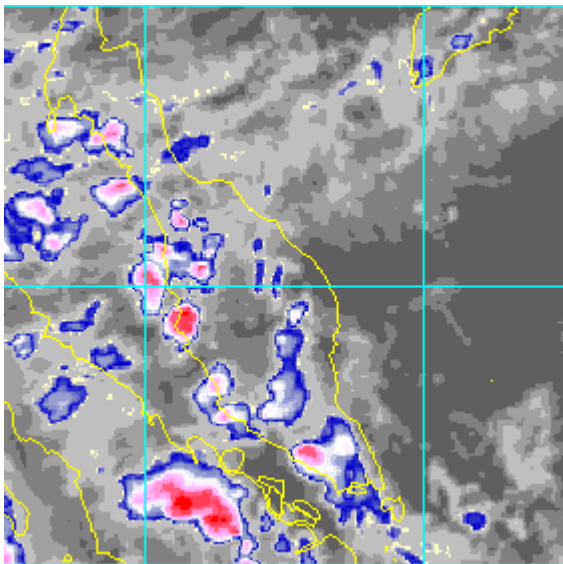
2.42 pm, 13 August 2010

Rain cloud patches are identified over southern Pahang and eastern Johore.



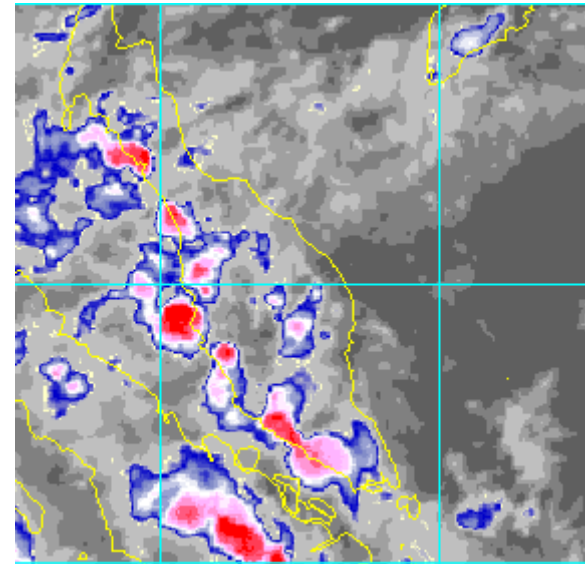
3.42 pm, 13 August 2010

Rain cloud patches developed further and moved to the west of Peninsular Malaysia.



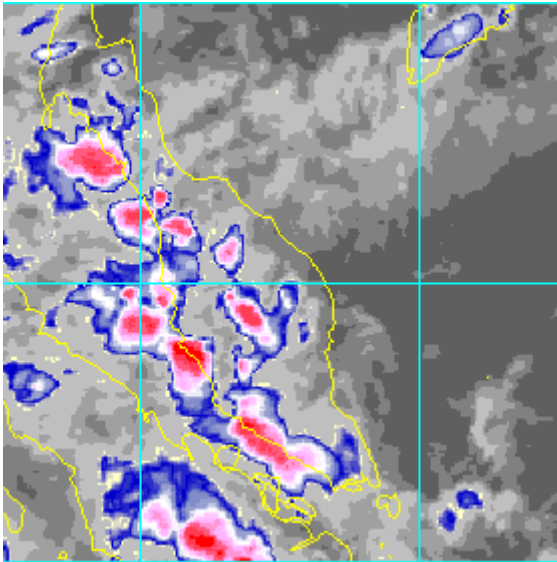
4.42 pm, 13 August 2010

Intense rain cloud patches covered most area of Malacca especially over Alor Gajah.



