



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

NATIONALBULLETIN NO.: 06 (BOB/05/2024)

TIME OF ISSUE: 2030 HOURS IST

DATED: 14.09.2024

**FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)
TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)
CONTROL ROOM NDMA (FAX.NO. 26701729)
CABINET SECRETARIAT (FAX.NO.23012284, 23018638)
PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)
SECRETARY, MOES (FAX NO. 24629777)
H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)
DIRECTOR GENERAL, DOORDARSHAN (23385843)
DIRECTOR GENERAL, AIR (23421105, 23421219)
PIB MOES (FAX NO. 23389042)
UNI (FAX NO. 23355841)
D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)
DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
CHIEF SECRETARY, JHARKHAND (FAX NO. 0651-2400255)
CHIEF SECRETARY, BIHAR (FAX NO. 0612-2217085)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, ODISHA (FAX NO. 0674-2536660)
CHIEF SECRETARY, CHHATTISGARH (FAX NO. 0771-2221206)
CHIEF SECRETARY, TRIPURA (FAX NO. 0381-2414013, 2413200)
CHIEF SECRETARY, MIZORAM (FAX NO. 0389-2322745, 2320588)
CHIEF SECRETARY, ASSAM (FAX NO. 0361-2260900)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364-2225978)**

Sub: Deep Depression over Gangetic West Bengal

The deep depression over Gangetic West Bengal remained practically stationary during past 6 hours and lay centered at 1730 hours IST of today, the 14th September 2024, over the same region near latitude 22.4° N and longitude 88.3° E, about 20 km south-southwest of Kolkata (West Bengal), 170 km southeast of Bankura (West Bengal), 220 km east-southeast of Jamshedpur (Jharkhand) and 320 km east-southeast of Ranchi (Jharkhand).

It is likely to move slowly, nearly westwards across Gangetic West Bengal and maintain its intensity of deep depression till forenoon of the 15th September. Thereafter, it will continue to move slowly nearly westwards across Jharkhand and North Chhattisgarh and weaken gradually into a depression during subsequent 24 hours.

The deep depression is under continuous surveillance by the Doppler Weather Radar at Kolkata.

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
14.09.24/1730	22.4/88.3	50-60 gusting to 70	Deep Depression
15.09.24/0530	22.4/87.9	50-60 gusting to 70	Deep Depression
15.09.24/1730	22.5/87.2	45-55 gusting to 65	Depression
16.09.24/0530	22.6/86.1	40-50 gusting to 60	Depression
16.09.24/1730	22.7/84.8	35-45 gusting to 55	Depression

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 over Gangetic West Bengal and **extremely heavy rainfall** at isolated places over south Gangetic West Bengal on 14th; **heavy rainfall** at isolated places on 15th September.

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

Odisha: Light to moderate rainfall at most places is very likely with **heavy to very heavy rainfall** at a few places over Odisha and **extremely heavy rainfall** at isolated places over north Odisha on 14th and **heavy to very heavy rainfall** at isolated places on 15th and **heavy rainfall** at isolated places over Odisha 16th September.

Jharkhand: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places and **extremely heavy rainfall** over south Jharkhand on 14th & 15th and **heavy rainfall** at isolated places over Odisha 16th September.

Bihar: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places very likely on 14th & 15th and **heavy rainfall** at isolated places over Odisha 16th September.

Chhattisgarh: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places on 14th & 15th and **heavy rainfall** at isolated places on 16th September.

East Madhya Pradesh: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places on 16th and 17th September.

East Uttar Pradesh: Light to moderate rainfall at most places with **heavy rainfall** at isolated places on 16th & 17th September.

West Madhya Pradesh: Light to moderate rainfall at most places with **heavy rainfall** at isolated places on 17th & 18th September.

Mizoram & Tripura: Light to moderate rainfall at most places is very likely with isolated **heavy rainfall** during 14th -16th September.

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

(ii) Flash Flood Guidance: (Graphics Attached)

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

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

Odisha - Baleswar, Bhadrak, Deogarh, Jajapur, Kendujhar, Mayurbhanj and Sundargarh districts.

Gangetic West Bengal - Bankura, Bardaman, Birbhum, East & West Mednipur, Howrah, Kolkata, North & South 24 Parganas, and Purulia districts.

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

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.

(iii) Wind warning:

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to over north Bay of Bengal and along & off Bangladesh, West Bengal, and north Odisha coasts till forenoon of 15th September. It is likely to become 40-50 kmph gusting to 60 kmph till morning of 16th September and decrease thereafter.

Squally wind speed reaching 45-55 kmph gusting to 65 kmph likely over Gangetic west Bengal (including Kolkata) and adjoining north Odisha & Jharkhand from night of 14th till morning of 15th 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 forenoon of 15th September.

Subsequently, Rough sea condition is likely to prevail over north Bay of Bengal and along & off West Bengal-Odisha coasts till morning of 16th September and improve thereafter.

(iv) Fishermen Warning:

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

Impact Expected (West Bengal (including Kolkata), Odisha, Bihar, Jharkhand, Chhattisgarh, Bihar, and Chhattisgarh 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 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)

Action Suggested (West Bengal (including Kolkata), Odisha, Bihar, Jharkhand, Chhattisgarh, Bihar, Chhattisgarh)

- ✓ Fishermen are advised not to venture into north Bay of Bengal till 16th September.
- ✓ 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.

