



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
SPECIAL TROPICAL WEATHER OUTLOOK**

**DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 08.06.2023**

**FROM: RSMC –TROPICAL CYCLONES, NEW DELHI**

**TO: STORM WARNING CENTRE, NAYPYI TAW (MYANMAR)  
STORM WARNING CENTRE, BANGKOK (THAILAND)  
STORM WARNING CENTRE, COLOMBO (SRILANKA)  
STORM WARNING CENTRE, DHAKA (BANGLADESH)  
STORM WARNING CENTRE, KARACHI (PAKISTAN)  
METEOROLOGICAL OFFICE, MALE (MALDIVES)  
OMAN METEOROLOGICAL DEPARTMENT, MUSCAT (THROUGH RTH JEDDAH)  
YEMEN METEOROLOGICAL SERVICES, REPUBLIC OF YEMEN (THROUGH RTH JEDDAH)  
NATIONAL CENTRE FOR METEOROLOGY, UAE (THROUGH RTH JEDDAH)  
PRESIDENCY OF METEOROLOGY AND ENVIRONMENT, SAUDI ARABIA (THROUGH RTH JEDDAH)  
IRAN METEOROLOGICAL ORGANISATION, (THROUGH RTH JEDDAH)  
QATAR METEOROLOGICAL DEPARTMENT (THROUGH RTH JEDDAH)**

**TROPICAL CYCLONE ADVISORY NO. 16 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1030 UTC OF 08.06.2023 BASED ON 0900 UTC OF 08.06.2023**

**SUB: VERY SEVERE CYCLONIC STORM “BIPARJOY” (PRONOUNCED AS “BIPORJOY”) OVER EASTCENTRAL ARABIAN SEA**

THE VERY SEVERE CYCLONIC STORM “BIPARJOY” (PRONOUNCED AS “BIPORJOY”) OVER EASTCENTRAL ARABIAN SEA MOVED NEARLY NORTHWARDS WITH A SPEED OF 5 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0900 UTC OF TODAY, THE 08<sup>TH</sup> JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 14.3°N AND LONGITUDE 66.0°E, ABOUT 850 KM WEST OF GOA, 890 KM SOUTHWEST OF MUMBAI, 900 KM SOUTH-SOUTHWEST OF PORBANDAR AND 1180 KM SOUTH OF KARACHI.

IT WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 18 HOURS AND MOVE NEARLY NORTH-NORTHWESTWARDS DURING NEXT 3 DAYS.

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

Date/Time(UTC)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
08.06.23/0900	14.3/66.0	135-145 gusting to 160	Very Severe Cyclonic Storm
08.06.23/1200	14.4/66.0	140-150 gusting to 165	Very Severe Cyclonic Storm
08.06.23/1800	14.7/65.9	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/0000	15.0/65.8	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/0600	15.3/65.7	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/1800	15.9/65.5	145-155 gusting to 170	Very Severe Cyclonic Storm
10.06.23/0600	16.6/65.3	140-150 gusting to 165	Very Severe Cyclonic Storm
10.06.23/1800	17.3/65.1	135-145 gusting to 160	Very Severe Cyclonic Storm
11.06.23/0600	18.0/64.9	135-145 gusting to 160	Very Severe Cyclonic Storm

Cloud distribution: (a) Isolated: <25%, Scattered:25-50%, Broken: 51-75%, Solid:>75%, Convection Intensity: (a) Weak: Cloud Top Temperature (CTT) >-25°C, (b) Moderate: CTT: - 25°C to -40°C, (c) Intense: CTT: - 41°C to -70°C and (d) Very Intense: : Less than -70°C  
PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%  
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11.06.23/1800	18.7/64.7	130-140 gusting to 155	Very Severe Cyclonic Storm
12.06.23/0600	19.4/64.5	125-135 gusting to 150	Very Severe Cyclonic Storm
12.06.23/1800	20.1/64.3	120-130 gusting to 145	Very Severe Cyclonic Storm
13.06.23/0600	20.8/64.1	115-125 gusting to 140	Very Severe Cyclonic Storm

AS PER INSAT 3D IMAGERY INTENSITY OF THE SYSTEM IS T 4.0. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL AND ADJOINING SOUTH ARABIAN SEA BETWEEN LATITUDE 13.0N & 17.0N LONGITUDE 61.0E & 66.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 75 KNOTS GUSTING TO 85 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 978 HPA. SEA CONDITION IS LIKELY TO BE PHENOMENAL OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA.

