



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

NATIONALBULLETIN NO.: 10 (BOB/05/2024)

TIME OF ISSUE: 1430 HOURS IST

DATED: 15.09.2024

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Sub: Deep Depression over Gangetic West Bengal

The deep depression over Gangetic West Bengal moved west-northwestward with a speed of 8 kmph during past 6 hours and lay centered at 1130 hours IST of today, the 15th September 2024, over the same region near latitude 22.7° N and longitude 87.5° E, about 90 km west-northwest of Kolkata (West Bengal), 90 km south-southeast of Bankura (West Bengal), 140 km east of Jamshedpur (Jharkhand) and 230 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 15th September. Thereafter, it is likely to weaken gradually into a depression and move nearly westwards across Jharkhand and North Chhattisgarh during subsequent 48 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
15.09.24/1130	22.7/87.5	50-60 gusting to 70	Deep Depression
15.09.24/2330	22.9/86.8	50-60 gusting to 70	Deep Depression
16.09.24/1130	23.1/85.8	40-50 gusting to 60	Depression
16.09.24/2330	23.3/84.1	35-45 gusting to 55	Depression
17.09.24/1130	23.6/82.4	25-35 gusting to 45	Well Marked Low Pressure Area.

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 15th; **heavy rainfall** at isolated places on 16th September.

Sub-Himalayan West Bengal: Light to moderate rainfall at most places is very likely with **heavy rainfall** at isolated places on 15th 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 15th and **heavy to very heavy rainfall** at isolated places on 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 15th and **heavy to very heavy rainfall** at isolated places over Jharkhand 16th September.

Bihar: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at isolated places very likely on 15th & 16th and **heavy rainfall** at isolated places over Bihar 17th September.

Chhattisgarh: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places on 15th & 16th September and heavy rainfall at isolated places on 17th September.

Madhya Pradesh: Light to moderate rainfall at most places with **heavy rainfall** at isolated places on 15th, 16th & **heavy to very heavy rainfall** at isolated places on 17th September over East Madhya Pradesh. Light to moderate rainfall at many places with **heavy rainfall** at isolated places on 17th September over northwest Madhya Pradesh.

Uttar Pradesh: Light to moderate rainfall at many places with **heavy rainfall** at isolated places over southeast Uttar Pradesh on 16th and over South Uttar Pradesh on 17th & 18th September.

Mizoram & Tripura: Light to moderate rainfall at most places is very likely with isolated **heavy rainfall** during 15th -16th September.

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

(ii) Flash Flood Guidance: (Graphics Attached)

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 16-09-2024:

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

Odisha - Balasore, Deogarh, Keonjhar, Mayurbhanj and Sundargarh districts.

Gangetic West Bengal - Bankura, Bardhaman, Birbhum, East & West Medinipur, Hoogly, Murshidabad, Nadia, North & South 24 Praganas and Purulia districts.

Jharkhand - Chatra, East Singhbhum, Gumla, Hazaribagh, Khunti, Koderma, Latehar, Lohardaga, Ramgarh, Ranchi, Saraikela, Simdega 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.

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 night of 15th September. It is likely to become 40-50 kmph gusting to 60 kmph till evening of 16th September and decrease thereafter.

Squally wind speed reaching 50-60 kmph gusting to 70 kmph is likely to prevail over Gangetic West Bengal and adjoining Jharkhand & north Odisha till 15th September, decrease gradually becoming 45-55 kmph gusting to 65 kmph likely over Jharkhand and adjoining Gangetic West Bengal & north Odisha from morning of 16th September and decrease thereafter.

(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 night of 15th September.

Subsequently, Rough Sea condition is likely to prevail over north Bay of Bengal and along & off West Bengal-Odisha coasts from 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 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 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)

- ✓ 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 (in cm) recorded from 0830 hours IST of 14th September to 0830 hours IST of today, the 15th September is given in Annexure-I.

The next bulletin will be issued at 2030 hrs IST of today, the 15th September, 2024.

