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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 10.06.2023

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. 30 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0600 UTC OF 10.06.2023 BASED ON 0300 UTC OF 10.06.2023

SUB: A) VERY SEVERE CYCLONIC STORM "BIPARJOY" (PRONOUNCED AS "BIPORJOY") OVER EASTCENTRAL ARABIAN SEA AND B) WELL MARKED LOW PRESSURE AREA OVER NORTHEAST BAY OF BENGAL AND ADJOINING AREAS OF SOUTHEAST BANGLADESH AND MYANMAR COASTS

A) 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 7 KMPH DURING PAST 6-HOURS AND LAY CENTERED AT 0300 UTC OF TODAY, THE 10TH JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 16.7°N AND LONGITUDE 67.4°E, ABOUT 700 KM WEST-NORTHWEST OF GOA (43192), 620 KM WEST-SOUTHWEST OF MUMBAI (43057), 600 KM SOUTH-SOUTHWEST OF PORBANDAR (42830) AND 910 KM SOUTH OF KARACHI (41780).

IT IS VERY LIKELY TO INTENSIFY FURTHER AND MOVE NORTH-NORTHEASTWARDS GRADUALLY DURING NEXT 24 HOURS. THEN IT WOULD MOVE GRADUALLY NORTH-NORTHWESTWARDS DURING SUBSEQUENT 3 DAYS.

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

DATE/TIME(UTC)	POSITION (LAT. ^{0}N/ LONG. ^{0}E)	MAXIMUM SUSTAINED SURFACE WIND SPEED (KMPH)	CATEGORY OF CYCLONIC DISTURBANCE
10.06.23/0300	16.7/67.4	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
10.06.23/0600	17.0/67.5	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
10.06.23/1200	17.4/67.6	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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10.06.23/1800	17.8/67.7	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
11.06.23/0000	18.1/67.8	155-165 GUSTING TO 180	VERY SEVERE CYCLONIC STORM
11.06.23/1200	18.8/67.8	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
12.06.23/0000	19.5/67.7	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
12.06.23/1200	20.1/67.6	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
13.06.23/0000	20.7/67.4	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
13.06.23/1200	21.3/67.2	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
14.06.23/0000	22.0/67.0	115-125 GUSTING TO 140	VERY SEVERE CYCLONIC STORM
14.06.23/1200	22.6/66.9	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
15.06.23/0000	23.2/66.8	95-105 GUSTING TO 115	SEVERE CYCLONIC STORM

AS PER INSAT 3D IMAGERY INTENSITY OF THE SYSTEM IS T 4.5/4.5. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL ARABIAN SEA BETWEEN LATITUDE 13.0°N & 19.0°N AND LONGITUDE 61.5°E & 68.5°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C. MICROWAVE PASS INDICATES STRONGER INTENSE CONVECTION IN THE SOUTHERN SECTOR. ALSO IT IS INDICATING ROTATION DISPLACED SIGNIFICANTLY TO THE WEST DUE TO THE EASTERLY WIND SHEAR.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 75 KNOTS GUSTING TO 85 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 976 HPA. SEA CONDITION IS LIKELY TO BE PHENOMENAL OVER EASTCENTRAL AND ADJOINING WESTCENTRAL ARABIAN SEA.

B) WELL MARKED LOW PRESSURE AREA OVER NORTHEAST BAY OF BENGAL AND ADJOINING AREA OF SOUTHEAST BANGLADESH-NORTH MYANMAR COASTS

THE WELL MARKED LOW PRESSURE AREA OVER NORTHEAST BAY OF BENGAL AND ADJOINING AREA OF SOUTHEAST BANGLADESH-NORTH MYANMAR COASTS PERSISTED OVER THE SAME REGION AT 0300 UTC OF TODAY, THE 10TH JUNE, 2023.

