



India Meteorological Department

(Ministry of Earth Sciences)

NATIONAL BULLETIN NO.: 17 (BOB/04/2024)

TIME OF ISSUE: 1930 HOURS IST

DATED: 11.09.2024

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**Sub: Depression over Northeast Madhya Pradesh and adjoining south Uttar Pradesh**

The depression over Northeast Madhya Pradesh moved slowly nearly north-northwestwards with a speed of 15 kmph during past 6 hours and lay centred at 1730 hours IST of today, the 11<sup>th</sup> September near latitude 25.0°N and longitude 79.6°E over northeast Madhya Pradesh and adjoining south Uttar Pradesh, about 30 km west of Khajuraho (Madhya Pradesh), 110 km south-southwest of Hamirpur (Uttar Pradesh), 110 km east-southeast of Jhansi (Uttar Pradesh) and 190 km southeast of Gwalior (Madhya Pradesh).

It is likely to move slowly north-northwestwards during next 24 hrs. The system is under continuous surveillance of Doppler Weather Radar at Bhopal (Madhya Pradesh).

**Warnings:**

**(i) Rainfall warning**

**East Madhya Pradesh:** Light to moderate rainfall at most places is very likely with **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall** at isolated places on 11<sup>th</sup> ; **heavy to very heavy rainfall** at few places on 12<sup>th</sup> and **heavy rainfall** at isolated places on 13<sup>th</sup> and 14<sup>th</sup> September.

**West Madhya Pradesh:** Light to moderate rainfall at many places is very likely with **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall** at isolated places on 11<sup>th</sup> & 12<sup>th</sup>; **heavy to very heavy rainfall** at a few places on 13<sup>th</sup> & 14<sup>th</sup> September and **heavy rainfall** at a few places on 15<sup>th</sup> September.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

**West Uttar Pradesh:** Light to moderate rainfall at many places is very likely with **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall** at isolated places on 11<sup>th</sup>, 12<sup>th</sup> and 13<sup>th</sup> and **heavy rainfall** at a few places on 14<sup>th</sup> & 15<sup>th</sup> September.

**East Uttar Pradesh:** Light to moderate rainfall at many places is very likely with heavy rainfall at isolated places on 11<sup>th</sup>; **heavy to very heavy rainfall** at a few places and **extremely heavy rainfall** at isolated places on 12<sup>th</sup> and **heavy rainfall** at a few places on 13<sup>th</sup>, 14<sup>th</sup> & 15<sup>th</sup> September.

**East Rajasthan:** Light to moderate rainfall at many places is very likely with **heavy to very heavy rainfall** at a few places on 11<sup>th</sup>, 12<sup>th</sup> & 13<sup>th</sup> and **heavy rainfall** at isolated places on 14<sup>th</sup> & 15<sup>th</sup> September.

**West Rajasthan:** Light to moderate rainfall at many places is very likely with **heavy rainfall** at a few places on 11<sup>th</sup> & 12<sup>th</sup> September.

**(ii) Flash Flood Guidance: (Graphics Attached)**

**24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 12-09-2024:**

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of

**West Uttar Pradesh** - Auraiya, Etah, Hamirpur, Jalaun, Jhansi, Lalitpur and Mahoba districts.

**East Madhya Pradesh** - Chhatarpur, Damoh and Sagar districts.

**West Madhya Pradesh** - Ashoknagar, Bhind, Bhopal, Datia, Guna, Morena, Rajgarh, Sheopur, Shivpur and videsha districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours

**(iii) Wind warning:**

Strong wind speed reaching 30-40 kmph gusting to 50 kmph is likely to prevail over North Madhya Pradesh and adjoining South Uttar Pradesh during next 24 hours.

**(iv) Impact Expected (East Madhya Pradesh, West Madhya Pradesh, West Uttar Pradesh, East Uttar Pradesh, East Rajasthan and West Rajasthan due to heavy rainfall)**

- ✓ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ✓ Occasional reduction in visibility due to heavy rainfall.
- ✓ Disruption of traffic in major cities and roadways due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutcha roads.
- ✓ Possibilities of damage to vulnerable structure.
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

**(v) Action Suggested (East Madhya Pradesh, West Madhya Pradesh, West Uttar Pradesh, East Uttar Pradesh, East Rajasthan and West Rajasthan)**

- ✓ Judicious regulation of surface transports including railways and roadways.
- ✓ Check for traffic congestion on your route before leaving for your destination.
- ✓ Follow any traffic advisories that are issued in this regard.
- ✓ Avoid going to areas that face the water logging problems often.
- ✓ Avoid staying in vulnerable structure.

