



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 97 (ARB/01/2023)

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**Sub: Depression (Remnant of Cyclonic Storm 'Biparjoy') over central parts of East Rajasthan & neighbourhood**

The Depression (Remnant of Cyclonic Storm 'Biparjoy') over central parts of East Rajasthan and neighbourhood moved nearly eastwards with a speed of 13 kmph during past 6-hours, and lay centered at 0530 hours IST of 19<sup>th</sup> June, 2023 over the same region near latitude 26.3°N and longitude 76.0°E, about 30 km east-northwest of Tonk and 60 km south-southeast of Jaipur.

It is very likely to continue to move nearly east-northeastwards and maintain its intensity of Depression during next 06 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 19<sup>th</sup> June and isolated heavy rainfall on 20<sup>th</sup> June.
- Light to moderate rainfall at most places is likely with isolated heavy to very heavy rainfall over **West Madhya Pradesh** on 19<sup>th</sup> and 20<sup>th</sup> June and isolated heavy rainfall over **southwest Uttar Pradesh** on 20<sup>th</sup> June.

**(ii) Wind warning:**

**Wind Warning for Rajasthan and adjoining Northwest Madhya Pradesh**

- Squally wind speed reaching 30-40 kmph gusting to 50 kmph is very likely over **East Rajasthan and adjoining areas of West Madhya Pradesh** during next 06 hours and decrease thereafter becoming strong wind speed reaching 25-35 kmph gusting to 45 kmph thereafter over the region till evening of 19<sup>th</sup> June.

**(iii) Damage expected over East Rajasthan 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.
- Damage to loose / unsecured structures.
- Minor damage to Banana, papaya, drumstick trees and horticultural crops.

