



**India Meteorological Department**

**(Ministry of Earth Sciences)**

**NATIONALBULLETIN NO.: 03 (BOB/05/2024)**

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**DATED: 14.09.2024**

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**Sub: Deep Depression over Bangladesh and adjoining Gangetic West Bengal.**

The depression over Bangladesh coast moved west-northwestwards with a speed of 23 kmph during past 6 hours, intensified into a deep depression and lay centred at 0530 hrs IST of today, the 14th September 2024, over Bangladesh and adjoining Gangetic West Bengal near latitude 22.9° N and longitude 89.2° E, 90km northeast of Canning (West Bengal) and 100 km east-northeast of Kolkata (West Bengal).

It is likely to continue to move west-northwestwards and maintain its intensity of deep depression till evening of today. Thereafter, it will move across Gangetic West Bengal & Jharkhand as depression during subsequent 48 hours. The deep depression is under continuous surveillance by the Doppler Weather Radar at Kolkata.

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>
14.09.24/0530	22.9/89.2	50-60 gusting to 70	Deep Depression
14.09.24/1130	23.1/88.0	50-60 gusting to 70	Deep Depression
14.09.24/1730	23.2/86.9	50-60 gusting to 70	Deep Depression
14.09.24/2330	23.3/85.8	45-55 gusting to 65	Depression
15.09.24/0530	23.4/84.7	45-55 gusting to 65	Depression
15.09.24/1730	23.6/82.6	40-50 gusting to 60	Depression
16.09.24/0530	23.8/80.6	40-50 gusting to 60	Depression
16.09.24/1730	24.0/78.6	35-45 gusting to 55	Depression

**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**

**Gangetic West Bengal (including Kolkata):** Light to moderate rainfall at most places is very likely with **heavy to very heavy rainfall** at few places and **extremely heavy rainfall** at isolated places on 14<sup>th</sup>; **heavy to very heavy rainfall** at isolated places on 15<sup>th</sup> September.

**Sub-Himalayan West Bengal:** Light to moderate rainfall at most places is very likely with **heavy rainfall** at isolated places on 14<sup>th</sup> & 15<sup>th</sup> September.

**Odisha:** 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 14<sup>th</sup> and **heavy to very heavy rainfall** at isolated places on 15<sup>th</sup> September.

**Jharkhand:** Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places on 14<sup>th</sup> & 15<sup>th</sup> September.

**Bihar:** Light to moderate rainfall at most places with **heavy rainfall** at isolated places very likely on 14<sup>th</sup> & 15<sup>th</sup> September.

**Chhattisgarh:** Light to moderate rainfall at most places with isolated **heavy rainfall** on 14<sup>th</sup> & 15<sup>th</sup> September and **heavy to very rainfall** at isolated places on 16<sup>th</sup> September.

**Mizoram & Tripura:** Light to moderate rainfall at most places is very likely with isolated **heavy rainfall** on 14<sup>th</sup> September.

**Assam & Meghalaya:** Light to moderate rainfall at many places is very likely with isolated **heavy rainfall** on 14<sup>th</sup> & 15<sup>th</sup> September.

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

#### **24 hours Outlook for the Flash Flood Risk (FFR) till 1730 IST of 14-09-2024:**

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

**Gangetic West Bengal** - Bankura, Bardhaman, Birbhum, East and West Mednipur, Howrah, Hoogly, Kolkata, Murshidabad, Nadia, and North & South 24 Parganas districts.

**Odisha** - Baleswar, Mayurbhanj and Sundargarh districts.

**Jharkhand** - Deoghar, Dumka, East Singhbhum, Godda, Pakur and Sahebganj districts.

**Mizoram and Tripura** - Chandel, Ukhrul, Lawngtlai, Lunglei, Saiha, Serchhip and South Tripura 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.

### **(iii) Wind warning:**

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is prevailing over north Bay of Bengal and along & off Bangladesh, West Bengal, and north Odisha coasts. It is likely to continue so till evening of today, the 14<sup>th</sup> September. It is likely to decrease, becoming 40-50 kmph gusting to 60 kmph thereafter.

Squally wind speed reaching 45-55 kmph gusting to 50 kmph likely over Gangetic west Bengal (including Kolkata) and adjoining north Odisha & Jharkhand from night of 14<sup>th</sup> till morning of 15<sup>th</sup> September.

Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely over north Chhattisgarh and adjoining east Madhya Pradesh & southeast Uttar Pradesh from evening of 15<sup>th</sup> till evening of 16<sup>th</sup> September.

### **(iv) Sea Condition:**

Rough to very rough sea condition is very likely to prevail over north Bay of Bengal and along & off West Bengal-Odisha coasts till evening of today, the 14<sup>th</sup> September.

Rough sea condition is likely to prevail over north Bay of Bengal and along & off West Bengal-Odisha coasts from night of 14<sup>th</sup> till 16<sup>th</sup> September morning.

