



India Meteorological Department
(Ministry of Earth Sciences)

BULLETIN NO. 98 (ARB/01/2023)

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Sub: Depression (Remnant of Cyclonic Storm 'Biparjoy') weakened into a Well Marked Low Pressure Area over central parts of Northeast Rajasthan & neighbourhood

The Depression (Remnant of Cyclonic Storm 'Biparjoy') over central parts of East Rajasthan moved nearly eastwards and weakened and lay centered at 0830 hours IST of today, the 19th June as a well marked low pressure area over central parts of Northeast Rajasthan and neighbourhood.

It is very likely to continue to move nearly east-northeastwards and weaken further during next 24 hours.

Warnings:

(i) Heavy Rainfall Warning (Rajasthan and Madhya Pradesh):

- Light to moderate rainfall at most places with isolated heavy to extremely heavy rainfall is very likely over **East Rajasthan** on 19th June, isolated heavy to very heavy rainfall on 20th June and isolated heavy rainfall on 21st June.
- Light to moderate rainfall at most places is likely with isolated heavy to very heavy rainfall over **Northwest Madhya Pradesh** on 19th, 20th and 21st with extremely heavy rainfall at isolated places on 20th June.
- Light to moderate rainfall at most places is likely with isolated heavy rainfall over adjoining areas of **Northeast Madhya Pradesh** on 20th June.
- Light to moderate rainfall at most places is likely with isolated heavy rainfall over of **Southwest Uttar Pradesh** on 20th and 21st June.

(ii) Wind warning:

Wind Warning for Rajasthan and adjoining Northwest Madhya Pradesh

Strong wind speed reaching 25-35 kmph gusting to 45 kmph is very likely over **East Rajasthan and adjoining areas of Northwest Madhya Pradesh** on 19th June.

(iii) Damage expected over East Rajasthan and Northwest Madhya Pradesh during next 06 hours:

- Inundation of low lying areas.
- Reduction in visibility causing difficulty in surface transport in heavy rain
- Some breaches in Kutcha road due to flooding.

(iv) Action suggested:

- Avoid staying in low lying areas which could be inundated due to heavy rain.
- Protect solar panels etc. from damage due to strong winds & lightning.
- Stay indoors, close windows & doors and avoid travel, if possible, during thunderstorms & gusty winds.
- Take safe shelters; do not take shelter under trees.
- Keep away from all the objects that conduct electricity during thunderstorm.
- Adventure activities & tourism trips may be avoided.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in East Rajasthan and West Madhya Pradesh.
- Provide mechanical support to horticultural crops and staking to vegetables.

24 hours cumulative heavy rainfall (≥ 7 cm) ending at 0830 hours IST of 19th June is placed at Annexure-I.

This is last bulletin in association with this system. However, regular bulletins shall continue from National Weather Forecasting Centre, New Delhi, Regional Meteorological Centres and Meteorological Centres of IMD for their respective areas.

