



**India Meteorological Department**

**(Ministry of Earth Sciences)**

**NATIONAL BULLETIN NO.: 09 (BOB/04/2024)**

**TIME OF ISSUE: 2050 HOURS IST**

**DATED: 09.09.2024**

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**Sub: Deep Depression over interior Odisha**

The deep depression over coastal Odisha moved northwestwards with a speed of 22 kmph during past 6 hours and lay centered at 1730 hours IST of today, the 9<sup>th</sup> September, 2024 over interior Odisha near latitude 20.8°N and longitude 85.1°E close to Angul (Odisha), about 100 km northwest of Bhubaneswar (Odisha), 140 km east-southeast of Sambalpur (Odisha), 330 km east-southeast of Bilaspur (Chhattisgarh) and 360 km east of Raipur (Chhattisgarh).

It is very likely to move west-northwestwards across interior Odisha and weaken gradually into a Depression by midnight of today, the 9<sup>th</sup> September. Thereafter, it is very likely to continue to move west-northwestwards across north Chhattisgarh and weaken into a well marked low pressure area around evening of 10<sup>th</sup> September.

Forecast track and intensity are given in the following table:

<b>Date/Time (IST)</b>	<b>Position (Lat. °N/ Long. °E)</b>	<b>Maximum Sustained Surface Wind Speed (Kmph)</b>	<b>Category Of Cyclonic Disturbance</b>
09.09.24/1730	20.8/85.1	50-60 gusting to 70	Deep Depression
09.09.24/2330	21.4/84.4	45-55 gusting to 65	Depression
10.09.24/0530	21.8/83.6	40-50 gusting to 60	Depression
10.09.24/1130	22.2/82.6	35-45 gusting to 55	Depression
10.09.24/1730	22.5/81.6	25-35 gusting to 45	Well Marked Low Pressure Area

**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.**

## Warnings:

### (i) Rainfall warning

**Odisha:** Light to moderate rainfall at most places is very likely with heavy to very heavy rainfall at a few places with extremely heavy rainfall at isolated places over south Odisha and isolated heavy to very heavy rainfall over north Odisha on 9<sup>th</sup>; heavy to very heavy rainfall at isolated places over Odisha on 10<sup>th</sup> and isolated heavy rainfall over interior Odisha on 11<sup>th</sup> September.

**Chhattisgarh:** Light to moderate rainfall at most places is likely with heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places on 9<sup>th</sup> and heavy rainfall at isolated places on 10<sup>th</sup> September.

**Vidarbha:** Light to moderate rainfall at most places is very likely with heavy to very heavy rainfall at a few places and extremely heavy at isolated places on 9<sup>th</sup> and heavy to very heavy rainfall at isolated places on 10<sup>th</sup> and heavy rainfall at isolated places on 11<sup>th</sup> September.

**East Madhya Pradesh:** Light to moderate rainfall at many places is likely with isolated heavy to very heavy rainfall on 9<sup>th</sup> and heavy to very heavy at a few places with extremely heavy at isolated places on 10<sup>th</sup> September.

**West Madhya Pradesh:** Light to moderate rainfall at many places is likely with isolated heavy rainfall on 9<sup>th</sup> and heavy to very heavy rainfall at isolated places on 10<sup>th</sup> September.

**South Uttar Pradesh:** Light to moderate rainfall at many places is likely with heavy to very heavy rainfall at isolated places on 10<sup>th</sup> & 11<sup>th</sup> September.

**Coastal Andhra Pradesh & Yanam:** Light to moderate rainfall at most places is very likely with heavy to very heavy rainfall at a few places on 9<sup>th</sup> and heavy rainfall on 10<sup>th</sup> September.

**Telangana:** Light to moderate rainfall at many places is likely with heavy to very heavy rainfall at isolated places very likely on 9<sup>th</sup> September.

**Jharkhand:** Light to moderate rainfall at most places is very likely with heavy rainfall at isolated places over South Jharkhand during 9<sup>th</sup> to 10<sup>th</sup> September.