### **(iv) Fishermen Warning:**

Fishermen are advised not to venture into north Bay of Bengal and along & off Bangladesh, West Bengal, and Odisha coasts till morning of 16<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.**

**Impact Expected (West Bengal (including Kolkata), Odisha, Bihar, Jharkhand, Chhattisgarh, Mizoram, and Tripura 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 and poor visibility due to heavy rain leading to increased travel time and incidents
- ✓ Likely disruption of marine and inland water transportation like small boats and trawlers.
- ✓ Minor damage to kutch 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 (West Bengal, Odisha, Bihar, Jharkhand, Chhattisgarh, Mizoram, and Tripura due to heavy rainfall)**

- ✓ Fishermen are advised not to venture into north Bay of Bengal from 14th to 16th September morning.
- ✓ Judicious regulation of surface transports including railways and roadways and onshore/offshore activities.
- ✓ 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.

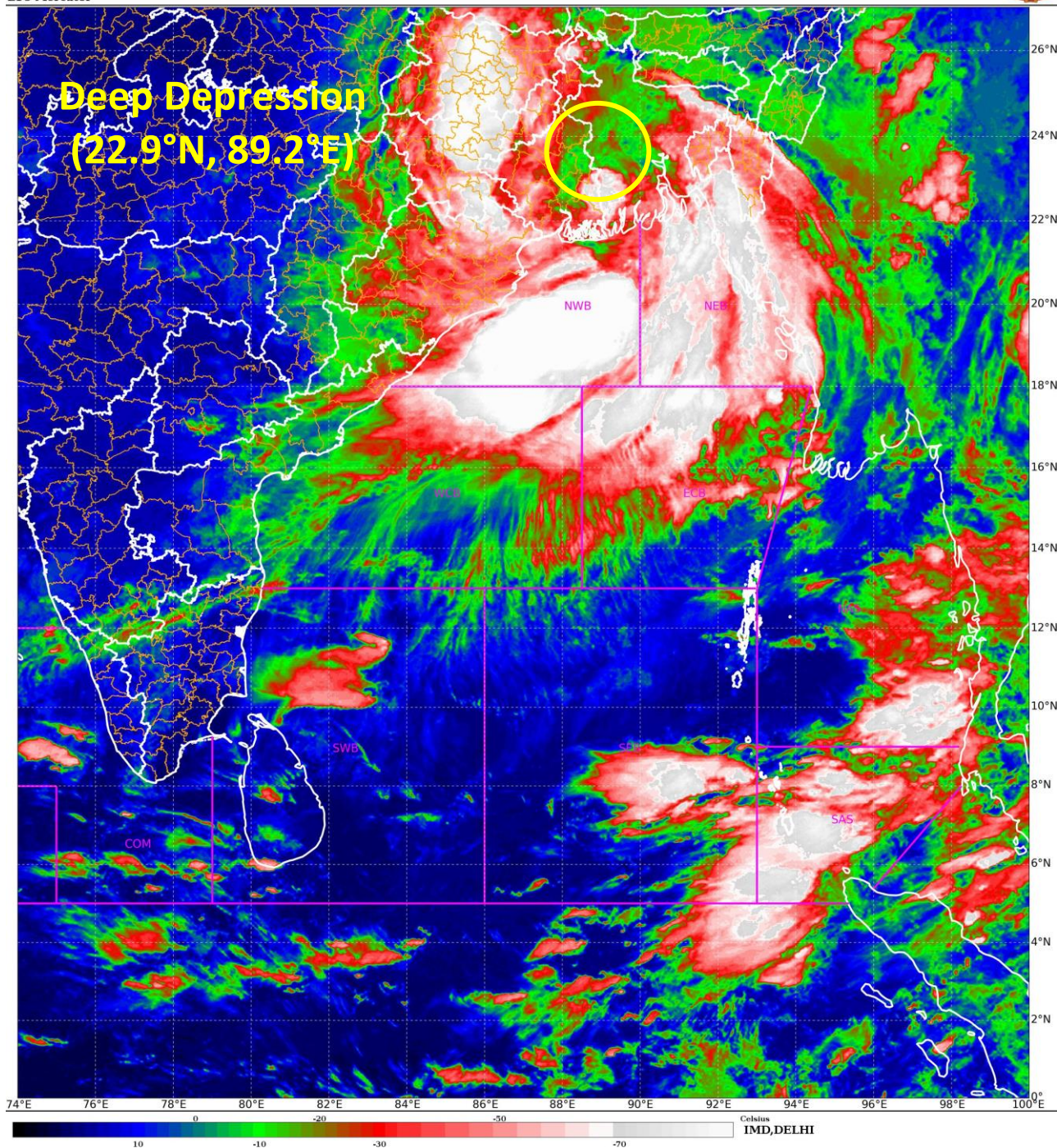
**Agromet advisories for Heavy Rainfall likely over various parts of the country**

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

*The next bulletin will be issued at 1130 hrs IST of today, the 14<sup>th</sup> September, 2024.*

