



**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. 13 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 08.06.2023 BASED ON 0000 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 NORTHWARD WITH A SPEED OF 5 KMPH DURING LAST 6 HOURS AND LAY CENTERED AT 0000UTC OF TODAY, THE 08TH JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 13.9°N AND LONGITUDE 66.0 °E, ABOUT 860 KM WEST-SOUTHWEST OF GOA(43192), 910 KM SOUTHWEST OF MUMBAI(43057), 940 KM SOUTH-SOUTHWEST OF PORBANDAR(42830) AND 1230 KM SOUTH OF KARACHI(41780).

IT WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 48 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
08.06.23/0000	13.9/66.0	135-145 gusting to 160	Very Severe Cyclonic Storm
08.06.23/0600	14.2/66.0	135-145 gusting to 160	Very Severe Cyclonic Storm
08.06.23/1200	14.5/65.9	140-150 gusting to 165	Very Severe Cyclonic Storm
08.06.23/1800	14.8/65.8	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/0000	15.1/65.7	145-155 gusting to 170	Very Severe Cyclonic Storm
09.06.23/1200	15.8/65.4	145-155 gusting to 170	Very Severe Cyclonic Storm
10.06.23/0000	16.5/65.1	145-155 gusting to 170	Very Severe Cyclonic Storm
10.06.23/1200	17.2/64.9	140-150 gusting to 165	Very Severe Cyclonic Storm
11.06.23/0000	17.8/64.7	135-145 gusting to 160	Very Severe Cyclonic Storm
11.06.23/1200	18.5/64.5	135-145 gusting to 160	Very Severe Cyclonic Storm
12.06.23/0000	19.2/64.3	130-140 gusting to 155	Very Severe Cyclonic Storm
12.06.23/1200	19.7/64.1	125-135 gusting to 150	Very Severe Cyclonic Storm
13.06.23/0000	20.3/63.9	115-125 gusting to 140	Very Severe Cyclonic Storm

AS PER INSAT 3D IMAGERY INTENSITY OF THE SYSTEM IS T 4.0. ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL AND ADJOINING SOUTH ARABIAN SEA BETWEEN LATITUDE 11.0N & 16.0N LONGITUDE 61.0E & 67.0E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93DEG C. AS PER MULTISAT WINDS, STRONGER WINDS ARE SEEN IN THE SOUTHEAST SECTOR.

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 EASTCENTRAL 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 ($150 \times 10^{-6} \text{S}^{-1}$) NEAR SYSTEM CENTRE, LOW LEVEL CONVERGENCE OF ABOUT $20 \times 10^{-5} \text{S}^{-1}$ OVER THE AREA AND UPPER LEVEL DIVERGENCE OF ABOUT $40 \times 10^{-5} \text{S}^{-1}$ 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.