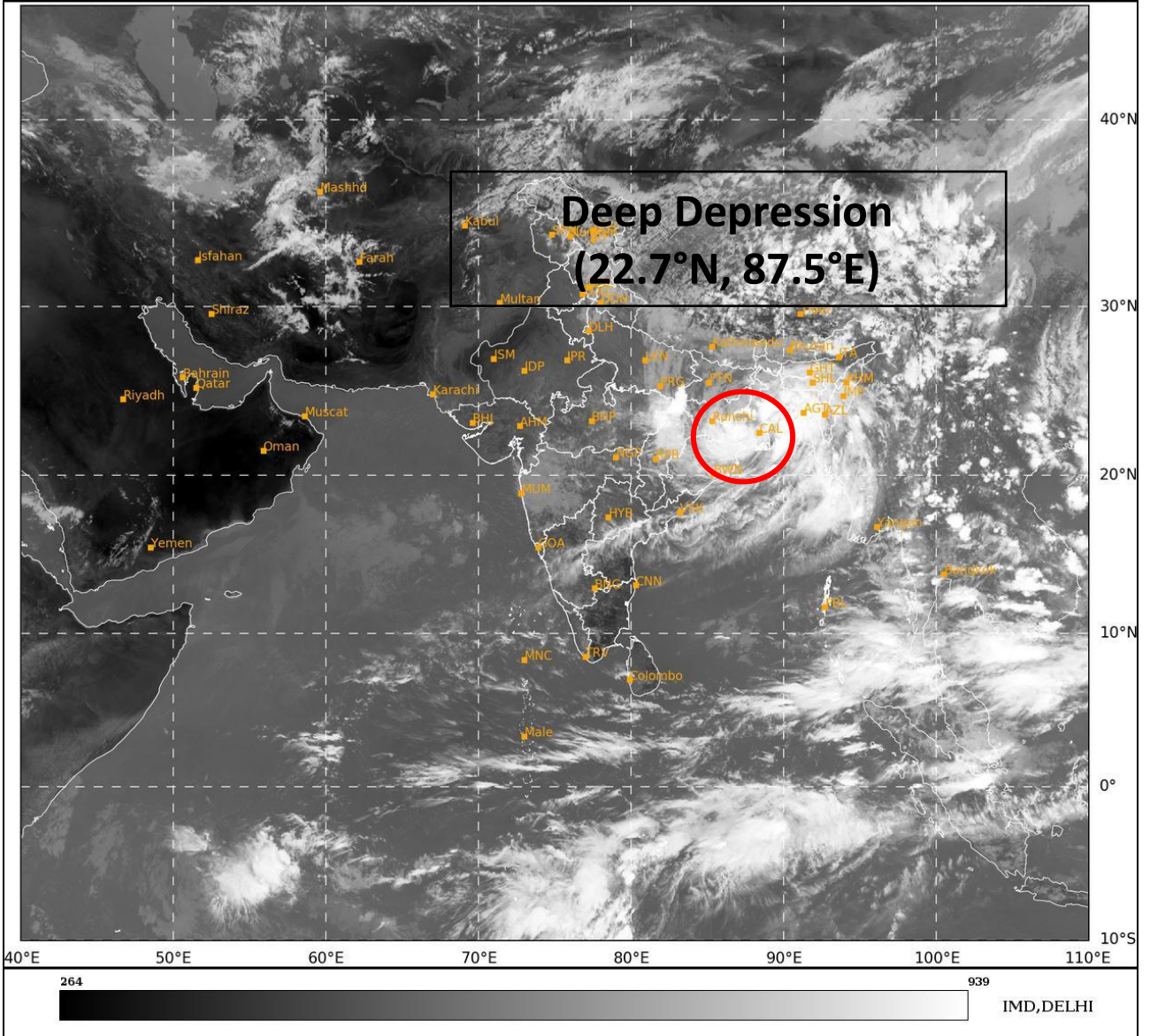
(Akhil Srivastava)
Scientist-D, RSMC, New Delhi

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

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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.

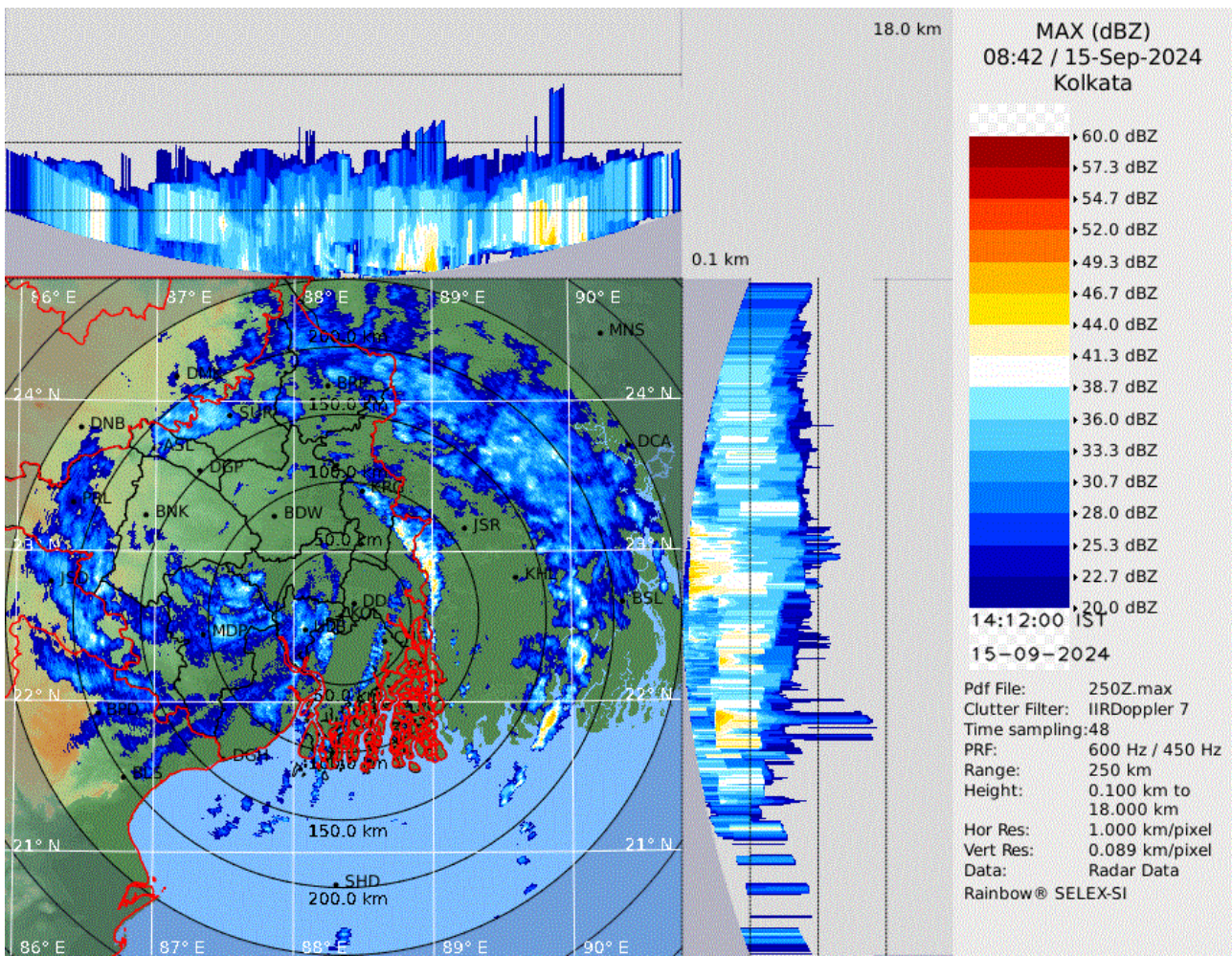
SAT : INSAT-3DR IMG
IMG_TIR1 10.8 um
LIC Mercator