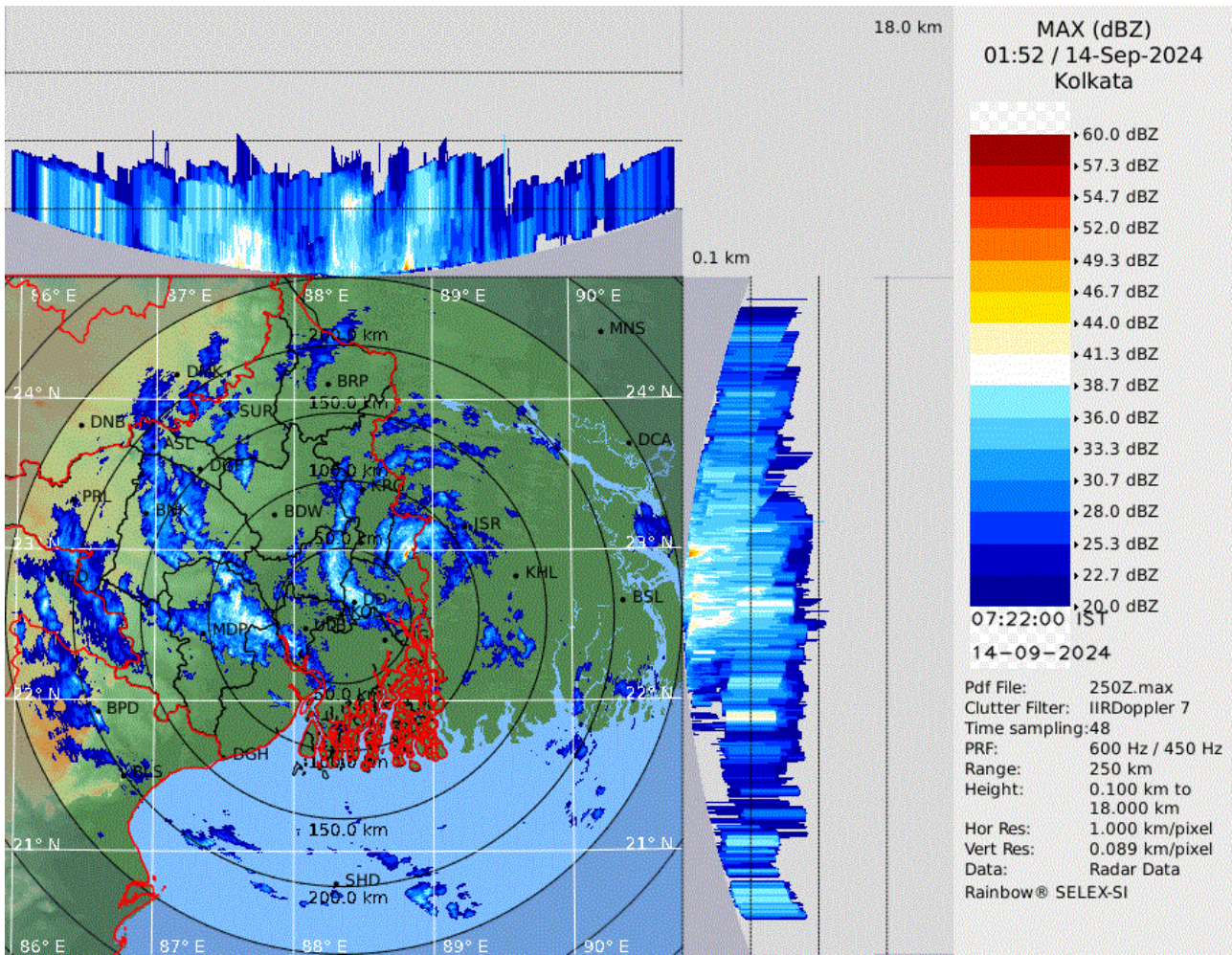
**(Dr Shashi Kant)**  
**Scientist-D, RSMC, New Delhi**

*Copy to: CRS, Pune/RMC Chennai /RMC Kolkata/RMC Guwahati/MC Bhubaneswar/MC Ranchi/MC Patna/MC Raipur/ MC Agartala/ MC Shillong/MC Aizawl*



