

**Ministry of Earth Sciences (MoES)  
Earth System Science Organization (ESSO)  
India Meteorological Department**

**Long Range Forecast for the Rainfall during Second Half (August – September) of the 2017 Southwest Monsoon and Updates for the Seasonal Forecasts**

**Highlights:**

- **Quantitatively, the rainfall over the country as a whole during the second half of the season is likely to be 100% of LPA with a model error of  $\pm 8\%$ .**
- The rainfall during August is likely to be  $99 \pm 9\%$  of LPA as was forecasted in June.
- The seasonal (June to September) rainfall over the country as a whole is likely to be normal (96% to 104% of LPA) as was forecasted in June.

**1. Background and details of the 5- Parameter Operational Model**

The forecast for the rainfall over the country as a whole for the second half of the 2017 monsoon season has been prepared using a Principal Component Regression (PCR) Model and Monsoon Mission Coupled Forecasting System (MMCFS). The PCR model is based on 5 predictors with a model error of  $\pm 8\%$  of long period average (LPA). The LPA of the rainfall over the country as a whole for the second half of the monsoon season (August to September) based on the 1951-2000 period is 43.5cm (49% of the average season rainfall) with a coefficient of variation (C.V) of 15%.

**2. SST conditions in the Pacific and the Indian Oceans**

Since mid-March, warm ENSO neutral conditions are prevailing with SSTs over east-central tropical Pacific close to El Niño threshold in recent weeks. However, the atmospheric conditions over the Pacific continue to reflect neutral ENSO conditions. Latest forecast from MMCFS indicates neutral ENSO conditions are most likely till 2018 spring season with high probability (80-90%) till end of 2017. Most of the other global models also suggest neutral ENSO conditions during the remaining part of 2017. Over Indian Ocean, neutral Indian Ocean Dipole (IOD) conditions are prevailing. The MMCFS forecast indicates nearly equal probabilities for neutral and negative IOD conditions to continue during the remaining part of the monsoon season.

**3. Forecast for the Rainfall during the Second Half of the 2017 Southwest Monsoon Rainfall and Updates for the Seasonal Forecasts**

- (a) The rainfall over the country as a whole during second half of southwest monsoon season (August to September) is most likely to be normal (94%-106% of LPA).
- (b) Quantitatively, the rainfall for the country as a whole during the second half of the season is likely to be 100% of LPA with a model error of  $\pm 8\%$ .
- (c) The rainfall during August is likely to be  $99 \pm 9\%$  of LPA.
- (d) The seasonal (June to September) rainfall over the country as a whole is likely to be normal (96% - 104% of LPA) as predicted in June.