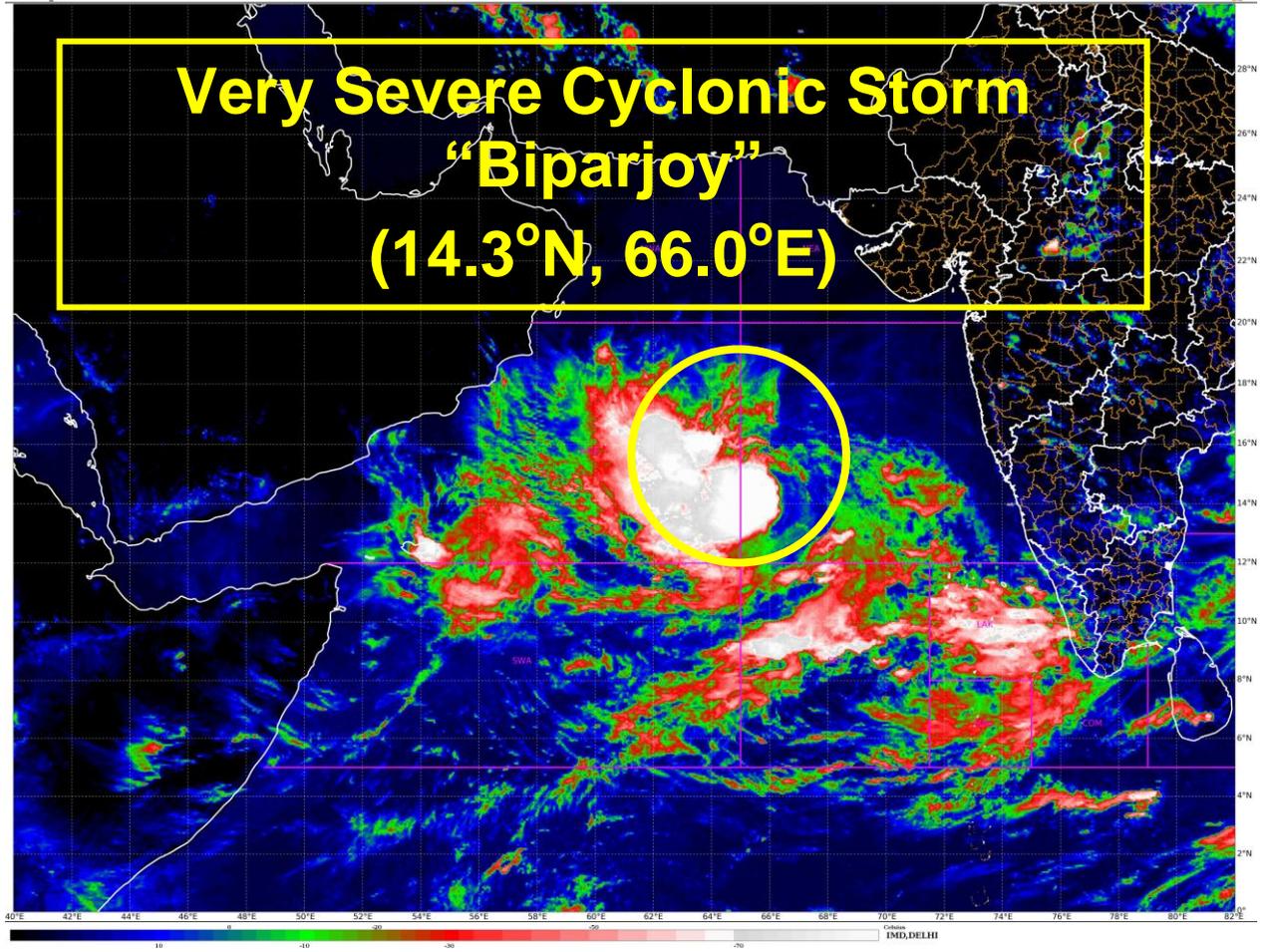
**REMARKS:**

SEA SURFACE TEMPERATURE IS AROUND 30-32°C OVER CENTRAL & ADJOINING SOUTH ARABIAN SEA. THE CYCLONIC STORM "BIPARJOY" IS CURRENTLY IN A VERY FAVOURABLE ENVIROMENT WITH POSITIVE LOW LEVEL VORTICITY ( $250 \times 10^{-6} \text{S}^{-1}$ ) NEAR SYSTEM CENTRE, LOW LEVEL CONVERGENCE OF ABOUT  $20 \times 10^{-5} \text{S}^{-1}$  OVER THE AREA AND UPPER LEVEL DIVERGENCE OF ABOUT  $20 \times 10^{-5} \text{S}^{-1}$  TO THE SOUTH OF SYSTEM CENTRE. WIND SHEAR IS MODERATE OVER SYSTEM AREA (15-20 KNOTS) AND IS WEAK 10-15 KTS ALONG THE FORECASTE TRACK . MJO IS IN PHASE 2 WITH AMPLITUDE CLOSE TO 1 AND EQUATORIAL ROSSBY WAVES, KELVIN WAVES ALONGWITH WESTERLY WINDS (5-7 MPS) ARE ALSO PREVAILING OVER SOUTH AND CENTRAL ARABIAN SEA. TOTAL PRECEIPITABLE WATER IMAGERY INDICATE THE WARM MOIST AIR INCURSION INTO THE SYSTEM.

THERE IS LARGE VARIATION AMONG VARIOUS MODELS WRT MOVEMENT OF THE SYSTEM AFTER 3 DAYS. NCEP GFS IS INDICATING MOVEMENT TOWARDS OMAN, ECMWF TOWARDS PAKISTAN & ADJOINING NORTH GUJARAT COASTS, IMD GFS OVER IRAN-PAKISTAN COASTS, NCM TOWARDS GUJARAT COAST, IMD MME TOWARDS PAKISTAN-IRAN COASTS AND IMDHWRP TOWARDS WESTCENTRAL ARABIAN SEA DURING NEXT 5 DAYS.

CONSIDERING ALL THE ABOVE, VERY SEVERE CYCLONIC STORM "BIPARJOY" WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 18 HOURS AND MOVE NEARLY NORTH-NORTHWESTWARDS DURING NEXT 3 DAYS.