**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.**

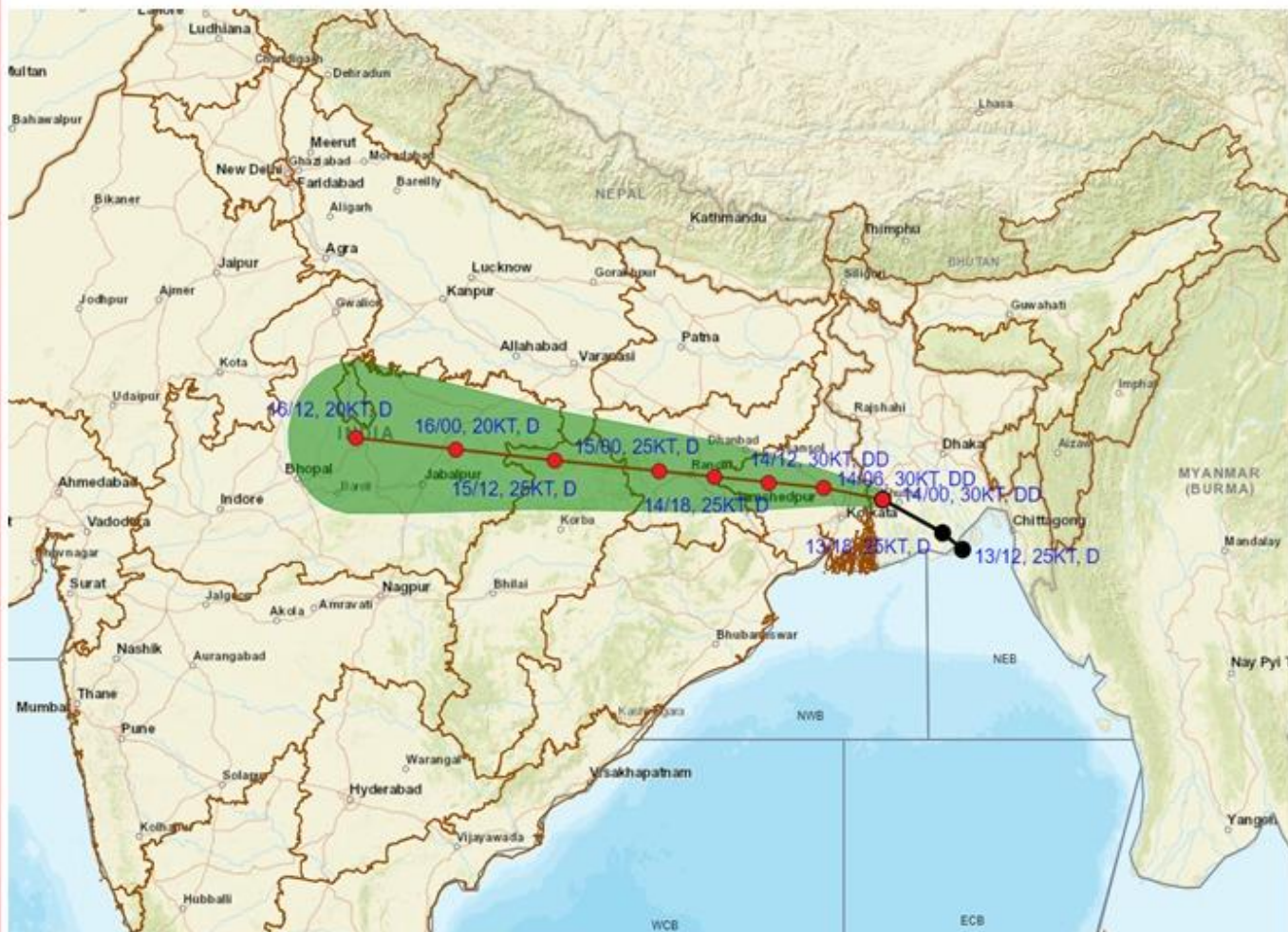
# Kolkata Radar Image



**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 DEEP DEPRESSION OVER BANGLADESH AND ADJOINING WEST BENGAL BASED ON 0000 UTC (0530 IST) OF 14<sup>TH</sup> SEPTEMBER, 2024.**



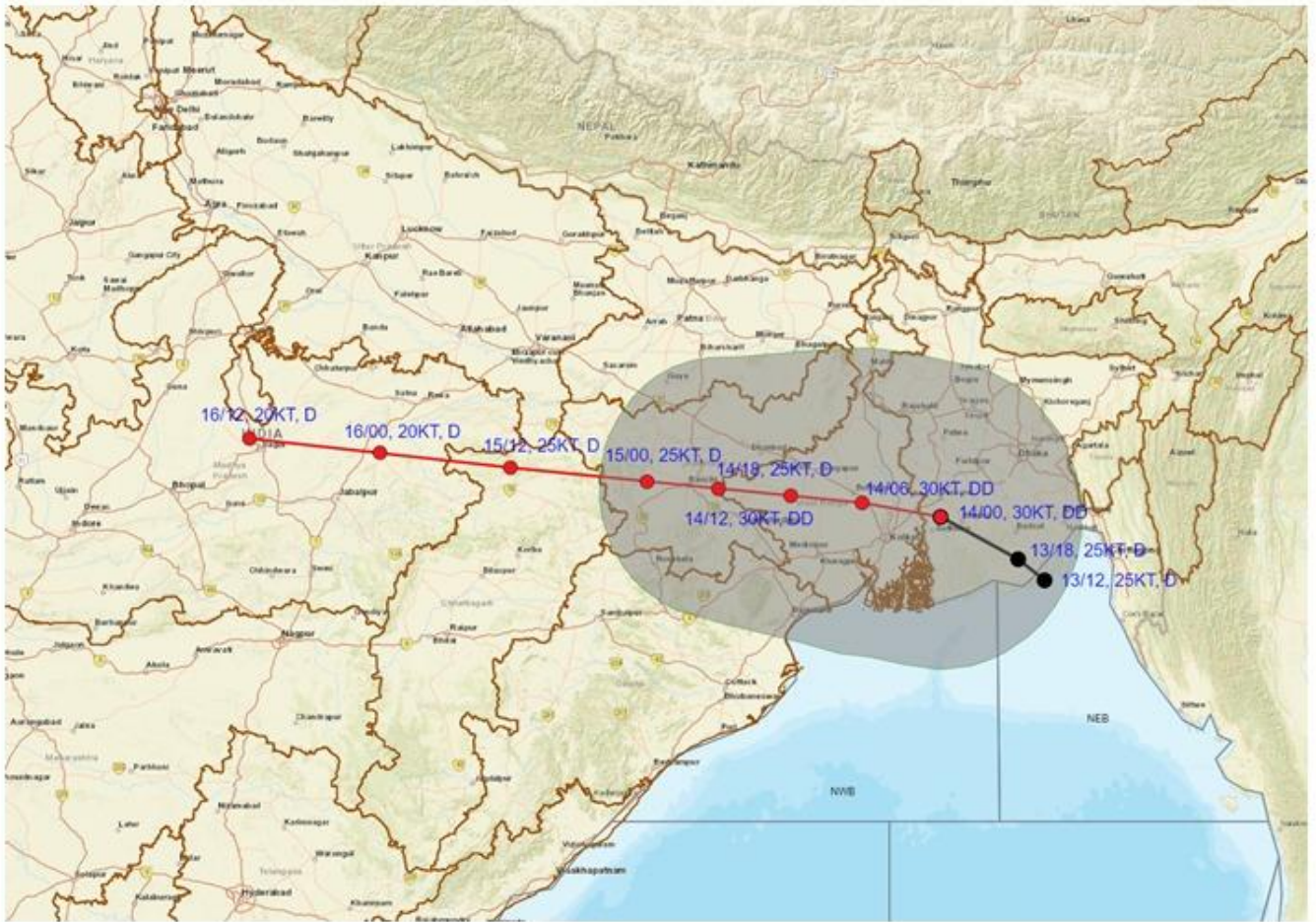
DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCTS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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 ALONG WITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER BANGLADESH AND ADJOINING WEST BENGAL BASED ON 0000 UTC (0530 IST) OF 14<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
- 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)

