



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY**

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. 20 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0000 UTC OF 09.06.2023 BASED ON 2100 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 2 KMPH DURING PAST 6 HOURS AND LAY CENTERED 2100 UTC OF 08TH JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 14.6°N AND LONGITUDE 66.0°E, ABOUT 840 KM WEST SOUTHWEST OF GOA (43192), 870 KM SOUTHWEST OF MUMBAI (43057), 870 KM SOUTH-SOUTHWEST OF PORBANDAR (42830) AND 1150 KM SOUTH OF KARACHI (41780).

IT WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 36 HOURS AND MOVE NEARLY NORTH-NORTHWESTWARDS DURING NEXT 2 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
08.06.23/2100	14.6/66.0	135-145 gusting to 160	Very Severe Cyclonic Storm
09.06.23/0000	14.8/66.0	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/0600	15.1/65.9	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/1200	15.5/65.8	155-165 gusting to 180	Very Severe Cyclonic Storm
09.06.23/1800	15.8/65.7	155-165 gusting to 180	Very Severe Cyclonic Storm
10.06.23/0600	16.4/65.5	155-165 gusting to 180	Very Severe Cyclonic Storm
10.06.23/1800	17.2/65.3	145-155 gusting to 170	Very Severe Cyclonic Storm
11.06.23/0600	17.8/65.1	145-155 gusting to 170	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	18.6/64.9	135-145 gusting to 160	Very Severe Cyclonic Storm
12.06.23/0600	19.3/64.7	135-145 gusting to 160	Very Severe Cyclonic Storm
12.06.23/1800	19.9/64.5	125-135 gusting to 150	Very Severe Cyclonic Storm
13.06.23/0600	20.7/64.3	125-135 gusting to 150	Very Severe Cyclonic Storm
13.06.23/1800	21.5/64.1	115-125 gusting to 140	Very Severe Cyclonic Storm

AS PER INSAT 3D IMAGERY INTENSITY OF THE SYSTEM IS T 4.0. VISIBLE IMAGERY SHOWS DENSE CONVECTIVE CLOUD MASS TO THE WEST OF THE SYSTEM CENTER. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL AND ADJOINING SOUTH ARABIAN SEA BETWEEN LATITUDE 12.0N & 17.0N LONGITUDE 60.0E & 67.0E. 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.