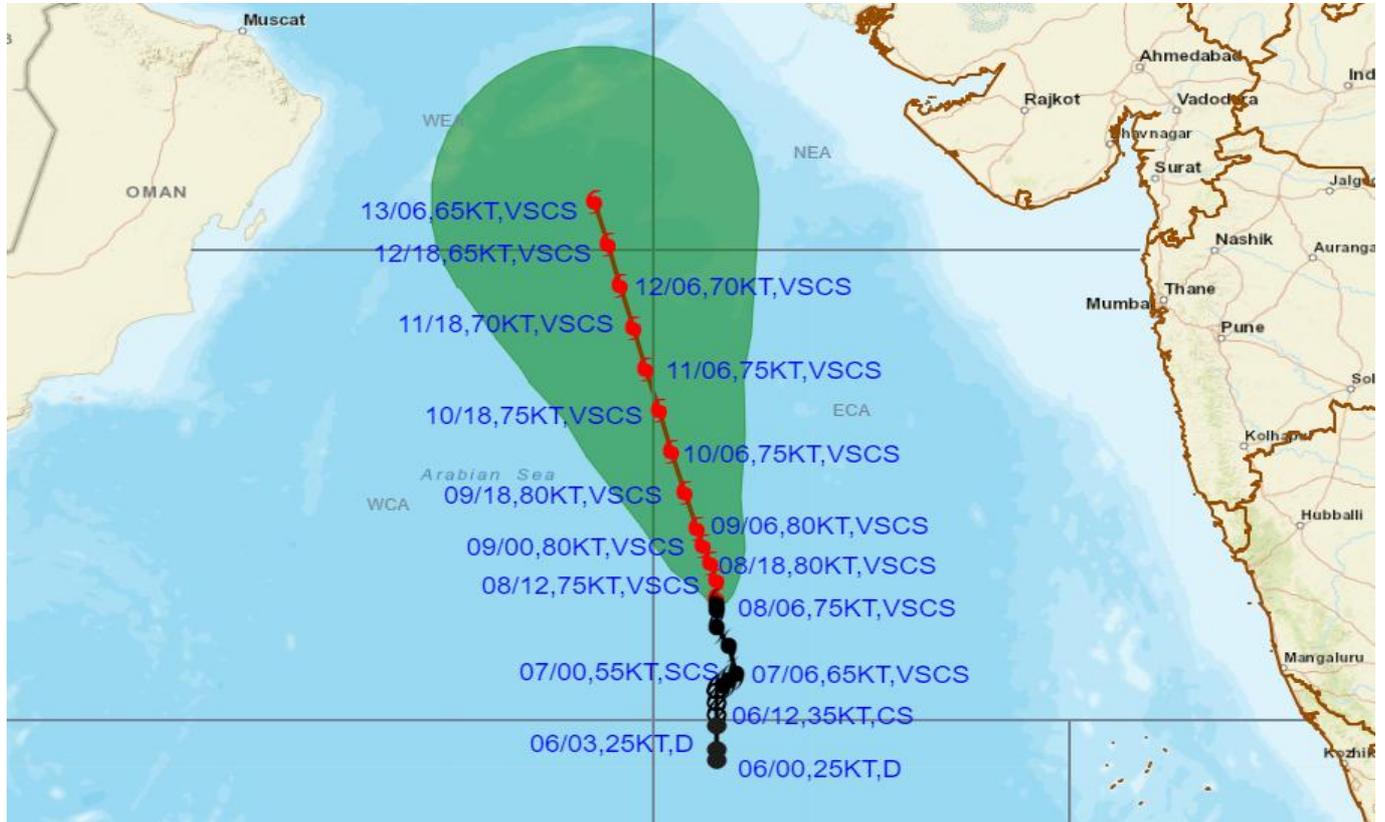
**MONICA SHARMA  
SCIENTIST-D  
RSMC NEW DELHI**



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**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC (1130 IST) OF 08<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)