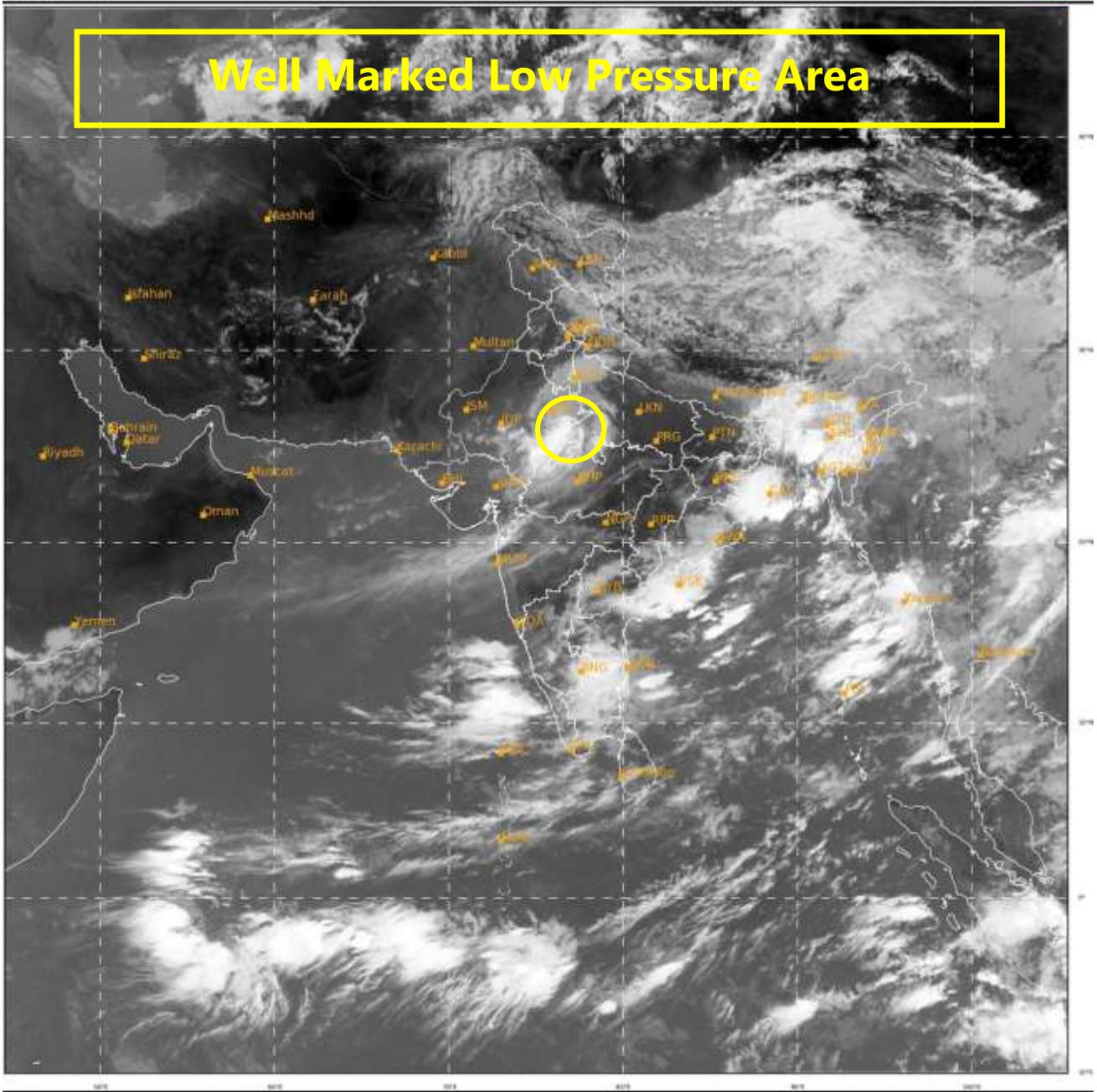
(A.K. Das)
Scientist F
Cyclone Warning Division
IMD, New Delhi

Copy to: ACWC Mumbai/ CWC Ahmedabad/MC Jaipur/MC Bhopal/RMC Nagpur/MC Lucknow

LEGEND: Heavy Rainfall: 64.5 to 115.5mm, **Very Heavy Rainfall:** 115.6 to 204.4mm **Most Places:** more than 76% of total stations, **Isolated Places:** Less than 25% of total