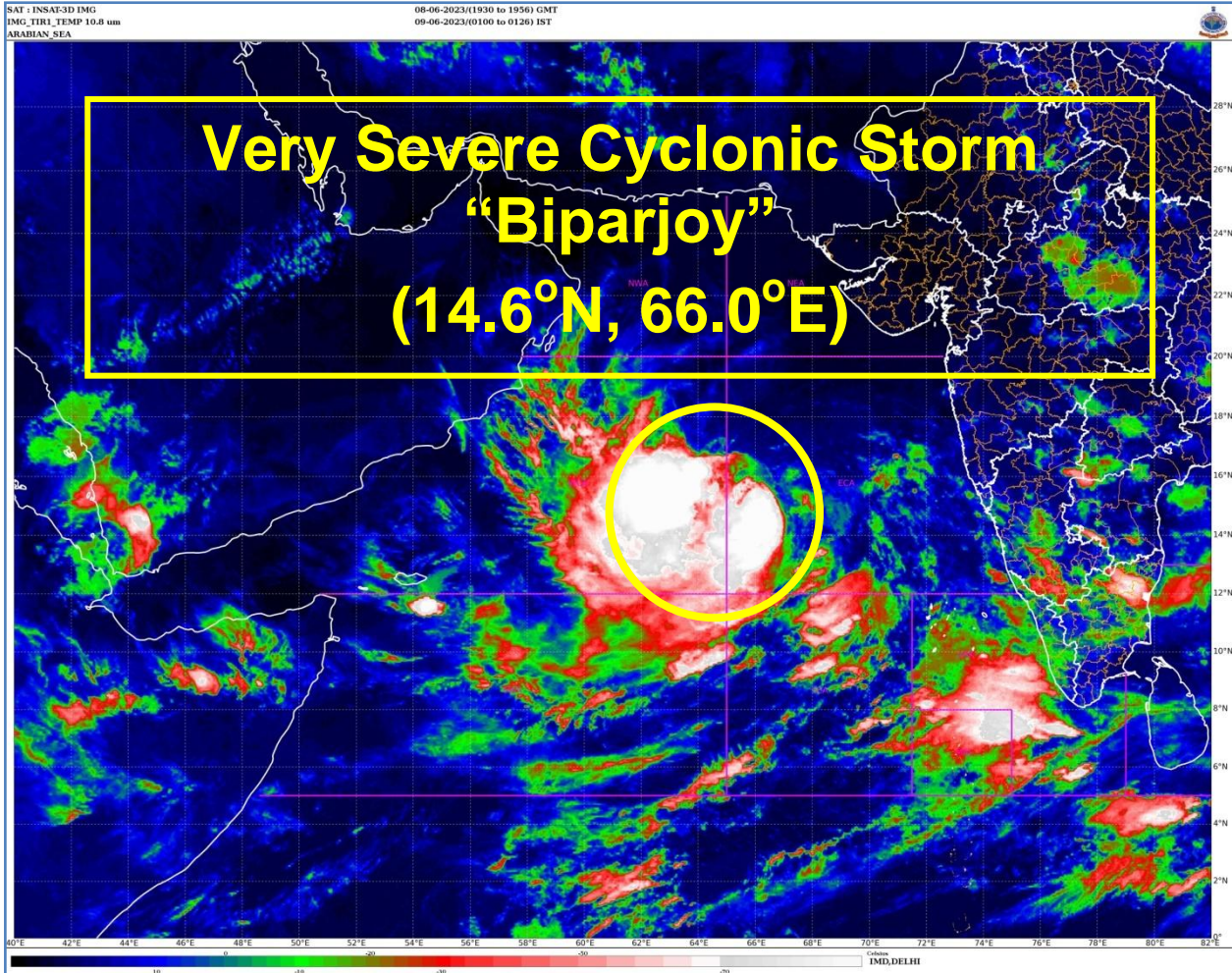
REMARKS:

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 ($250 \times 10^{-6} S^{-1}$) NEAR SYSTEM CENTRE, LOW LEVEL CONVERGENCE IS ABOUT $30 \times 10^{-5} S^{-1}$ OVER SOUTHWEST OF THE SYSTEM CENTRE AND UPPER LEVEL DIVERGENCE IS ABOUT $40 \times 10^{-5} S^{-1}$ TO THE SOUTHWEST 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 ALONGWITH WESTERLY WINDS (5-7 MPS) ARE ALSO PREVAILING OVER CENTRAL ARABIAN SEA.

THERE IS STILL LARGE VARIATION AMONG VARIOUS MODELS WRT MOVEMENT OF THE SYSTEM AFTER 3 DAYS. LATEST NCEP GFS FORECAST IS INDICATING MOVEMENT TOWARDS IRAN, ECMWF TOWARDS PAKISTAN & ADJOINING NORTH GUJARAT COASTS, IMD GFS OVER PAKISTAN COASTS, NCUM TOWARDS GUJARAT COAST, IMD MME TOWARDS PAKISTAN 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 36 HOURS AND MOVE NEARLY NORTH-NORTHWESTWARDS DURING NEXT 2 DAYS.

