



India Meteorological Department  
(Ministry of Earth Sciences)

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**Sub: Cyclonic Storm “Biparjoy” (pronounced as “Biporjoy”) over Kutch and adjoining Pakistan**

The Cyclonic Storm “Biparjoy” (pronounced as “Biporjoy”) over Saurashtra & Kutch moved nearly northeastwards with a speed of 13 kmph during past 6-hours and lay centered at 1730 hours IST of today, the 16<sup>th</sup> June, 2023 over Kutch and adjoining Pakistan near latitude 24.2°N and longitude 70.3°E, about 30 km northeast of Dholavira, 190 km west of Deesa and 200 km south-southwest of Barmer.

It is very likely to move nearly northeastwards and weaken further into a deep depression around midnight of today, the 16<sup>th</sup> June.

**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
16.06.23/1730	24.2/70.3	65-75 Gusting To 85	Cyclonic Storm
16.06.23/2330	24.7/71.0	50-60 Gusting To 70	Deep Depression
17.06.23/0530	25.1/71.8	40-50 Gusting To 60	Depression

## **Warnings:**

### **(i) Heavy Rainfall warning:**

- Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places is very likely over Saurashtra & Kutch, isolated heavy to extremely heavy rainfall is likely over north Gujarat region and south Rajasthan on 16<sup>th</sup> and over south Rajasthan & adjoining north Gujarat region on 17<sup>th</sup> June.

### **(ii) Wind warning:**

**Northeast Arabian Sea:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail till 17<sup>th</sup> June morning.

### **Wind warning for along & off Saurashtra & Kutch coasts, interior districts and Gulf of Kutch:**

- Gale wind speed reaching 65-75 kmph gusting to 85 kmph is prevailing over Kachchh, 60-70 kmph gusting to 80 kmph is likely to prevail over northern districts of Saurashtra till midnight, squally wind speed reaching 50-60 kmph gusting to 70 kmph thereafter and 40-50 kmph gusting to 60 kmph till forenoon of 17<sup>th</sup> June.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph over southern districts of Saurashtra, iGulf of Kutch and adjoining areas during next six hours.

### **Wind Warning for South Rajasthan**

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph during evening to night. It would decrease thereafter becoming 35-45 kmph gusting to 55 kmph on 17<sup>th</sup> June.

### **(iii) Sea condition**

Very rough to rough sea condition is prevailing over northeast Arabian Sea and along & off Saurashtra & Kutch coasts is likely to become rough by 16<sup>th</sup> June night and improve thereafter.

### **(iv) Damage expected over Kachchh and North Saurashtra districts during next 6 hours:**

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutchha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.

### **(v) Fishermen Warning & Action Suggested (Kachchh, Devbhumi Dwarka, Porbandar, Jamnagar, Rajkot, Junagarh and Morbi districts) and for Offshore & Onshore Industries on 16<sup>th</sup> June: (Graphics Attached)**

- Total suspension of fishing operations over northeast and adjoining eastcentral Arabian Sea.
- Ports along the Saurashtra & Kutch coasts may take necessary precautions.
- Naval base operations may maintain necessary precautions.
- Movement in motor boats unsafe.
- Judicious regulation of rail and road traffic.
- Tourism activities may be regulated over these areas.
- People in affected areas to remain indoors.

**The system is under continuous surveillance and the next message will be issued at 2330 hours IST of today, the 16<sup>th</sup> June, 2023.**