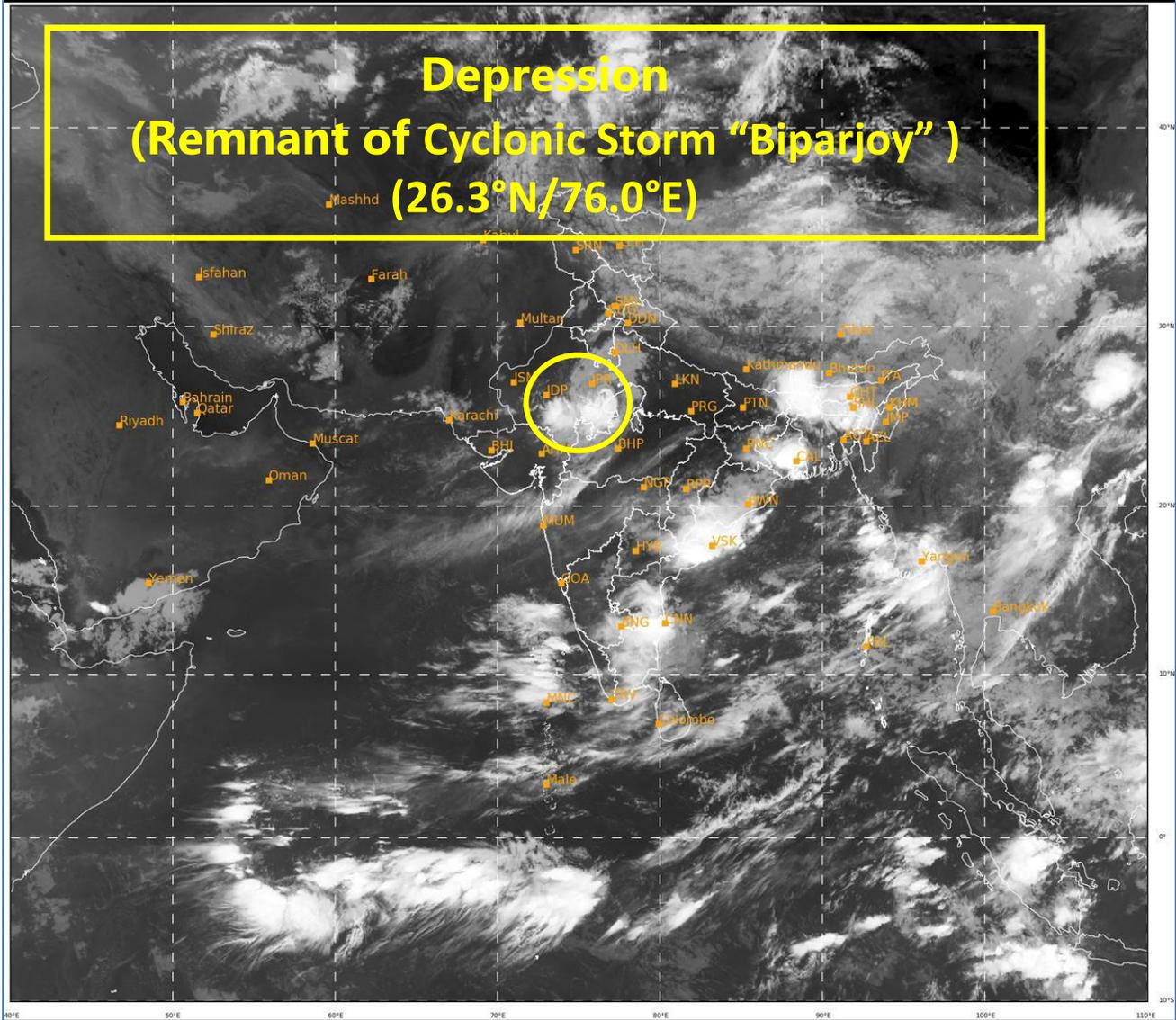
**(iv) Action suggested:**

- 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 Gujarat, Rajasthan and West Madhya Pradesh.
- Provide mechanical support to horticultural crops and staking to vegetables.

**The system is under continuous surveillance and the next message will be issued at 1130 hours IST of 19<sup>th</sup> June, 2023.**

**(Shobhit Katiyar)**  
**Scientist C**  
**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



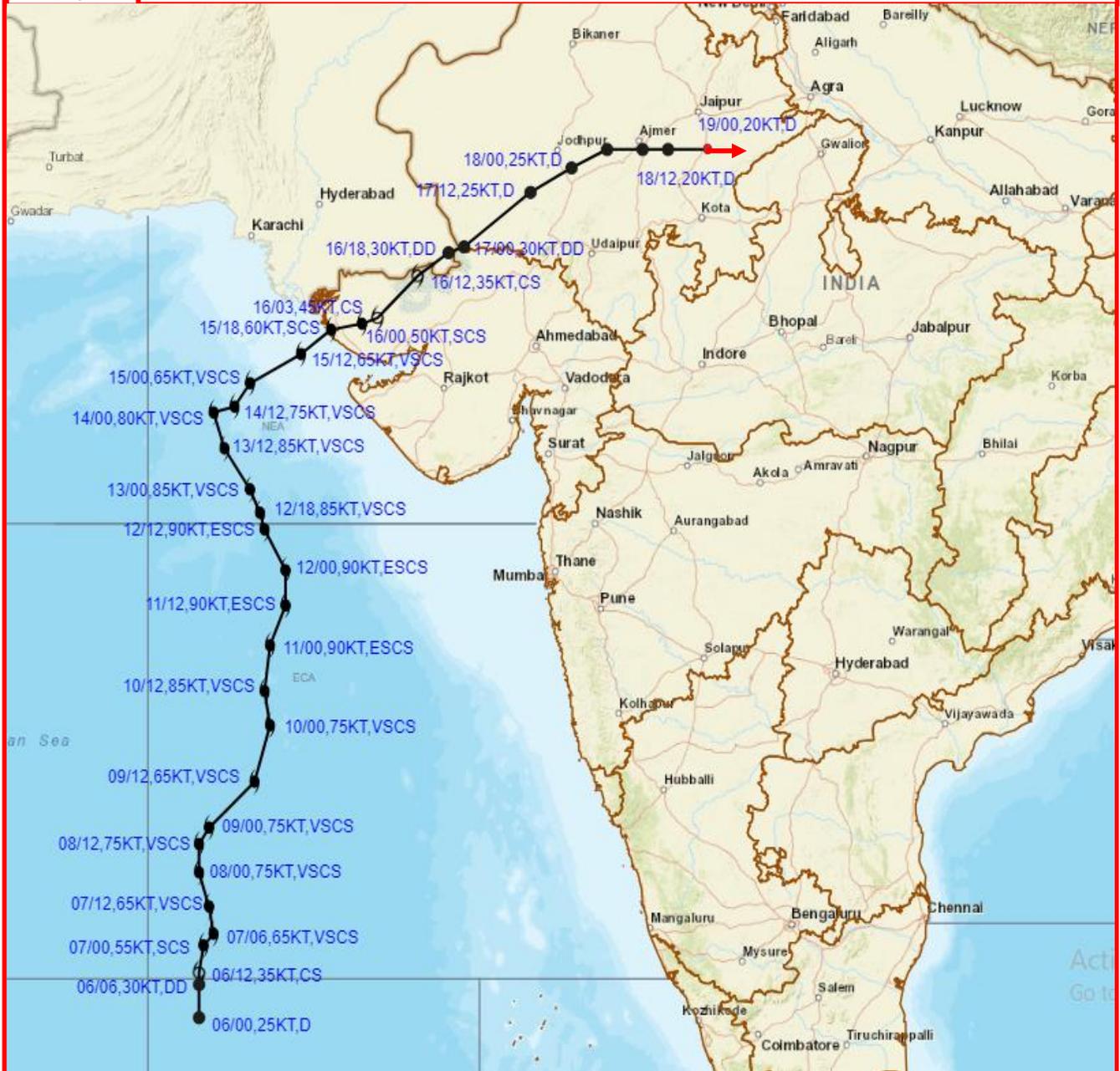
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926