15-09-2024/(0745 to 0812) GMT
15-09-2024/(1315 to 1342) IST



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Kolkata Radar Image



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OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER GANGETIC WEST BENGAL BASED ON 0600 UTC (1130 IST) OF 15TH SEPTEMBER, 2024.



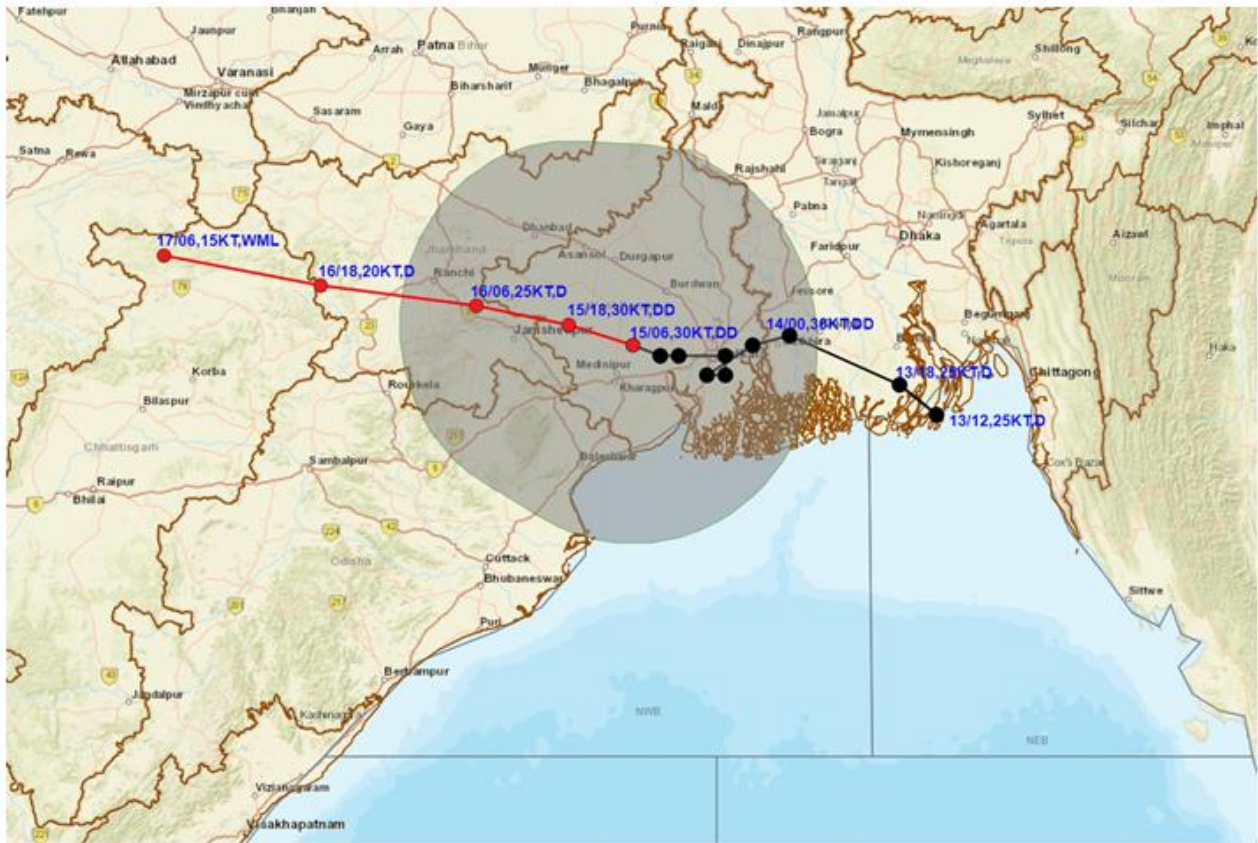
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (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 OVER GANGETIC WEST BENGAL BASED ON 0600 UTC (1130 IST) OF 15TH 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 (48-63 KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
 ○ 34-47 KT
 ○ \geq 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)
 ■ \geq 64 KT (\geq 118 KMPH)

