



**India Meteorological Department
(Ministry of Earth Sciences)**

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DATED: 17.09.2024

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Sub: Deep Depression over Jharkhand

The deep depression over Jharkhand moved westwards with a speed of 10 kmph during past 6 hours and lay centered at 2330 hours IST of yesterday, the 16th September 2024, over the same region near latitude 23.4° N and longitude 84.6° E, about 70 kms west of Ranchi (Jharkhand), around 90 km southeast of Daltonganj (Jharkhand), 140 km east of Ambikapur (Chhattisgarh) and 210 km southeast of Churk (Uttar Pradesh).

It is likely to continue to move west-northwestwards across Jharkhand and weaken into a depression during next 12 hours. Thereafter, it will continue to move west-northwestwards across North Chhattisgarh and East Madhya Pradesh during subsequent 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.

Forecast track and intensity are given in the following table:

Date/Time (IST)	Position (Lat. °N/ Long. °E)	Maximum Sustained Surface Wind Speed (kmph)	Category Of Cyclonic Disturbance
16.09.24/2330	23.4/84.6	50-60 gusting to 70	Deep Depression
17.09.24/1130	23.7/83.1	45-55 gusting to 65	Depression
17.09.24/2330	24.2/81.6	40-50 gusting to 60	Depression

Warnings:

(i) Rainfall warning

Jharkhand: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places over Jharkhand on 17th September.

Odisha: Light to moderate rainfall at most places is very likely with **heavy rainfall** at isolated places over Northwest Odisha on 17th September.

Bihar: Light to moderate rainfall at most places with **heavy rainfall** at isolated places is very likely over South Bihar on 17th September.

Chhattisgarh: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places over North Chhattisgarh on 17th September.

Madhya Pradesh: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places is likely over Northeast Madhya Pradesh on 17th September and **heavy rainfall** at isolated places on 18th September. Light to moderate rainfall at most places with **heavy rainfall** at isolated places over Northwest Madhya Pradesh during 17th to 18th September.

Uttar Pradesh: Light to moderate rainfall at many places with **heavy to very rainfall** at isolated places over Southeast Uttar Pradesh on 17th September. Light to moderate rainfall at many places with **heavy to very rainfall** at isolated places over West Uttar Pradesh on 17th and **heavy rainfall** at isolated places on 18th September.

(ii) Wind warning:

Squally wind speed reaching 40-50 kmph gusting to 60 kmph over Jharkhand and adjoining Southeast Uttar Pradesh & North Chhattisgarh till 17th September evening and decrease thereafter.

Impact Expected (Jharkhand, North Chhattisgarh, North Odisha, South Bihar, Gangetic West Bengal and Northeast Madhya Pradesh due to heavy rainfall and strong winds)

- ✓ 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 and poor visibility due to heavy rain leading to increased travel time and incidents
- ✓ Likely disruption of inland water transportation like small boats and trawlers.
- ✓ Minor damage to kutchra 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)

Action Suggested (Jharkhand, North Chhattisgarh, North Odisha, South Bihar Gangetic West Bengal and Northeast Madhya Pradesh due to heavy rainfall and strong winds)

- ✓ Judicious regulation of surface transports including railways.
- ✓ 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.

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.