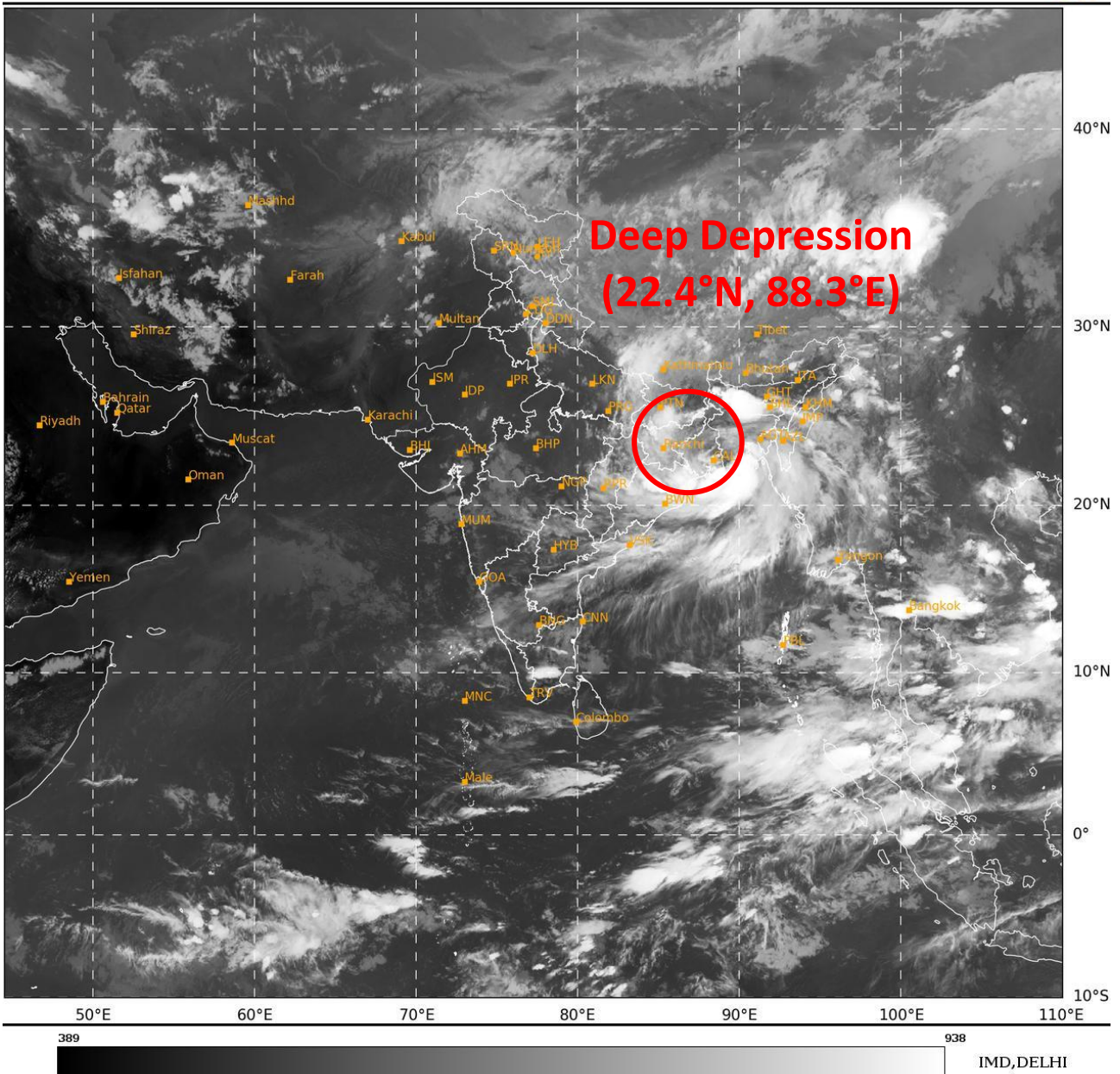
Significant amount of rainfall (from 0830 hours IST to 1730 hours IST of today) (in cm) in Annexure-I.

The next bulletin will be issued at 0230 hrs IST of tomorrow, the 15th September, 2024.