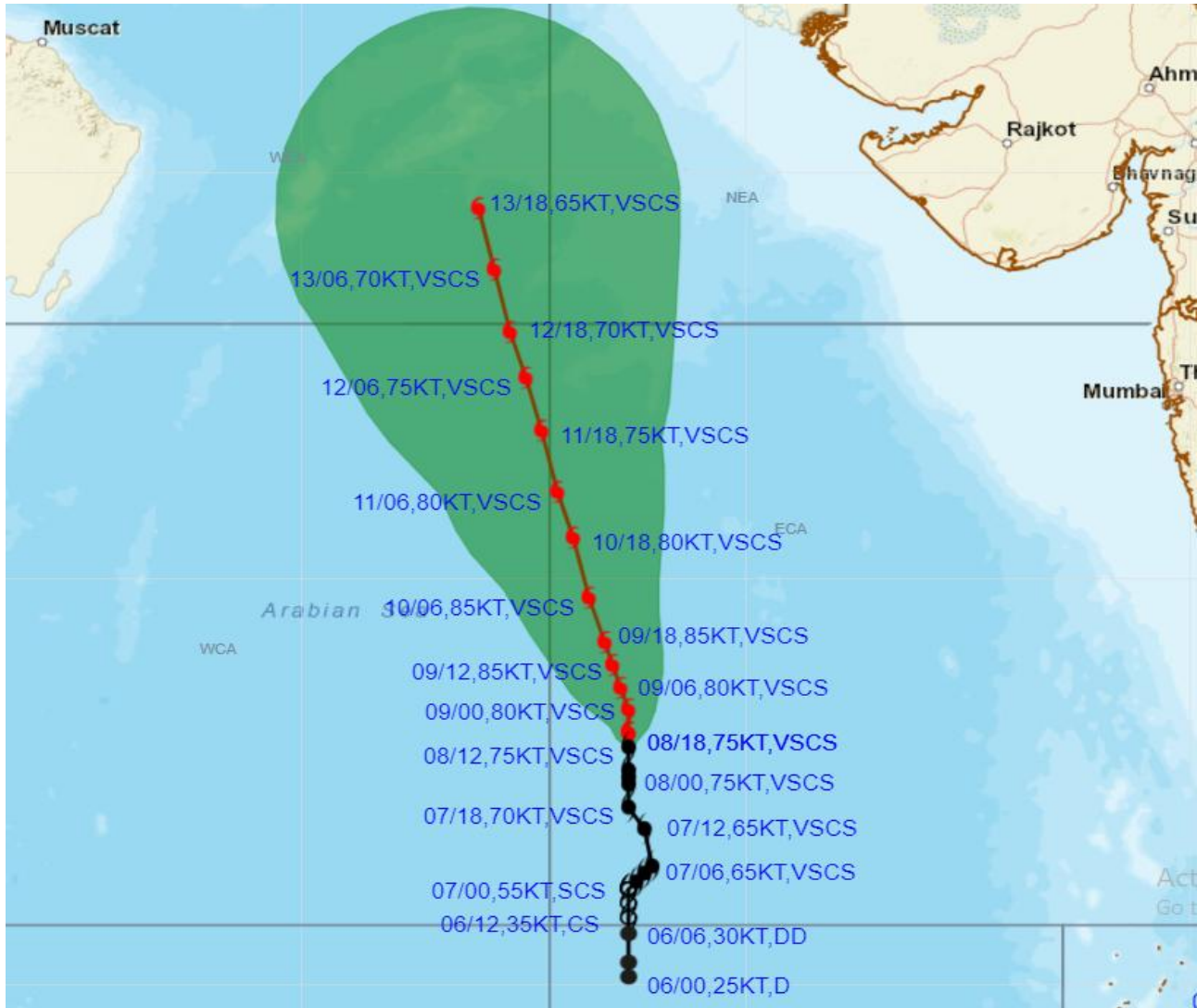
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RSMC NEW DELHI**



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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 1800 UTC (2330 IST) OF 08TH 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