**(vi) Agromet advisories for Heavy Rainfall likely over various parts of the country**

- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

**Significant amount of rainfall recorded from 0830 hours IST to 1730 hours IST of today, the 11<sup>th</sup> September (cm) is given in Annexure-I**

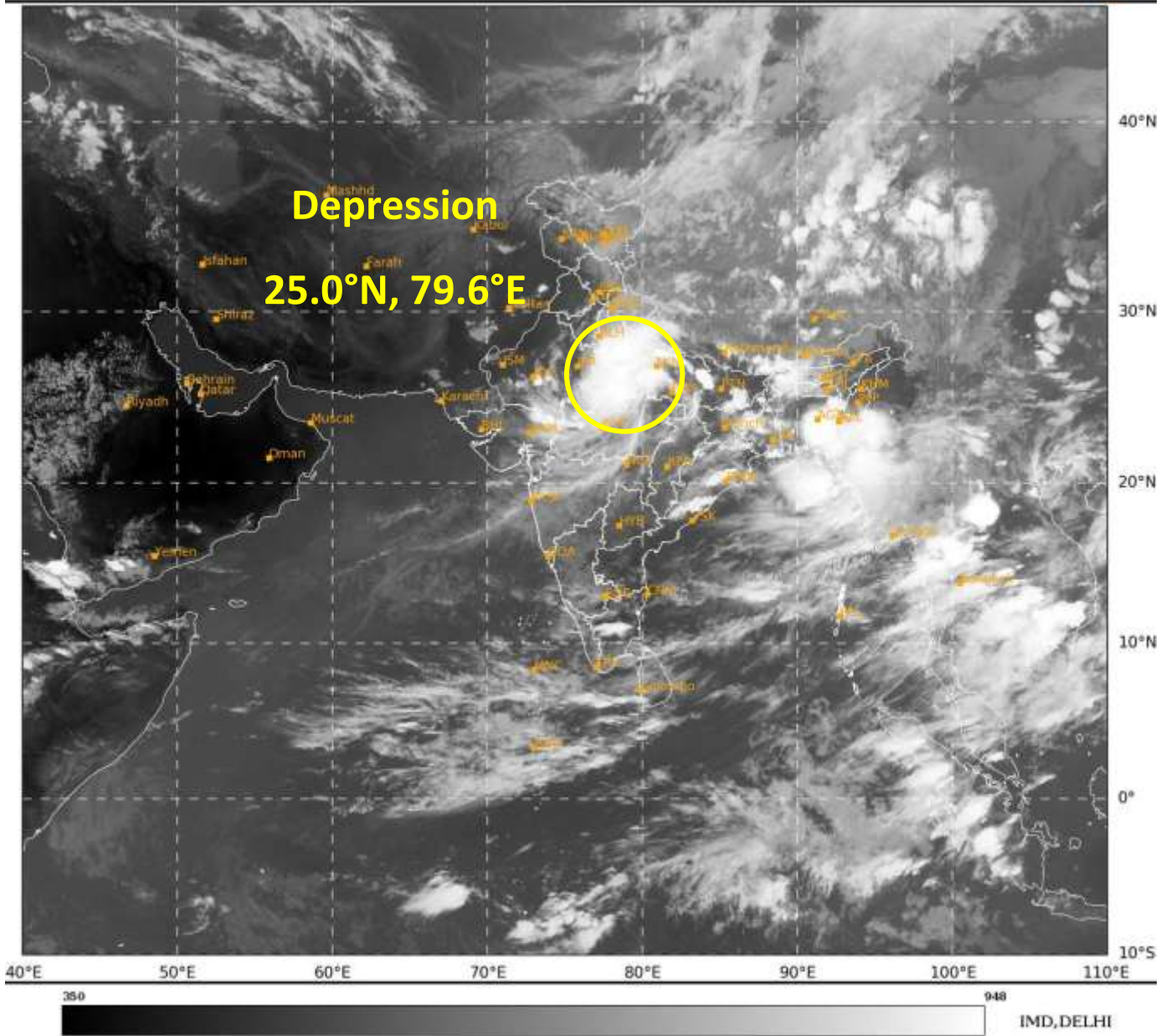
***The next bulletin will be issued at 0230 hrs IST of tomorrow, the 12<sup>th</sup> September, 2024.***