### (ii) Wind warning

Squally weather with wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail over Northwest and adjoining westcentral Bay of Bengal and along & off north Andhra Pradesh-Odisha-West Bengal coasts till midnight of 9<sup>th</sup> September. It will decrease gradually thereafter.

Squally weather with wind speed reaching 50-60 kmph gusting to 70 kmph is likely over interior districts of north Odisha and adjoining north Chhattisgarh till midnight of today, the 9<sup>th</sup> September and becoming 40-50 kmph gusting to 60 kmph by morning of 10<sup>th</sup> September. It will decrease gradually thereafter.

**(iii) Sea Condition:** Rough sea condition over Northwest and adjoining westcentral Bay of Bengal and along & off north Andhra Pradesh-Odisha-West Bengal coasts till morning of 10<sup>th</sup> September. It is likely to improve gradually thereafter.

### (iv) Fishermen Warning

Fishermen are advised not to venture into Northwest and adjoining westcentral Bay of Bengal; along & off Andhra Pradesh-Odisha-West Bengal coasts till 10<sup>th</sup> September.

### (v) Flash Flood Guidance: (Graphics Attached)

#### 24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 10-09-2024 :

**Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

**Vidarbha** –Bhandara, Gadchiroli, Gondiya and Nagpur

**Moderate to High flash flood risk** likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

**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.**

**Chhattisgarh** - Rajnandgaon, Bastar, Bijapur, Baloda Bazar, Bilaspur, Dantewara, Dhamtari, Gariaband, Janjgir, Champa, Kanker, Kondagaon, Mungeli, Narayanpur, Raigarh, Korba, Jashpur Korea and Sukma districts.

**Odisha** – Jharsuguda, Baragarh, Sambhalpur, and Koraput districts.

**East Madhya Pradesh** -Anuppur, Balaghat, Chhindwara, , Damoh, Dindori, Jabalpur, Katni, Mandla, , Narshimapura, Niwari, Rewa, Sagar, Shahdol, Sidhi, Singrauli, and Umaria districts. Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over Area of Concern as shown in map due to expected rainfall occurrence in next 24 hours.

**(vi) Impact Expected (coastal Andhra Pradesh, Odisha, Chhattisgarh, Madhya Pradesh, Vidarbha, south Uttar Pradesh, Telangana and Jharkhand due to heavy rainfall and squally wind)**

- ✓ 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.
- ✓ Reduction of visibility over sea and adjoining coastal areas due to sea spray induced by strong wind and heavy rainfall.
- ✓ Disruption of traffic in major cities 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.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)
- ✓ Uprooting of small trees and breaking of tree branches e.g. Banana, Papaya, Moringa, Orchards and etc. along coastal districts of North Odisha & adjoining West Bengal.

**(vii) Action Suggested (coastal Andhra Pradesh, Odisha, Chhattisgarh, Madhya Pradesh, Vidarbha, south Uttar Pradesh, Telangana and Jharkhand due to heavy rainfall)**

- ✓ Fishermen are advised not to venture into Northwest and adjoining Northeast & Central Bay of Bengal; along & off north Andhra Pradesh-Odisha-West Bengal coasts till 10<sup>th</sup> September.
- ✓ Judicious regulation of offshore/onshore Operations
- ✓ 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.

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

- ✓ Drain out excess water from rice, soybean, red gram, maize, cotton and turmeric in **Telangana**; from rice, finger millet, maize and groundnut in **Odisha** to prevent water logging.
- ✓ Postpone transplanting of rice in North Coastal **Andhra Pradesh**.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