IMD,DELHI



**OBSERVED AND FORECAST TRACK OF DEPRESSION (REMANANT OF CYCLONIC STORM BIPARJOY) OVER CENTRAL PARTS OF EAST RAJASTHAN AND NEIGHBOURHOOD BASED ON 0000 UTC (0530 IST) OF 19<sup>TH</sup> 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)

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 ( $\geq$  120 KT)

● LESS THAN 34 KT

○ 34-47 KT

⊙  $\geq$  48 KT

— OBSERVED TRACK

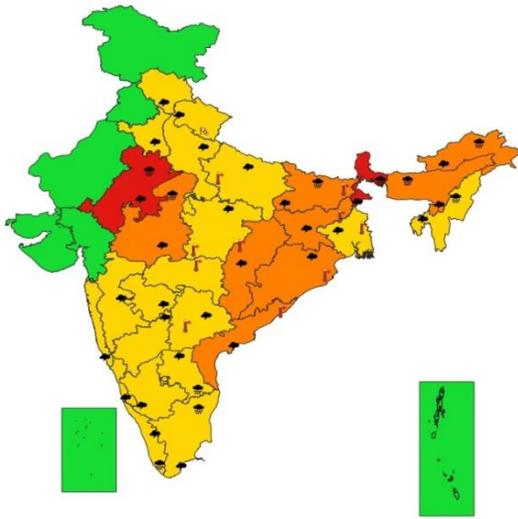
— FORECAST TRACK

▲ CONE OF UNCERTAINTY

# All India Heavy Rainfall Warning Maps for 18<sup>th</sup> & 21<sup>st</sup> June



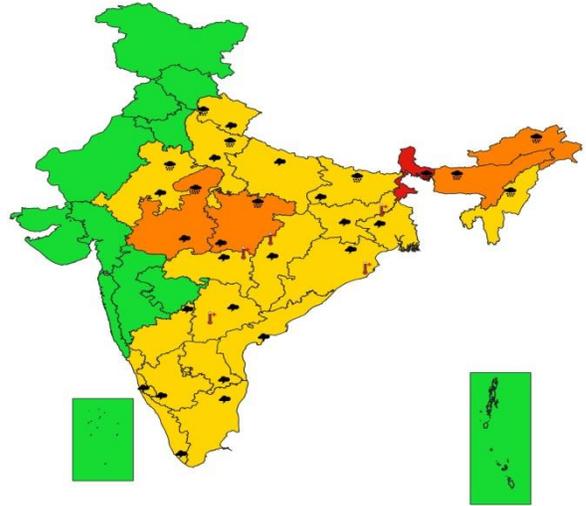
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1  
( 19-6-2023 )



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <b>Subdivision Warning</b> | Dust Storm           | <b>Subdivision color</b> |
| Heavy Rain                 | Strong Surface Winds | NO WARNING               |
| Heavy Snow                 | Heat Wave            | WATCH(BE UPDATED)        |
| Thunderstorms & Lightning  | Cold wave            | ALERT (BE PREPARED)      |
| Hailstorm                  | Fog                  | WARNING (TAKE ACTION)    |