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

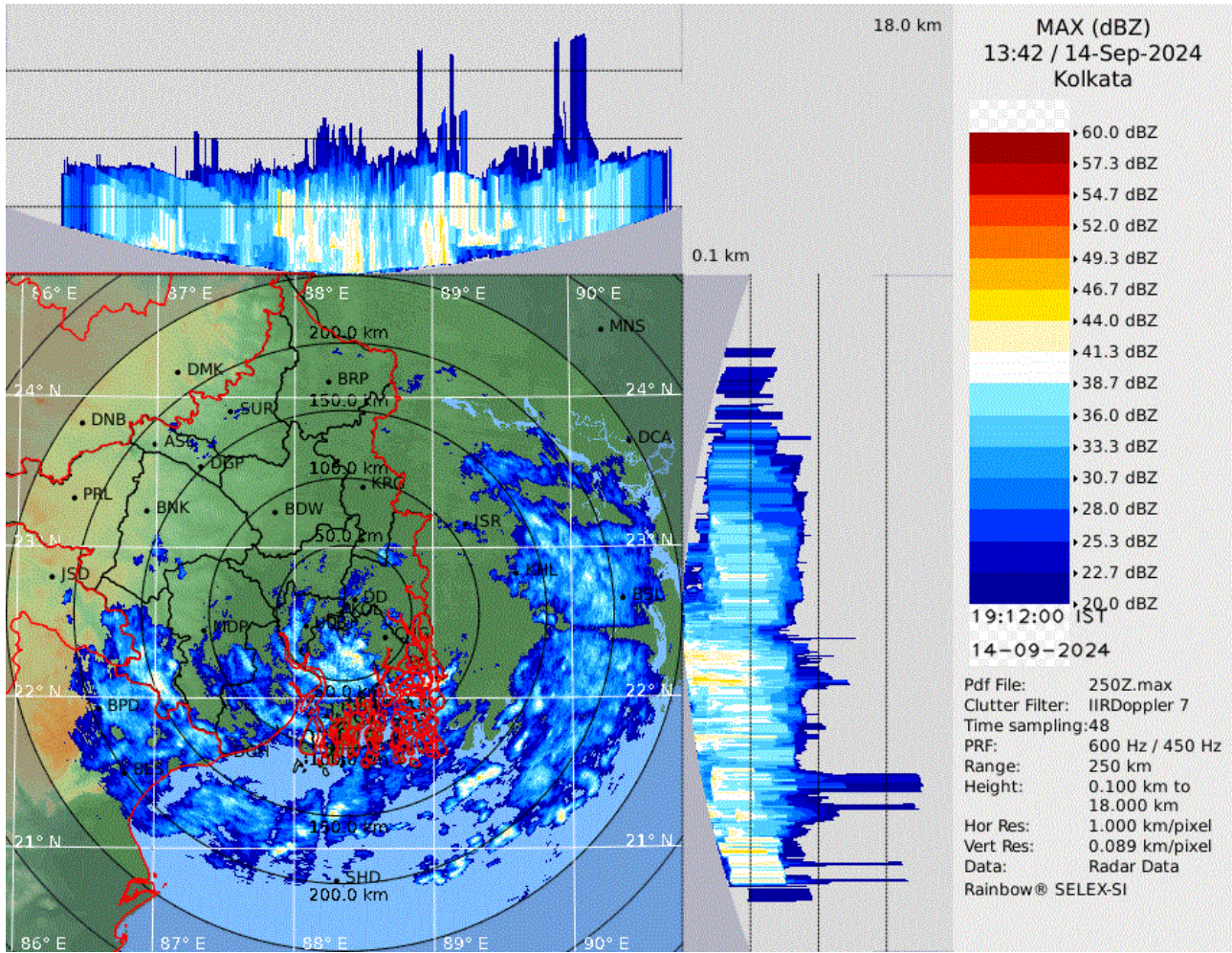
Copy to: CRS, Pune/RMC Chennai /RMC Kolkata/RMC Guwahati/MC Bhubaneswar/MC Ranchi/MC Patna/MC Raipur/ MC Agartala/ MC Shillong/MC Aizawl/Mc, Bhopal/MC Lucknow

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.



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.

