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भारत मौसम विज्ञान विभाग  
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Forecast of the Onset Date of Southwest Monsoon - 2018 over Kerala

**1. Background**

Southwest monsoon sets over Kerala on 1<sup>st</sup> June with a standard deviation of about 7 days. The event marks the start of the rainy season over the region and as the monsoon progresses northward, relief from scorching summer temperatures is experienced over the areas. India Meteorological Department (IMD) has been issuing operational forecasts for the date of monsoon onset over Kerala from 2005 onwards. An indigenously developed state of the art statistical model with a model error of  $\pm 4$  days is used for this purpose. The 6 Predictors used in the models are: i) Minimum Temperatures 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 Radiation (OLR) over the south-west Pacific region.

IMD's operational forecasts of the date of monsoon onset during the past 13 years (2005-2017) were proved to be correct except in 2015. Forecast verification for the recent 5 years (2013-2017) is given in the table below.

Year	Actual Onset Date	Forecast Onset Date
2013	1 <sup>st</sup> June	3 <sup>rd</sup> June
2014	6 <sup>th</sup> June	5 <sup>th</sup> June
2015	5 <sup>th</sup> June	30 <sup>th</sup> May
2016	8 <sup>th</sup> June	7 <sup>th</sup> June
2017	30 <sup>th</sup> May	30 <sup>th</sup> May

**2. Advance of monsoon over the Andaman Sea**

The southwest monsoon advances over the Andaman Sea normally around 20<sup>th</sup> May with a standard deviation of about one week. Conditions are likely to become favorable for the advance of southwest monsoon into some parts of Andaman Sea and southeast Bay of Bengal around 23<sup>rd</sup> May 2018. Past data suggest that there is no association of the date of monsoon advance over the Andaman Sea either with the date of monsoon onset over Kerala or with the seasonal monsoon rainfall over the country.

**3. Forecast for the 2018 Monsoon Onset over Kerala**

*The southwest monsoon is expected to set in over Kerala on 29<sup>th</sup> May 2018 with a model error of  $\pm 4$  days.*