**(Dr Ananda Kumar Das)**  
**Scientist- F, RSMC, New Delhi**

*Copy to: CRS, Pune/ACWC Kolkata/ACWC Chennai/CWC Bhubaneswar/CWC Visakhapatnam/ MC Raipur/MC Ranchi/MC Hyderabad/MC Amaravati/MC Lucknow/MC Bhopal*

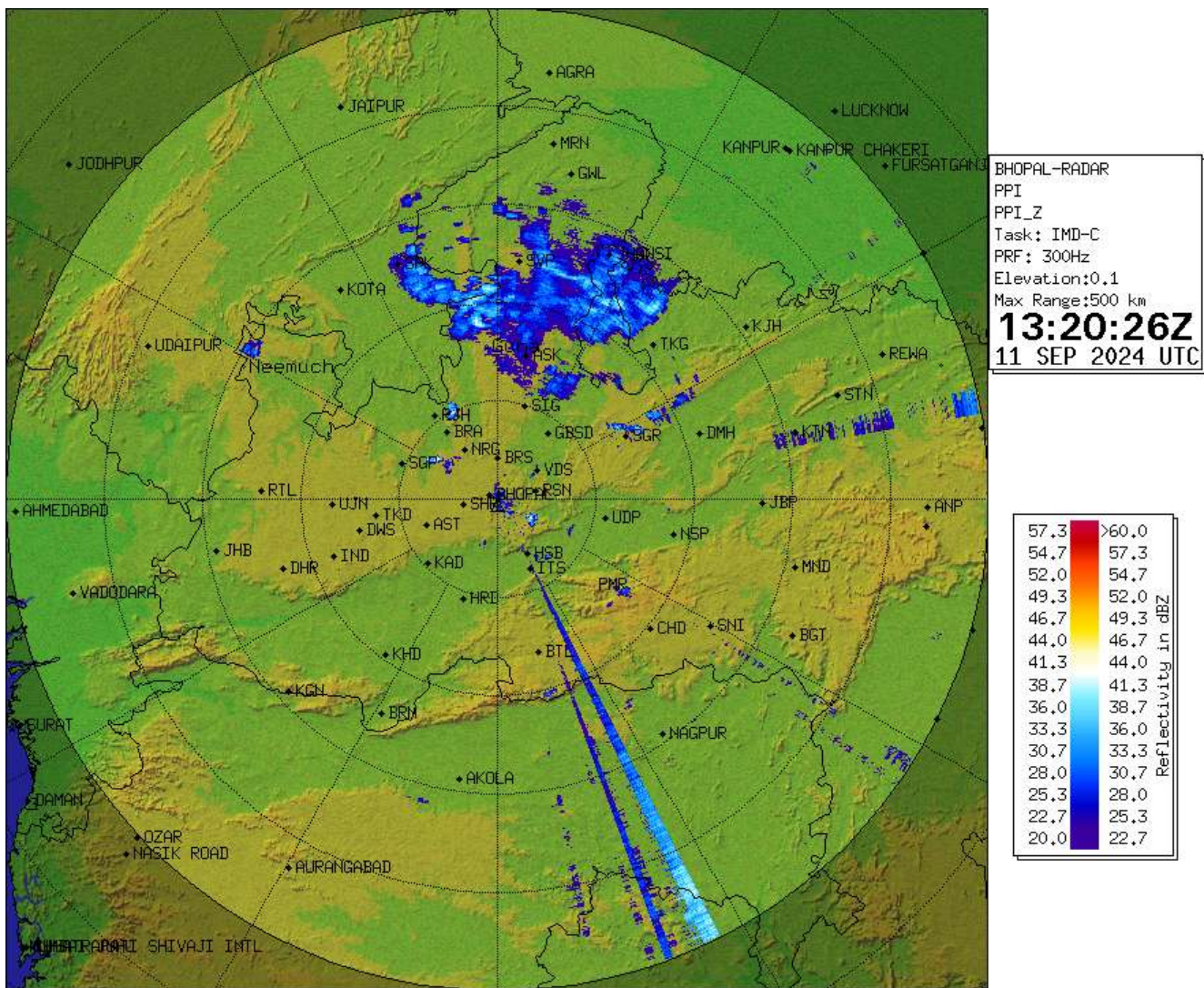
**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