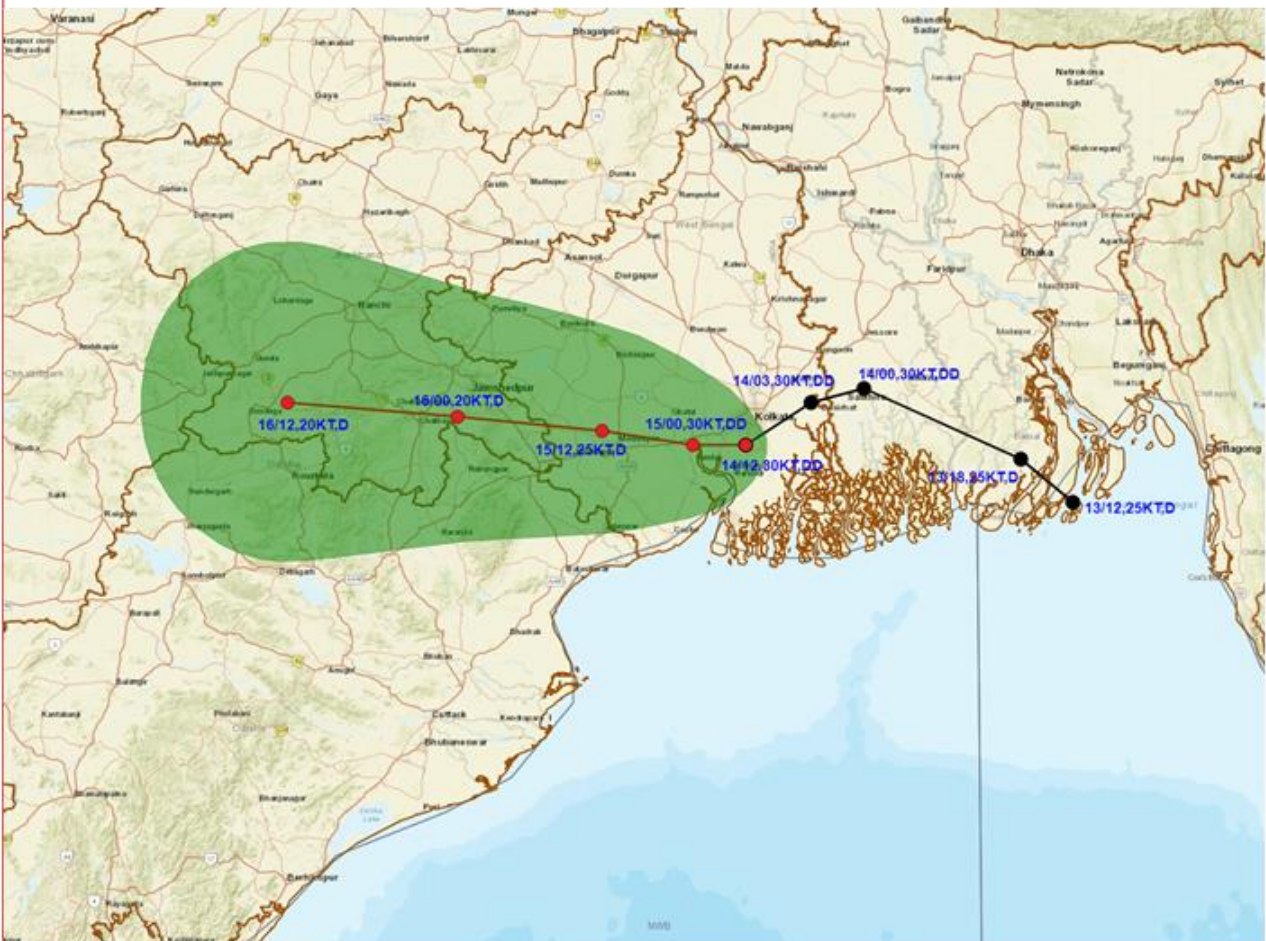
Kolkata Radar Image



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 GANGETIC WEST BENGAL BASED ON 1200 UTC (1730 IST) OF 14TH SEPTEMBER, 2024.



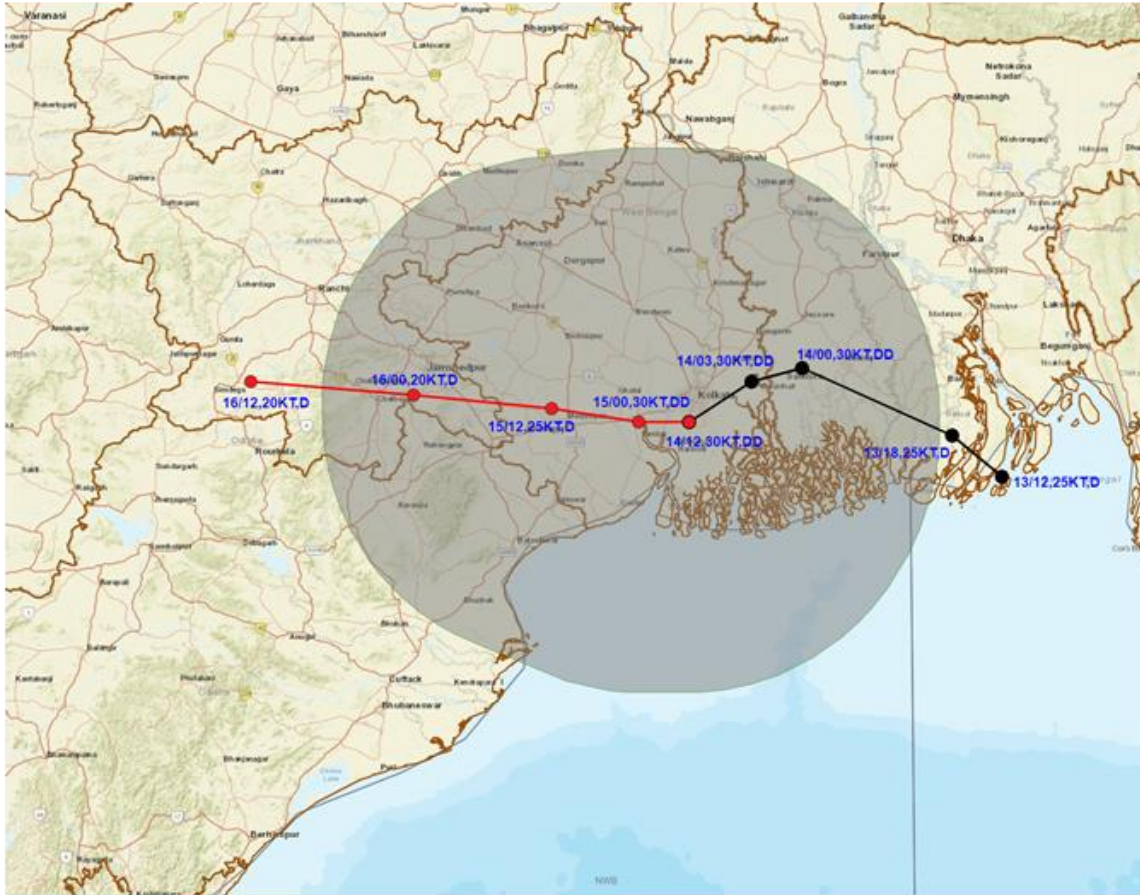
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (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 ALONG WITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION GANGETIC WEST BENGAL BASED ON 1200 UTC (1730 IST) OF 14TH 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)

