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Long Range Forecast for the Rainfall during Second Half (August –September)
of the 2020 Southwest Monsoon

Highlights:

- **Quantitatively, the rainfall over the country as a whole during the second half of the season is likely to be 104% of LPA with a model error of $\pm 8\%$.**
- The rainfall during August is likely to be $97 \pm 9\%$ of LPA as was forecasted in June.
- The season (June to September) rainfall over the country as a whole is likely to be normal (96% -104% of LPA) as was mentioned in the updated forecast dated on 1st 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 2020 monsoon season has been prepared using a Principal Component Regression (PCR) Model and Monsoon Mission Coupled Forecasting System (MMCFS). PCR model is based on 5 predictors with a model error of 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 1961-2010 period is 42.83cm (49% of the average season rainfall) with a coefficient of variation (C.V) of 14%.

2. SST conditions in the Pacific and the Indian Oceans

Currently, the sea surface temperatures (SSTs) as well as the atmospheric conditions over equatorial Pacific Ocean indicate cold ENSO neutral conditions. The latest forecasts from both MMCFS and other global models indicate that SSTs over the region are likely to cool further. However, ENSO neutral conditions are likely to continue during the remaining part of the monsoon season.

In addition to ENSO conditions over Pacific, other factors such as the Indian Ocean Sea Surface Temperatures (SSTs) have also some influence on Indian monsoon. Currently, neutral IOD conditions are prevailing over equatorial Indian Ocean. MMCFS forecast indicates neutral IOD conditions likely to turn to negative IOD conditions during coming months.

3. Monsoon Mission Coupled Dynamical Forecast System (MMCFS)

Forecast based on the MMCFS suggests that rainfall during the second half (August to September) of the 2020 monsoon season averaged over the country as a whole is likely to be above normal (>106% of LPA).

4. Forecast for the Rainfall during the Second Half of the 2020 Southwest Monsoon Rainfall

(a) The season (June to September) rainfall over the country as a whole is likely to be normal (96% - 104% of LPA).

(b) Quantitatively, the rainfall for the country as a whole during the second half of the season is likely to be 104% of LPA with a model error of $\pm 8\%$.

(c) The probabilistic forecast suggests the rainfall over the country as a whole during second half of southwest monsoon season (August to September) most likely to be normal (94-106% of LPA). However, the probability of above normal rainfall (>106% of LPA) is also higher than the corresponding climatological probability.

(d) The rainfall over the country as a whole during August is likely to be $97 \pm 9\%$ of LPA.