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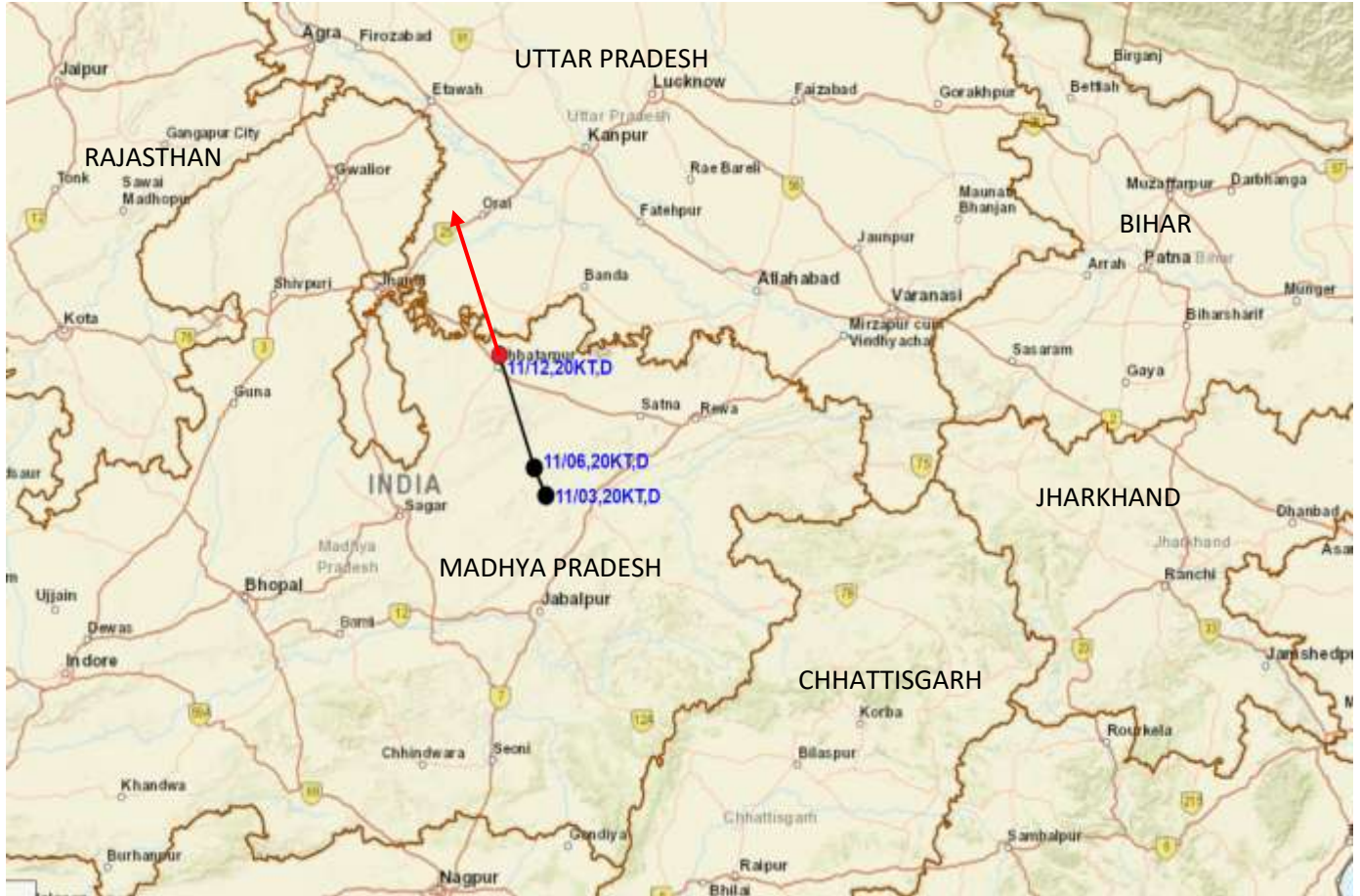
### Doppler Weather Radar at Bhopal PPI(Z)



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



**OBSERVED AND FORECAST TRACK OF DEPRESSION OVER NORTHEAST MADHYA PRADESH AND ADJOINING SOUTH UTTAR PRADESH BASED ON 1200 UTC (1730 IST) OF 11<sup>TH</sup> SEPTEMBER, 2024.**