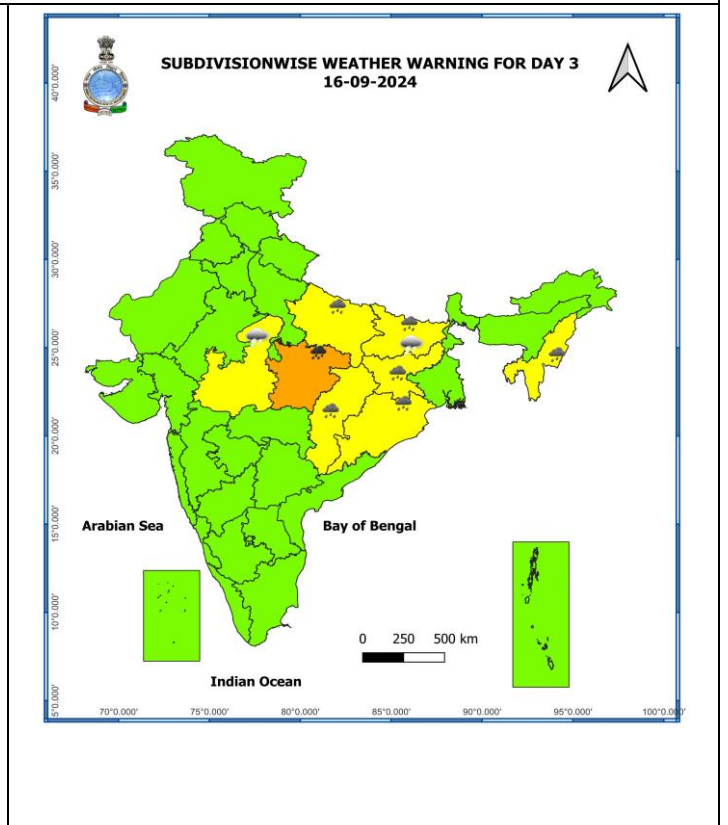
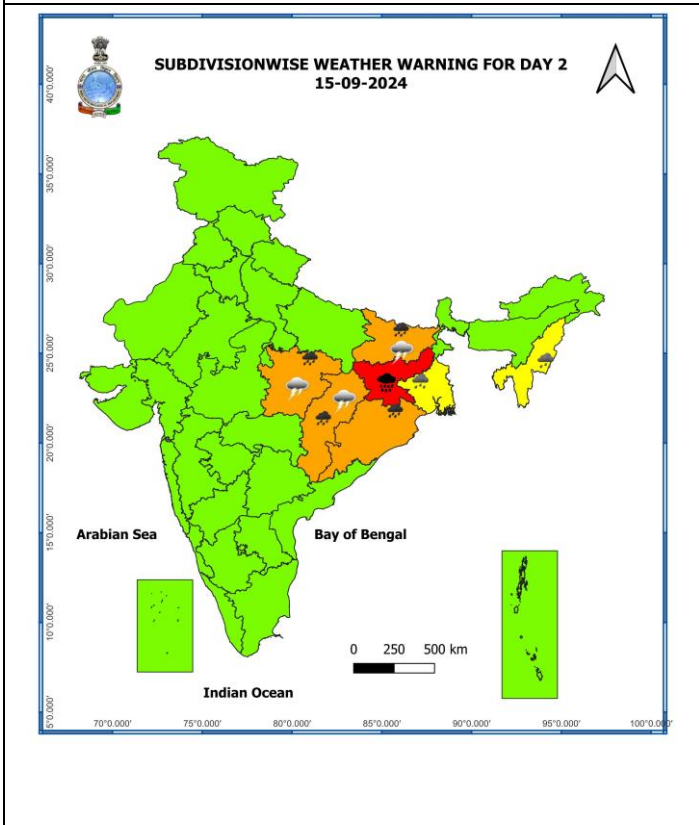
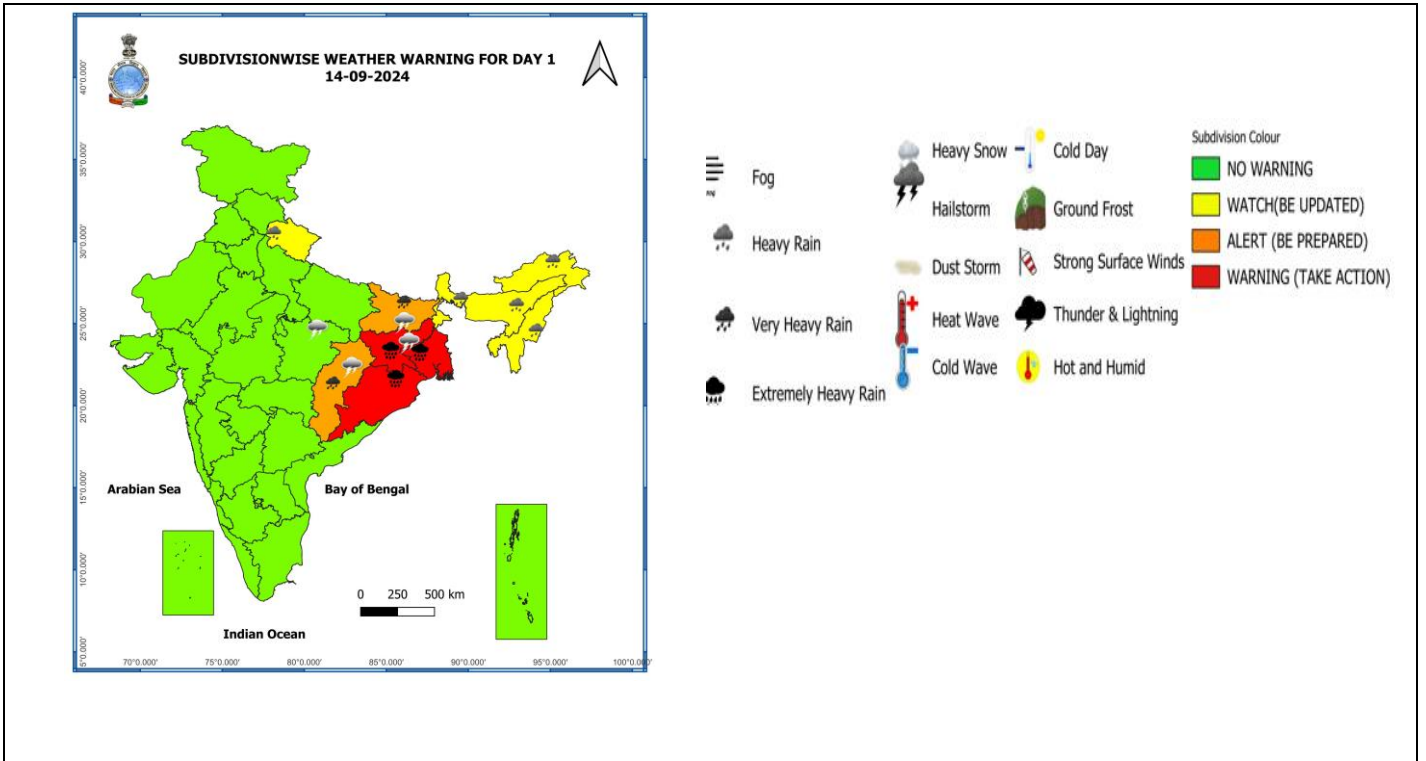
IMPACT OVER THE SEA