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS T1.0. ASSOCIATED SCATERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH BAY OF BEGNGAL BETWEEN LATITUDE 20.0°N TO 22.2°N LONGITITUDE 90.0°E TO 92.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 4 WITH AMPLITUDE LESS THAN 1. IT WOULD MOVE ACROSS PHASE 4 DURING NEXT 2 DAYS. THEREAFTER, IT WOULD MOVE ACROSS PHASES 5 AND 6 DURING SUBSEQUENT 3 DAYS. HENCE, MJO IS LIKELY TO SUPPORT THE ENHANCEMENT OF CONVECTIVE ACTIVITY AND CYCLOGENESIS OVER THE BAY OF BENGAL (BOB) DURING THE WEEK1 AND ARABIAN SEA (AS) DURING NEXT 3 DAYS. WESTERLY WINDS (3-5 MPS) ALONG WITH EQUATORIAL ROSSBY WAVES (ERW) ARE LIKELY TO PREVAIL OVER SOUTH AND CENTRAL ARABIAN SEA DURING NEXT 3 DAYS.

(A)ARABIAN SEA:

SEA SURFACE TEMPERATURE IS AROUND 30-31°C OVER CENTRAL & ADJOINING SOUTH ARABIAN SEA. THE CYCLONIC STORM "BIPARJOY" IS CURRENTLY IN A VERY FAVOURABLE ENVIROMENT. POSITIVE LOW LEVEL VORTICITY HAS INCREASED AND IS AROUND $300X10^{-6}$ S^{-1} TO THE SOUTH-SOUTHWEST OF THE SYSTEM CENTRE, LOW LEVEL CONVERGENCE IS ABOUT $40X10^{-5}S^{-1}$ TO THE SOUTH-SOUTHWEST OF THE SYSTEM CENTRE AND UPPER LEVEL DIVERGENCE IS ABOUT $30X10^{-5}S^{-1}$ TO THE SOUTH-SOUTHWEST OF SYSTEM CENTRE. WIND SHEAR IS MODERATE OVER SYSTEM AREA (15-20 KNOTS) AND IS LOW 10-15 KTS ALONG THE FORECAST TRACK.

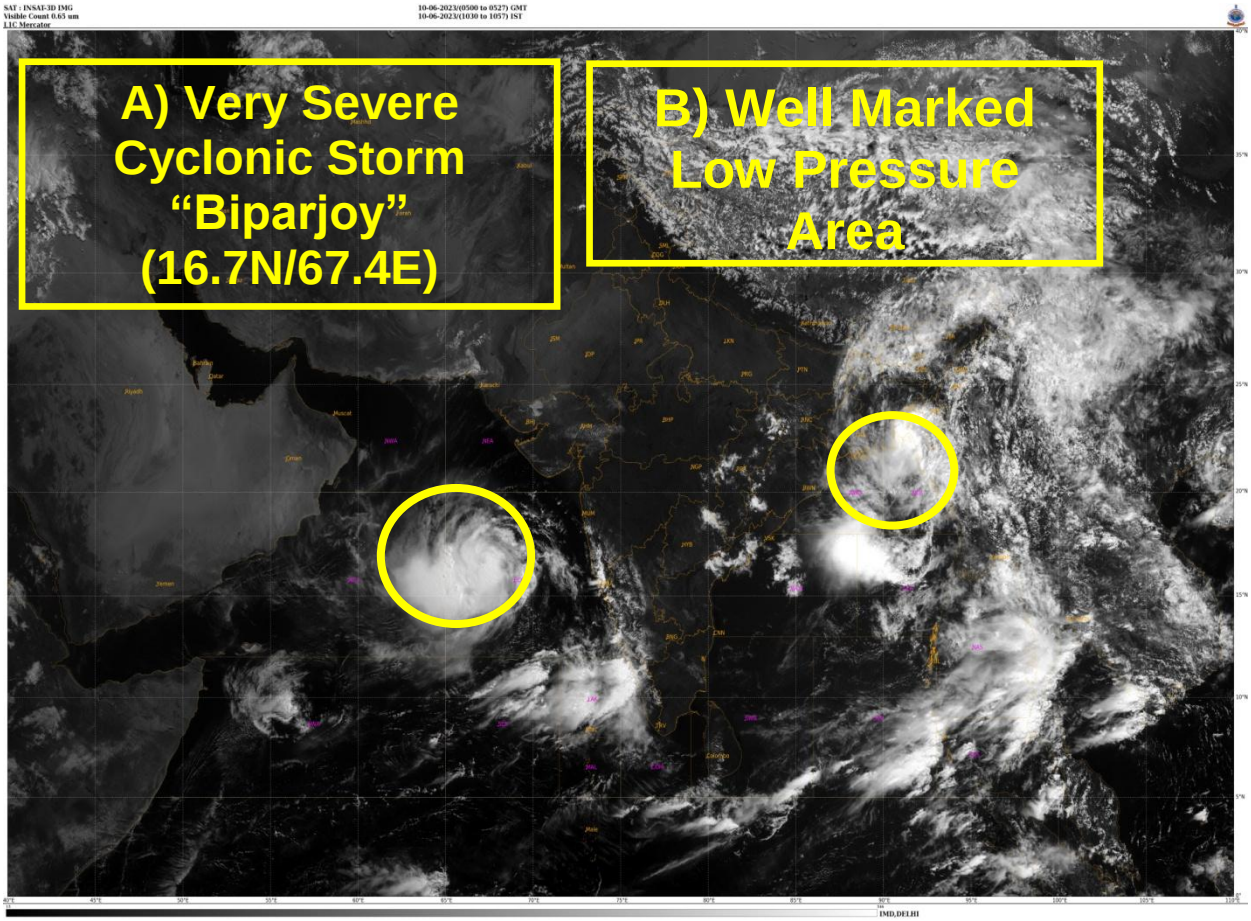
LATEST GUIDANCE FROM VARIOUS MODELS INDICATE INTIAL NEAR NORTHWARDS MOVEMENT FOLLOWED BY GRADUAL NORTH-NORTHWESTWARDS MOVEMENT TOWARDS PAKISTAN-SAURASHTRA & KUTCH COASTS. THE LANDFALL POINT IS VARYING BETWEEN LONGITUDE 64°E-69°E ON 16^{TH}.