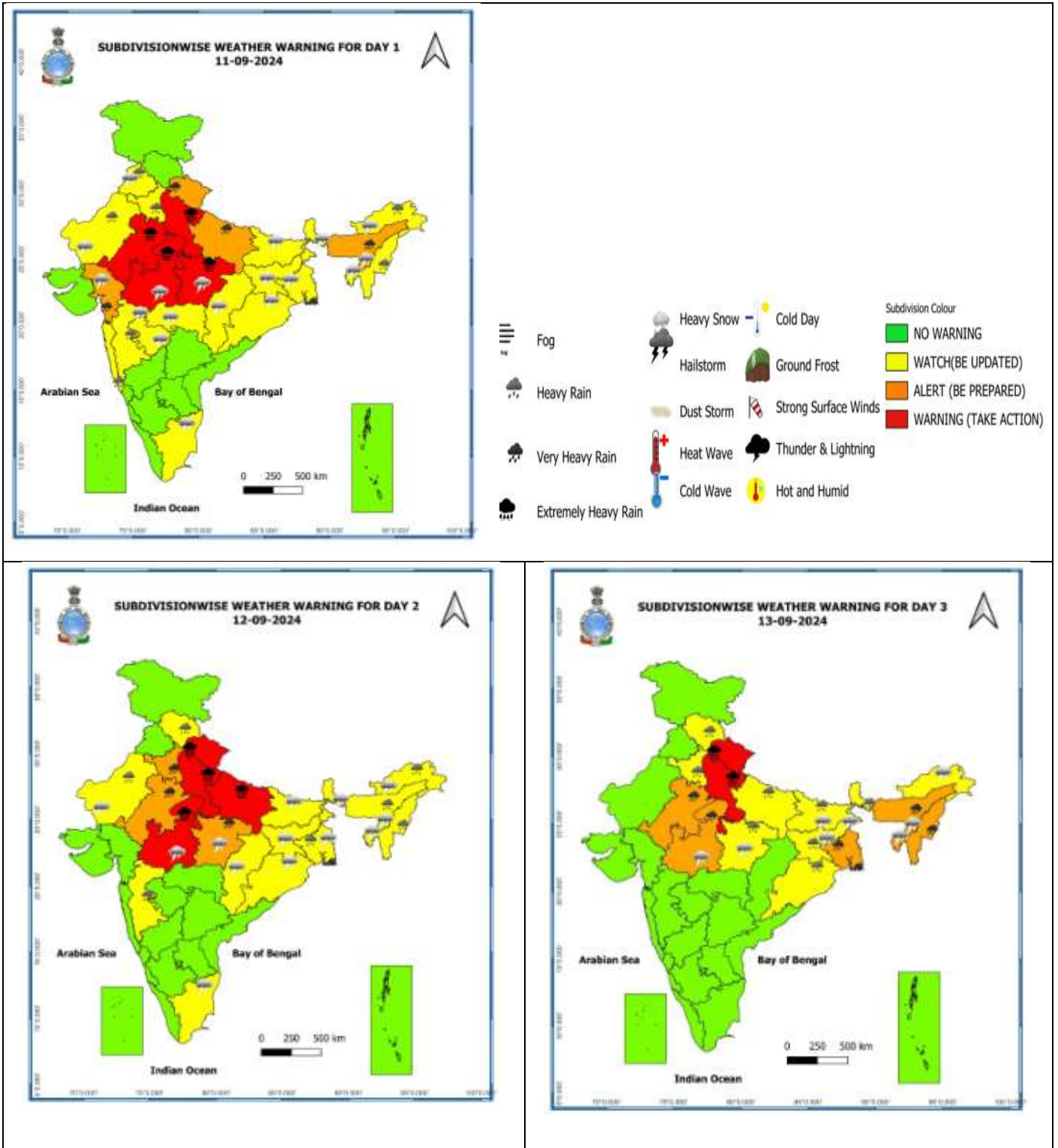


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)  
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