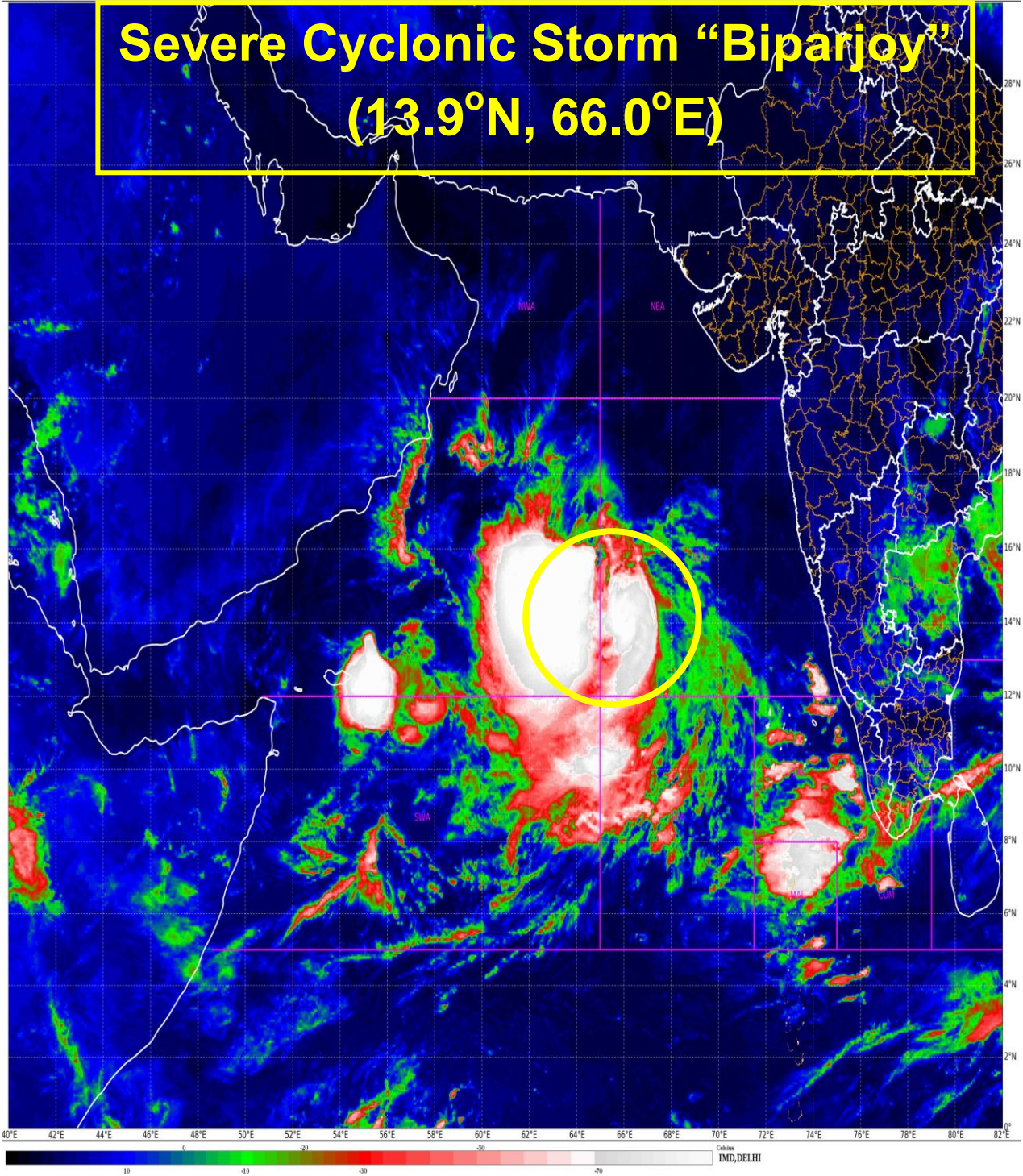
MOST OF THE MODELS SUCH AS ECMWF, IMDGFS, NCEP GFS, NCUM, IMD MME, IMD HWRF FURTHER INTENSIFYING THE SYSTEM DURING NEXT 12 HOURS. THE MODELS SUCH AS ECMWF, IMD GFS, NCUM, IMD MME, IMD HWRF ARE INDICATING NORTH-NORTHWESTWARDS DURING NEXT 3 DAYS. THERE IS LARGE VARIATION AMONG VARIOUS MODELS WRT FURTHER MOVEMENT OF THE SYSTEM AFTER 11TH JUNE.

CONSIDERING ALL THE ABOVE, VERY SEVERE CYCLONIC STORM "BIPARJOY" WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 48 HOURS AND MOVE NEARLY NORTH-NORTHWESTWARDS DURING NEXT 3 DAYS.