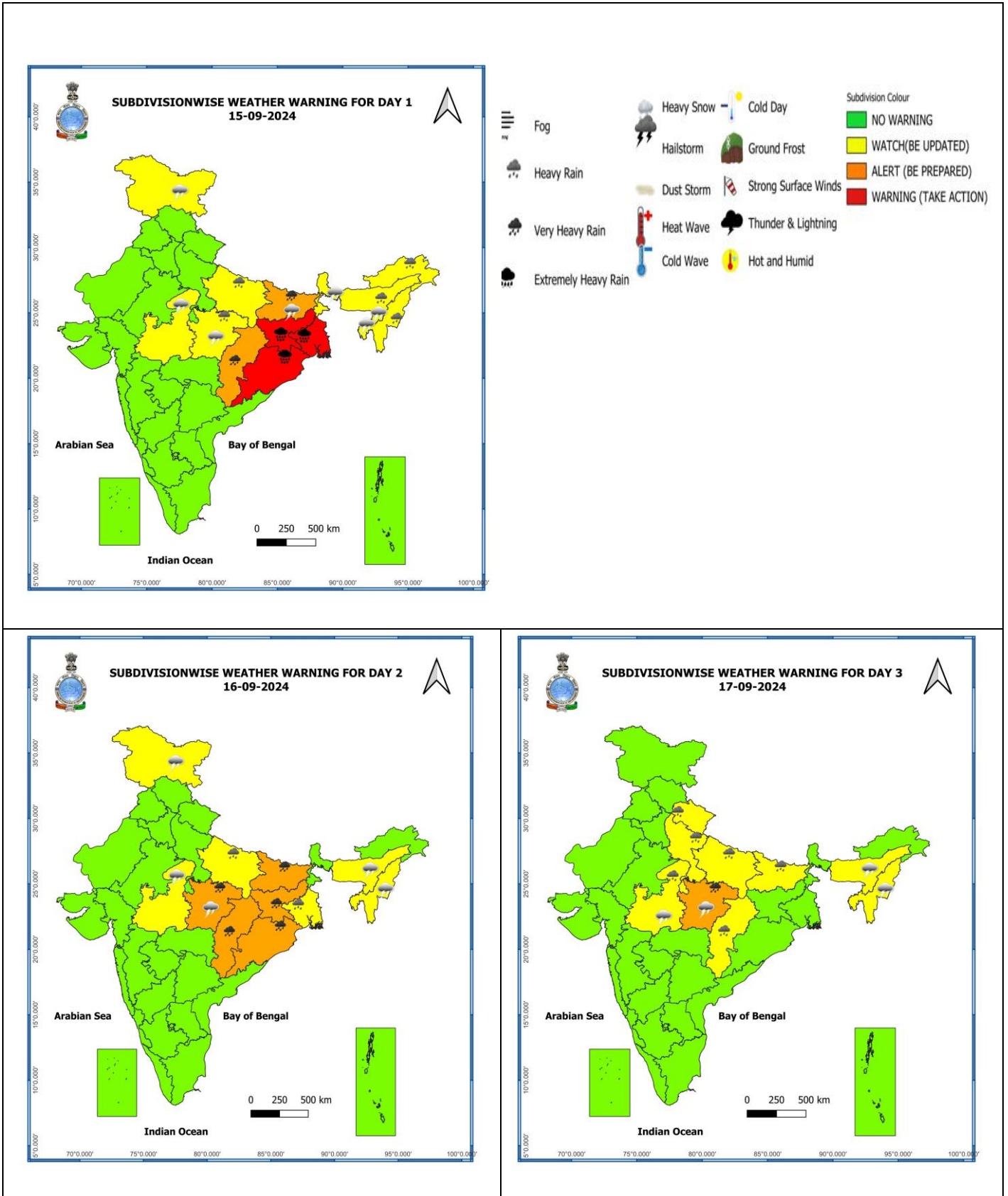
IMPACT OVER THE SEA

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
\geq 64 (\geq 118)	Phenomenal	Total suspension of fishing operations