CONSIDERING ALL THE ABOVE, VERY SEVERE CYCLONIC STORM "BIPARJOY" IS VERY LIKELY TO INTENSIFY FURTHER AND MOVE NORTH-NORTHEASTWARDS GRADUALLY DURING NEXT 24 HOURS. THEREAFTER, IT IS LIKELY TO MOVE GRADUALLY NORTH-NORTHWESTWARDS DURING SUBSEQUENT 3 DAYS.

(B) BAY OF BENGAL:

SEA SURFACE TEMPERATURE IS AROUND 29-30°C OVER NORTHEAST BAY OF BENGAL AND ALONG THE MYANMAR COAST. LOW LEVEL VORTICITY IS AROUND $100X10^{-6}$ S^{-1} OVER NORTHEAST BAY OF BENGAL. LOW LEVEL CONVERGENCE IS ABOUT $5\text{-}10X10^{-5}S^{-1}$ OVER CENTAL & ADJOINING SOUTH BAY OF BENGAL. UPPER LEVEL DIVERGENCE IS ABOUT $5\text{-}10X10^{-5}S^{-1}$ OVER EXTREME NORTH OF NORTH BAY OF BENGAL & ADJONING LAND AREAS OF BANGLADESH. WIND SHEAR IS MODERATE OVER SYSTEM AREA (15-20 KNOTS).