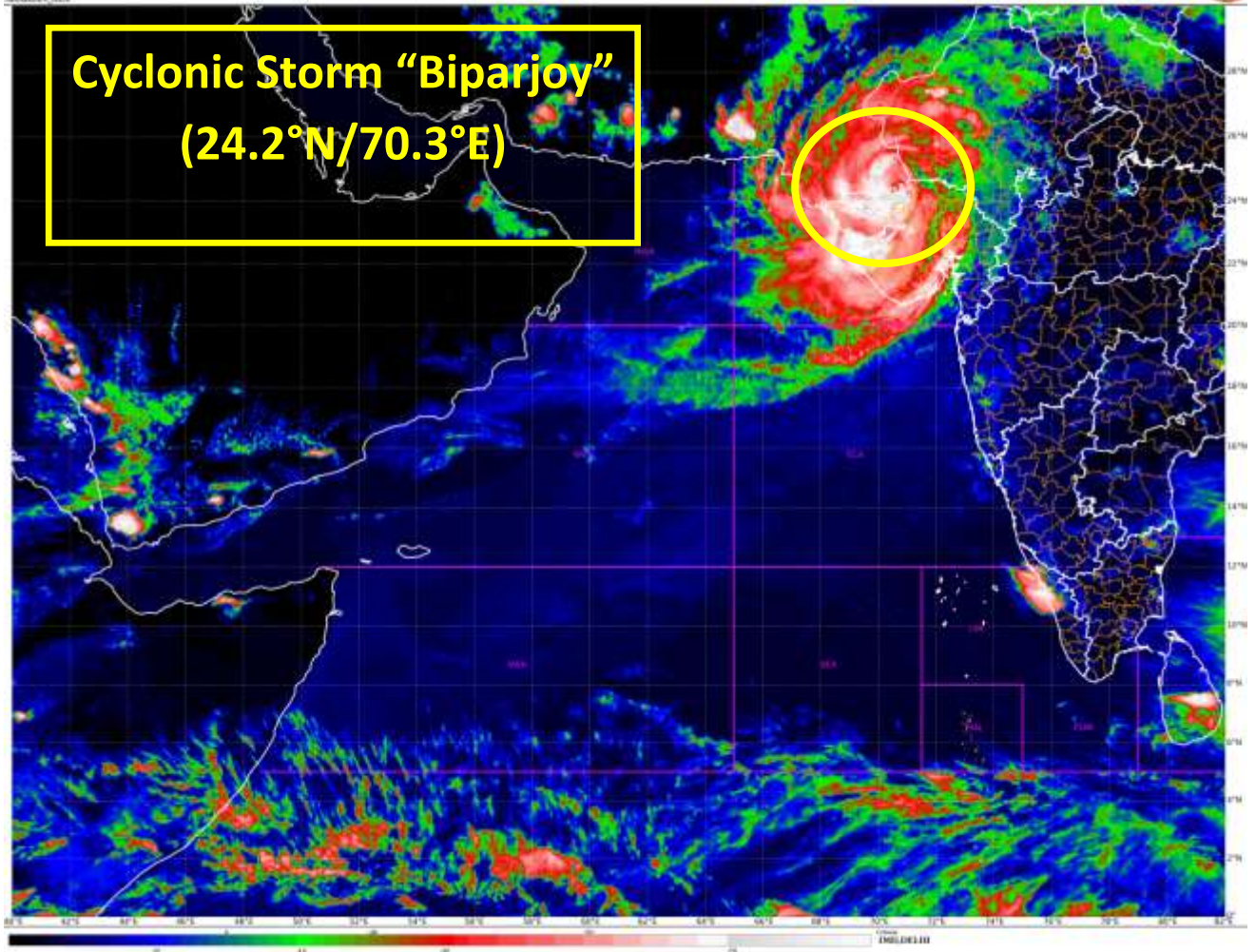
**(Ananda Kumar Das)**  
**Scientist F, Cyclone Warning Division, New Delhi**

