TROPICAL CYCLONE ADVISORY NO. 3

FROM: RSMC TROPICAL CYCLONES NEW DELHI DATED 03.12.2023

FROM: RSMC – TROPICAL CYCLONES, NEW DELHI

TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)
STORM WARNING CENTRE, BANGKOK (THAILAND)
STORM WARNING CENTRE, COLOMBO (SRI LANKA)
STORM WARNING CENTRE, DHAKA (BANGLADESH)
STORM WARNING CENTRE, KARACHI (PAKISTAN)
METEOROLOGICAL OFFICE, MALE (MALDIVES)
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)
NATIONAL CENTRE FOR METEOREOLOGY, UAE (THROUGH RTH JEDDAH)
PRESIDENCY OF METEOREOLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)
IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)
QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)

TROPICAL CYCLONE ADVISORY NO. 3 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0900 UTC OF 03.12.2023 BASED ON 0600 UTC OF 03.12.2023.

SUB: CYCLONIC STORM “MICHAUNG” (PRONOUNCED AS “MIGJAUM”) OVER SOUTHWEST BAY OF BENGAL


IT IS LIKELY TO CONTINUE TO MOVE NORTHWESTWARDS, INTENSIFY FURTHER AND REACH WESTCENTRAL BAY OF BENGAL OFF SOUTH ANDHRA PRADESH AND ADJOINING NORTH TAMILNADU COASTS BY 4TH DECEMBER FORENOON. THEREAFTER, IT WOULD MOVE NEARLY NORTHWARDS ALMOST PARALLEL AND CLOSE TO SOUTH ANDHRA PRADESH COAST AND CROSS SOUTH ANDHRA PRADESH COAST BETWEEN NELLORE AND MACHILIPATNAM DURING FORENOON OF 5TH DECEMBER AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90-100 KMPH GUSTING TO 110 KMPH.
**TRACK AND INTENSITY FORECASTS:**

<table>
<thead>
<tr>
<th>DATE/TIME (UTC)</th>
<th>POSITION (LAT. °N/ LONG. °E)</th>
<th>MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)</th>
<th>CATEGORY OF CYCLONIC DISTURBANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>03.12.23/0600</td>
<td>11.8/82.2</td>
<td>65-75 KMPH GUSTING TO 85 KMPH</td>
<td>CYCLONIC STORM</td>
</tr>
<tr>
<td>03.12.23/1200</td>
<td>12.2/81.9</td>
<td>70-80 KMPH GUSTING TO 90 KMPH</td>
<td>CYCLONIC STORM</td>
</tr>
<tr>
<td>03.12.23/1800</td>
<td>12.6/81.5</td>
<td>75-85 KMPH GUSTING TO 95 KMPH</td>
<td>CYCLONIC STORM</td>
</tr>
<tr>
<td>04.12.23/0000</td>
<td>13.2/81.0</td>
<td>80-90 KMPH GUSTING TO 100 KMPH</td>
<td>CYCLONIC STORM</td>
</tr>
<tr>
<td>04.12.23/0600</td>
<td>13.8/80.6</td>
<td>85-95 KMPH GUSTING TO 105 KMPH</td>
<td>SEVERE CYCLONIC STORM</td>
</tr>
<tr>
<td>04.12.23/1800</td>
<td>14.8/80.3</td>
<td>90-100 KMPH GUSTING TO 110 KMPH</td>
<td>SEVERE CYCLONIC STORM</td>
</tr>
<tr>
<td>05.12.23/0600</td>
<td>16.0/80.5</td>
<td>80-90 KMPH GUSTING TO 100 KMPH</td>
<td>CYCLONIC STORM</td>
</tr>
<tr>
<td>05.12.23/1800</td>
<td>16.8/81.3</td>
<td>55-65 KMPH GUSTING TO 75 KMPH</td>
<td>DEEP DEPRESSION</td>
</tr>
<tr>
<td>06.12.23/0600</td>
<td>17.6/82.2</td>
<td>40-50 KMPH GUSTING TO 60 KMPH</td>
<td>DEPRESSION</td>
</tr>
<tr>
<td>06.12.23/1800</td>
<td>18.4/83.4</td>
<td>25-35 KMPH GUSTING TO 45 KMPH</td>
<td>WELL LOW PRESSURE AREA</td>
</tr>
</tbody>
</table>

INSAT-3D IMAGERY AT 0600 UTC OF 3RD DECEMBER, INDICATES THE ORGANISATION OF CLOUD MASS. ASSOCIATED INTENSITY IS T2.5. ASSOCIATED SCATTERED TO BROKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER SOUTH AND ADJOINING CENTRAL BAY OF BENGAL BETWEEN LATITUDE 5.0°N TO 17.0°N LONGITUDE 80.0E TO 89.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93 DEGREE CELSIUS.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 35 KNOTS GUSTING TO 45 KNOTS. ESTIMATED CENTRAL PRESSURE IS 998 HPA. SEA CONDITION IS LIKELY TO BE VERY ROUGH OVER THE SOUTHWEST BAY OF BENGAL.