M. SHARMA
SCIENTIST-D
RSMC NEW DELHI



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PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION): NIL: 0%, LOW: 1-33%, , MODERATE: 34-66% AND HIGH: 67-100%
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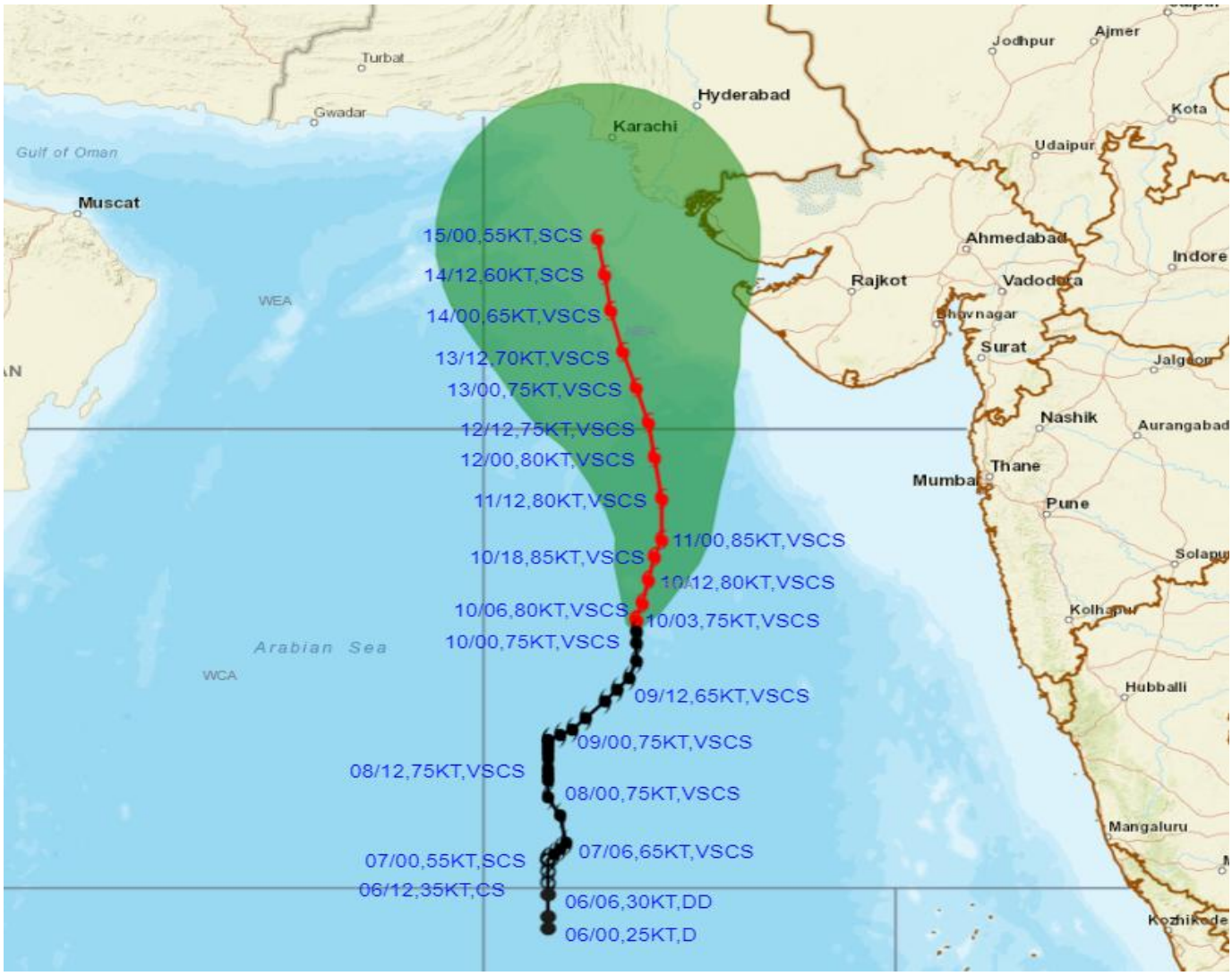
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC (0830 IST) OF 10TH JUNE 2023.