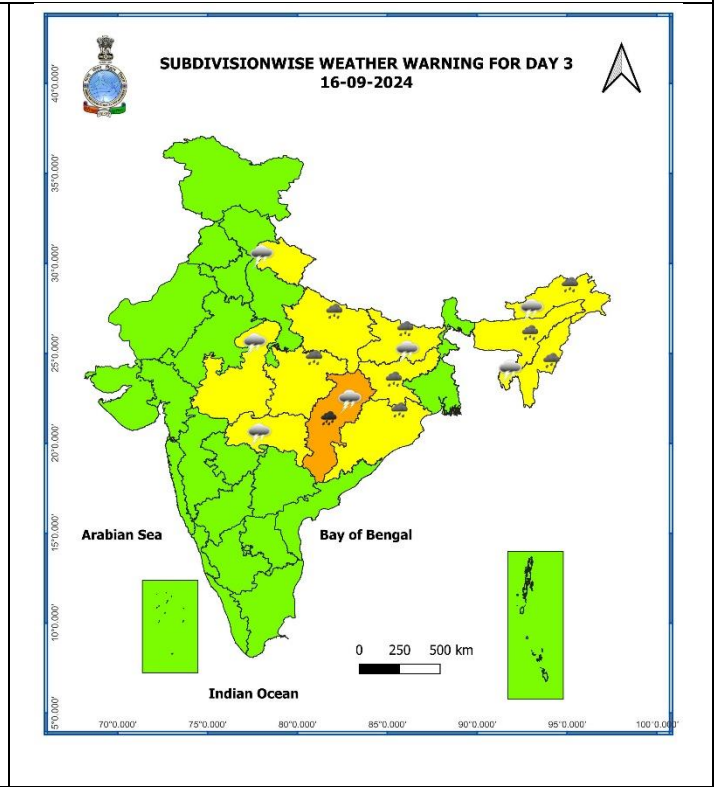
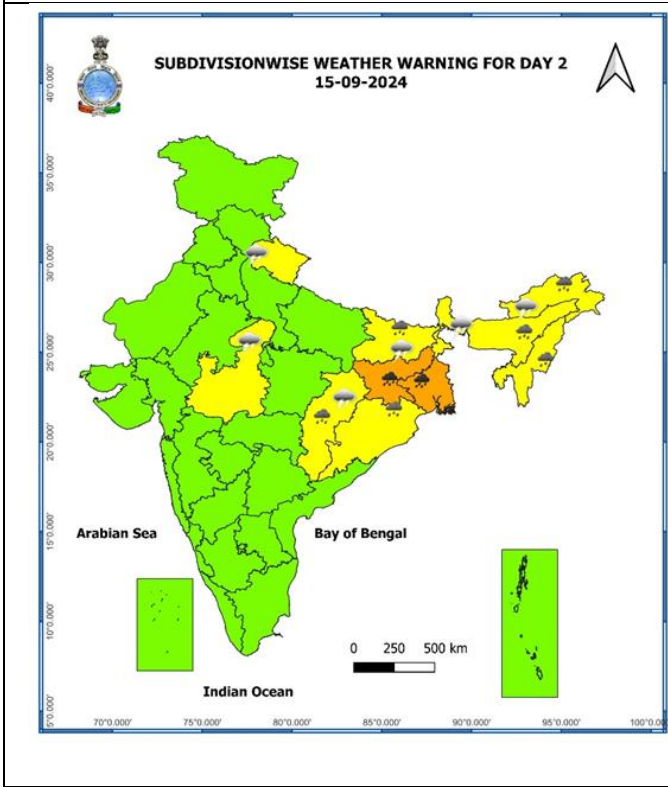
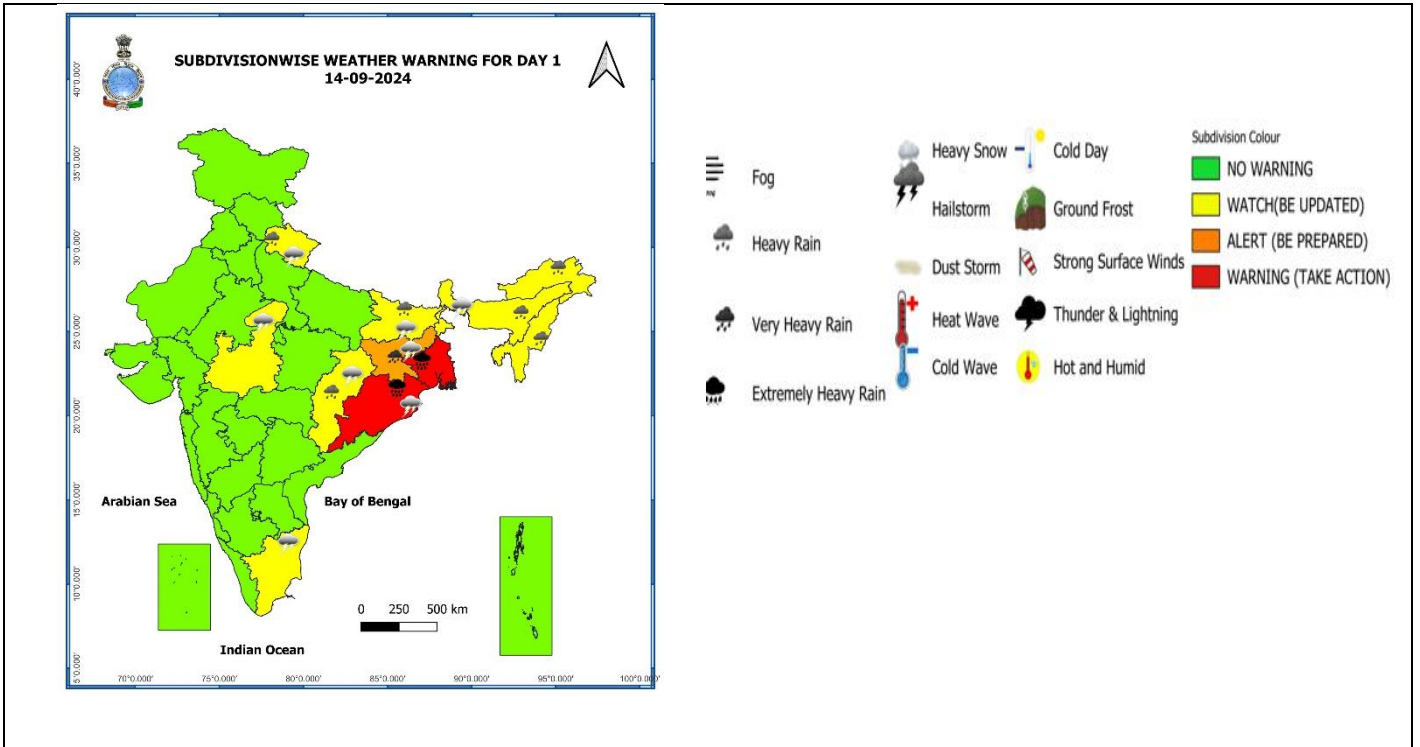
**IMPACT OVER THE SEA**

