

'Weather cycle not the only cause of floods'

WET PHASE: Madden-Julian Oscillation does have an impact, but other factors play a part as well

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INCREASE in the country's flood intensity varies from year to year due to long-term climate change as well as other factors in land use.

Meteorological Department spokesman said although the Madden-Julian Oscillation (MJO) did have an impact on the weather during its wet phase, the phenomenon was not the only cause of floods.

MJO is the largest element of the intraseasonal (30-60 day) variability in the tropical atmosphere.

The spokesman was responding to claims by climatologist and oceanographer Professor Dr Fredolin T. Tangang that MJO was a factor for the rains in December, and based on his studies, caused the 2006 heavy floods in Johor.

"Yes, in December, the MJO was in the wet phase and it could be true for Johor for that period, but it doesn't happen most of the time.

"Climate change does affect the intensity of floods, but MJO has been there for centuries, not just today. There are many times where MJO is in the wet phase but nothing happens.

"Most times it does not flood. He (Fredolin) only highlighted two occasions. There were many occasions where MJO was in the wet phase and there were no floods, not even rain. This part was not highlighted," the spokesman told the *New Straits Times*.

He said the MJO cycle was between 30 to 60 days every month with wet phases, but floods did not occur every month nor during the monsoon season when the MJO had two or three wet phases.

Universiti Kebangsaan Malaysia Southeast Asia Disaster Prevention Research Initiative Principal Fellow Professor Dr Joy Jacqueline Pereira said the most common disaster in the country was flooding, affecting the greatest number of people over the last century, particularly in the east coast.

"In Asia, the occurrence of hydrometeorological disasters is five times higher compared to geological disasters. Population growth and urbanisation have contributed to increased vulnerability and exposure to hazards.

"Cost effective measures should be taken to identify housing, commercial and industrial areas, as well as critical infrastructure that may be vulnerable to the impact of climate change to reduce risk of disasters," Pereira said, adding there was evidence that climate had changed in Asia and future changes could be expected.

She said the economic losses due to climate change hit one per cent of the growth development product for Malaysia with the risk of higher losses.

A recent report by the Intergovernmental Panel on Climate Change 2014: Climate Change 2014: Impacts, Adaptation, and Vulnerability (Regional Aspects) revealed that in Peninsular Malaysia during the southwest monsoon season, the total rainfall and frequency of wet days decreased, but there was an increase in rainfall intensity in the region.

The report also said that during the northeast monsoon season, the total rainfall, frequency of extreme rainfall events and rainfall intensity had increased over the peninsula.

"In Southeast Asia, the annual total wet-day rainfall had increased by 22mm per decade, while rainfall from extreme rain days had increased by 10mm per decade, but climate variability and trends differ vastly across the region and between seasons," the report said.