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

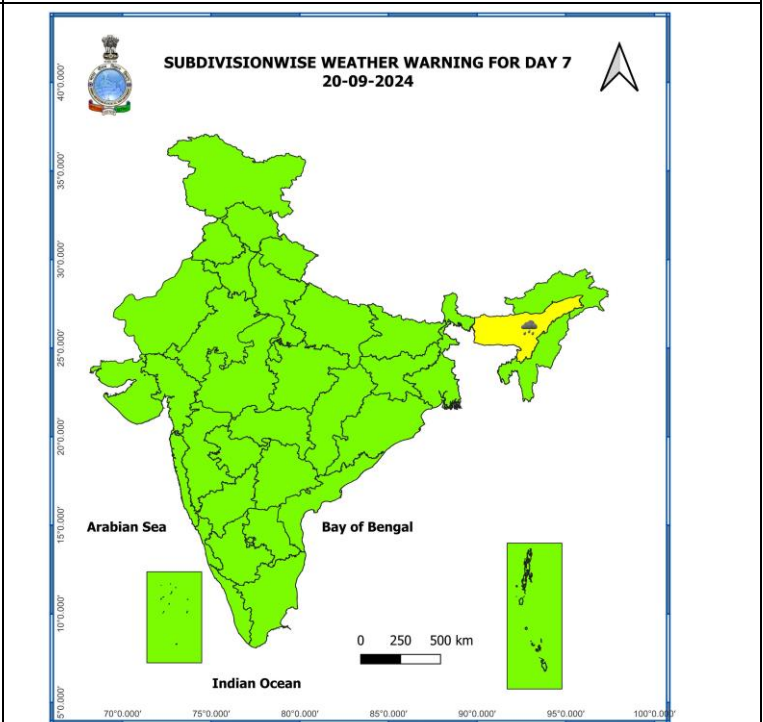
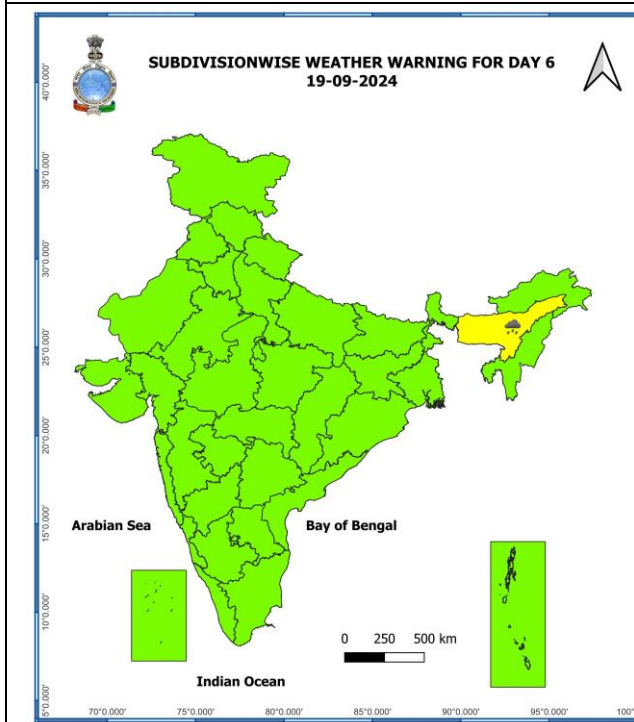
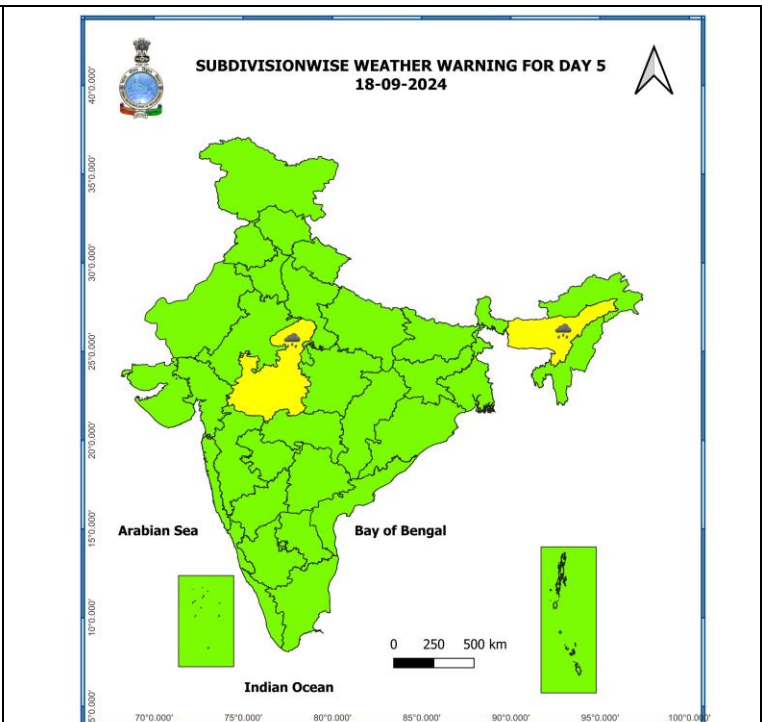
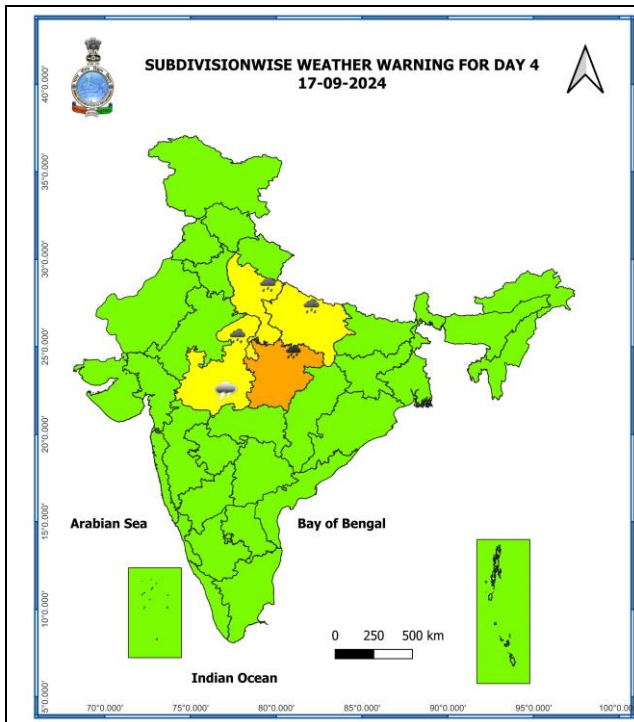