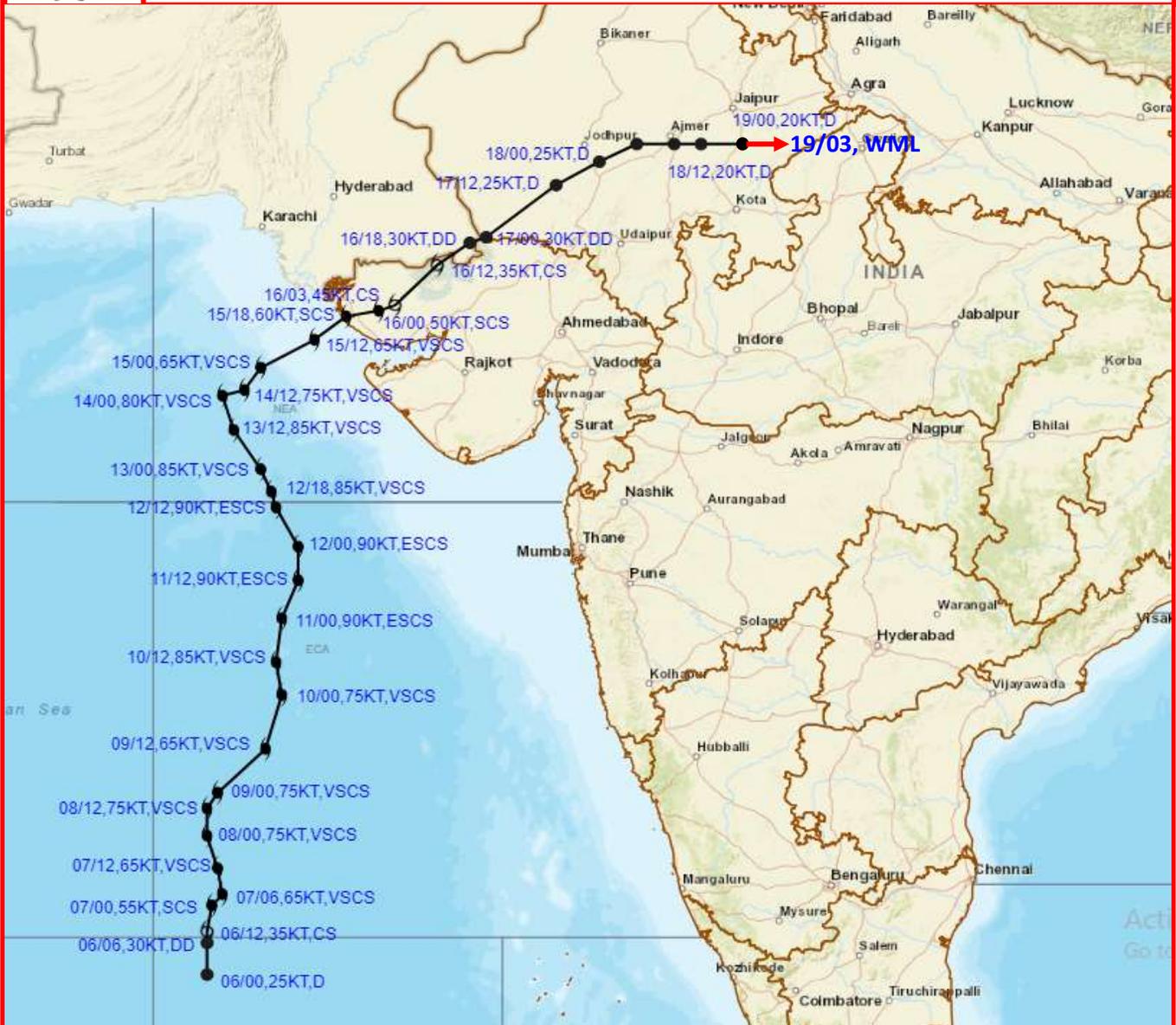


Well Marked Low Pressure Area





OBSERVED TRACK OF EXTREMELY SEVERE CYCLONIC STORM BIPARJOY OVER ARABIAN SEA FOR THE PERIOD OF 06TH TO 19TH JUNE 2023.



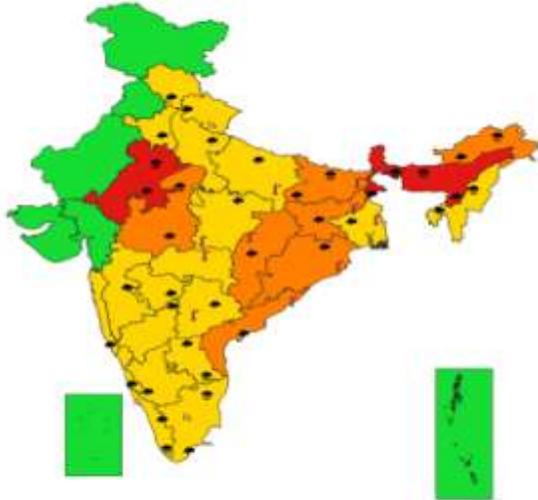
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
S: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