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

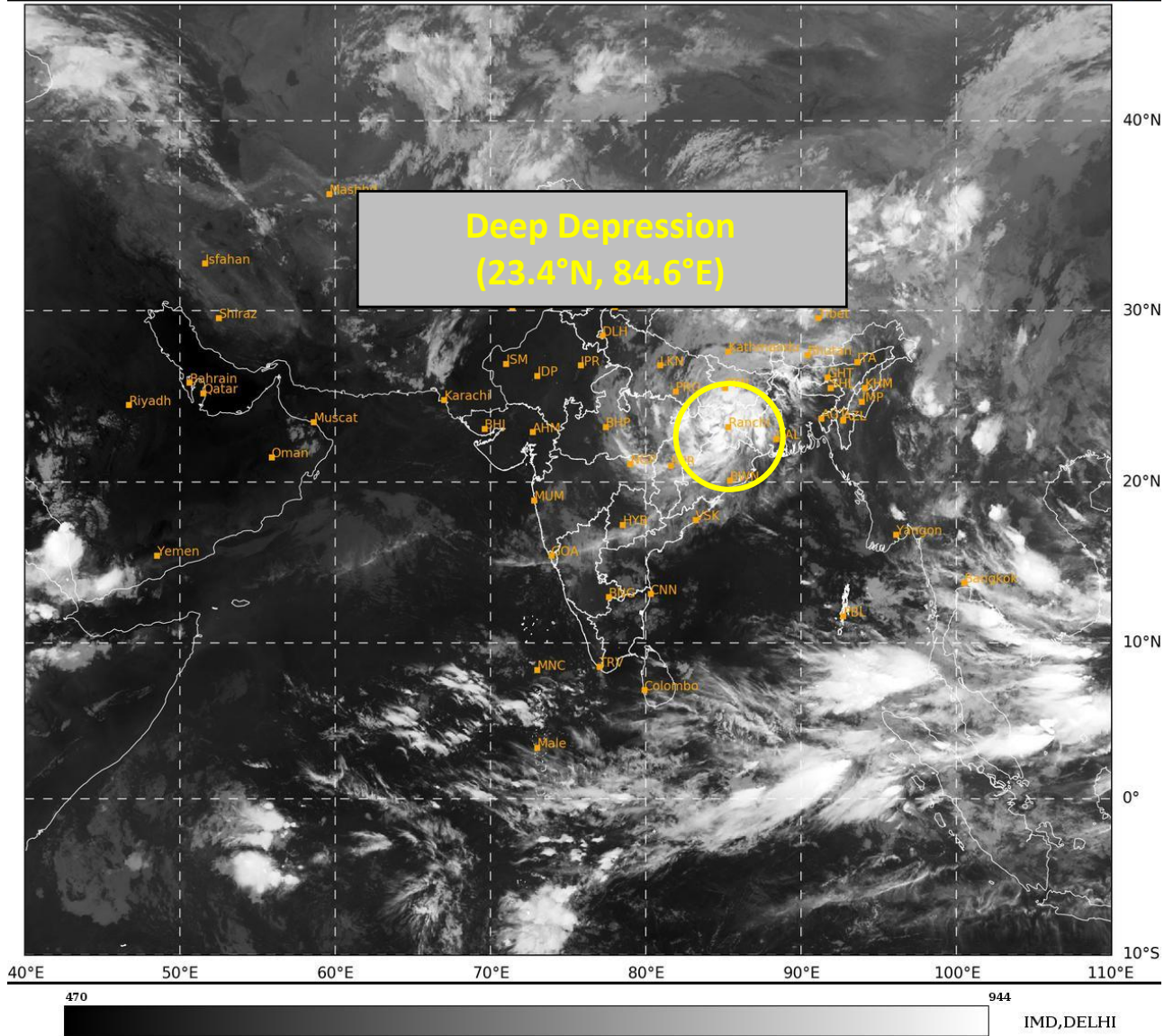
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer places.

24 hours accumulated realised rainfall during 0830 hours IST to 1730 hours IST of yesterday, the 16th September is placed at Annexure-1.

The next bulletin will be issued at 0830 hrs IST of the 17th September, 2024.