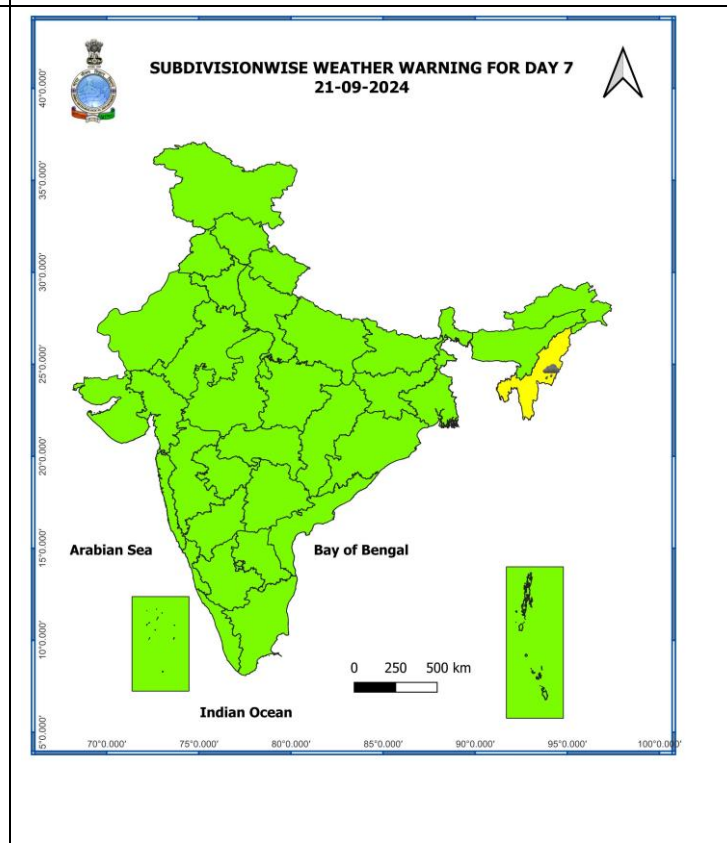
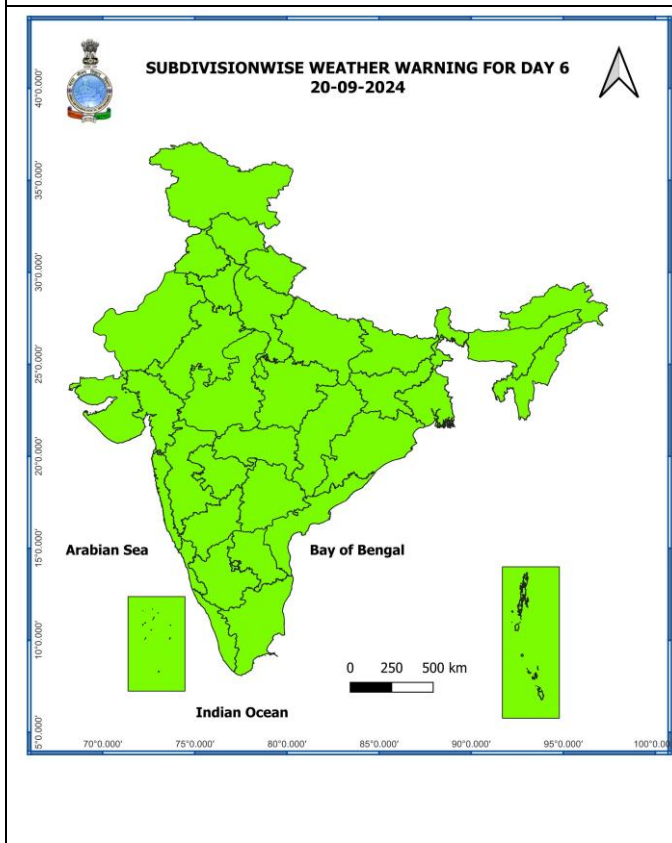
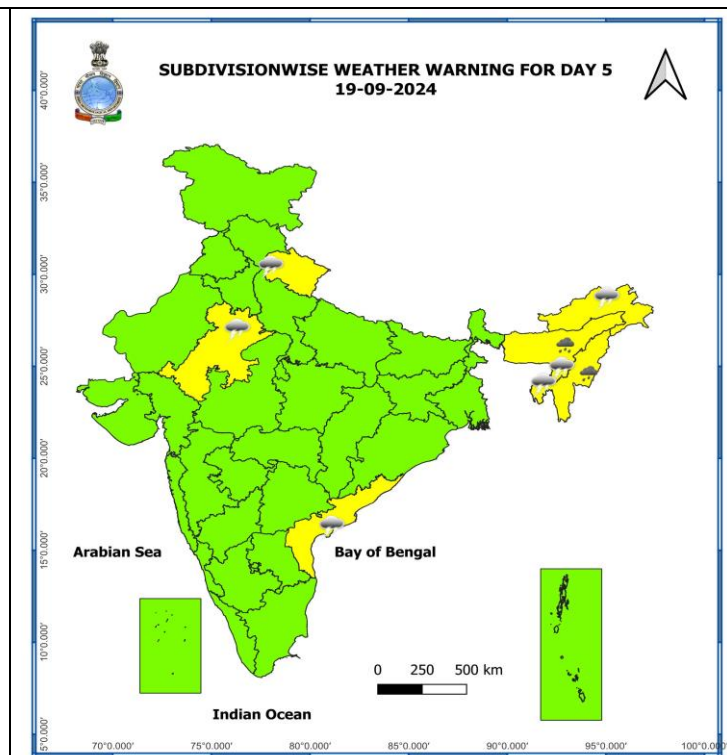
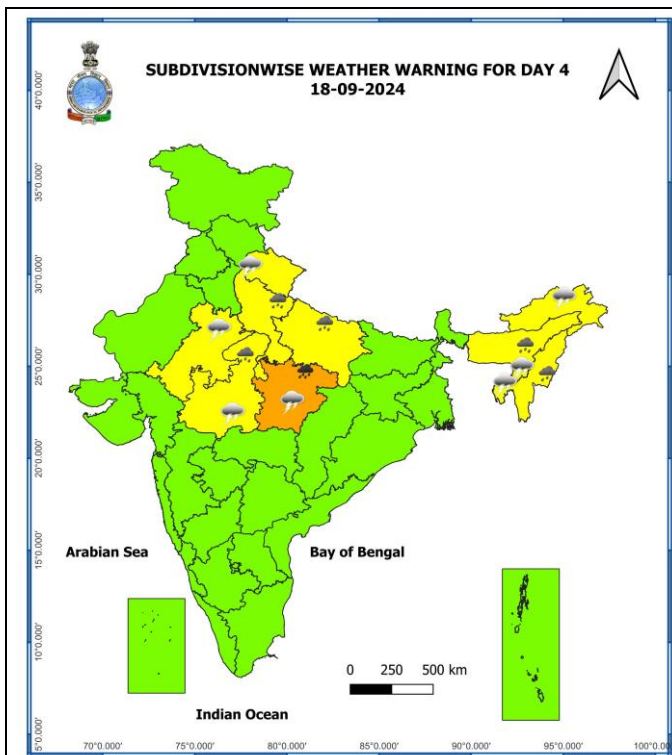
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Warning Graphics