All India Heavy Rainfall Warning Maps for 19th to 21st June



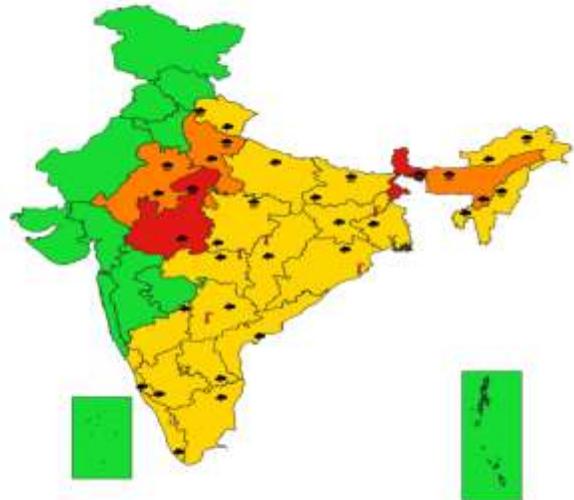
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
(19-6-2023)



- | | | |
|--|---|--|
| Subdivision Warning
☁ Heavy Rain
❄ Heavy Snow
⚡ Thunderstorms & Lightning
🌨 Hailstorm | ☁ Dust Storm
🌪 Strong Surface Winds
🌡 Heat Wave
🌡 Cold wave
🌫 Fog | Subdivision color
🟢 NO WARNING
🟡 WATCH (BE UPDATED)
🟠 ALERT (BE PREPARED)
🔴 WARNING (TAKE ACTION) |
|--|---|--|



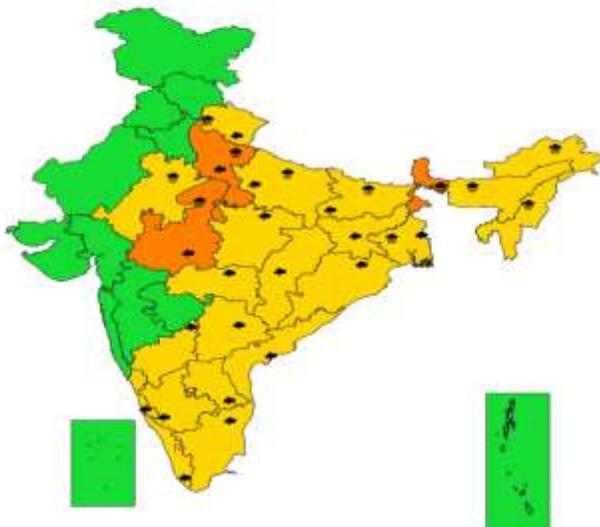
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
(20-6-2023)



- | | | |
|--|---|--|
| Subdivision Warning
☁ Heavy Rain
❄ Heavy Snow
⚡ Thunderstorms & Lightning
🌨 Hailstorm | ☁ Dust Storm
🌪 Strong Surface Winds
🌡 Heat Wave
🌡 Cold wave
🌫 Fog | Subdivision color
🟢 NO WARNING
🟡 WATCH (BE UPDATED)
🟠 ALERT (BE PREPARED)
🔴 WARNING (TAKE ACTION) |
|--|---|--|

