

INDIA METEOROLOGICAL DEPARTMENT
Forecast for the 2010 Southwest Monsoon Onset over Kerala

1. Background

The onset of southwest monsoon over Kerala signals the arrival of monsoon over the Indian subcontinent and represents beginning of rainy season over the region. From 2005 onwards India Meteorological Department (IMD) has been issuing operational forecasts for the monsoon onset over Kerala using an indigenously developed statistical model with a model error of ± 4 days. The operational forecasts issued based on this model during all the five years (2005 to 2009) were correct as seen in the table given below.

Year	Actual Onset Date	Forecast Onset Date
2005	7 th June	10 th June
2006	26 th May	30 th May
2007	28 th May	24 th May
2008	31 st May	29 th May
2009	23 rd May	26 th May

IMD has now prepared the forecast for the 2010 monsoon onset over Kerala.

2. Advance of monsoon over Andaman Sea

The normal date of advance of monsoon over Andaman Sea is 20th May. It is expected that monsoon flow will start appearing over Andaman Sea by next week and is likely to cover the Andaman Sea close to its normal date. Past data suggest absence of any one to one association between the date of monsoon advance over Andaman Sea and the date of monsoon onset over Kerala.

3. Forecast for the 2010 Monsoon Onset over Kerala

For predicting the 2010 monsoon onset over Kerala, the model based on Principal Component Regression technique uses the following six predictors:

i) Minimum Temperature over North-west India, ii) Pre-monsoon rainfall peak over south Peninsula, iii) Outgoing Long wave Radiation (OLR) over south China Sea, (iv) Lower tropospheric zonal wind over southeast Indian ocean, (v) upper tropospheric zonal wind over the east equatorial Indian Ocean, and (vi) Outgoing Long wave (OLR) over south-west Pacific region.

The model suggests that the date of onset of southwest monsoon over Kerala is likely to be on 30th May with a model error of ± 4 days.