MADDEN JULIAN OSCILLATION (MJO) IS CURRENTLY IN PHASE 4 WITH AMPLITUDE GREATER THAN 1. SEA SURFACE TEMPERATURE IS 27°C AROUND SYSTEM. TROPICAL CYCLONE HEAT POTENTIAL IS 60-70 KJ/CM² OVER SOUTHWEST AND WESTCENTRAL BOB. THE NCICS BASED FORECASTS FOR EQUATORIAL WAVES INDICATE STRENGTHENING OF WESTERLY WINDS ALONGWITH PRESENCE OF EQUATORIAL ROSSBY WAVES & MJO OVER SOUTH BOB AND EASTERN WINDS OVER CENTRAL BOB TILL 4TH DECEMBER.. ALL THESE LARGE SCALE FEATURES ARE FAVOURABLE FOR FURTHER INTENSIFICATION OF THE SYSTEM.

CURRENT ENVIRONMENTAL FEATURES INDICATE, THE LOW LEVEL VORTICITY OF ABOUT 150X10⁻⁶S⁻¹ AROUND SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE VORTICITY FIELD SHOWS NO TILTING WITH HEIGHT. POSITIVE LOW LEVEL CONVERGENCE IS ABOUT 20 X 10⁻⁵ S⁻¹ TO THE EAST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT 40 X 10⁻⁵ S⁻¹ TO THE NORTHEAST OF THE SYSTEM CENTRE WITH LESS DIVERGENCE EQUATORWARD. THUS, EQUATORWARD OUTFLOW IS DECREASED AND POLEWARD OUTFLOW IS INCREASED. THERE IS NOT MUCH CHANGE IN WIND SHEAR AND IS ABOUT 10-20 KNOTS OVER SOUTHWEST BOB. TOTAL PRECIPITABLE WATER IMAGERY IS INDICATING WARM MOIST AIR ADVECTION FROM NORTH AND NORTHEAST SECTOR.

UPPER TROPOSPHERIC RIDGE RUNS ALONG 14°N. FROM 4TH DECEMBER/0000 UTC, THE SYSTEM WILL COME CLOSER TO THE RIDGE AND HENCE WOULD MOVE NEARLY NORTHWARDS AND BY 5TH /0000 UTC, IT WOULD CROSS RIDGE AND HENCE RECURVE NORTHEASTWARDS FROM 5TH DECEMBER/0000 UTC. UPPER TROPOSPHERIC WINDS ARE OF THE ORDER OF 50-60 KNOTS OVER NORTH ANDHRA PRADESH AND ODISHA COASTS. IT WOULD LEAD TO HIGHER WIND SHEAR.
MOST OF THE MODELS ARE INDICATING INITIAL NORTHWESTWARDS MOVEMENT TOWARDS ANDHRA PRADESH COAST. THE LANDFALL POINT IS VARYING BETWEEN LATITUDE 15.1-15.7°N/80.0-80.3°E. THE LANDFALL TIME IS VARYING BETWEEN 5TH/0000 UTC TO 5TH/0900 UTC.

CONSIDERING ALL THE ABOVE, THE CYCLONIC STORM IS LIKELY TO MOVE NORTHWESTWARDS AND REACH WESTCENTRAL BAY OF BENGALE OFF SOUTH ANDHRA PRADESH AND ADJOINING NORTH TAMILNADU COASTS BY 0600 UTC OF 4TH DECEMBER. THEREAFTER, IT WOULD MOVE NEARLY NORTHWARDS ALMOST PARALLEL AND CLOSE TO SOUTH ANDHRA PRADESH COAST AND CROSS SOUTH ANDHRA PRADESH COAST BETWEEN NELLORE AND MACHILIPATNAM AROUND 0600 UTC OF 5TH DECEMBER AS A SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 90-100 KMPH GUSTING TO 110 KMPH.

(SHIBIN BALAKRISHNAN)
RSMC NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, MODERATE: 34-66% AND HIGH: 67-100%

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**Storm Surge Warning Graphics based on Forecast Track**

**STORM SURGE HEIGHT INFORMATION:**
*The below listed surge heights are over and above astronomic tide.*

<table>
<thead>
<tr>
<th>MANDAL/TALUK</th>
<th>DISTRICT</th>
<th>STATE/UNION TERRITORY</th>
<th>NEAREST PLACE OF HABITATION</th>
<th>STORM SURGE (m)</th>
<th>EXPECTED INUNDATION EXTENT (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avanigadda</td>
<td>Krishna</td>
<td>Andhra Pradesh</td>
<td>Ramakrishnapuram</td>
<td>0.3-0.7</td>
<td>Upto 0.15</td>
</tr>
<tr>
<td>Machilipatnam</td>
<td>Krishna</td>
<td>Andhra Pradesh</td>
<td>Perupalem</td>
<td>0.3-0.6</td>
<td>Upto 0.17</td>
</tr>
<tr>
<td>Repalle</td>
<td>Guntur</td>
<td>Andhra Pradesh</td>
<td>Repalle</td>
<td>0.2-0.5</td>
<td>Upto 0.25</td>
</tr>
<tr>
<td>Ponneri</td>
<td>Thiruvallur</td>
<td>Tamil Nadu</td>
<td>Karimunai</td>
<td>0.2-0.5</td>
<td>Upto 0.15</td>
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