**DR TRISANU BANIK
SC-C
RSMC NEW DELHI**



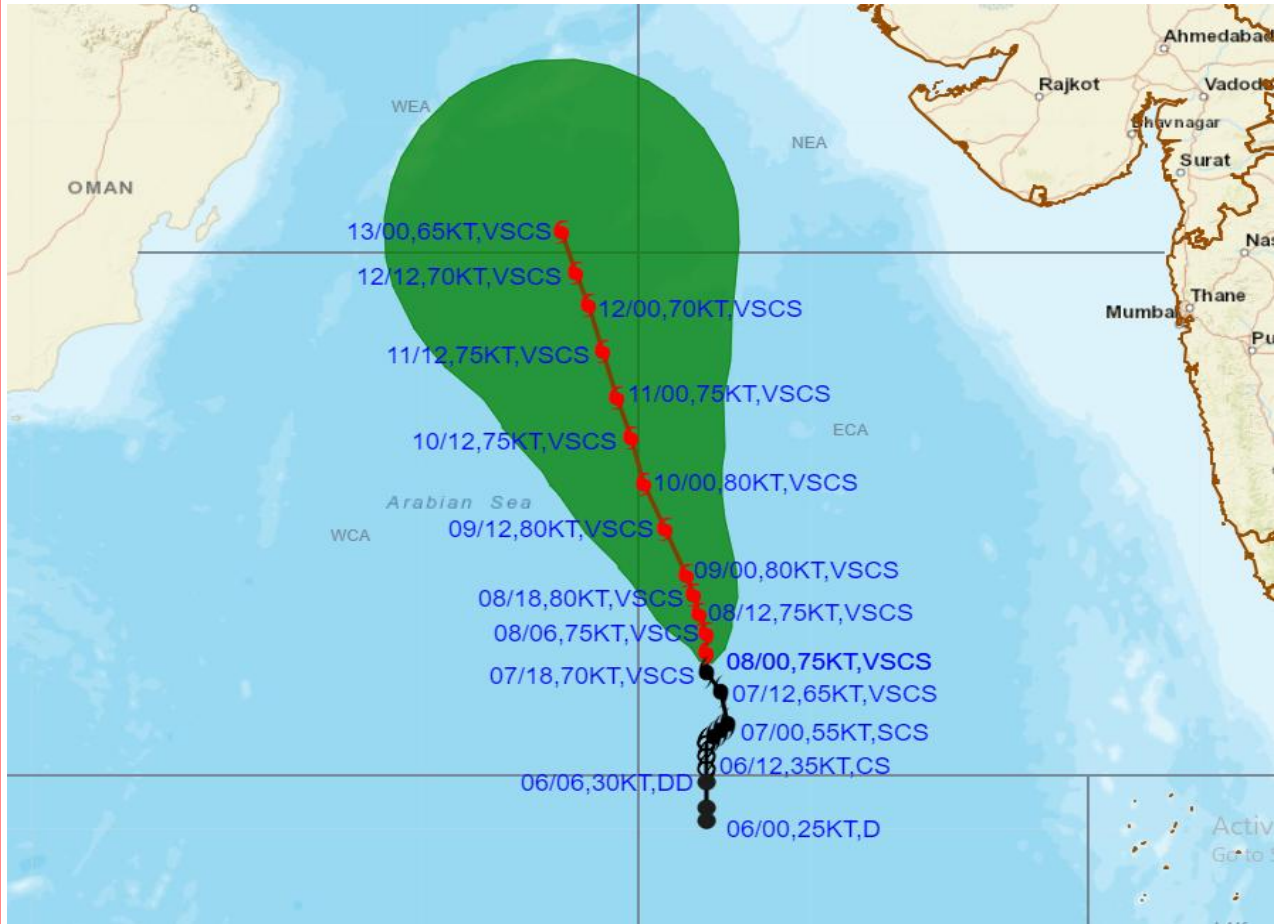
Severe Cyclonic Storm "Biparjoy" (13.9°N, 66.0°E)



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%
This is a guidance Bulletin for WMO/ESCAP Panel Member countries. Visit respective National websites for Country specific Bulletins



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0000 UTC (0530 IST) OF 08TH JUNE 2023.