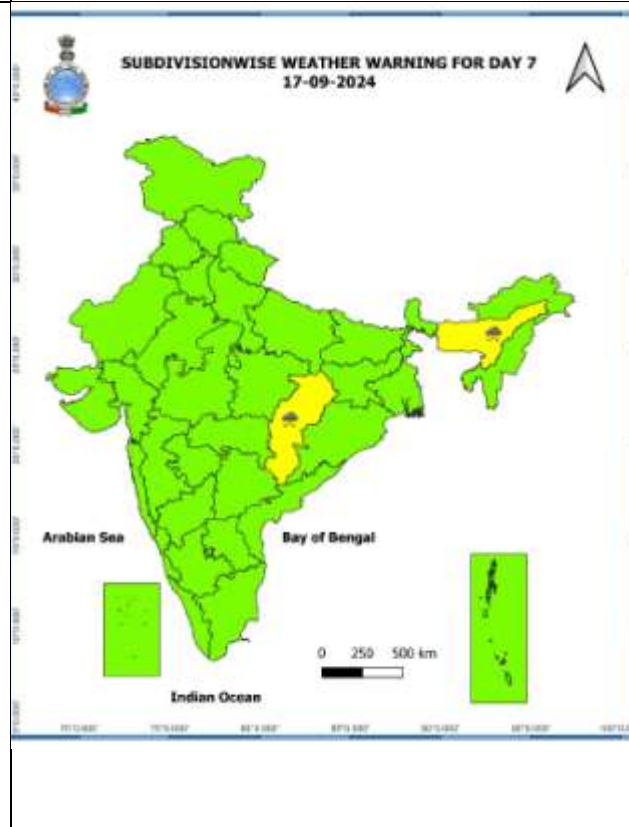
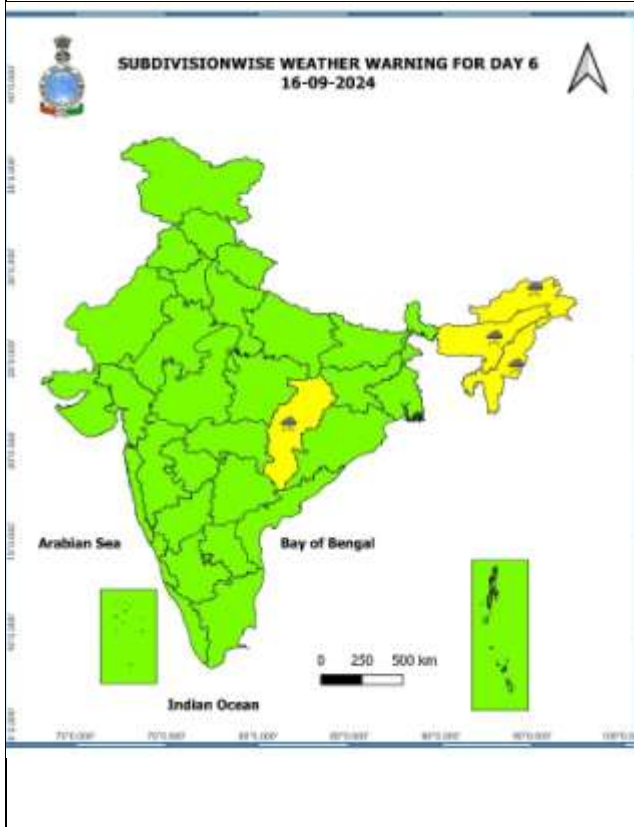
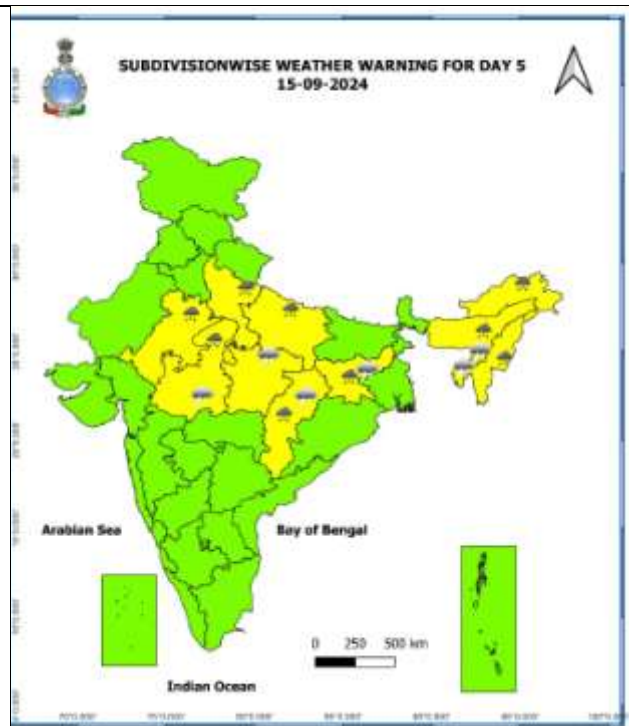
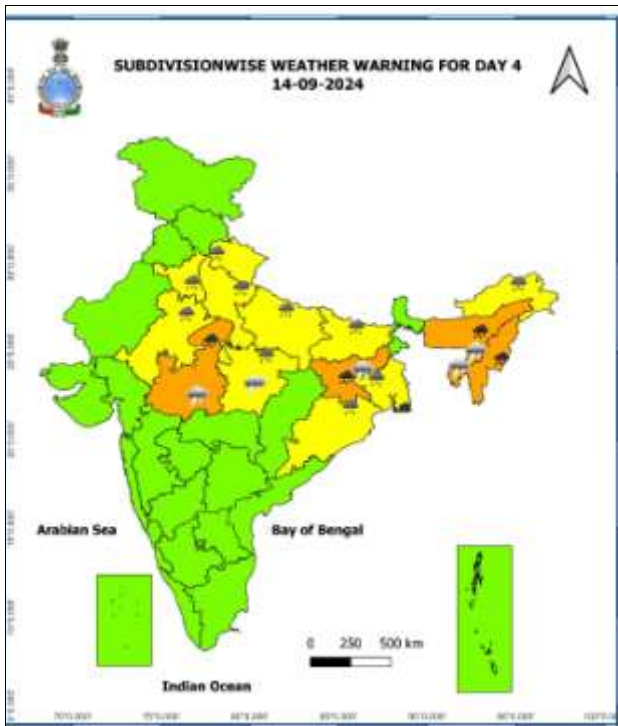
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