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

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

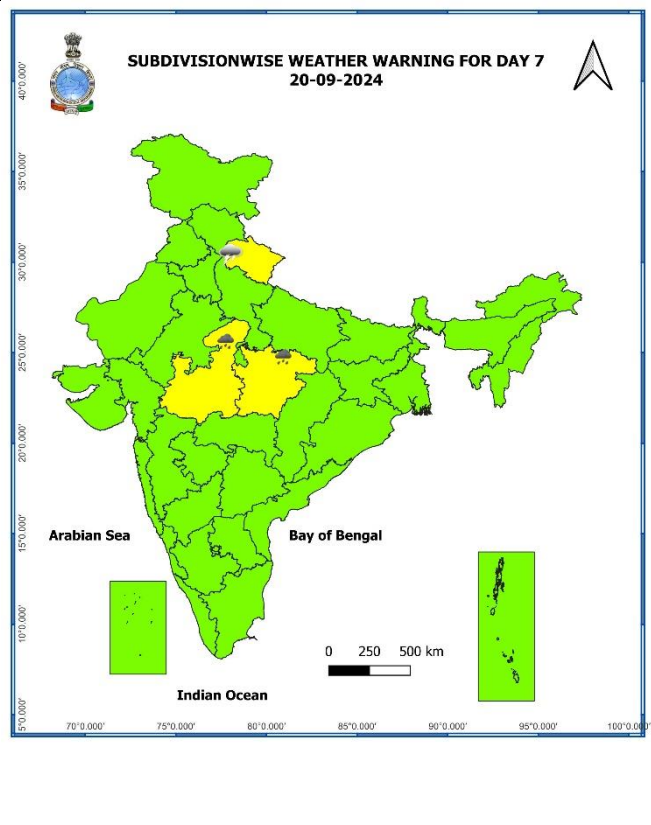
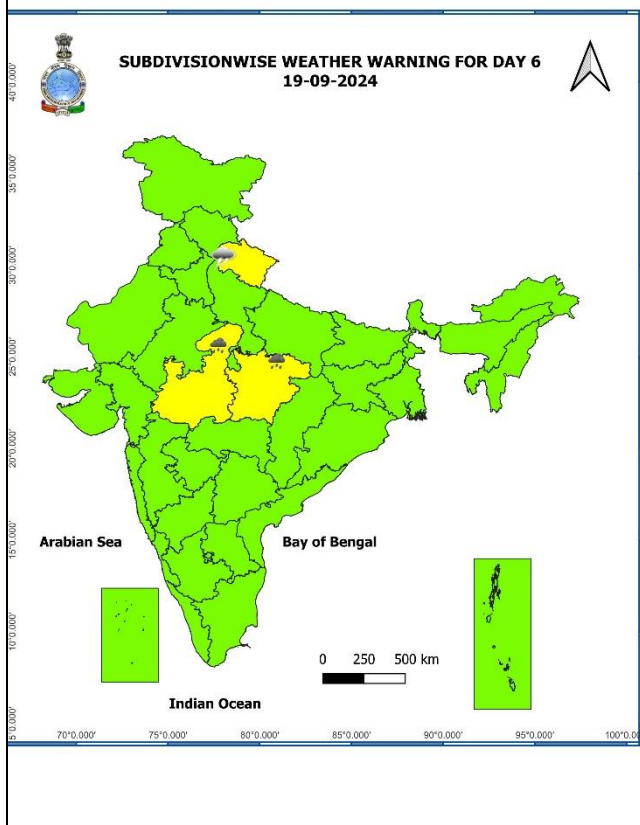
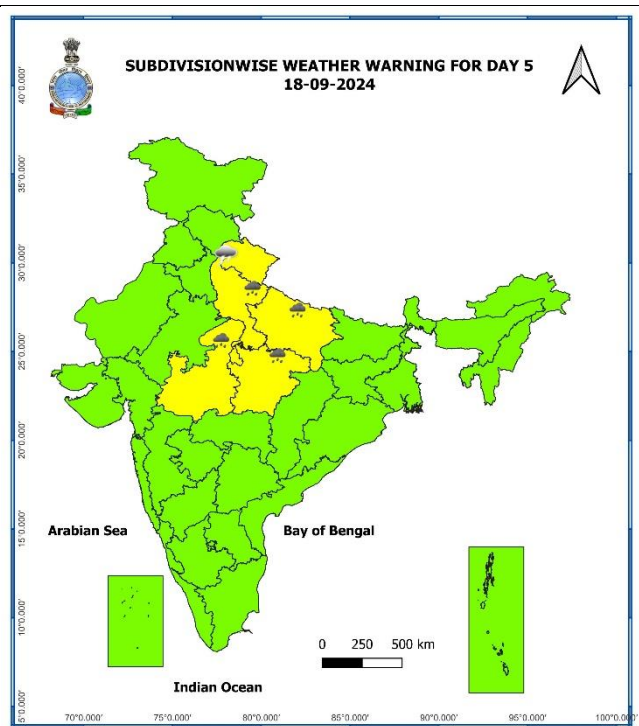
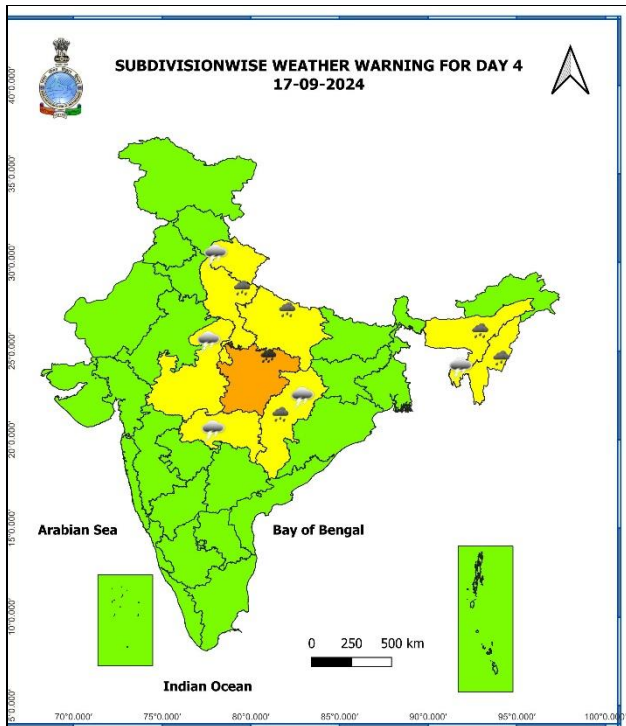
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