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

Forecast	DISTANCE(KM) AND DIRECTION FROM STATIONS				
Date and Time	PORBANDAR	BOMBAY / COLABA	GOA/PANJIM	KARACHI AIRPORT	MASIRAH
11.06.23/0000	440, SSW	540, W	710, WNW	760, S	970, ESE
12.06.23/0000	310, SW	550, W	790, NW	600, S	920, E
13.06.23/0000	260, WSW	610, WNW	900, NW	460, S	880, E
14.06.23/0000	280, W	700, WNW	1030, NW	320, S	860, ENE
15.06.23/0000	340, WNW	780, NW	1130, NW	190, S	860, ENE

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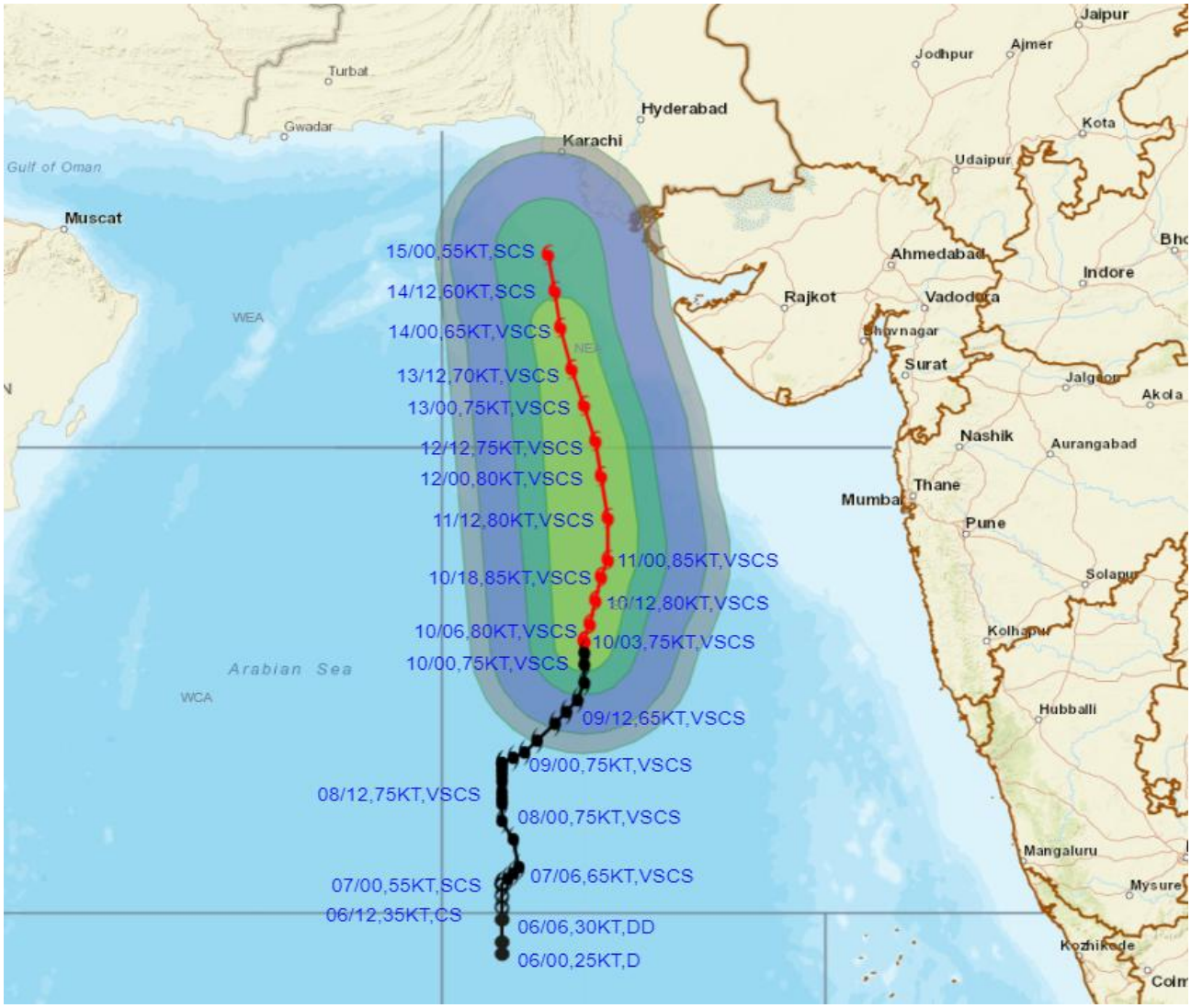
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC (0830 IST) OF 10TH JUNE 2023.