(Shibin Balakrishnan)
Scientist-D, RSMC, New Delhi

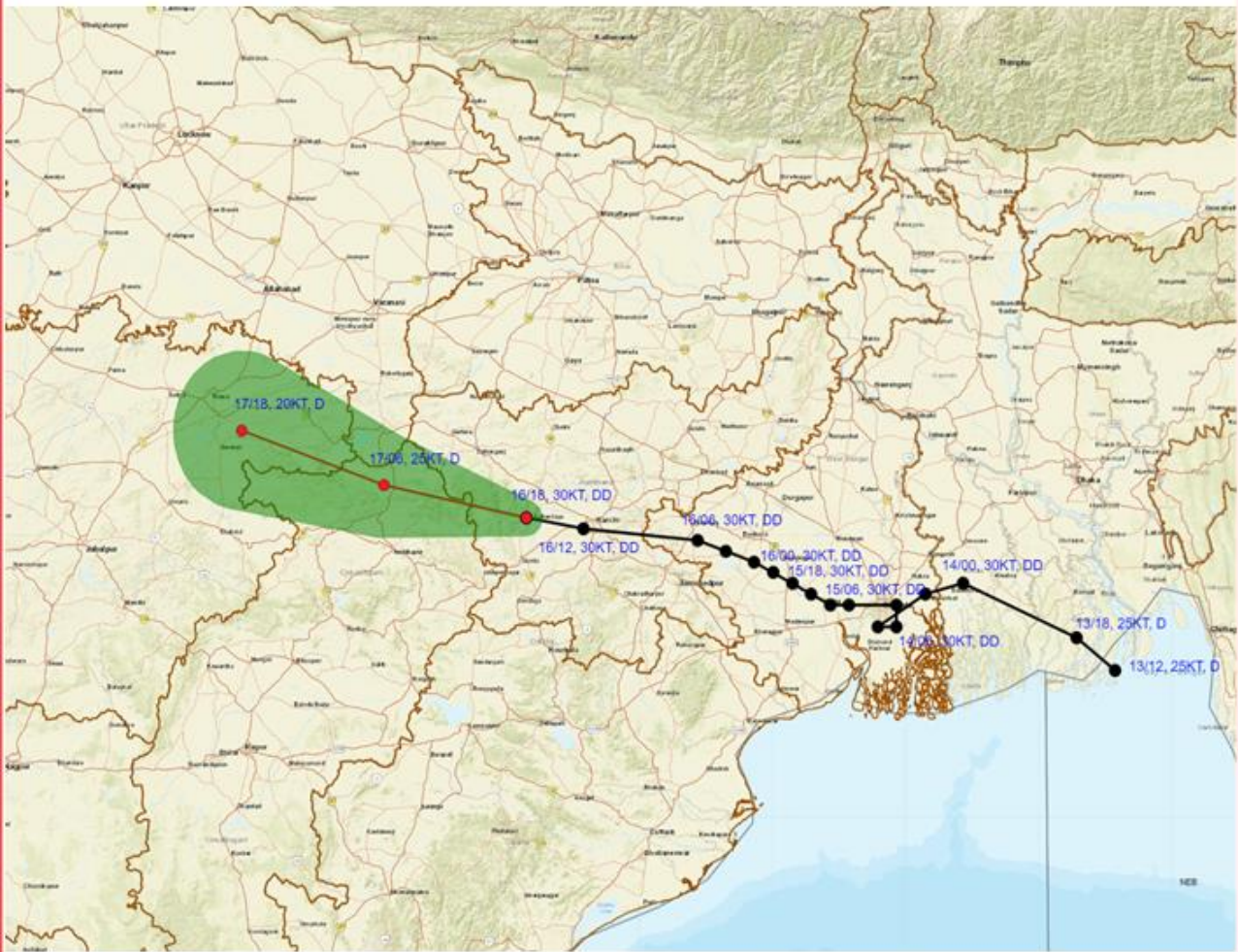
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Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



**OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER JHARKHAND
BASED ON 1800 UTC (2330 IST) OF 16TH 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 (≥ 20 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 ALONG WITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER JHARKHAND BASED ON 1800 UTC (2330 IST) OF 16TH 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
 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 (≥118 KMPH)