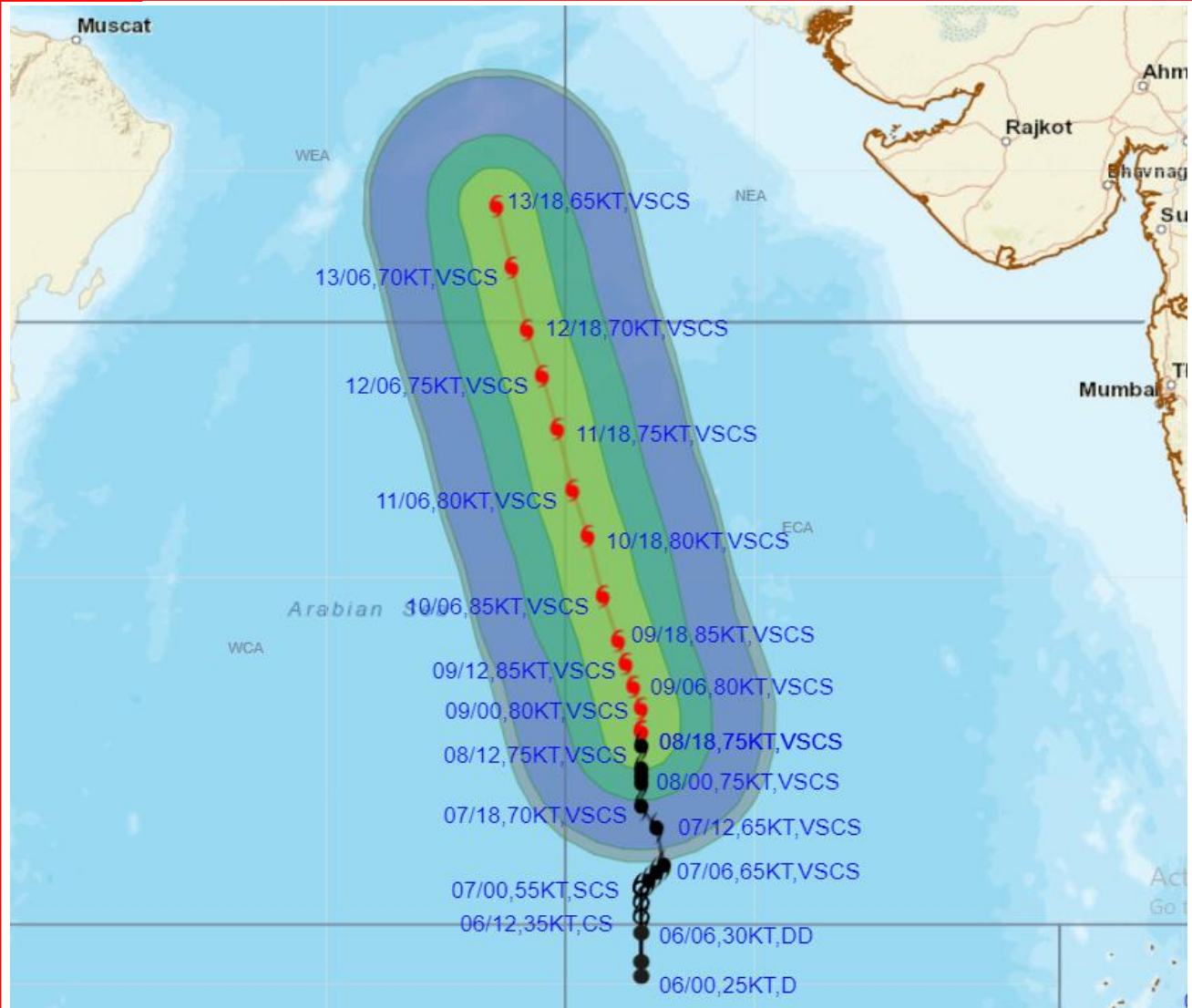
CONE OF UNCERTAINTY

STATIONS	DISTANCE(KM) AND DIRECTION FROM STATIONS		
	09.06.23/1800	10.06.23/1800	11.06.23/1800
PORBANDAR	770, SSW	670, SW	600, SW
BOMBAY / COLABA	830, WSW	820, WSW	830, W
GOA/PANJIM	880, W	930, WNW	1010, WNW
KARACHI AIRPORT	1020, S	870, SSW	730, SSW
MASIRAH	890, SE	770, ESE	660, 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 1800 UTC (2330 IST) OF 08TH JUNE 2023.