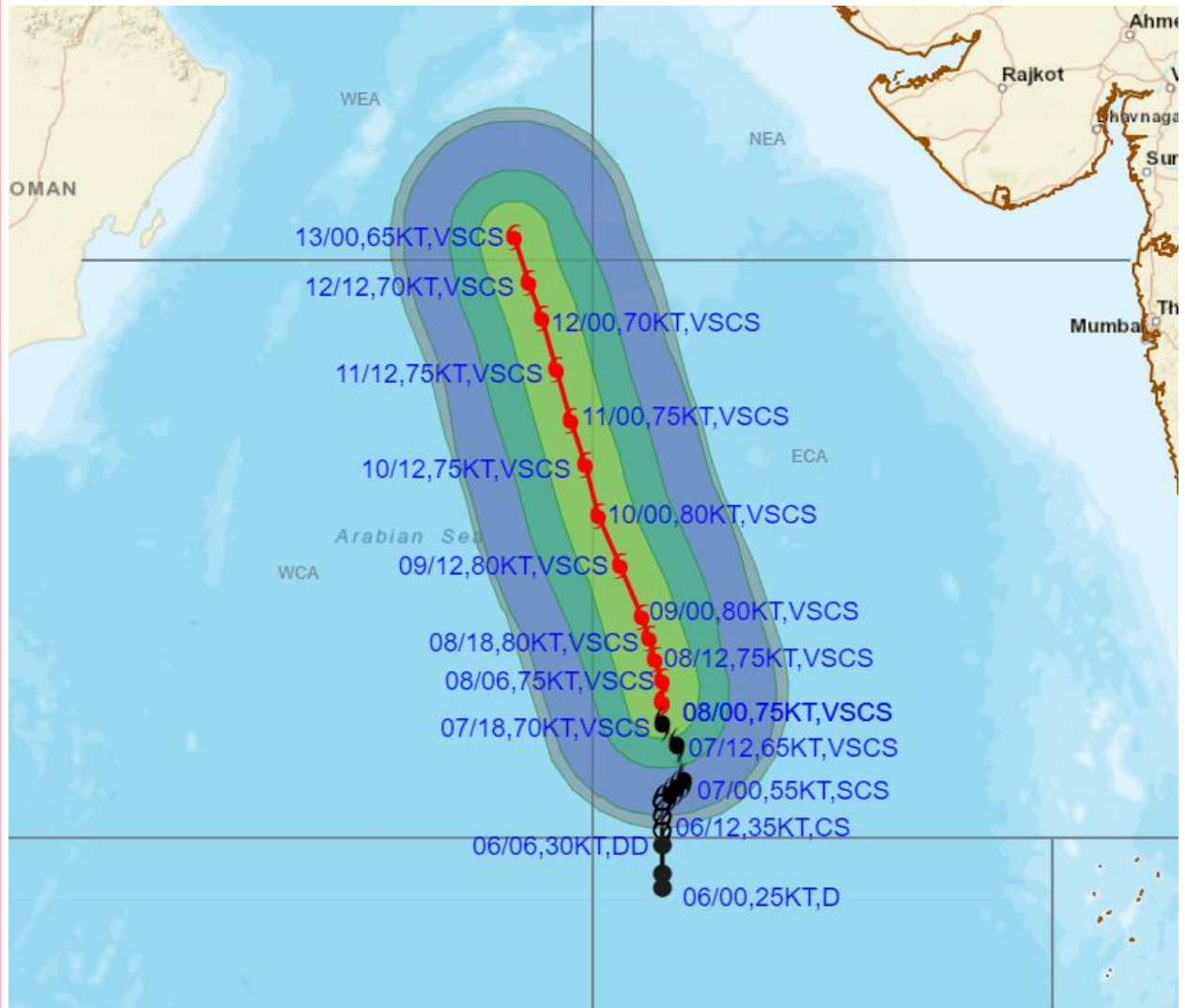
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

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

STATIONS	DISTANCE(KM) AND DIRECTION FROM STATIONS		
	09.06.23/0000	10.06.23/0000	11.06.23/0000
PORBANDAR	840, SSW	740, SW	670, SW
BOMBAY / COLABA	860, WSW	870, WSW	860, W
GOA/PANJIM	880, W	940, W	1000, WNW
KARACHI AIRPORT	1100, S	950, SSW	820, SSW
MASIRAH	940, SE	800, SE	680, ESE