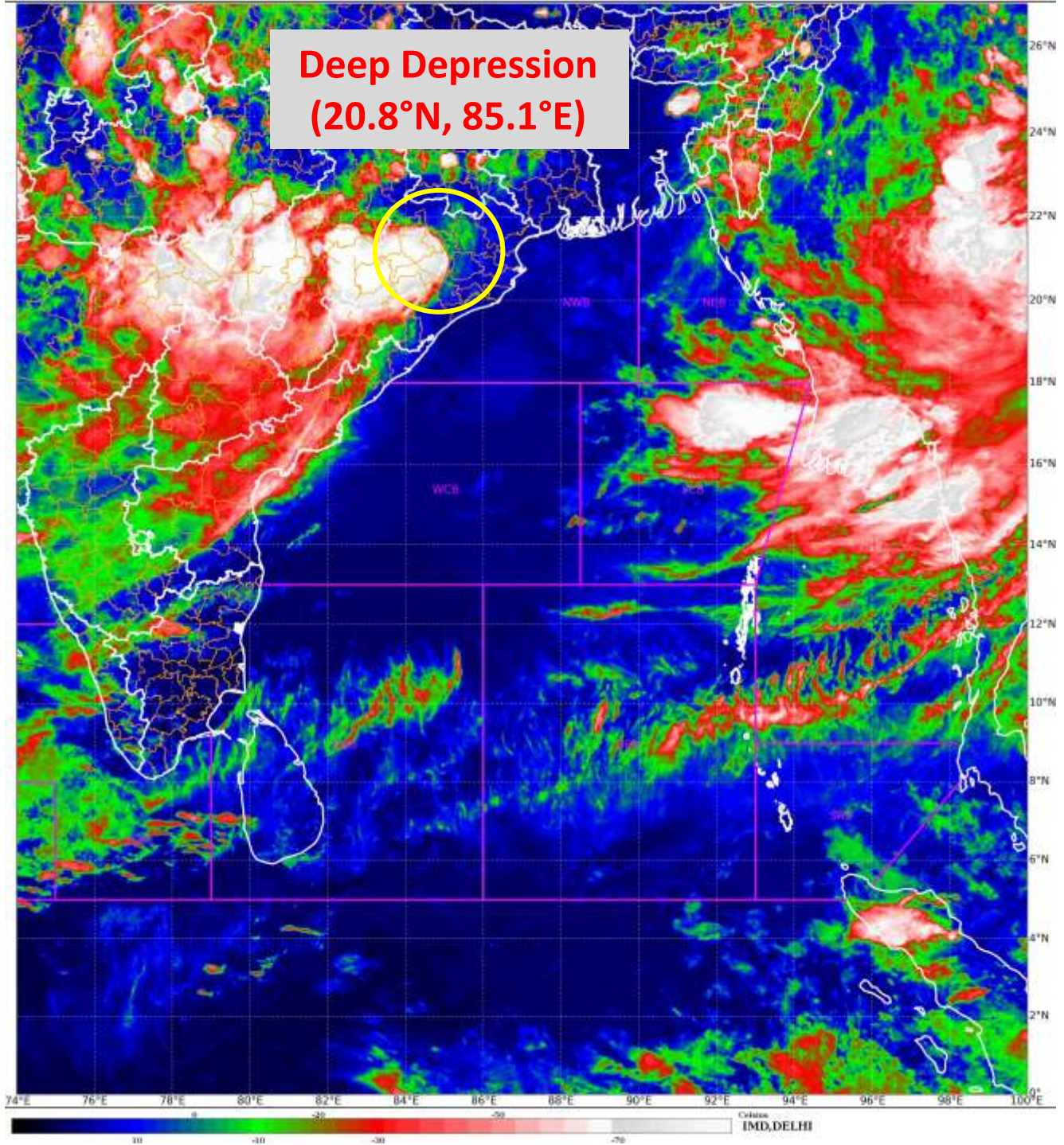
**Significant rainfall recorded from 0830 hrs IST to 1730 hrs IST of today, the 9th September, 2024 (cm) is given in ANNEXURE-I.**

***The next bulletin will be issued at 0230 hrs IST of 10<sup>th</sup> September, 2024.***

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

*Copy to: CRS, Pune/ACWC Kolkata/ACWC Chennai/CWC Bhubaneswar/CWC  
Visakhapatnam/MO Port Blair/MC Raipur/MC Ranchi/MC Hyderabad/MC Amaravati*