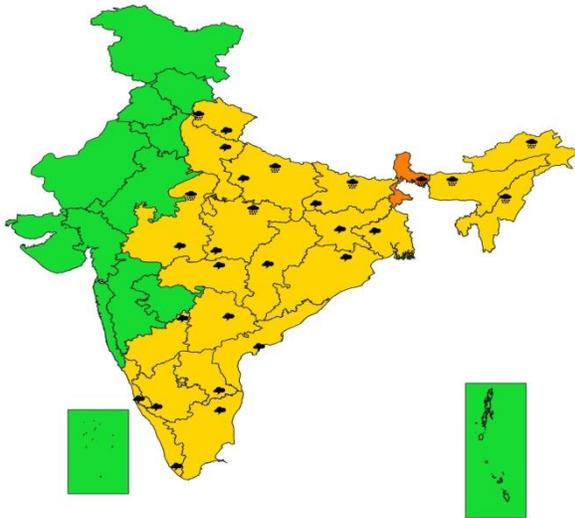
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
( 20-6-2023 )



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <b>Subdivision Warning</b> | Dust Storm           | <b>Subdivision color</b> |
| Heavy Rain                 | Strong Surface Winds | NO WARNING               |
| Heavy Snow                 | Heat Wave            | WATCH(BE UPDATED)        |
| Thunderstorms & Lightning  | Cold wave            | ALERT (BE PREPARED)      |
| Hailstorm                  | Fog                  | WARNING (TAKE ACTION)    |

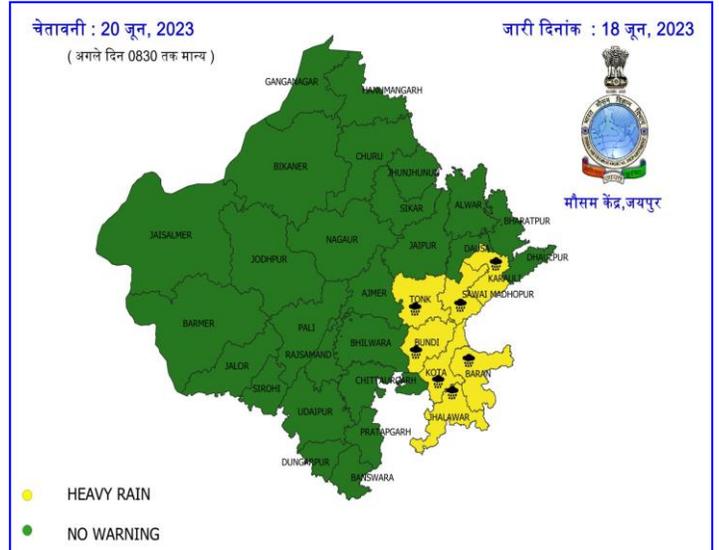
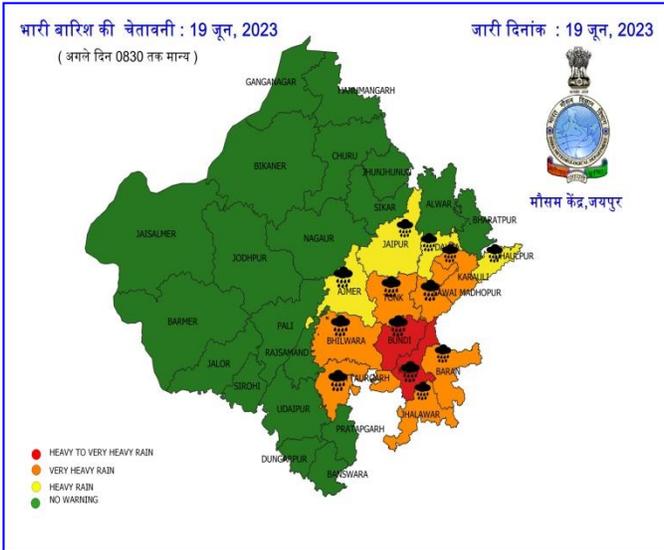


SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
( 21-6-2023 )



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <b>Subdivision Warning</b> | Dust Storm           | <b>Subdivision color</b> |
| Heavy Rain                 | Strong Surface Winds | NO WARNING               |
| Heavy Snow                 | Heat Wave            | WATCH(BE UPDATED)        |
| Thunderstorms & Lightning  | Cold wave            | ALERT (BE PREPARED)      |
| Hailstorm                  | Fog                  | WARNING (TAKE ACTION)    |

# District-wise Heavy Rainfall Warning Maps for 19<sup>th</sup> – 21<sup>st</sup> 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.