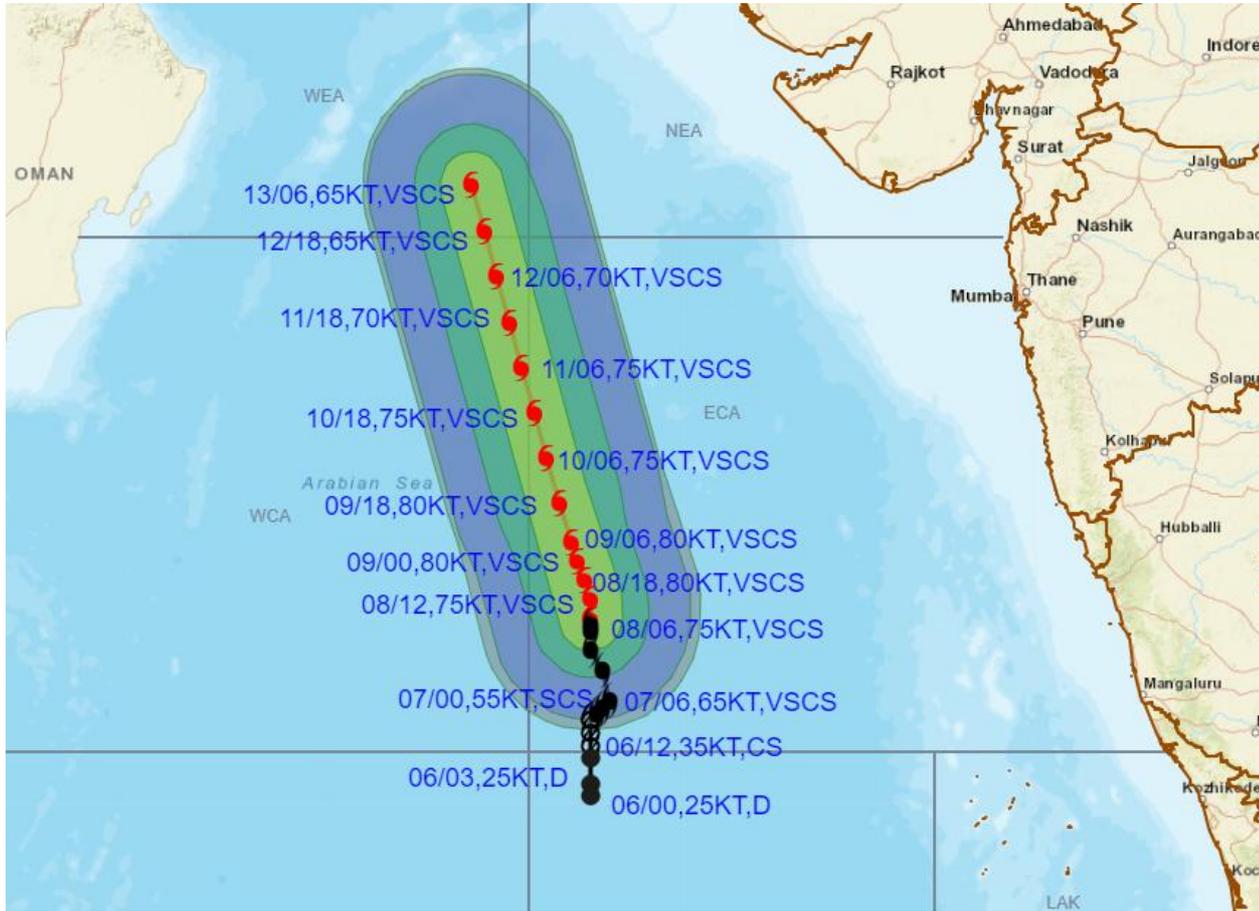
- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

STATIONS	DISTANCE(KM) AND DIRECTION FROM STATIONS		
	09.06.23/0600	10.06.23/0600	11.06.23/0600
PORBANDAR	820, SSW	720, SW	640, SW
BOMBAY / COLABA	850, WSW	840, WSW	840, W
GOA/PANJIM	880, W	920, W	990, WNW
KARACHI AIRPORT	1070, S	940, SSW	800, SSW
MASIRAH	930, SE	810, ESE	690, ESE

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**OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC (1130 IST) OF 08TH JUNE 2023.**