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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.

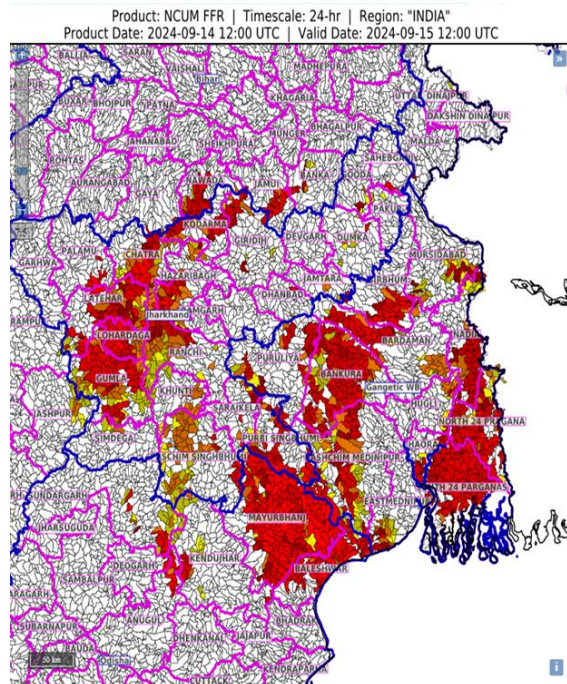


- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases

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 15-09-2024:



Moderate flash flood risk likely over few watersheds & neighbourhoods of

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

Odisha - Anugul, Baleswar, Deogarh, Mayurbhanj and Sundargarh

Jharkhand - Chatra, Dhanbad, Dumka, East & West Singhbhum, Giridih, Godda, Gumla, Hazaribagh, Jamtara, Khunti, Koderma, Latehar, Lohardaga, Pakur, Palamu, Ramgarh, Ranchi, Sahebganj, Saraikela, and Simdega districts

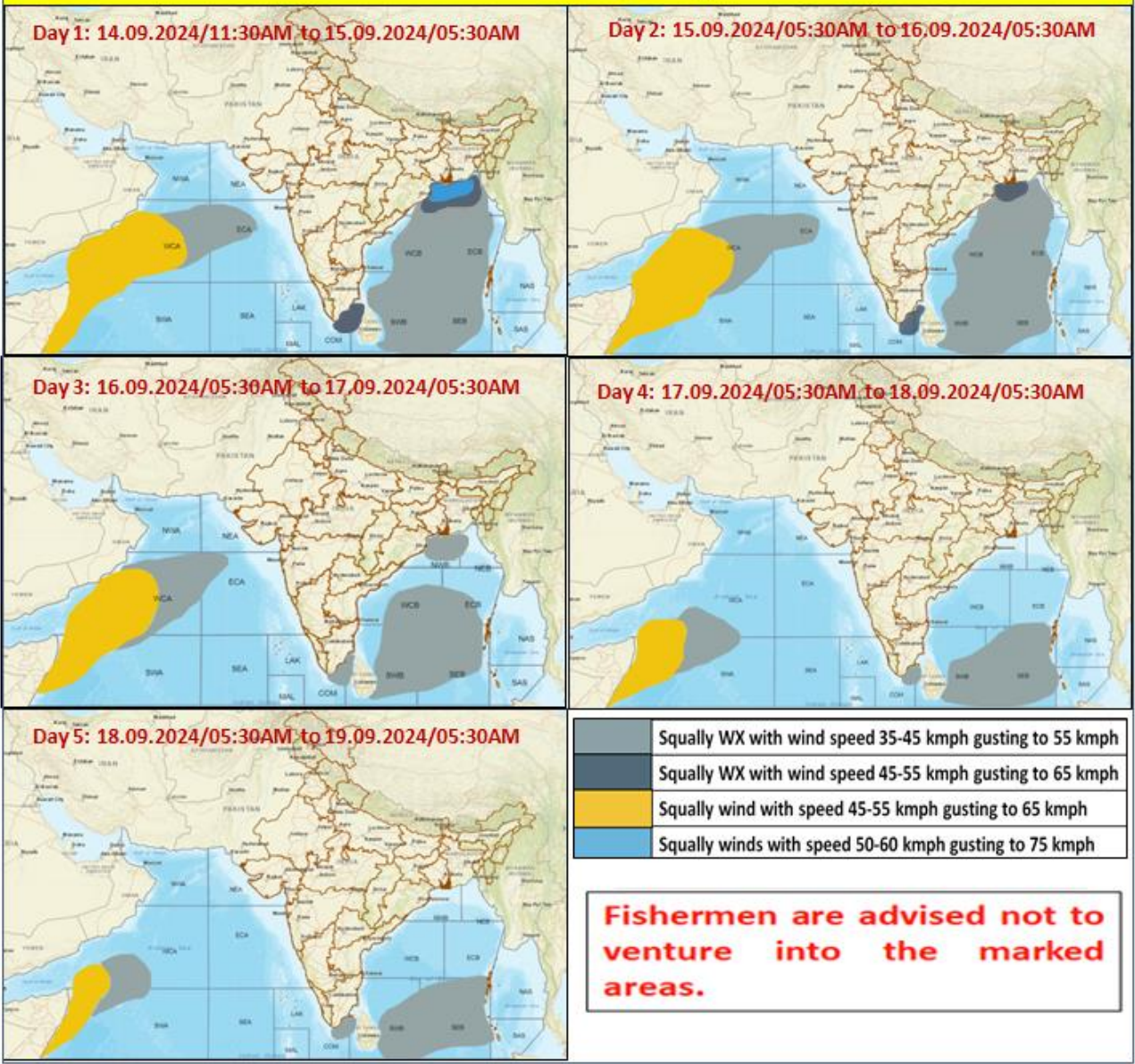
Bihar - Banka, Gaya, Jamui and Nawada districts. districts.

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.

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

Annexure-I

Significant amount of rainfall (from 0830 hours IST to 1730 hours IST of today) (in cm):

- ❖ **Gangetic West Bengal:** Barrackpore 8, Contai 7, Asansol 6, Kalikunda 5, Mindapore 4, Panagarh 4, Digha 4, Uluberia 4, Haldia 3, Bagati 3, Burdwan
- ❖ **Odisha:** Kusumi (Mayurbhanj) 14, Bhograi (Balasore) 10, Jaleswar (Balasore) 7,
- ❖ **Bihar: : :** Darbhanga 4, Bhagalpur 3;
- ❖ **Jharkhand:** Jamshedpur 3
- ❖ **Sub-Himalayan West Bengal:** Kalimpong 6, Darjeeling 3;

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.