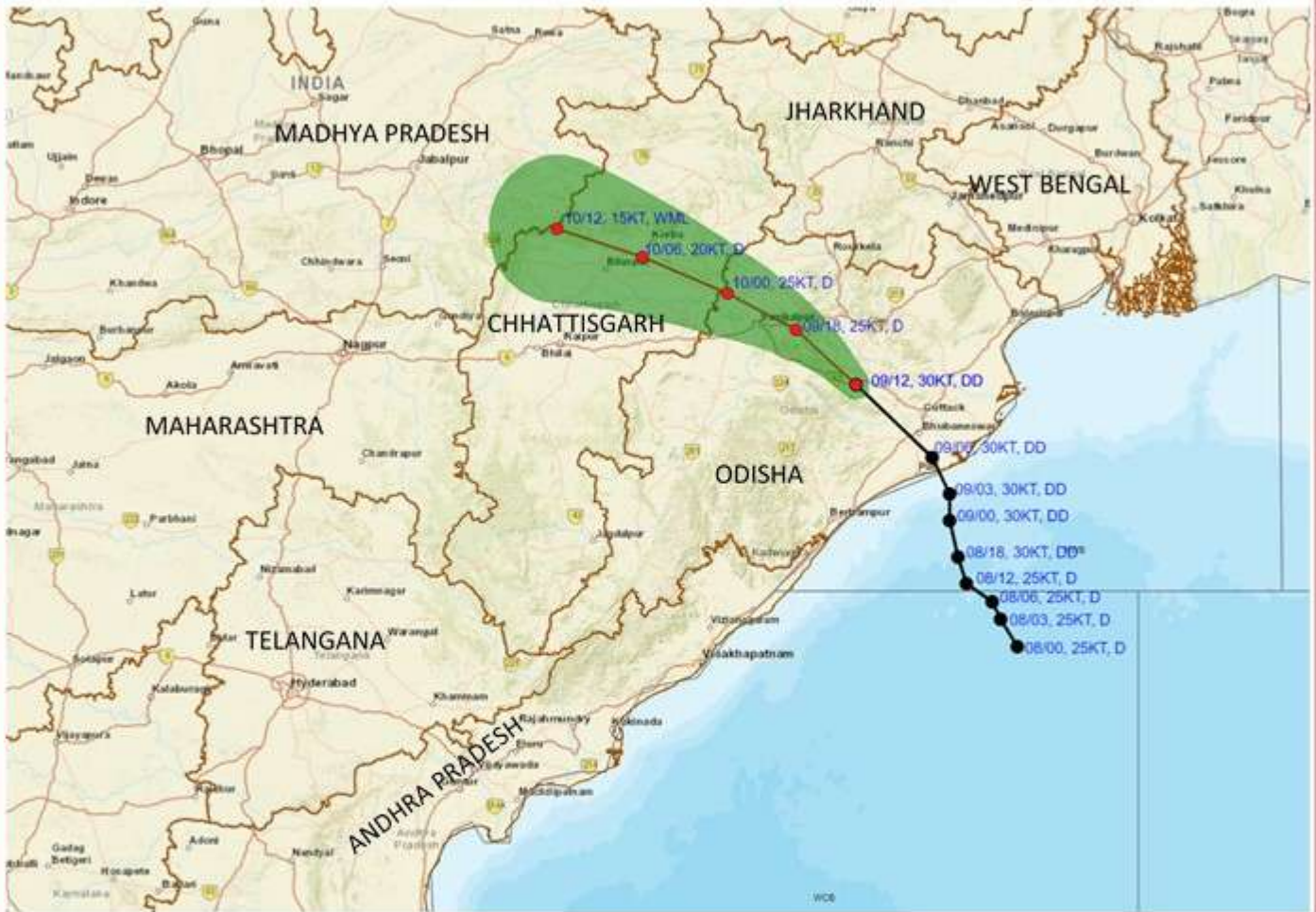
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**OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER INTERIOR ODISHA  
BASED ON 1200 UTC (1730 IST) OF 9<sup>th</sup> SEPTEMBER, 2024.**



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.