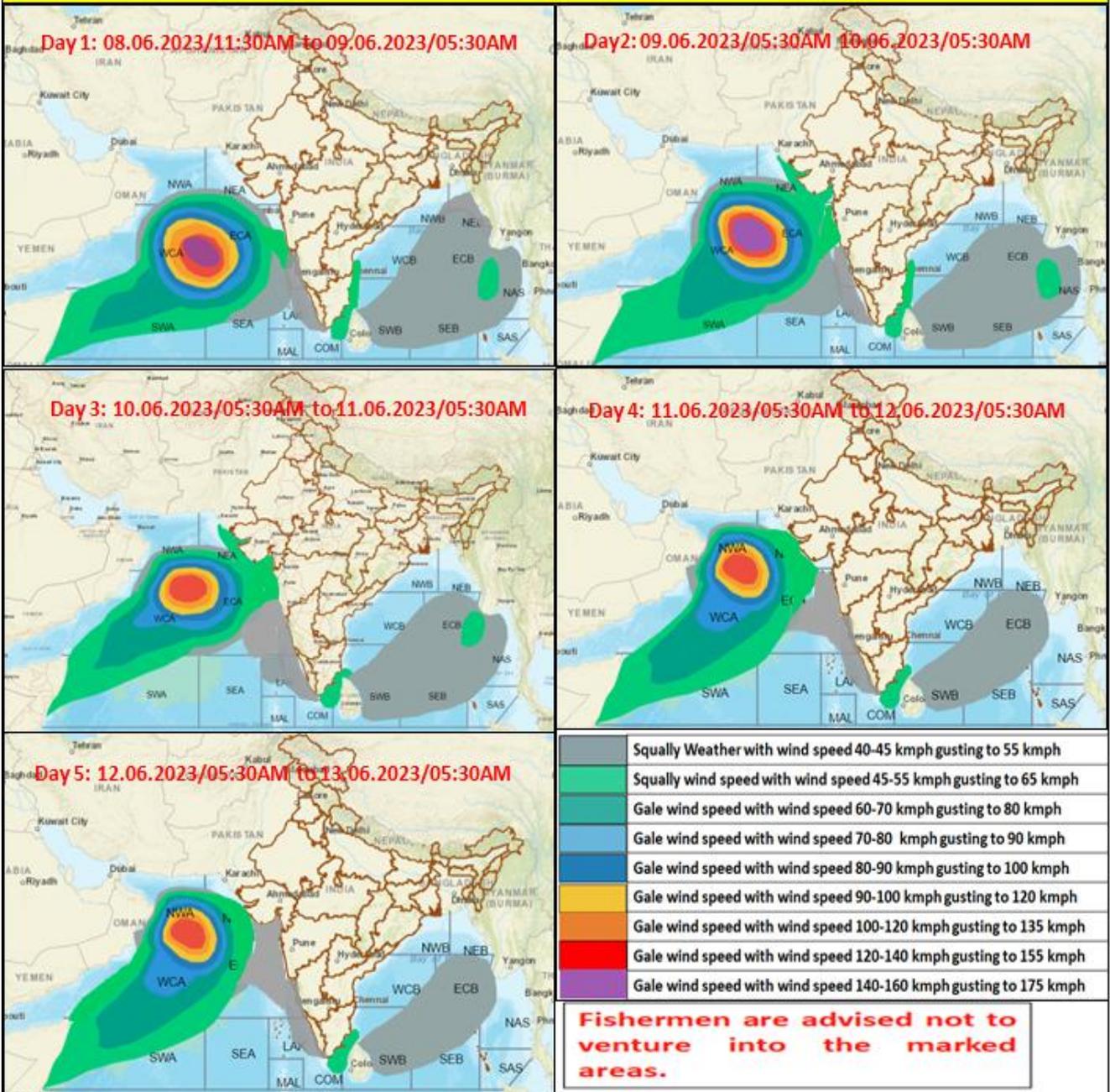
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● LESS THAN 34 KT  
 ○ 34-47 KT  
 ○ ≥ 48 KT  
 — OBSERVED TRACK  
 — FORECAST TRACK  
 ▲ CONE OF UNCERTAINTY  
 AREA OF MAXIMUM SUSTAINED WIND SPEED:  
 ■ 28-33 KT (52-61 KMPH)  
 ■ 34-49 KT (62-91 KMPH)  
 ■ 50-63 KT (92-117 KMPH)  
 ■ ≥ 64 KT (≥118 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

## Fishermen warning graphics



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