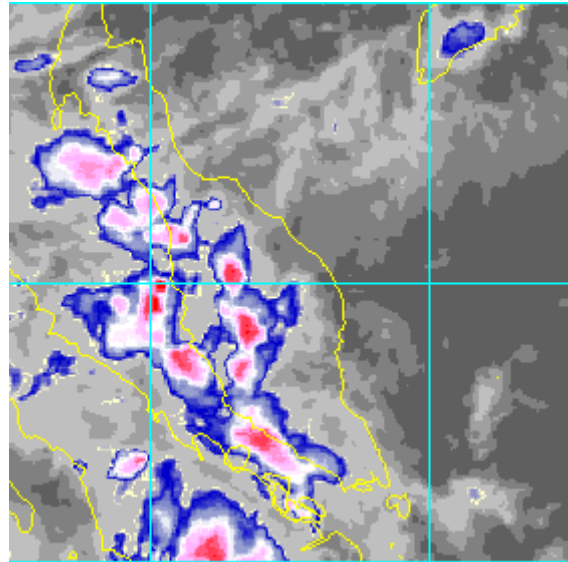
5.42 pm, 13 August 2010

Rain cloud patches over Malacca reached peak density. Amount of rainfall recorded in Malacca and Jasin Stations from 5.00 until 6.00 pm are 38.8 mm and 22.8 mm respectively.



6.42 pm, 13 August 2010

Rain cloud patches moved westward to coastal area. Light rain and cloudy over most places in Malacca.



7.42 pm, 13 August 2010

Rain cloud reduced further in Malacca. Rainfall amount recorded in Malacca and Alor Gajah stations are only around 0.2 mm and 0.3 mm respectively.

WIND SPEED CHART RECORDED BY MALACCA METEOROLOGICAL STATION ON 13 AUGUST 2010

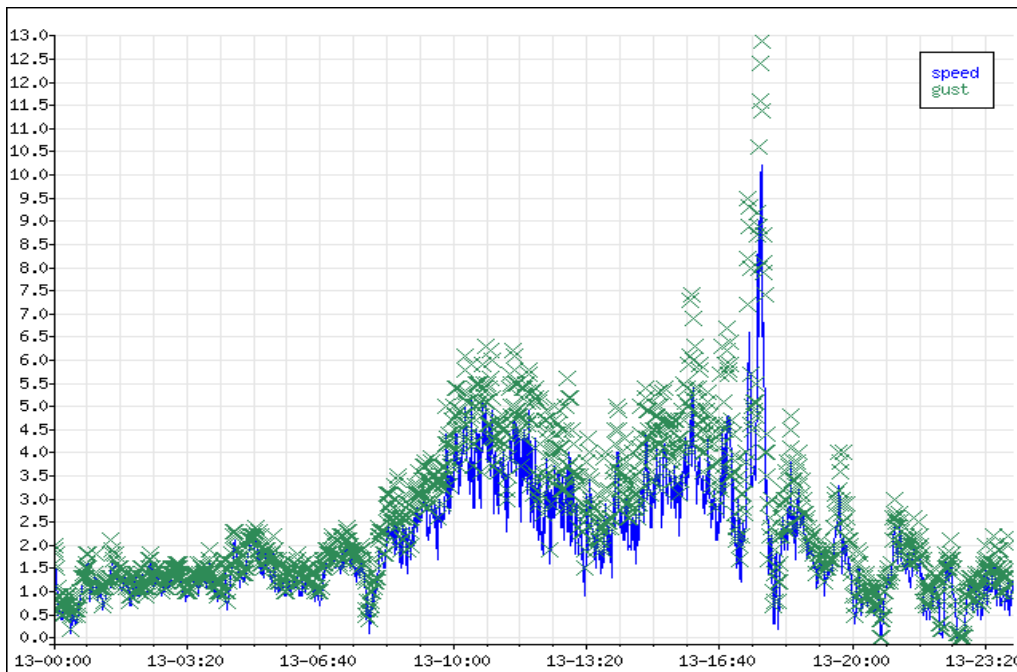


Chart 1: Winds speed (m/s)

The above wind chart shows the increase in wind speed at Malacca Meteorological Station starting from late morning on 13 August 2010. The chart shows the wind gust occurred at around 5.43 pm, with speed about 12.9 m/s from the 080°E direction.

