



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 88 (ARB/01/2023)

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**Sub: Deep Depression (Remnant of Cyclonic Storm 'Biparjoy') over Southwest Rajasthan adjoining Gujarat and Southeast Pakistan**

The Deep Depression (Remnant of Cyclonic Storm 'Biparjoy') over Southwest Rajasthan adjoining Gujarat and Southeast Pakistan moved northeastwards with a speed of 10 kmph during past 6-hours and lay centered at 0830 hours IST of today, the 17<sup>th</sup> June, 2023 over the same region near latitude 25.0°N and longitude 71.5°E, about 80 km south of Barmer and 210 km southwest of Jodhpur.

It is very likely to move east-northeastwards and weaken into a Depression during next 06 hours. Thereafter, it is very likely to continue to move east-northeastwards and maintain the intensity of Depression during subsequent 12 hours.

**Forecast track and intensity are given below:**

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
17.06.23/0830	25.0/71.5	50-60 Gusting To 70	Deep Depression
17.06.23/1130	25.3/72.0	50-60 Gusting To 70	Deep Depression
17.06.23/1730	25.5/72.5	45-55 Gusting To 65	Depression
17.06.23/2330	25.8/73.1	40-50 Gusting To 60	Depression
18.06.23/0530	26.1/73.8	35-45 Gusting To 55	Depression

**Warnings:**

**(i) Heavy Rainfall warning:**

- Light to moderate rainfall at most places with isolated heavy to extremely heavy rainfall is likely over south Rajasthan and isolated heavy to very heavy rainfall over adjoining north Gujarat region & Kutch on 17<sup>th</sup> June.

**(ii) Wind warning:**

**Wind Warning for South Rajasthan and adjoining north Gujarat**

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph during next 12 hours and decrease thereafter becoming 35-45 kmph gusting to 55 kmph.

**(iv) Damage expected over Kachchh and North Saurashtra districts during next 06 hours:**

- Minor damage to loose / unsecured structures.
- Some breaches in Kutcha road due to flooding.
- Minor damage to Banana trees and near coastal agriculture due to salt spray. Damage to ripe paddy crops.
- Minor damage to Kutcha embankments.

**(v) Observed Heavy Rainfall 17<sup>th</sup> June, 2023 (0830 hours IST):**

**Gujarat:** Okha (dist Devbhoomi Dwarka) 23, Anjar (dist Kutch) 22, Mandvi(k) (dist Kutch) 22, Bhachau (dist Kutch) 21, Mundra (dist Kutch) 19, Rapar (dist Kutch) 19, Nakhatrana (dist Kutch) 17, Kandla New (dist Kutch) 17, Jamnagar (dist Jamnagar) 16, Gandhidham (dist Kutch) 15, Khambhalia (dist Devbhoomi Dwarka) 13, Bhuj (dist Kutch) 13, Kandla Airport (dist Kutch) 12, Lodhika (dist Rajkot) 11, Lakhpat (dist Kutch) 10, Kalavad (dist Jamnagar) 10, Chuda (dist Surendranagar) 10, Wankaner (dist Morbi) 9, Jodia (dist Jamnagar) 9, Rajkot (dist Rajkot) 9, Tankara (dist Morbi) 8, Morbi (dist Morbi) 8, Dhrol (dist Jamnagar) 7, Abdasa (dist Kutch) 7, Targhadia\_aws (dist Rajkot) 7, Chotila (dist Surendranagar) 7, Halvad (dist Morbi) 7, Jamnagar\_kvks Aws (dist Jamnagar) 7.