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0000 UTC (0530 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)

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CS: CYCLONIC STORM (34-47 KT)

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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)

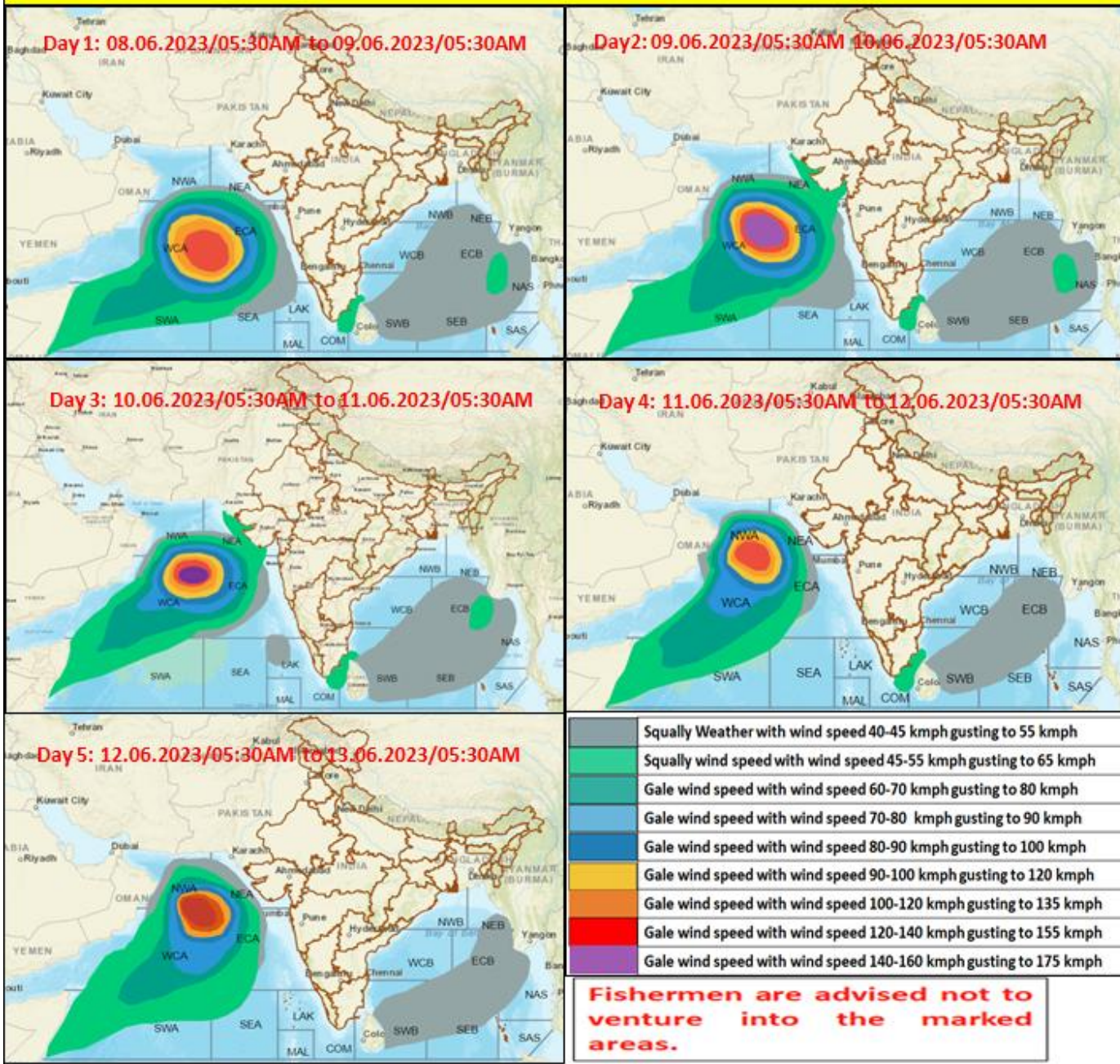
■ 50-63 KT (92-117 KMPH)

■ ≥ 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

Fishermen warning graphics



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