*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

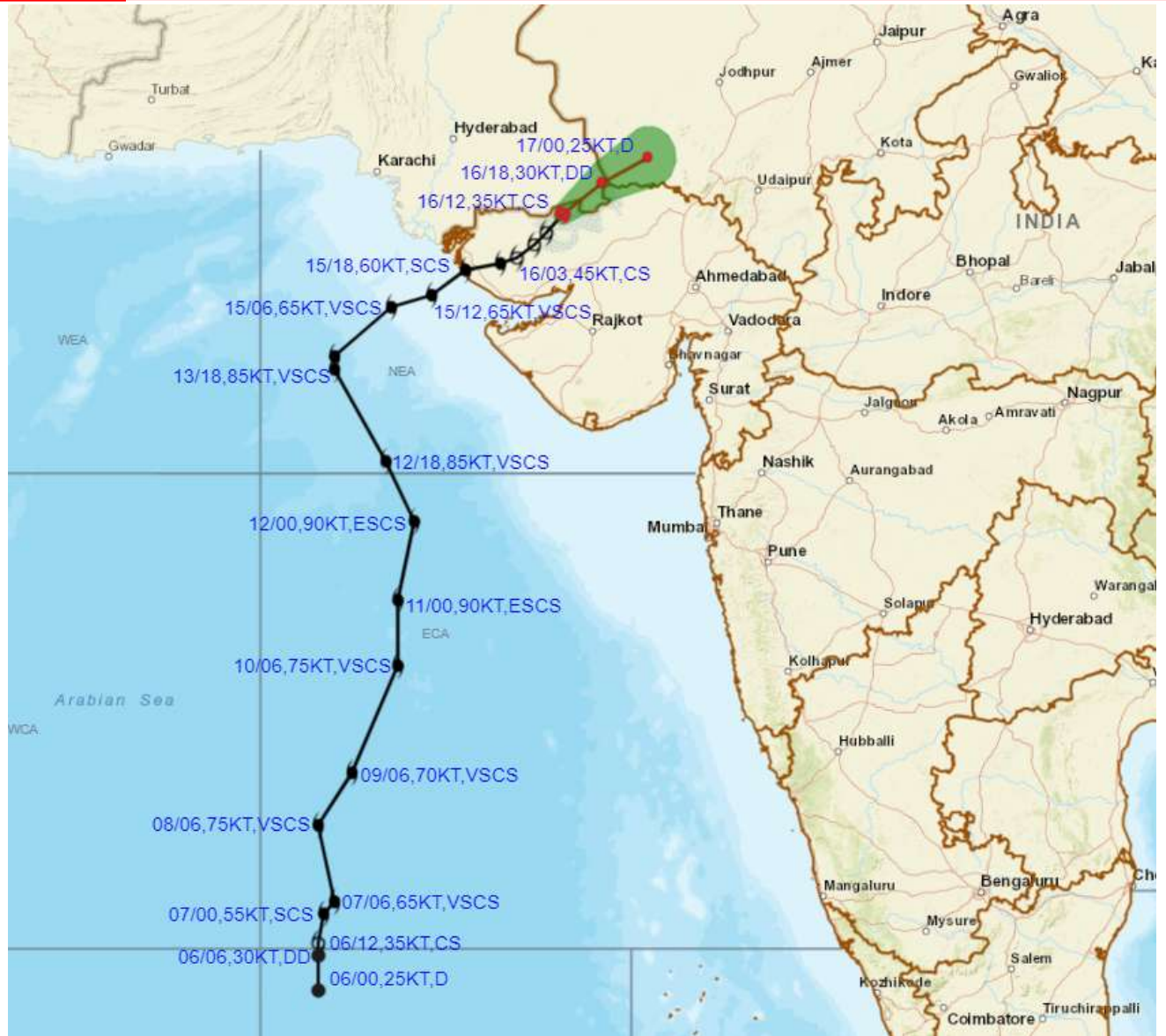


**Cyclonic Storm "Biparjoy"**  
**(24.2°N/70.3°E)**





**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BIPARJOY" OVER KUTCH AND ADJOINING PAKISTAN BASED ON 1200 UTC (1730 IST) OF 16<sup>TH</sup> JUNE 2023.**

