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भारत सरकार
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पृथ्वी विज्ञान मंत्रालय (एम. ओ. ई. एस.)
Ministry of Earth Sciences (MoES)

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT

Forecast of the Onset Date of Southwest Monsoon - 2024 over Kerala

1. Background

Advance of the southwest monsoon over Indian main land is marked by monsoon onset over Kerala and is an important indicator characterizing the transition from hot and dry season to a rainy season. As the monsoon progresses northward, relief from scorching summer temperatures is experienced over the areas. Southwest monsoon normally sets in over Kerala on 1st June with a standard deviation of about 7 days. 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 ± 4 days is used for the 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 equatorial southeast Indian Ocean, (v) Outgoing Long wave Radiation (OLR) over Southwest Pacific Ocean (vi) Upper tropospheric zonal wind over equatorial northeast Indian Ocean.

IMD's operational forecasts of the date of monsoon onset over Kerala during the past 19 years (2005-2023) were proved to be correct except in 2015. Forecast verification for the recent 5 years (2019-2023) is given in the table below.

Year	Actual Onset Date	Forecast Onset Date
2019	8th June	6th June
2020	1st June	5th June
2021	3rd June	31st May
2022	29th May	27th May
2023	8th June	4th June

2. Forecast for the 2024 Monsoon Onset over Kerala

This year, the southwest monsoon is likely to set in over Kerala on 31st May with a model error of ± 4 days.