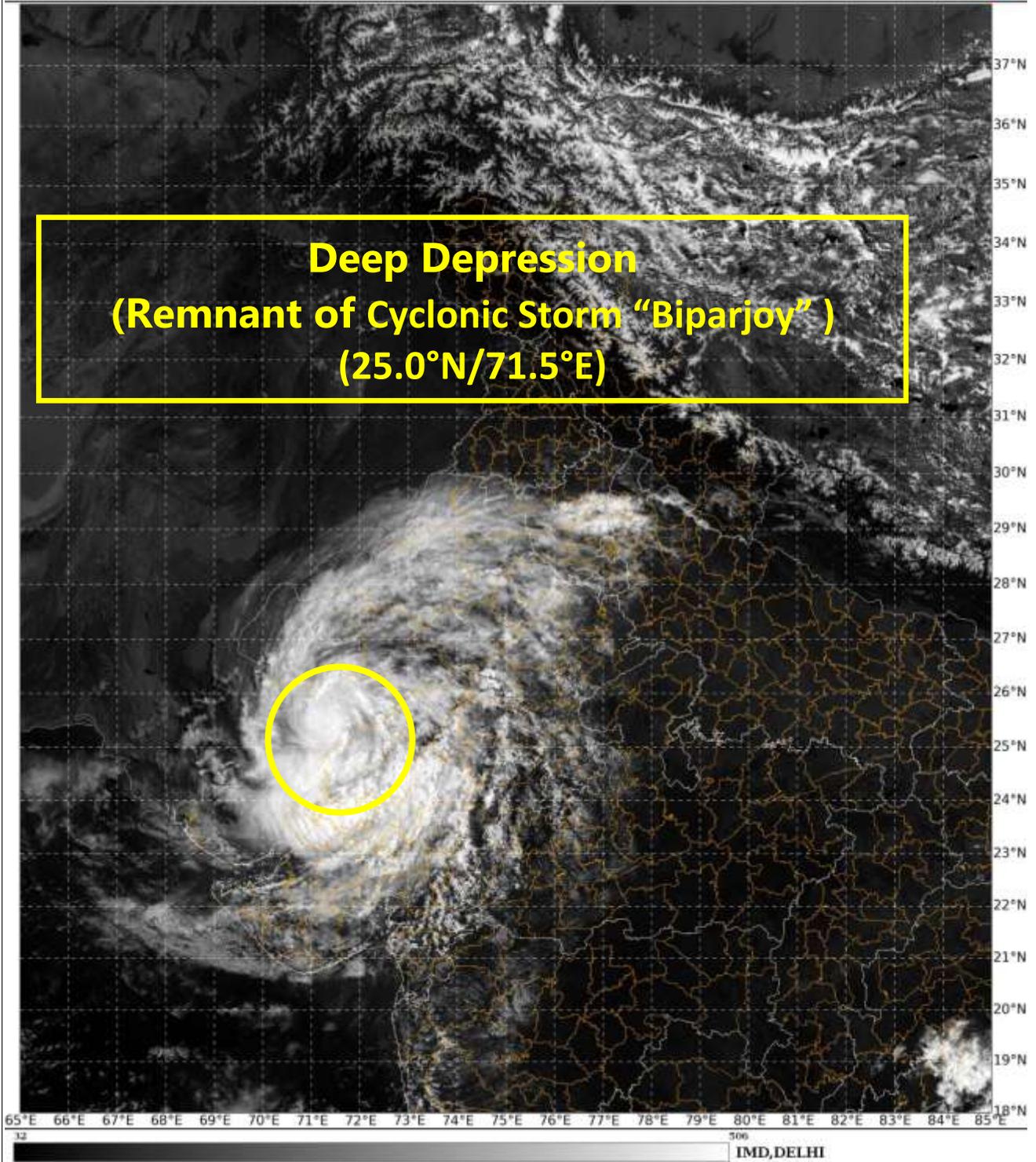
**Rajasthan:** Mt. Abu (Sirohi), 21, Sedwa (Barmer) 14, Mounntabu Tehsil (Sirohi) 13, Raniwada (Jalore) 11, Bidasra (Churu) 8 and Reodar (Sirohi) 7cm

**The system is under continuous surveillance and the next message will be issued at 1430 hours IST of today, the 17<sup>th</sup> June, 2023.**