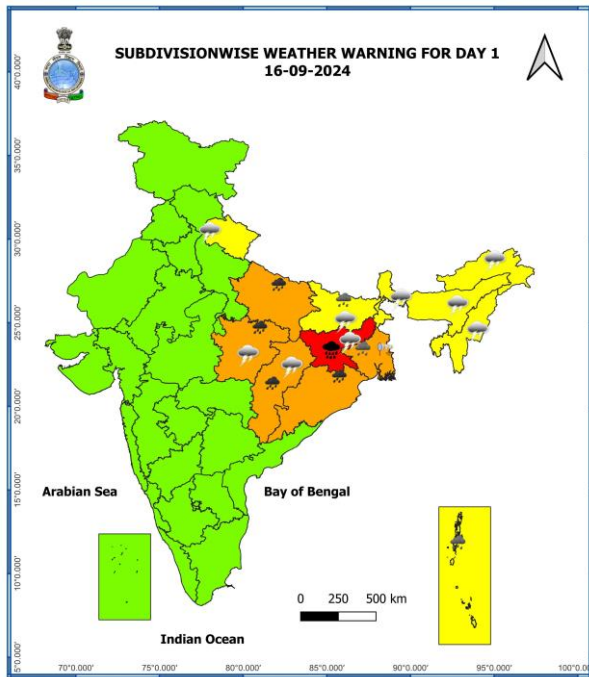
IMPACT OVER THE SEA

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

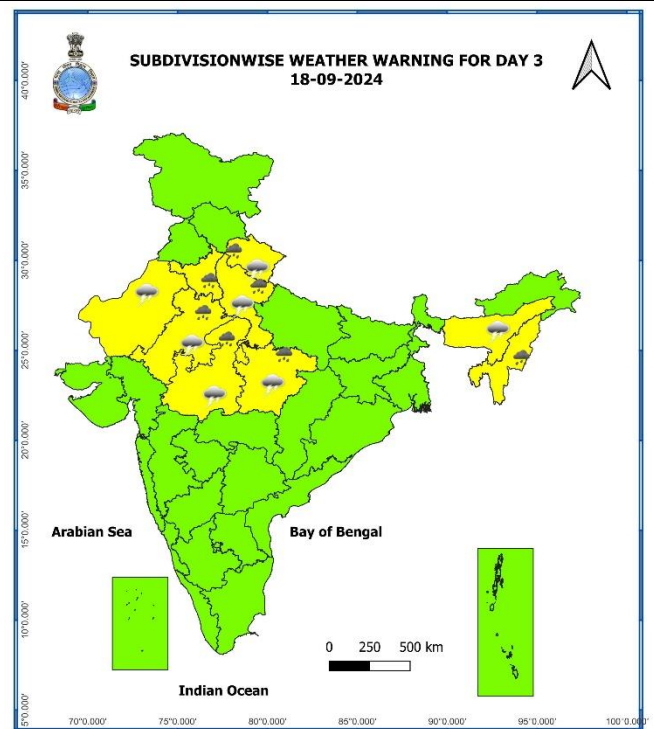