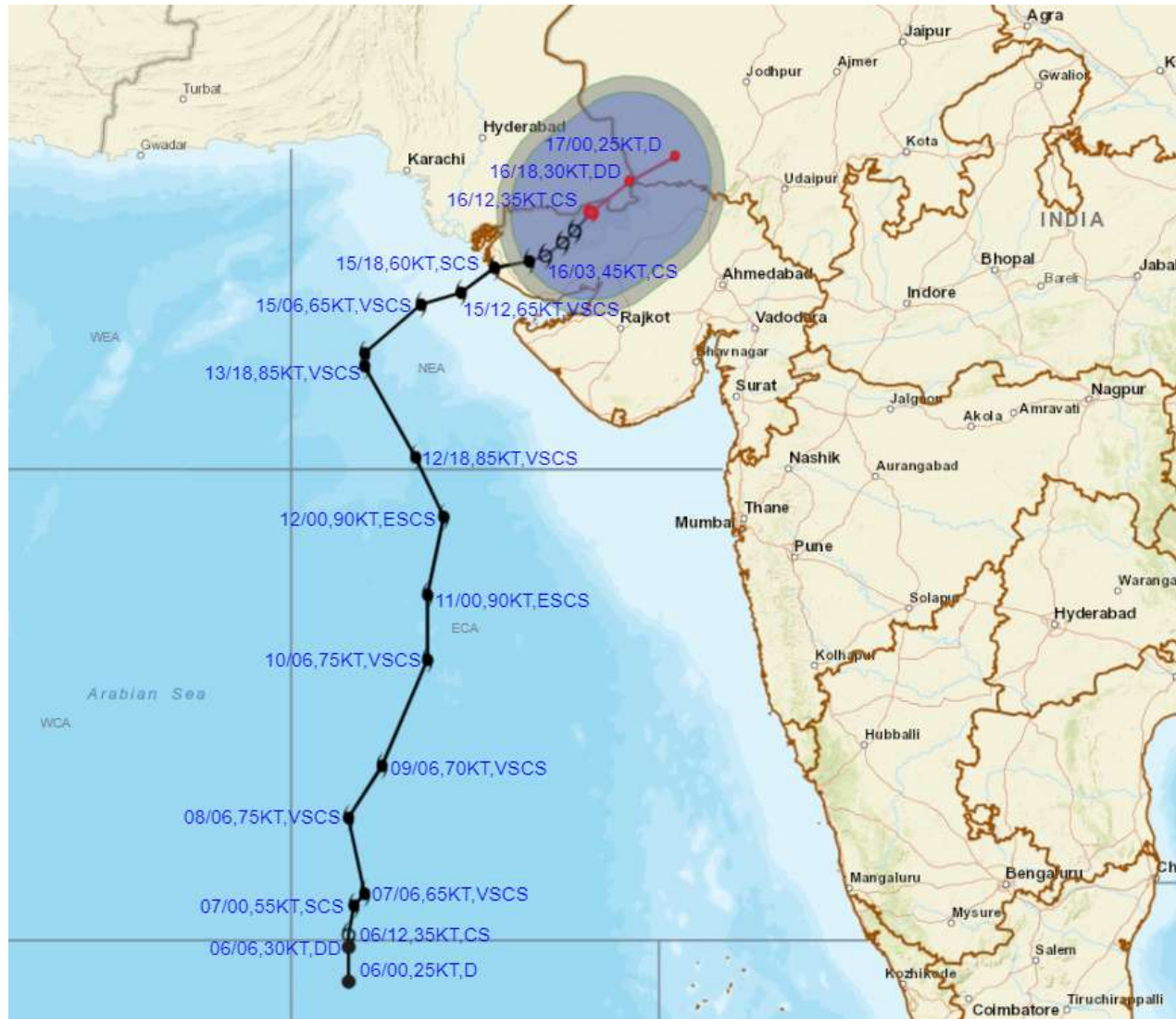


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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 CYCLONIC STORM "BIPARJOY" OVER KUTCH AND ADJOINING PAKISTAN BASED ON 1200 UTC (1730 IST) OF 16<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 (≥ 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)