**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER INTERIOR ODISHA BASED ON 1200 UTC (1730 IST) OF 9<sup>th</sup> SEPTEMBER, 2024.**



**DATE/TIME IN UTC**

IST=UTC + 0530

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D: DEPRESSION (17-27 KT)

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SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

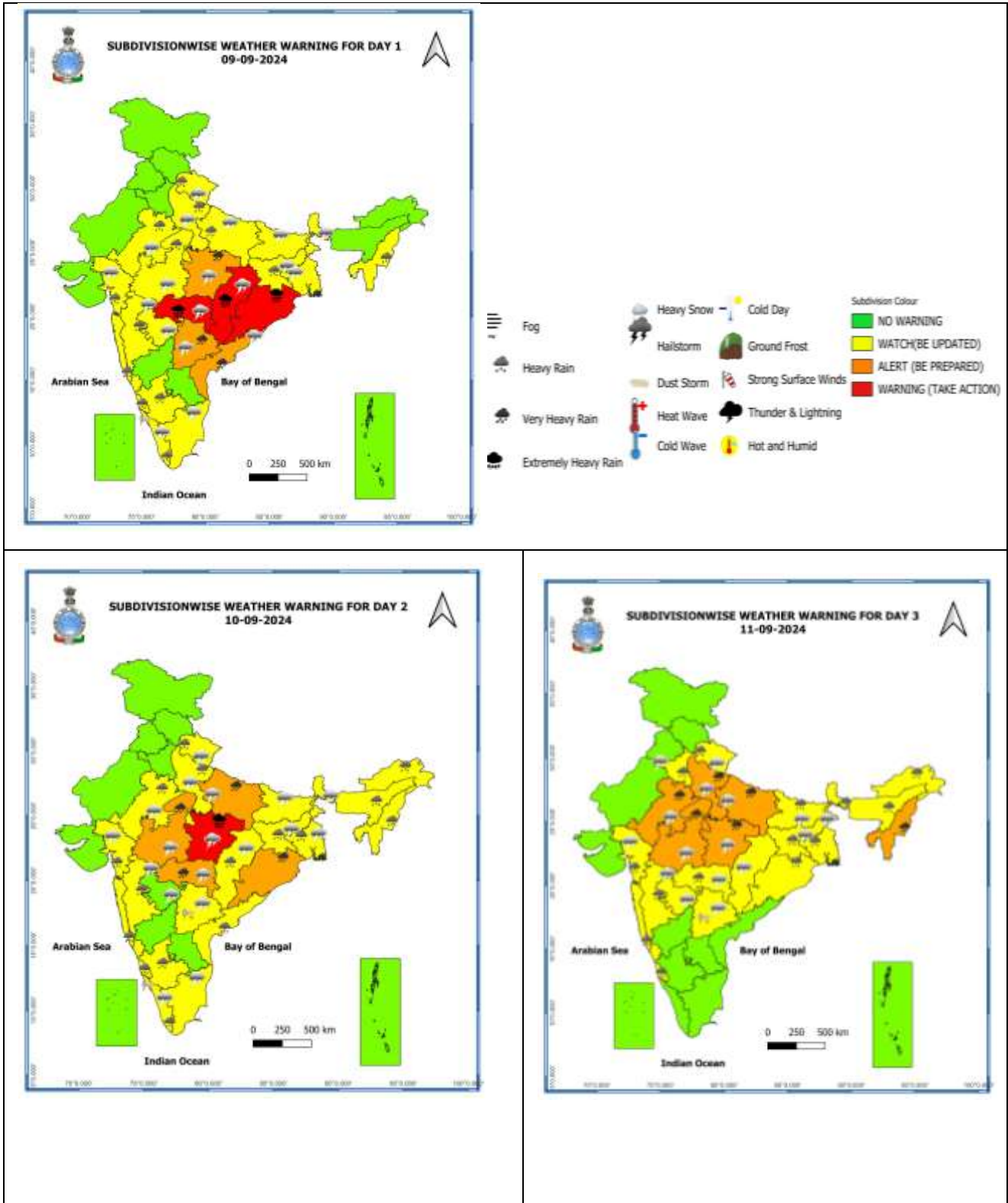
**IMPACT OVER THE SEA**

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

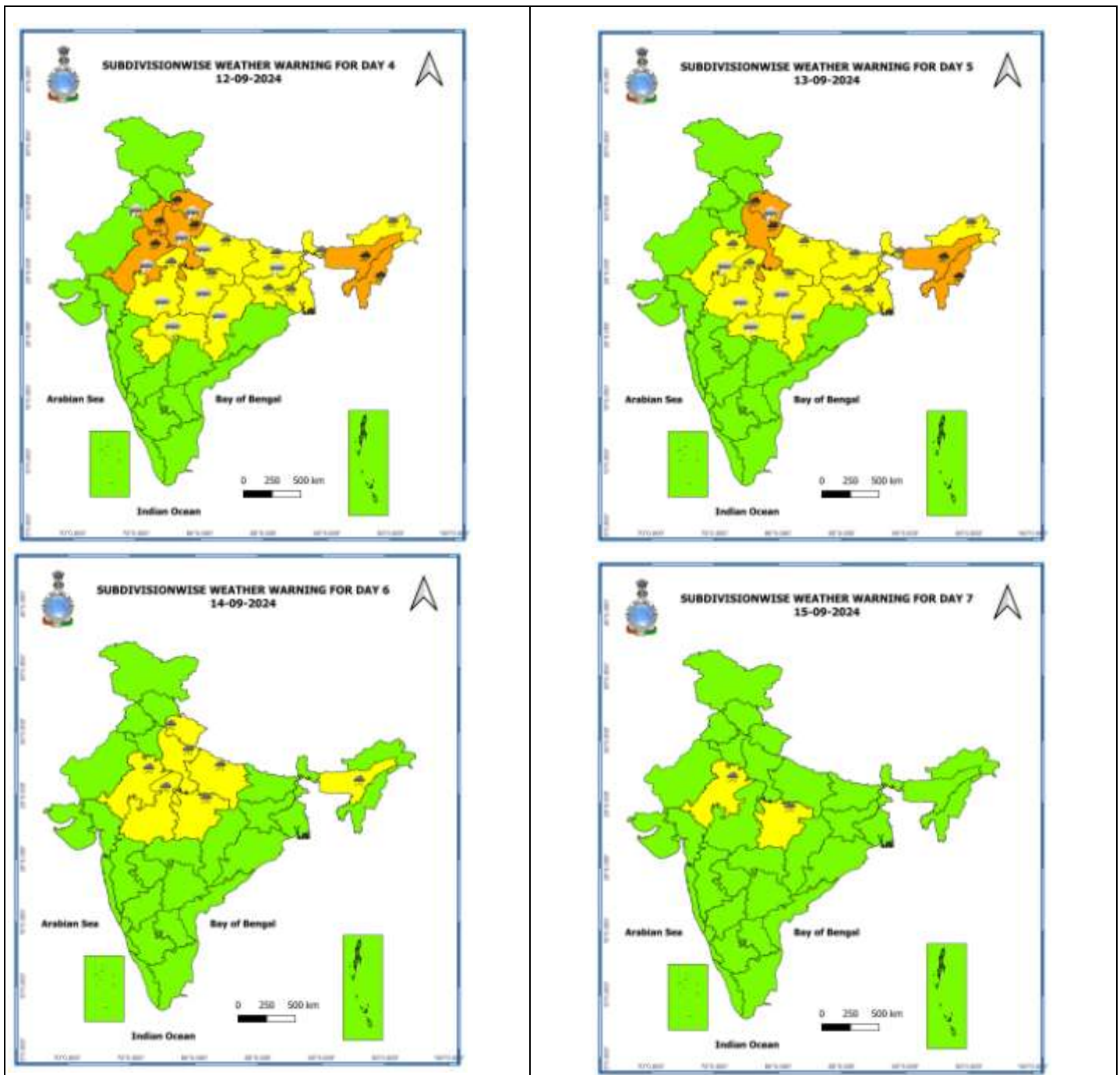
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## Warning Graphics