## Warning Graphics



**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**  
**Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.**



- Action may be taken based on ORANGE AND RED COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%  
 Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

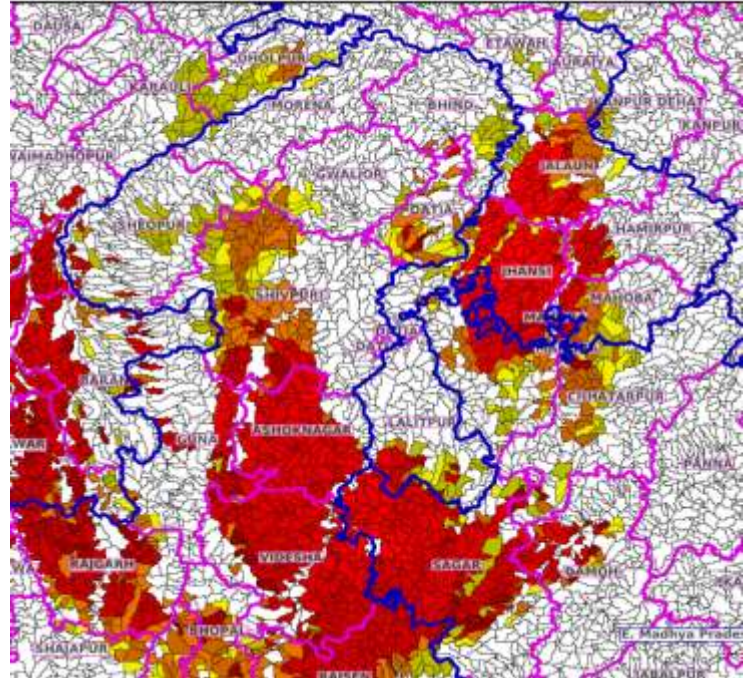
## Flash Flood Guidance




### 24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 12-09-2024 :

**Moderate to High flash flood risk** likely over few watersheds & neighbourhoods of **West Uttar Pradesh** - Auraiya, Etah, Hamirpur, Jalaun, Jhansi, Lalitpur and Mahoba districts. **East Madhya Pradesh** - Chhatarpur, Damoh and Sagar districts. **West Madhya Pradesh** - Ashoknagar, Bhind, Bhopal, Datia, Guna, Morena, Rajgarh, Sheopur, Shivpuri and Videsha districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.

Product: GFS FFR | Timescale: 24-hr | Region: "REGIONAL"  
Product Date: 2024-09-11 12:00 UTC | Valid Date: 2024-09-12 12:00 UTC