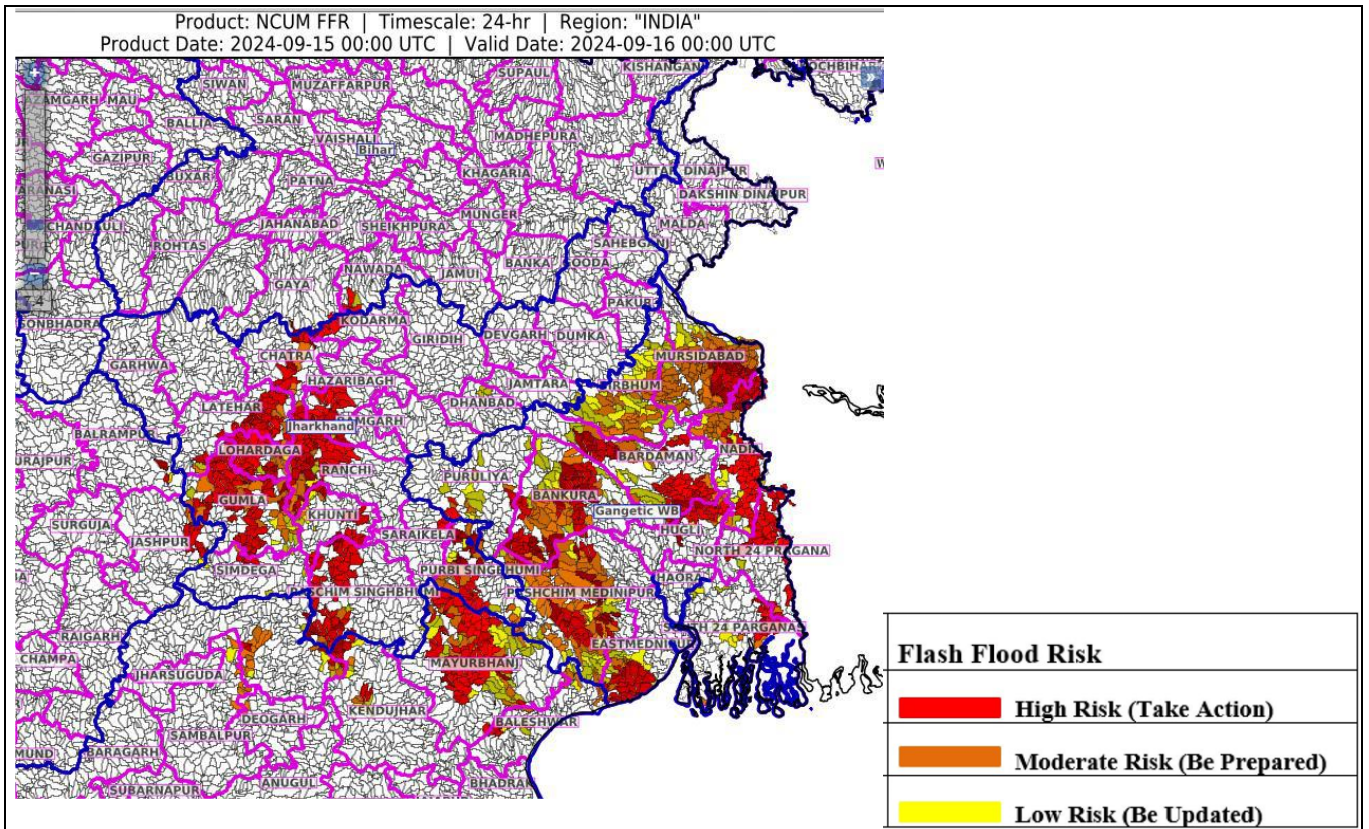
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- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases