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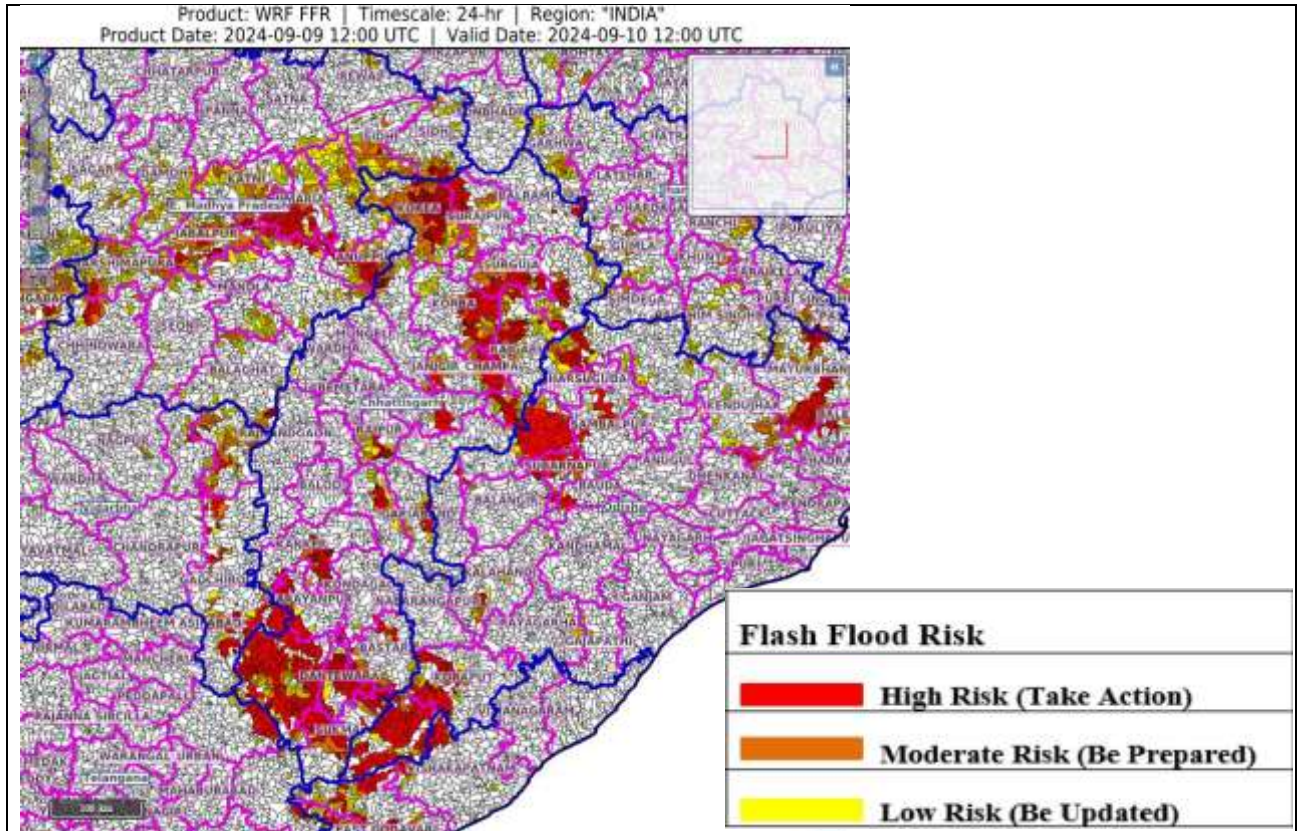


- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

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



### 24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 10-09-2024 :

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**East Madhya Pradesh** -Anuppur, Balaghat, Chhindwara, , Damoh, Dindori, Jabalpur, Katni, Mandla, , Narshimapura, Niwari, Rewa, Sagar, Shahdol, Sidhi, Singrauli, and Umaria districts.

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

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**Significant rainfall recorded from 0830 hrs IST to 1730 hrs IST of today, the 9<sup>th</sup> September, 2024 (cm):**

**Chhattisgarh:** Bhanupratappur & Balod-7 each, Jagdalpur-6;

**Odisha:** Nabrangpur-6, Malkangiri, Koraput & Boudh-4 each, Daringabadi, Bhawanipatna & Sonepur-3 each, Jajpur & Naupada-2 each;

**Vidarbha:** Gondia-5;

**West Madhya Pradesh:** Ratlam-3, Ujjain-2;