# 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

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## Flash Flood Guidance

### 24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 15-09-2024 :

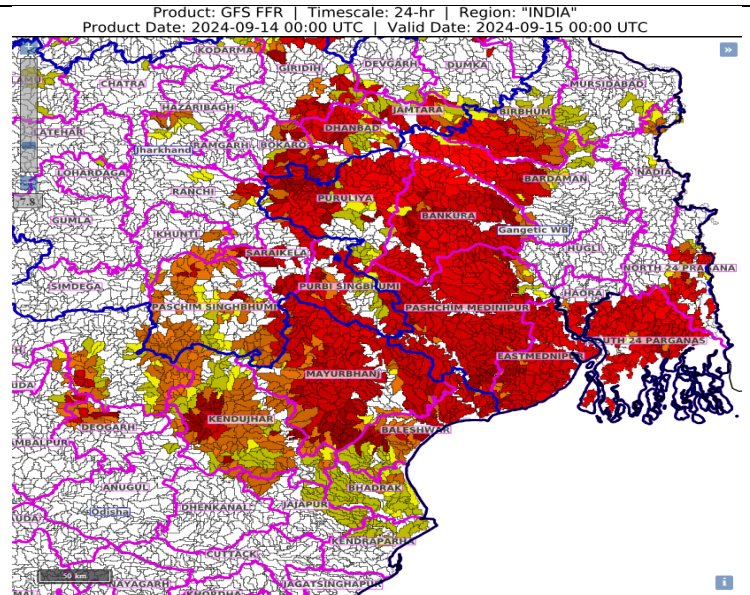
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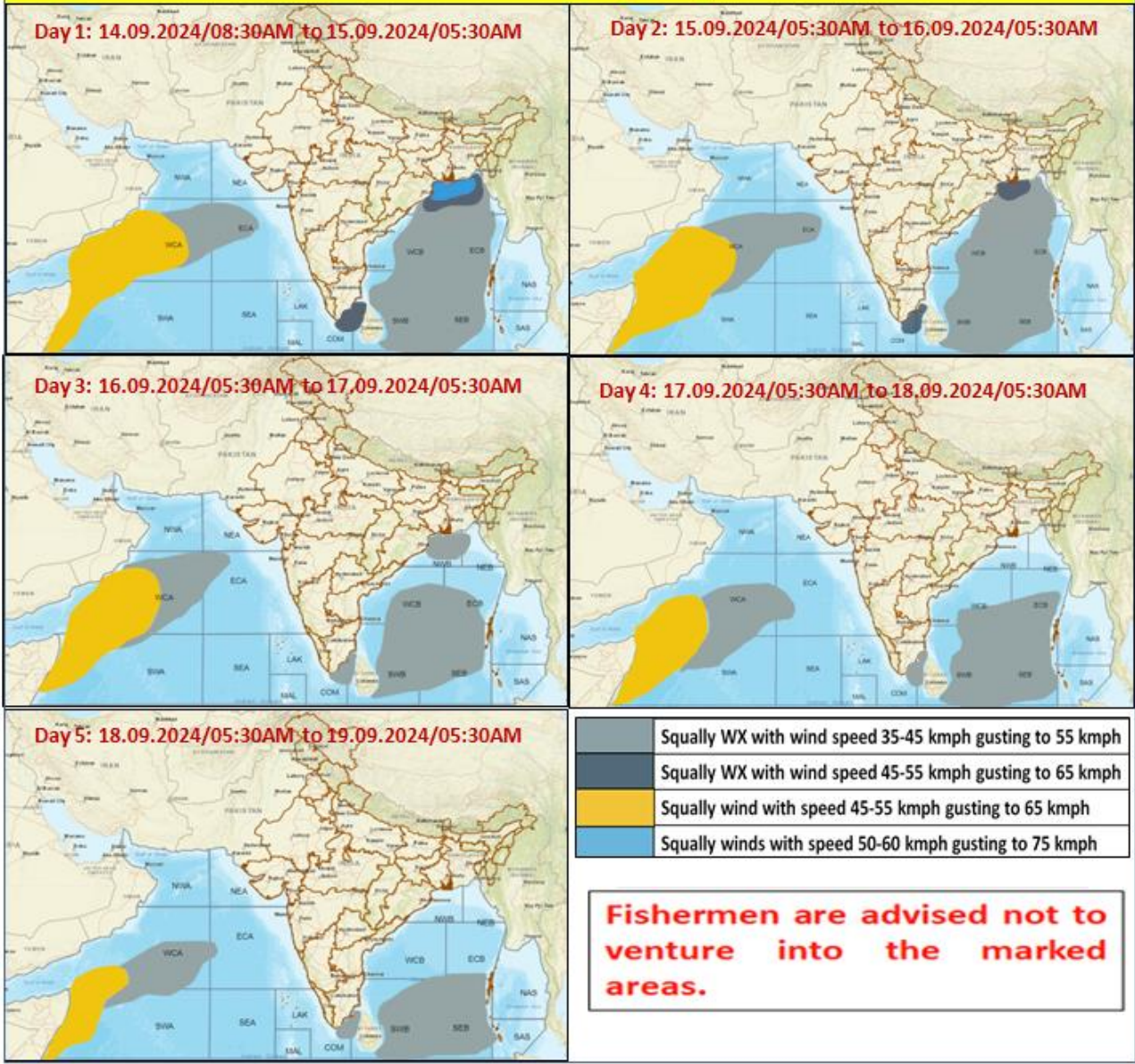
**Gangetic West Bengal** - Bankura, Bardaman, Birbhum, Eastmednipur, Haora, Kolkata, North 24 Praganas, Pashchim Medinipur, Puruliya and South 24 Parganas districts.

**Jharkhand** - Bokaro, Dhanbad, East Singhbhum, Giridih, Hazaribagh, Jamtara, Khunti, Koderma, Ranchi, Saraikela and West Singhbhum 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.



## Fishermen Warning Graphics



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