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DD: DEEP DEPRESSION (28-33 KT)
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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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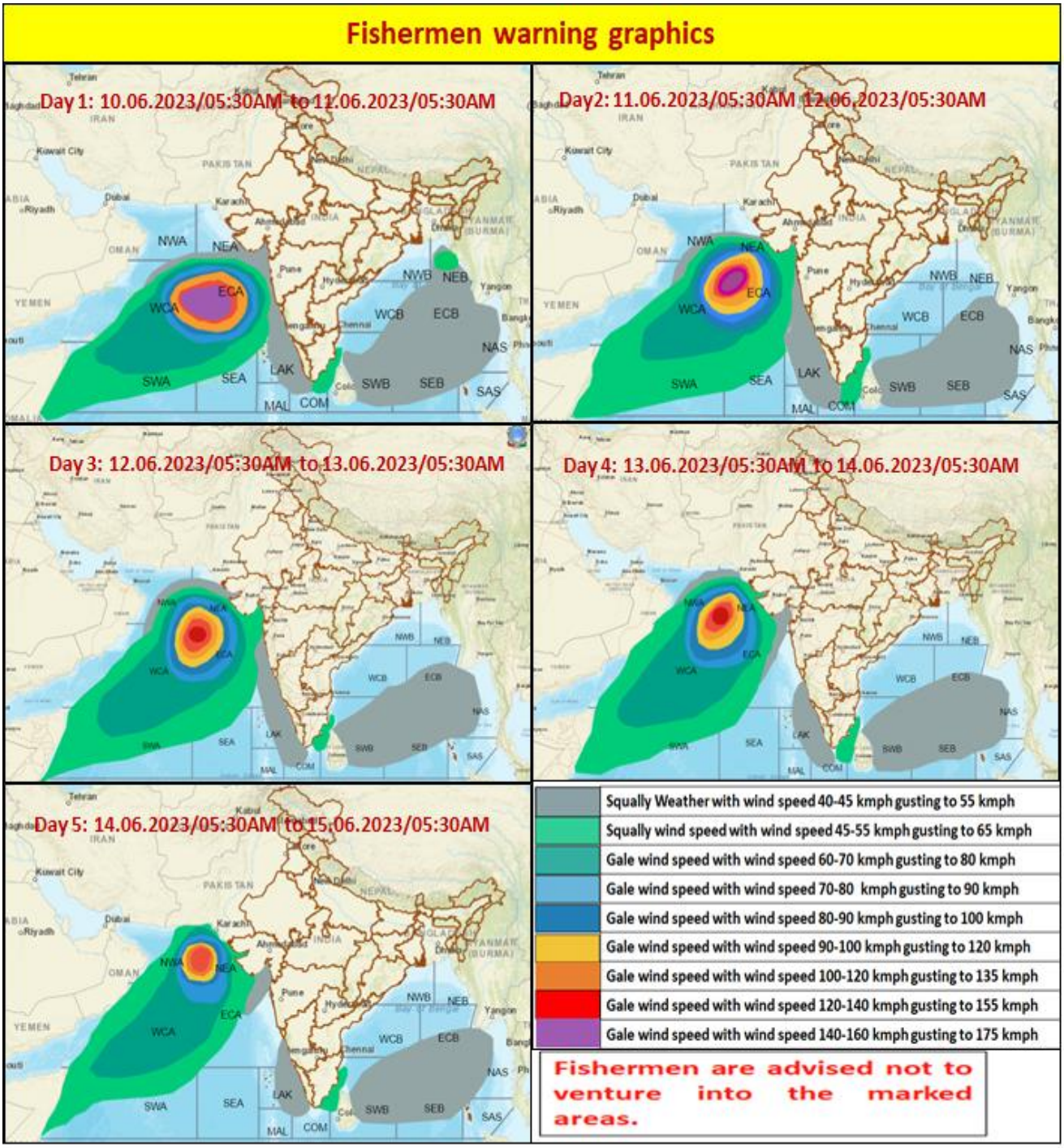
Fishermen warning graphics



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