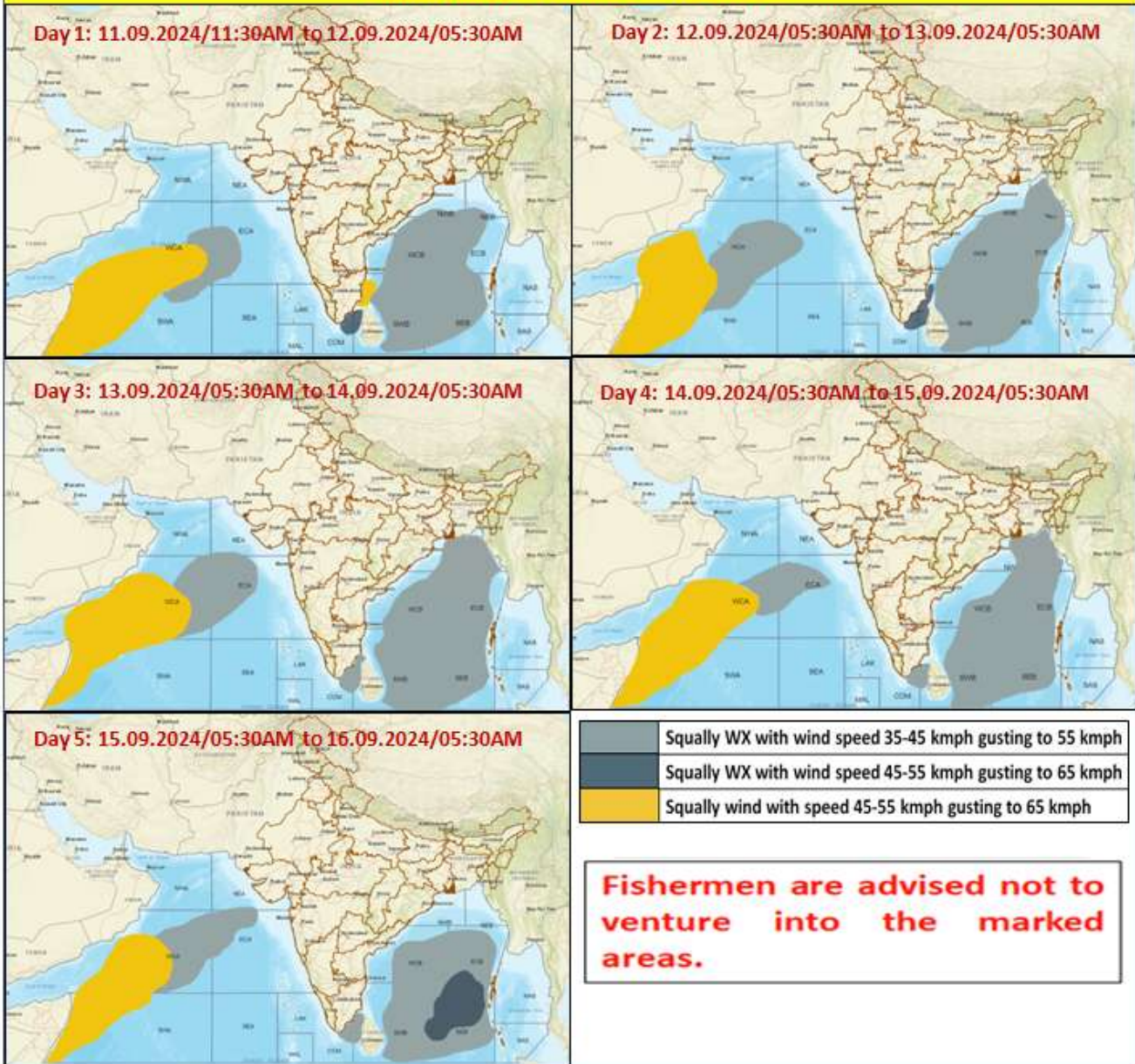
Flash Flood Risk	
	<b>High Risk (Take Action)</b>
	<b>Moderate Risk (Be Prepared)</b>
	<b>Low Risk (Be Updated)</b>

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



### Fishermen Warning Graphics



Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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**Significant amount of rainfall recorded from 0830 hours IST to 1730 hours IST of today, the 11<sup>th</sup> September (cm):**

**East Rajasthan:** Rajakhera (Dholpur)-14, Aklera (Jhalawar) & Dholpur-7 each, Pilani, Mount Abu & Vanasthali Vidyapeeth-1 each,

**East Madhya Pradesh:** Nowgong-10, Khajuraho-5, Malanjkhanda & Sagar-1 each,

**West Madhya Pradesh:** Pachmarhi-11, Shivpuri-7, Gwalior-6, Bhopal-5, Raisen & Khargone-2 each,

**West Uttar Pradesh:** Jhansi-10, Deomali-4, Hamirpur-3, Bareilly & Orai-2 each,

**Saurashtra & Kutch:** Mahuva-4;

**Madhya Maharashtra:** Mahabaleshwar-3,

**Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%**

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