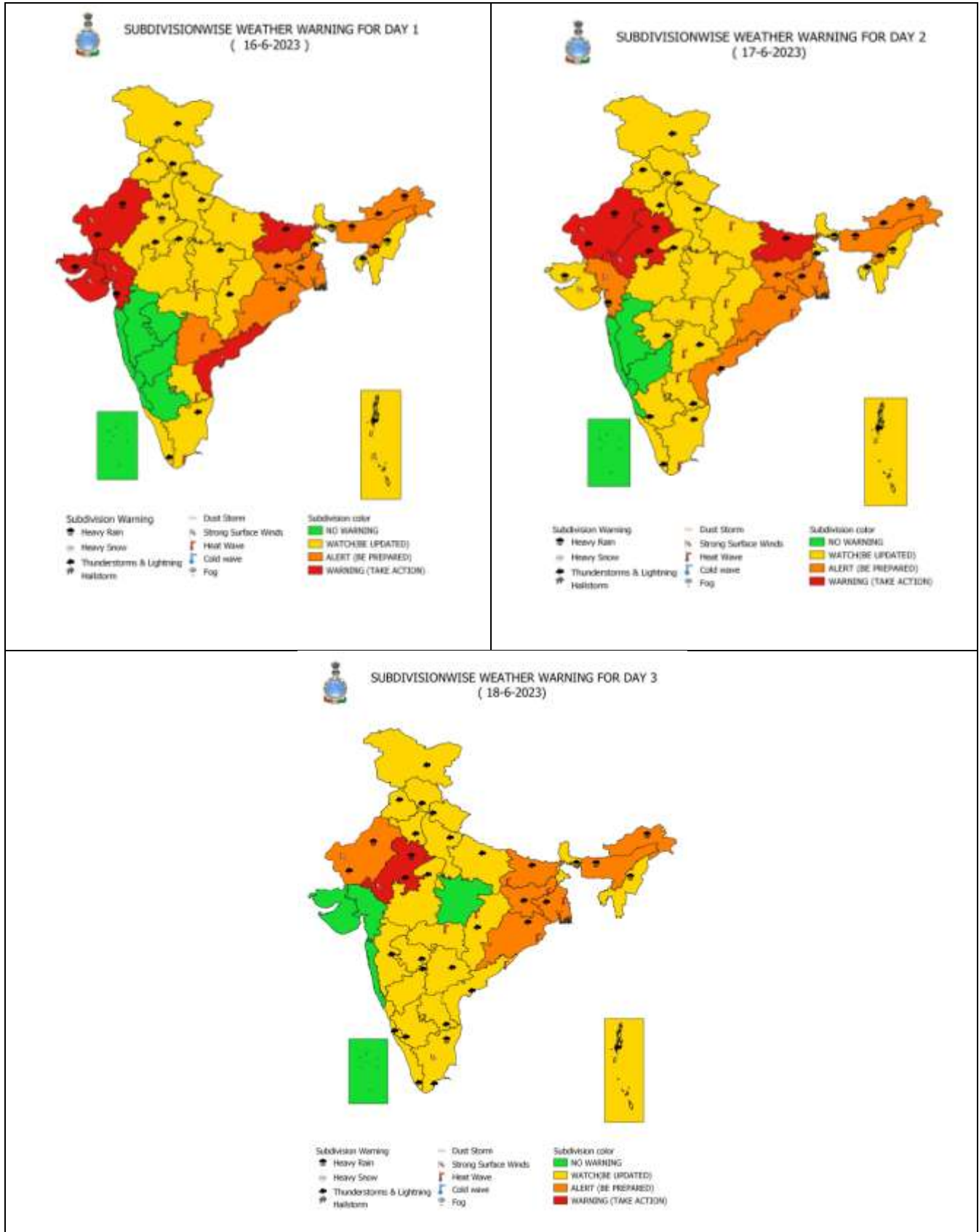
■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