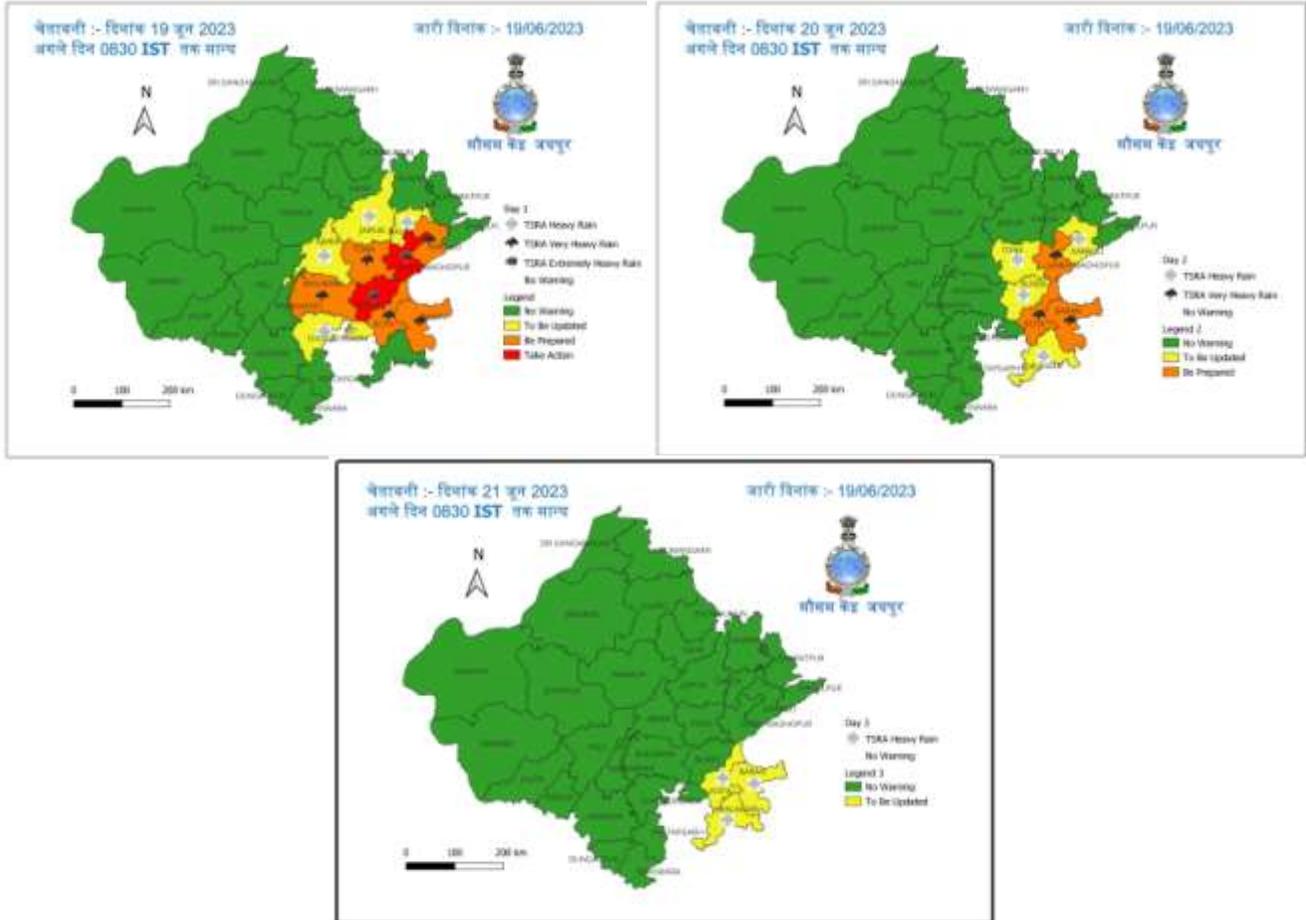


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
(21-6-2023)



- | | | |
|--|---|--|
| Subdivision Warning
☁ Heavy Rain
❄ Heavy Snow
⚡ Thunderstorms & Lightning
🌨 Hailstorm | ☁ Dust Storm
🌪 Strong Surface Winds
🌡 Heat Wave
🌡 Cold wave
🌫 Fog | Subdivision color
🟢 NO WARNING
🟡 WATCH (BE UPDATED)
🟠 ALERT (BE PREPARED)
🔴 WARNING (TAKE ACTION) |
|--|---|--|

