Friday, 04 December 2020

EXTENDED RANGE FORECAST FOR KERALA & MAHE AND LAKSHADWEEP

(Current weather status & outlook for next two weeks (04 Dec 2020 – 17 Dec 2020)

1. Realized rainfall scenario:

(i) Weekly Rainfall Scenario (26 November 2020 to 02 December 2020):

Actual rainfall along with departure from normal rainfall for Kerala & Mahe and Lakshadweep during the recent past week is shown in the table below.

<table>
<thead>
<tr>
<th>Subdivision</th>
<th>Actual Rainfall (in mm)</th>
<th>Normal Rainfall (in mm)</th>
<th>Departure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala &amp; Mahe</td>
<td>13.1</td>
<td>11.3</td>
<td>16</td>
</tr>
<tr>
<td>Lakshadweep (UT)</td>
<td>0.6</td>
<td>22.5</td>
<td>-97</td>
</tr>
</tbody>
</table>

Out of the 14 districts in Kerala, 3 districts received large excess rainfall, 3 districts received excess rainfall, 2 districts received deficient rainfall and 4 districts received large deficient rainfall and 2 districts received no rainfall. Mahe received no rainfall and Lakshadweep received large deficient rainfall.

(ii) Seasonal Rainfall Scenario (01 October to 02 December 2020):

Cumulative rainfall for Kerala & Mahe and Lakshadweep during this year’s monsoon season from 1st October to 02nd December 2020 is shown in the table below.

<table>
<thead>
<tr>
<th>Subdivision</th>
<th>Actual Rainfall (in mm)</th>
<th>Normal Rainfall (in mm)</th>
<th>Departure (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kerala &amp; Mahe</td>
<td>322.9</td>
<td>460.6</td>
<td>-30</td>
</tr>
<tr>
<td>Lakshadweep (UT)</td>
<td>141.9</td>
<td>271.4</td>
<td>-48</td>
</tr>
</tbody>
</table>

Out of the 14 districts in Kerala, 4 districts received normal rainfall, 9 districts received deficient rainfall and 1 district received large deficient rainfall. Mahe and Lakshadweep received deficient rainfall.
INDIA METEOROLOGICAL DEPARTMENT
MC THIRUVANANTHAPURAM

Rainfall % Departures from the Long Period Averages
for Districts in KERALA

WEEK ENDING ON : 02.12.2020

LEGEND:
- L. EXCESS [+60% OR MORE]
- EXCESS [+20% TO +59%]
- NORMAL [+19% TO -19%]
- DEFICIENT [-20% TO -59%]
- L. DEFICIENT [-60% TO -99%]
- NO RAIN [-100%]
- NO DATA
INDIA METEOROLOGICAL DEPARTMENT
MC THIRUVANANTHAPURAM

Rainfall % Departures from the Long Period Averages
for Districts in KERALA

PERIOD: 01.10.2020 - 02.12.2020

LEGEND:
- L. EXCESS [+60% OR MORE]
- EXCESS [+20% TO +59%]
- NORMAL [+19% TO -19%]
- DEFICIENT [-20% TO -59%]
- L. DEFICIENT [-60% TO -99%]
- NO RAIN [-100%]
- NO DATA
2. **Chief synoptic conditions as on 04 December, 2020**

- The Deep Depression over Gulf of Mannar close to Ramanathapuram district coast remained practically stationary during past six hours and lay centered at 0830 hrs IST of today, 04 December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram district coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. The associated wind speed is about 50-60 kmph gusting to 70 kmph. It is likely to remain practically stationary over the same region and weaken into a Depression during next 12 hours. Thereafter it will slowly move west-southwestwards across Ramanathapuram district towards south Kerala and weaken into a Well Marked Low Pressure Area during subsequent 24 hours.
- The cyclonic circulation over Malay Peninsula now lies over South Andaman Sea & adjoining Malay Peninsula and extends upto 5.8 km above mean sea level.

3. **Large scale features**

- Currently, moderate La Niña conditions are prevailing over equatorial Pacific and Sea Surface Temperatures (SSTs) are below normal over central and eastern equatorial Pacific Ocean. The latest Monsoon Mission Climate Forecasting System (MMCFS) forecast indicates that colder than normal SST anomaly is most likely to persist over the Nino 3.4 region and La Niña conditions likely to sustain at least early part of the next year.
- At present, neutral Indian Ocean Dipole (IOD) conditions are observed over Indian Ocean and the latest MMCFS forecast indicates neutral IOD conditions are likely to continue during the coming months.
- The Madden Julian Oscillation (MJO) index is in Phase 4 with amplitude less than 1. As per the latest projections, it is likely to move over to Phase – 5 with amplitude remaining less than 1 during next couple of days & remain in Phase -5 (border area between Phase 4 & Phase -5) during the rest of the forecast period. Thus the phase of MJO will support enhancement of convective activity over the North Indian Ocean including Bay Of Bengal (BoB) and Arabian Sea (AS) for next 2 weeks.

4. **Forecast for next two weeks**

   Based on the present synoptic features, dynamical scenario and model guidance, the rainfall prediction is as follows:

**Rainfall forecast for week 1: (04 December 2020 – 10 December 2020)**

Scattered to fairly widespread rainfall activity is likely over Kerala, Mahe and Lakshadweep during week 1.

- Cumulatively, **above normal rainfall** is likely over Kerala, Mahe and Lakshadweep during week 1.

**Rainfall forecast for week 2: (11 December 2020 - 17 December 2020)**

- Cumulatively, **normal rainfall** is likely over Kerala, Mahe and **above normal rainfall** over Lakshadweep during week 2.
The minimum temperatures are likely to be **normal to below normal** over Kerala & Mahe during week 1 and week 2.
5. **Cyclogenesis**

The Madden Julian Oscillation (MJO) index is in Phase 4 with amplitude less than 1. As per the latest projections, it is likely to move over to Phase – 5 with amplitude remaining less than 1 during next couple of days & remain in Phase -5 (border area between Phase 4 & Phase -5) during the rest of the forecast period. Thus the phase of MJO will support enhancement of convective activity over the North Indian Ocean including Bay Of Bengal (BoB) and Arabian Sea (AS) for next 2 weeks.

Most of the numerical models including IMD GFS, GEFS, NCEP GFS, WRF, NCUM (R), Genesis Potential Parameter (GPP) based on IMD GFS and CGEPS (MME), NCUM & NEPS are indicating that the current Cyclonic Storm „BUREVI“ would move across south coastal Tamil Nadu and emerge into southeast AS as a weak Low pressure system in the beginning of Week -1. Some of them like NCUM, NEPS, NCUM (R) along with the regional models indicate re-intensification of the remnant system over southeast AS and its gradual westward movement during 06th – 13th December. IMD GFS & GPP are indicating a brief cyclogenesis over south Andaman Sea during the middle of Week -1. The Genesis Potential Index based on CGEPS (MME) also indicate 30-40% probability for formation of a Depression over southeast AS and adjoining Lakshadweep area during Week 1. It also shows more than 60% probability for cyclogenesis over south Andaman Sea during Week 1.

Considering all the above, it may be concluded that: (1) The current Cyclonic Storm „BUREVI“ would move across south coastal Tamil Nadu, weaken and re-emerge into southeast AS around 5 th December. Subsequently it may re-intensify over southeast AS and gradually move westwards, away from the Indian coast. Hence there is a ‘moderate’ probability for Cyclogenesis over southeast AS, during Week-1. (2) Probability for cyclogenesis during Week -2 remains NIL, as per the present analysis.
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(Next bulletin will be issued on 11 December 2020)