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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)

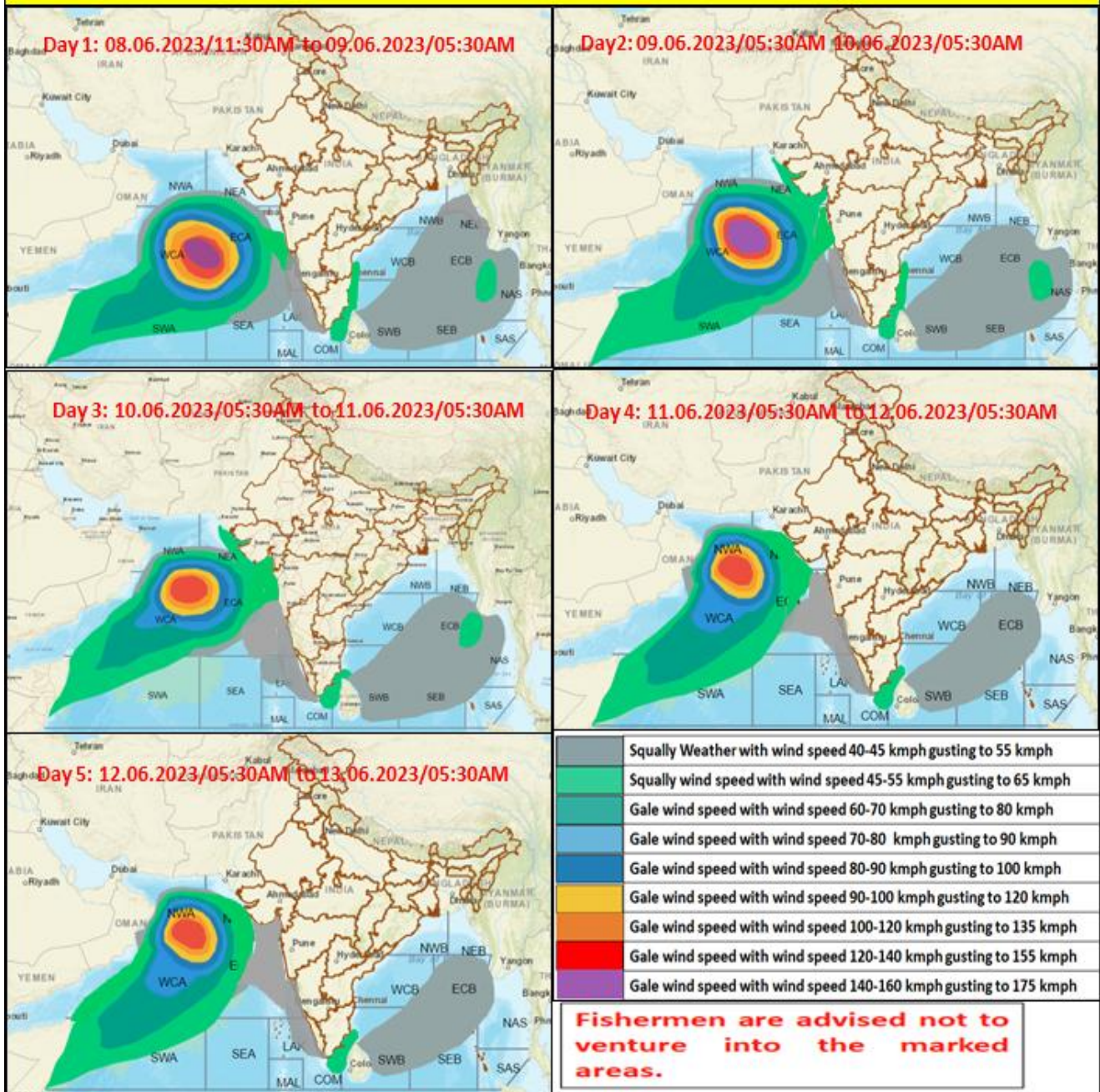
■ ≥ 64 KT (≥118 KMPH)

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

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Fishermen warning graphics



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