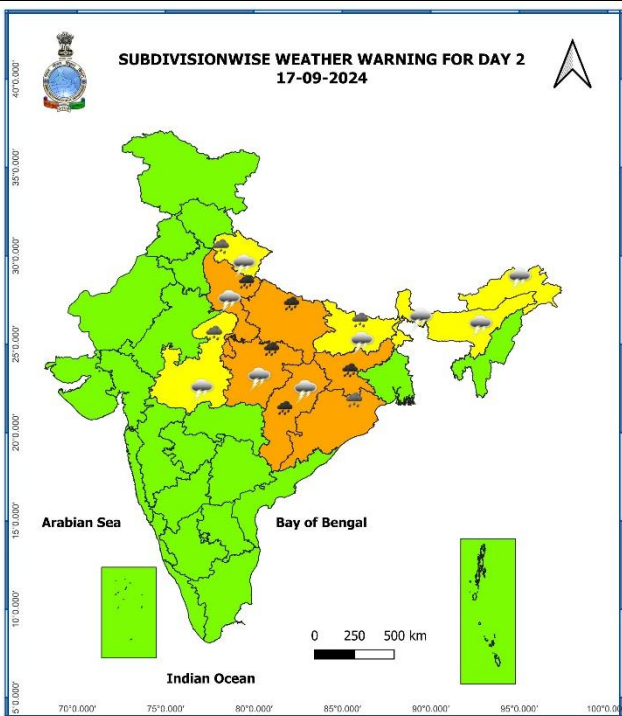
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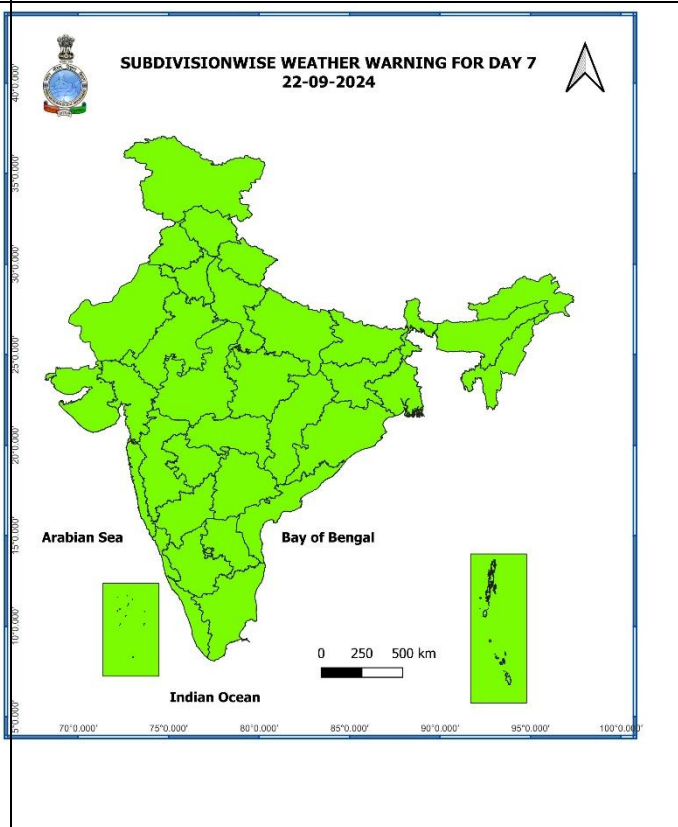