WIND SPEED CHART RECORDED BY BATU PAHAT METEOROLOGICAL STATION ON 13 AUGUST 2010

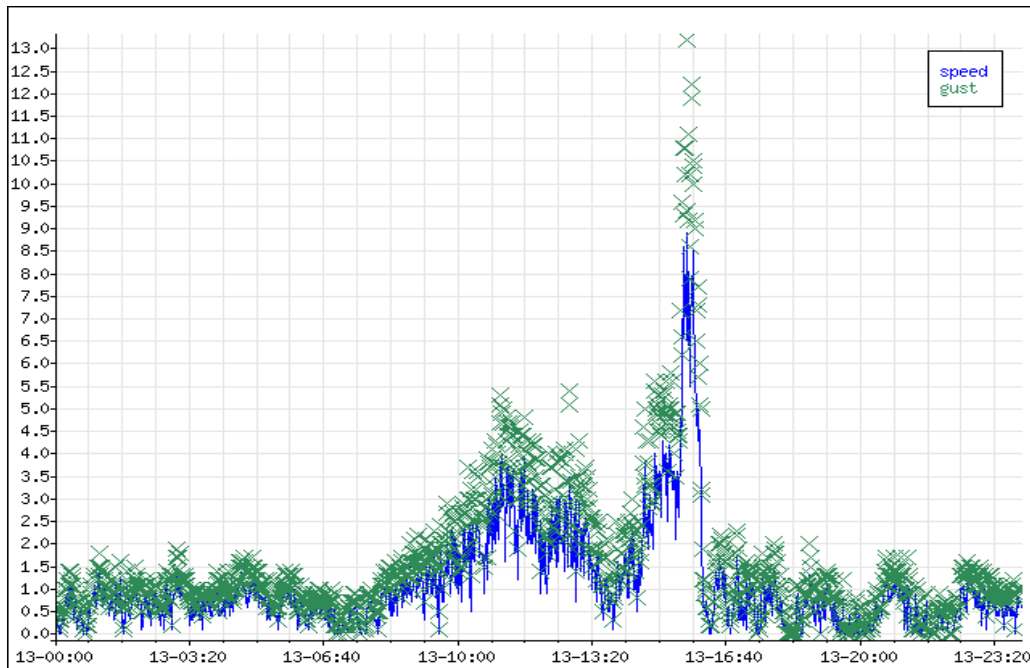


Chart 2: Winds speed (m/s)

The above wind chart shows the increase in wind speed at Batu Pahat Meteorological Station starting from late morning on 13 August 2010. The chart also shows the wind gust occurrence at around 3.42 pm, with speed about 13.2 m/s from the 100°E direction.

WARNING ON THUNDERSTORMS AND HEAVY RAINS ISSUED

Date	Time Issued	Type	Location	Valid Period
13/08/2010	3.10 pm	Warning on Thunderstorms and Heavy Rains	Pahang (Bera and Rompin), N. Sembilan (Jempol, Jelevu, Kuala Pilah and Port Dickson) and Johore (Mersing, Muar Segamat, Kluang, Batu Pahat and Pontian)	3.10 pm – 8.00 pm, 13 August 2010

Date	Time Issued	Type	Location	Valid Period
13/08/2010	5.10 pm	Warning on Thunderstorms and Heavy Rains - Updated	Kedah (Padang Terap, Pokok Sena, Pendang, Kota Setar, Yan and Kuala Muda), Selangor (Gombak, Hulu Langat, Petaling, Sepang and Kuala Langat), N. Sembilan (Tampin, Rembau, Seremban and Port Dickson), Malacca and Johore (Ledang and Muar).	5.10 pm - 8.00 pm, 13 August 2010

CONCLUSION

Thunderstorm phenomenon occurs frequently near the west coast of Peninsular Malaysia especially in the evening until early night. Thunderstorms have the potential to generate hail, heavy rain, lightning and strong winds. Strong winds during thunderstorms can topple tree and blow off roofs. Strong winds which occurred in Jasin, Malacca and Muar, Johore were related to thunderstorms incident which occurred during that period.