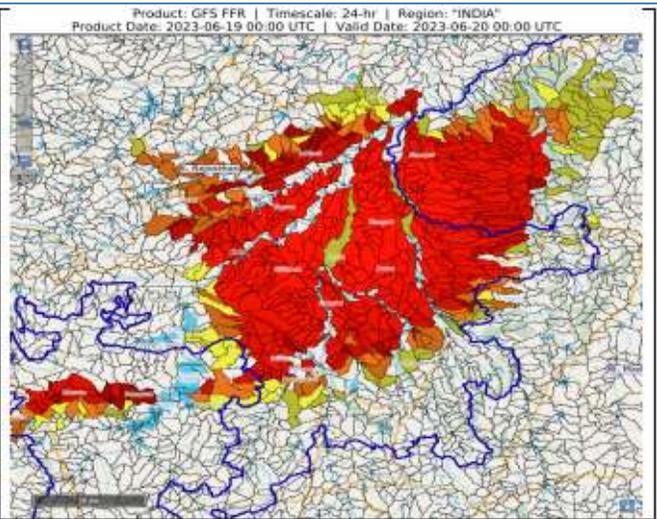
District-wise Heavy Rainfall Warning Maps for 19th – 21st June for Rajasthan



24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 20-06-2023 :

Moderate flash flood risk likely over few watersheds & neighbourhoods of **East Rajasthan** and **West Rajasthan** Met Sub-divisions during next 24 hours.

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.



Annexure-I

24 hours cumulative heavy rainfall rainfall (≥ 7 cm) ending at 0830 hours IST of 19th June

East Rajasthan

Sheoganj (dist Sirohi) 35, Nagarfort Sr (dist Tonk) 31, Deogarh (dist Rajsamand) 27, Kumbhalgarh Sr (dist Rajsamand) 25, Amet (dist Rajsamand) 24, Rajsamand (dist Rajsamand) 22, Ajmer Tehsil Sr (dist Ajmer) 16, Reodar Sr (dist Sirohi) 15, Srinagar Sr (dist Ajmer) 15, Pushkar Sr (dist Ajmer) 15, Deoli (dist Tonk) 15, Nainwa (dist Bundi) 14, Mandal Sr (dist Bhilwara) 13, Ajmer (dist Ajmer) 13, Tonk Tehsil Sr (dist Tonk) 13, Piplu Sr (dist Tonk) 13, Kekri Sr (dist Ajmer) 12, Nasirabad (dist Ajmer) 11, Railmagra Sr (dist Rajsamand) 11, Pindwara (dist Sirohi) 11, Abu Road Sr (dist Sirohi) 11, Gegal Sr (dist Ajmer) 11, Jawaja (dist Ajmer) 11, Tatgarh Sr (dist Ajmer) 10, Bhinay Sr (dist Ajmer) 9, Bhim (dist Rajsamand) 9, Kishangarh (dist Ajmer) 9, Niwai (dist Tonk) 9, Jahazpur (dist Bhilwara) 9, Nathdwara (dist Rajsamand) 9, Sahada Sr (dist Bhilwara) 9, Raipur (dist Bhilwara) 9, Uniara / Aligarh (dist Tonk) 8, Asind (dist Bhilwara) 8, Gogunda Sr (dist Udaipur) 8, Arai Sr (dist Ajmer) 8, Todaraisingh Sr (dist Tonk) 8, Sirohi (dist Sirohi) 8, Geola Sr (dist Ajmer) 8, Sarwar (dist Ajmer) 8, Mangliawas Sr (dist Ajmer) 7, Rashmi Sr (dist Chittorgarh) 7, Pisagan Sr (dist Ajmer) 7, Hurda Sr (dist Bhilwara) 7, Kotda Sr (dist Udaipur) 7, Tonk Vanasthali (dist Tonk) 7, Malpura (dist Tonk) 7, Hindoli (dist Bundi) 7, Vijaynagar Sr (dist Ajmer) 7.

West Rajasthan

Desuri (dist Pali) 38, Sumerpur Sr (dist Pali) 28, Erinpura/jawai Dam (dist Pali) 24, Bali (dist Pali) 19, Ahore Sr (dist Jalore) 17, Marwar Junction (dist Pali) 14, Jalore (dist Jalore) 9, Jaswantpura (dist Jalore) 8, Merta City (dist Nagaur) 8, Bilara (dist Jodhpur) 7, Pali (dist Pali) 7.