**(Ananda Kumar Das)**  
**Scientist F, Cyclone Warning Division, New Delhi**

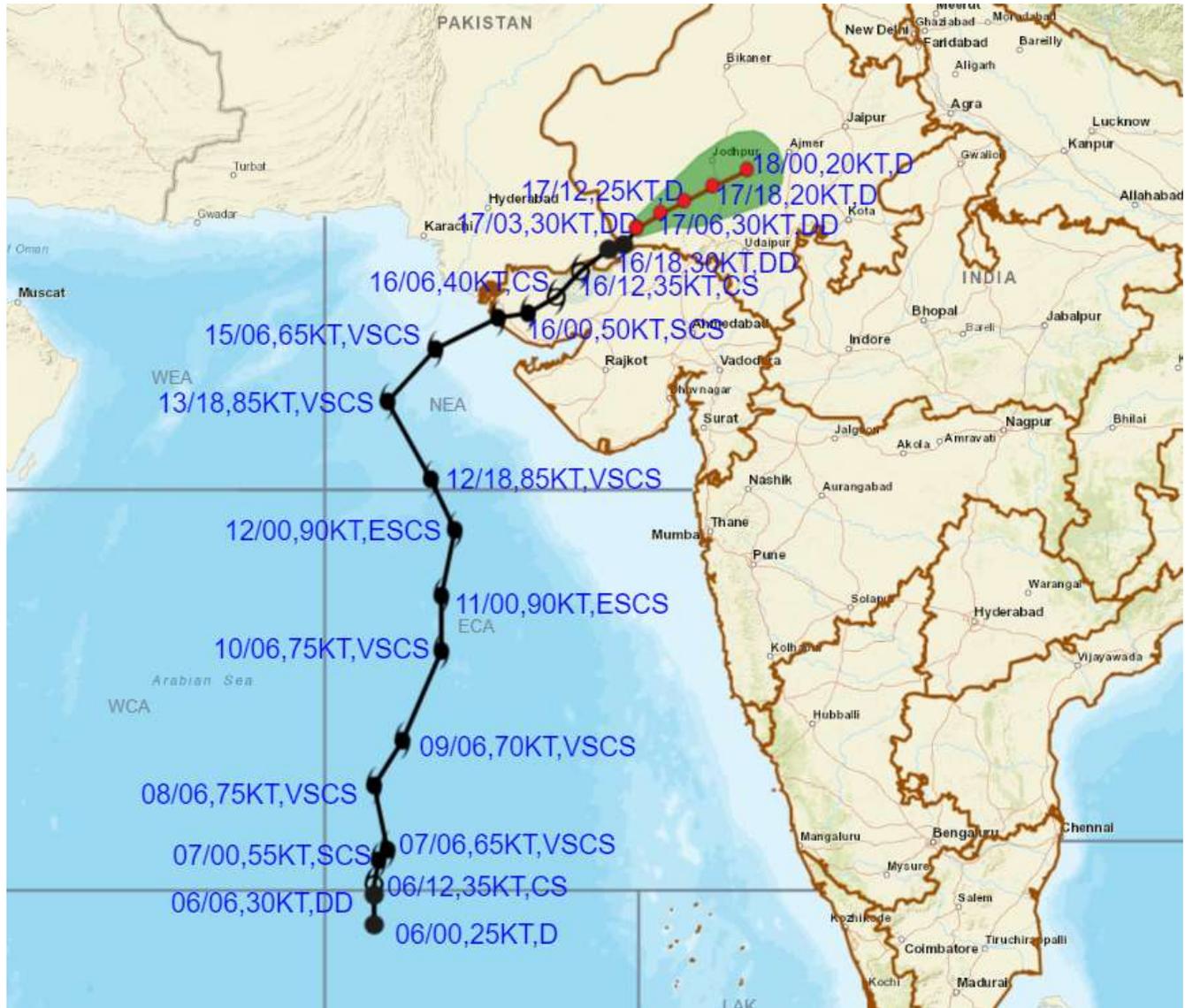
*Copy to: ACWC Kolkata/ ACWC Chennai/ CWC Bhubaneswar/CWC Visakhapatnam/CWC Ahmedabad/ MO Port Blair/MC Raipur/MC Bhopal/MC Hyderabad/RMC Nagpur*

**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





**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION (REMANANT OF CYCLONIC STORM BIPARJOY) OVER SOUTHWEST RAJASTHAN ADJOINING GUJARAT AND SOUTHEAST PAKISTAN BASED ON 0300 UTC (0830 IST) OF 17<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