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Flash Flood Guidance



24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 16-09-2024:

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

Odisha - Baleshwar, Deogarh, Kendujhar, Mayurbhanj and Sundargarh districts.

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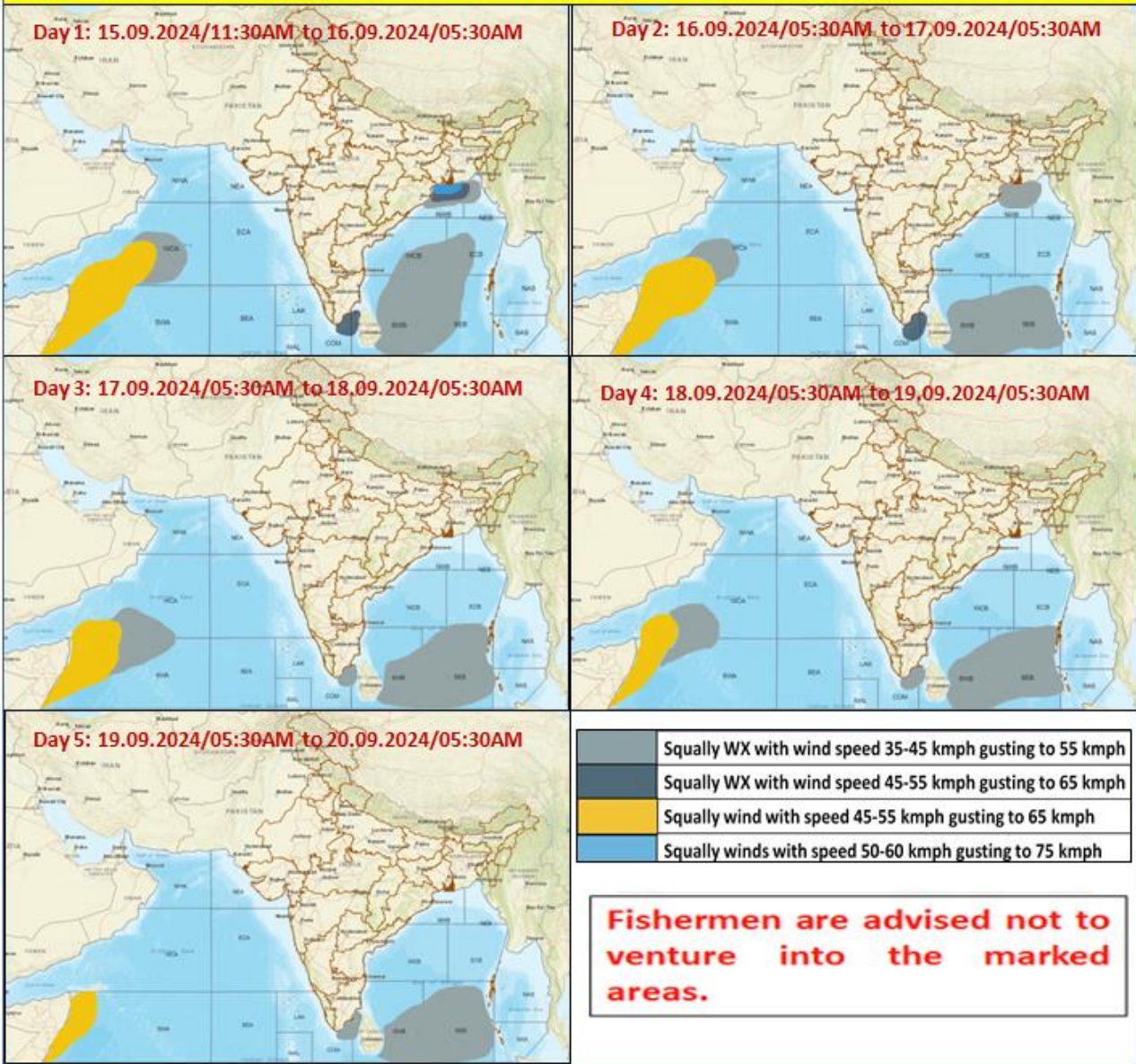
Jharkhand - Chatra, East Singhbhum, Gumla, Hazaribagh, Khunti, Koderma, Latehar, Lohardaga, Ramgarh, Ranchi, Saraikela, Simdega and West Singhbhum districts.