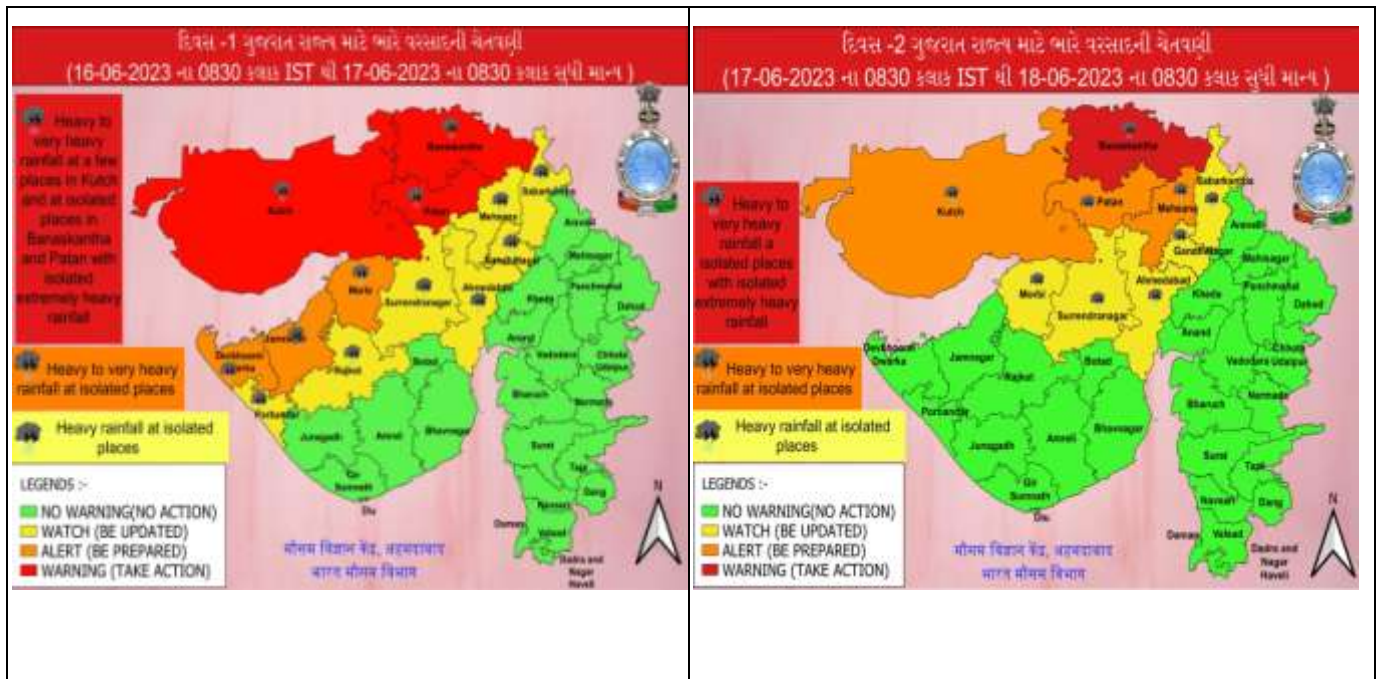
**IMPACT OVER THE SEA**

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

# All India Heavy Rainfall Warning for 16<sup>th</sup> to 18<sup>th</sup> June 2023



## District-wise Heavy Rainfall Warning Maps for 16<sup>th</sup> to 17<sup>th</sup> June



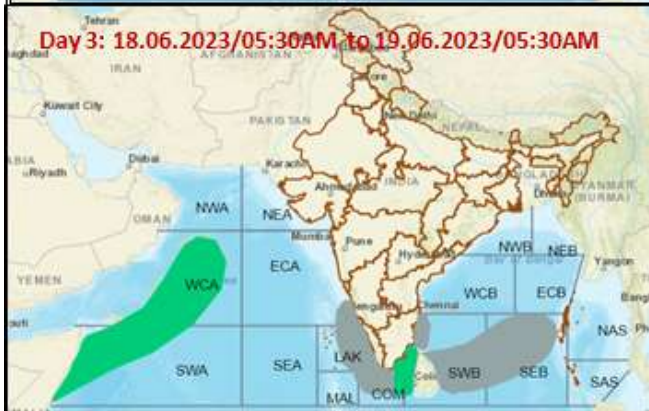
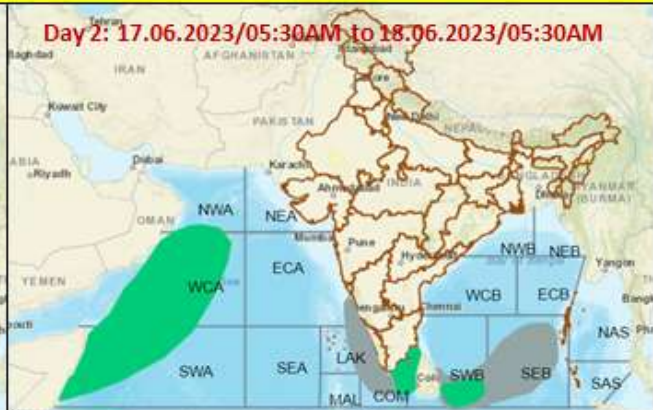
## District-wise Wind Warning Maps for 16<sup>th</sup> June







## Fishermen warning graphics



	Squally Weather with wind speed 40-45 kmph gusting to 55 kmph
	Squally wind speed with wind speed 45-55 kmph gusting to 65 kmph
	Squally wind speed with wind speed 50-60 kmph gusting to 70 kmph
<b>Fishermen are advised not to venture into the marked areas</b>	