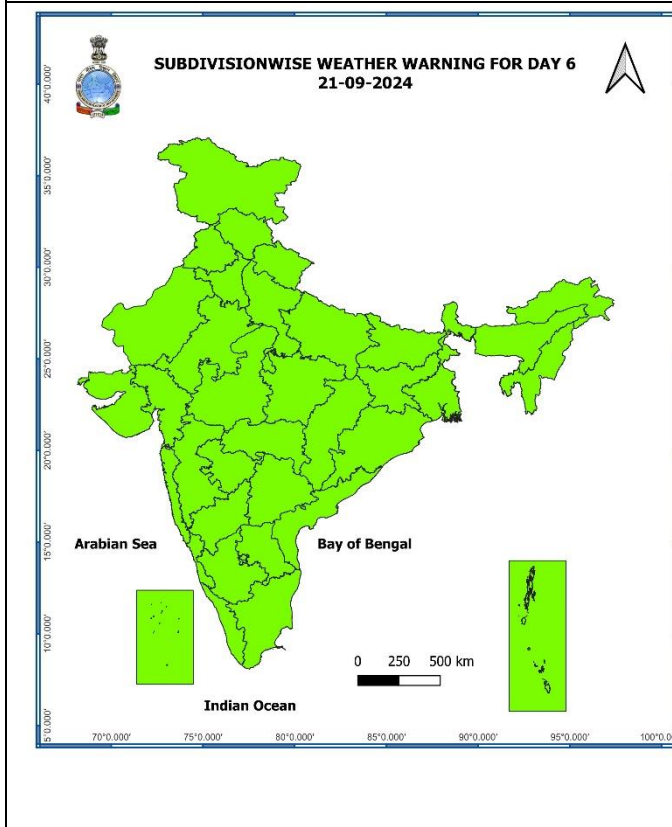
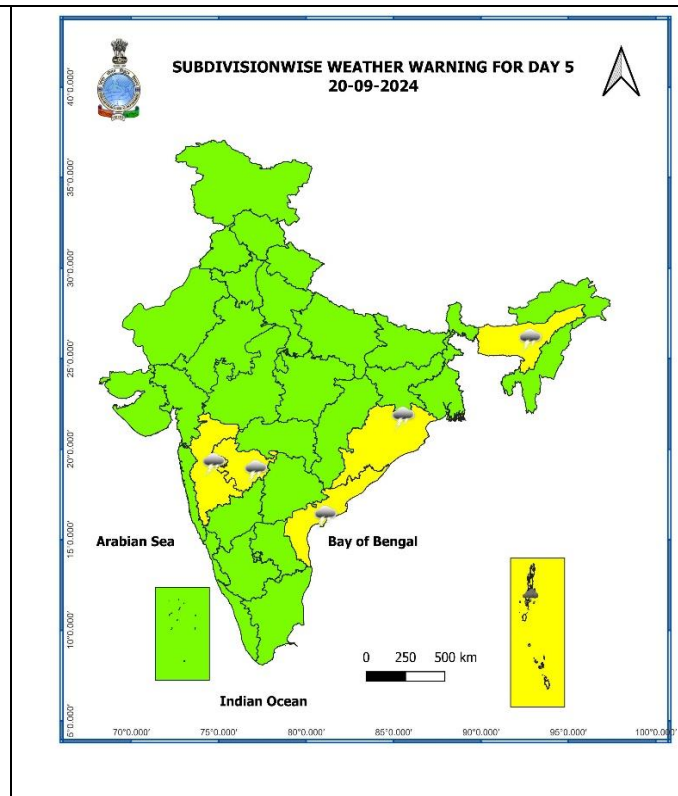
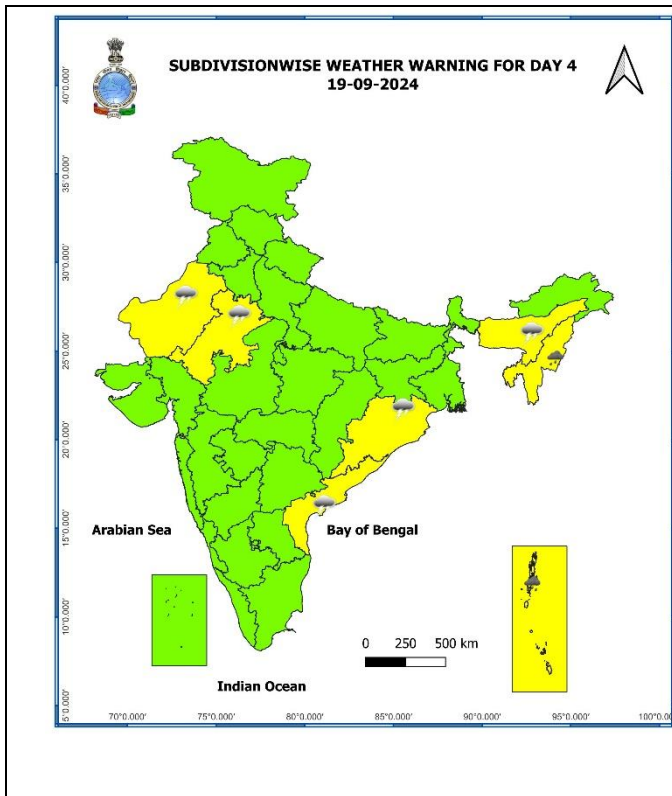
VALID TILL 0830 HRS IST OF 17th SEPTEMBER