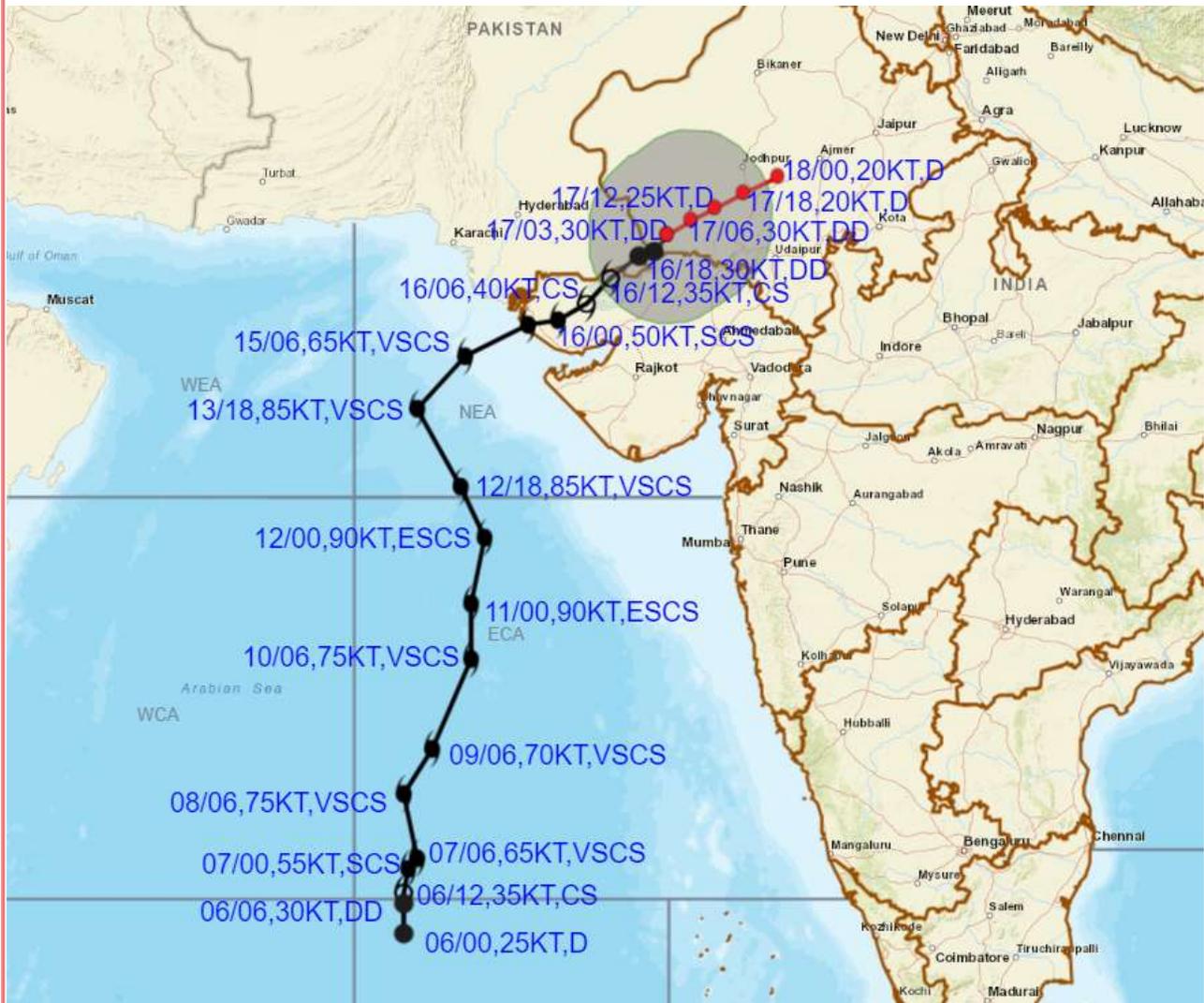
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION (REMANANT OF CYCLONIC STORM BIPARJOY) OVER SOUTHWEST RAJASTHAN ADJOINING GUJARAT AND SOUTHEAST PAKISTAN BASED ON 0300 UTC (0830 IST) OF 17TH JUNE 2023.**