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Fishermen Warning Graphics



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Significant amount of rainfall (from 0830 hours IST of 14.09.2024 to 0830 hours IST of 15.09.2024) (in cm):

Gangetic West Bengal:

Jhargram (dist Jhargram) 19, Contai (dist East Midnapore) 15, Amtala (dist Murshidabad) 14, Kharidwar (dist Purulia) 13, Bankura (dist Bankura) 13, Lalgargh (dist Jhargram) 13, Kansabati Dam (dist Bankura) 13, Kalyani Smo (dist Nadia) 12, Tusuma (dist Purulia) 12, Digha (dist East Midnapore) 12, Asansol (dist Paschim Bardhaman) 11, Phulberia (dist Purulia) 11, D.P.Ghat (dist Jhargram) 11, Asansol(cwc) (dist Paschim Bardhaman) 11, Bagati (dist Hooghly) 11, Bankura (dist Bankura) 11, Amfu Kharagpur (dist West Midnapore) 10, Panagarh (dist Paschim Bardhaman) 9, Barrackpur (dist North 24 Parganas) 9, Harinkhola (dist Hooghly) 9, Narayanpur (dist Birbhum) 9, Debagram (dist Nadia) 9, Mohanpur (dist West Midnapore) 9, Midnapore (dist West Midnapore) 9, Durgachack (dist East Midnapore) 9, Basirhat (dist North 24 Parganas) 8, Midnapore (dist West Midnapore) 8, Burnpur (dist Paschim Bardhaman) 8, Sri Niketan (dist Birbhum) 8, Purihansa (dist Purulia) 8, Durgapur (dist Paschim Bardhaman) 8, Hetampur (dist Birbhum) 8, Suri (dist Birbhum) 7, Salar (dist Murshidabad) 7, Luchipur (dist Paschim Bardhaman) 7, Burdwan (dist Purba Bardhaman) 7, Labpur (dist Birbhum) 7, Amfu Kakdwip (dist South 24 Parganas) 7, Rajnagar (dist Birbhum) 7, Gheropara (dist Birbhum) 7

Jharkhand: Meral (dist Garhwa)-15, Garhwa (dist Garhwa) 14, Burmu (dist Ranchi) 11, Daltonganj (dist Palamu) 11, Chakulia (dist East Singbhum) 11, Potka (dist East Singbhum) 9, Dhalbhumgarh (dist East Singbhum) 9, Garu (dist Latehar) 9, Palamu Dtg Kvk Aws (dist Palamu) 9, Latehar Balumat Kvk Aws (dist Latehar) 9, Panchet (dist Dhanbad) 8, Boram (dist East Singbhum) 7, Panchet Dvc (dist Dhanbad) 7, Rajdhanwar (dist Giridih) 7, Nandadih (dist Giridih) 7, Maithon Dvc (dist Dhanbad) 7, Gurabandha (dist East Singbhum) 7, Chandwa (dist Latehar) 7, Hendigir (dist Hazaribag) 7, Messenjar (dist Dumka) 7, Saryu (dist Latehar) 7

Bihar: Indrapuri (dist Rohtas) 14, Dumaria (dist Gaya) 12, Nabinagar (dist Aurangabad) 12, Kutumba (dist Aurangabad) 11, Nawkothe (dist Begusarai) 11, Udai Kishanganj (dist Madhepura) 11, Monghyr (dist Monghyr) 11, Chautham (dist Khagaria) 10, Begusarai (dist Begusarai) 8, Dharhara (dist Monghyr) 8, Rohtas (dist Rohtas) 7, Bind (dist Nalanda) 7, Jhajha (dist Jamui) 7, Bokhara (dist Sitamarhi) 7, Garhi (dist Jamui) 7, Banka (dist Banka) 7, Bhagwanpur (dist Begusarai) 7, Nawada (dist Nawada) 7, Deo (dist Aurangabad) 7, Baltara (dist Khagaria) 7.

Odisha: Bhograi (Balasore) 13, Rajghat (Balasore) 12, Suliapada (Mayurbhanj) 11, Udala (Mayurbhanj) 10, Jaleswar (Balasore) 10, Tensa (Sundargarh) 9, Rasagovindapur (Mayurbhanj) 8, Betanati (Mayurbhanj) 8, Chandua Kuliana (Mayurbhanj) 8, Kaptipada (Mayurbhanj) 8, Jamsolaghat (Mayurbhanj) 8, Bangiriposi (Mayurbhanj) 8, Sarasakana (Mayurbhanj) 7, Bijatala (Mayurbhanj) 7, G B Nagar (Mayurbhanj) 7,

West Uttar Pradesh: Saharanpur (dist Saharanpur) 10,

Chhattisgarh: Kusmi (dist Balrampur) 7,

Sub-Himalayan West Bengal: Darjeeling (dist Darjeeling) 7

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