- | | | | | | | | |
|--|----------------------|--|------------|--|----------------------|--------------------|-----------------------|
| | Fog | | Heavy Snow | | Cold Day | Subdivision Colour | |
| | Heavy Rain | | Hailstorm | | Ground Frost | | NO WARNING |
| | Very Heavy Rain | | Dust Storm | | Strong Surface Winds | | WATCH (BE UPDATED) |
| | Extremely Heavy Rain | | Heat Wave | | Thunder & Lightning | | ALERT (BE PREPARED) |
| | | | Cold Wave | | Hot and Humid | | WARNING (TAKE ACTION) |



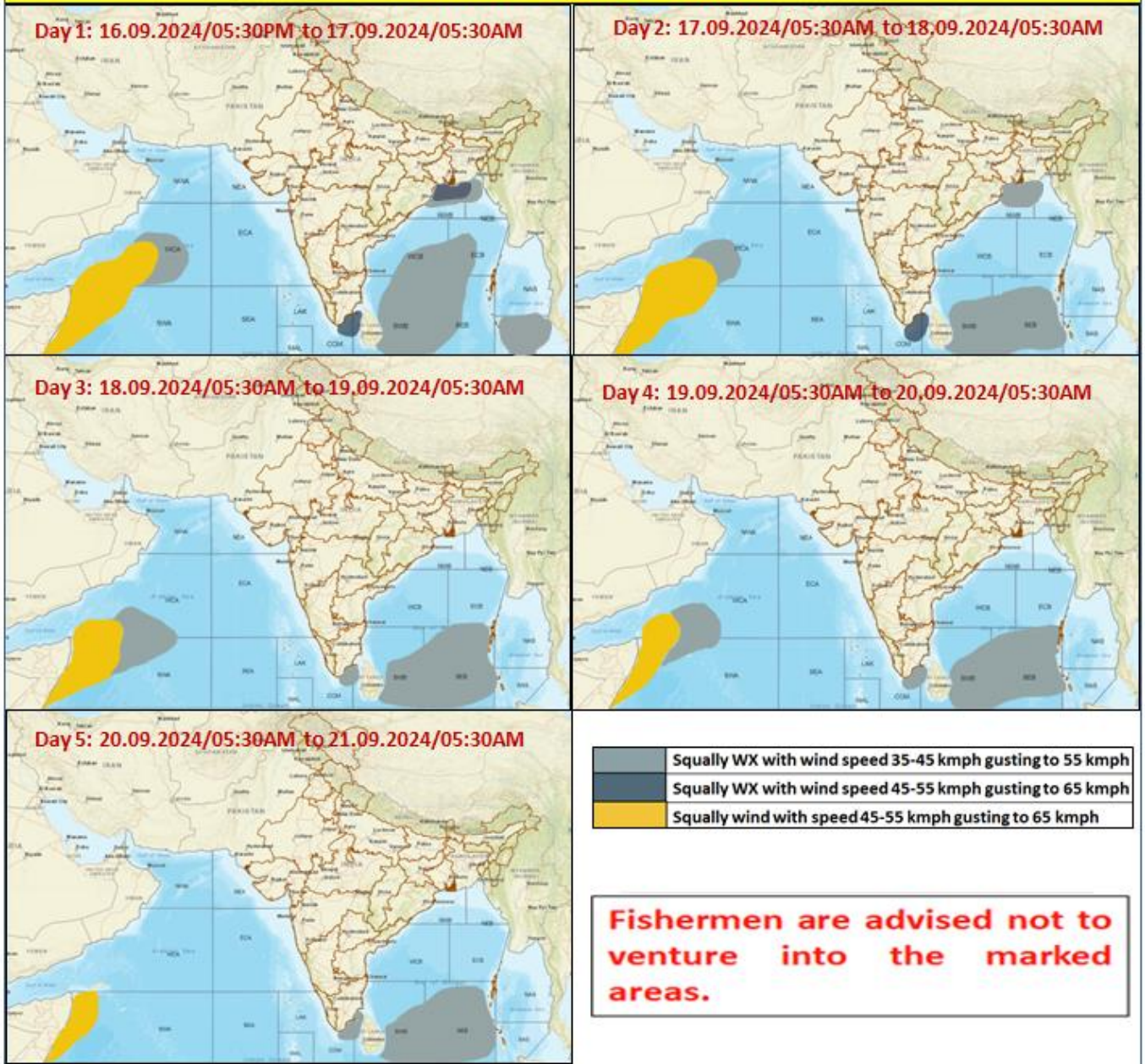
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- Action may be taken based on **ORANGE AND RED COLOUR** warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

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Fishermen Warning Graphics



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Realised rainfall during 0830 to 1730 hours IST of 16th September

Odisha: Bhadrak 5, Jajpur 3;

East Madhya Pradesh: Satna & Rewa 4 each, Umaria & Rewa 2 each;

Gangetic West Bengal: Basirhat 5, Purulia 4, Panagarh & Canning 3 each, Asansol 2;

East Uttar Pradesh: Bahraich 3;

Jharkhand: Jamshedpur, Chaibasa & Ranchi 3 each;