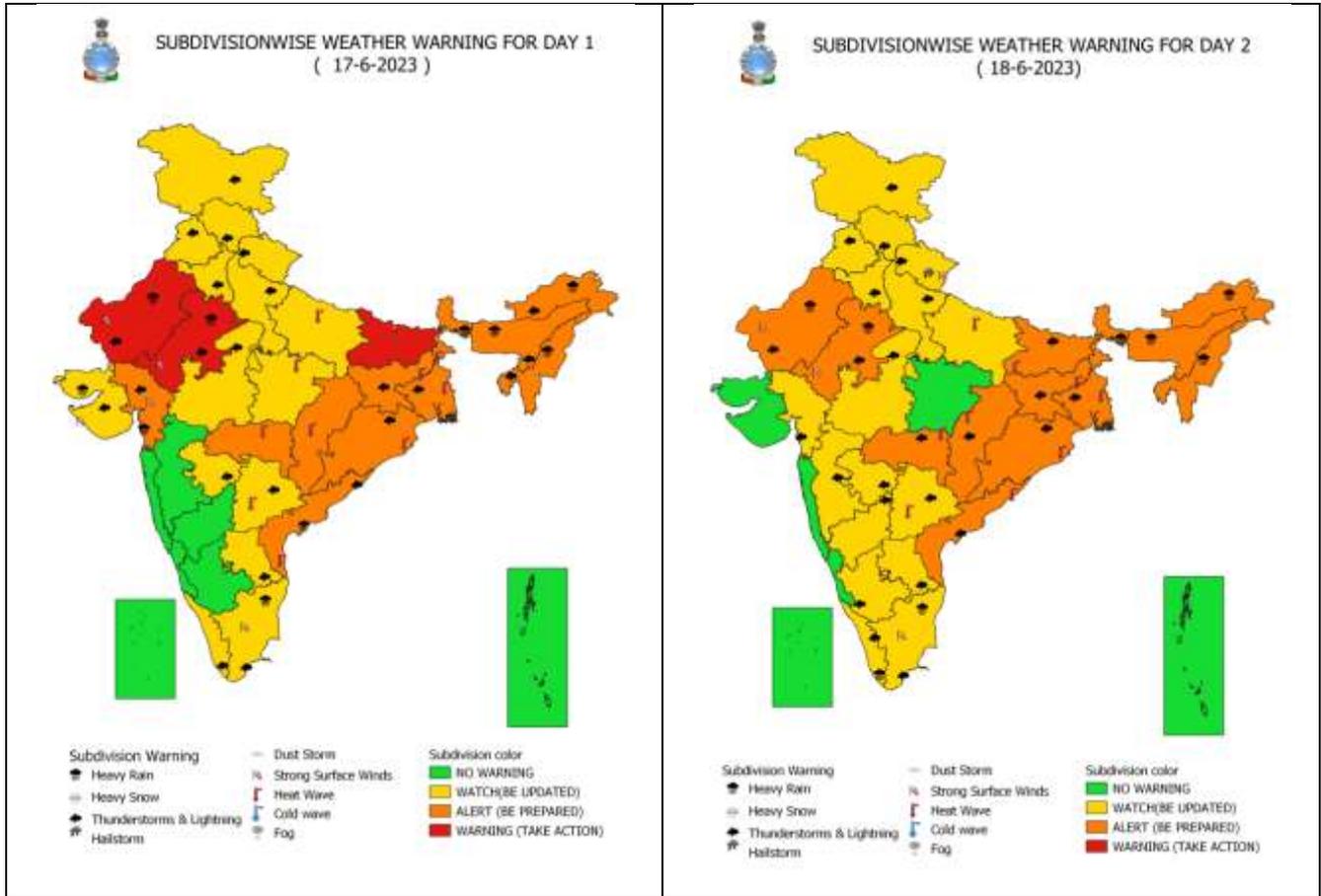
DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63 KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE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

## All India Heavy Rainfall Warning for 17<sup>th</sup> to 18<sup>th</sup> June 2023



## District-wise Heavy Rainfall Warning Maps for 17<sup>th</sup> June



# District-wise Heavy Rainfall Warning Maps for 17<sup>th</sup> to 18<sup>th</sup> June for Rajasthan

