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

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 09.06.2023

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. 27 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2110 UTC OF 09.06.2023 BASED ON 1800 UTC OF 09.06.2023

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

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 NORTH-NORTHEASTWARDS WITH A SPEED OF 10 KMPH DURING PAST 6-HOURS AND LAY CENTERED AT 1800 UTC OF TODAY, THE 09TH JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 16.0°N AND LONGITUDE 67.4°E, ABOUT 690 KM WEST OF GOA(43192), 660 KM WEST-SOUTHWEST OF MUMBAI(43057), 670 KM SOUTH-SOUTHWEST OF PORBANDAR(42830) AND 990 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 T RACK 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
09.06.23/1800	16.0/67.4	125-135 GUSTING TO 150	VERY SEVERE CYCLONIC STORM
10.06.23/0000	16.5/67.5	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
10.06.23/0600	17.0/67.6	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
10.06.23/1200	17.4/67.6	140-150 GUSTING TO 165	VERY SEVERE CYCLONIC STORM
10.06.23/1800	17.8/67.7	145-155 GUSTING TO 170	VERY SEVERE CYCLONIC STORM
11.06.23/0600	18.4/67.7	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
11.06.23/1800	19.1/67.5	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM
12.06.23/0600	19.8/67.3	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
12.06.23/1800	20.4/67.0	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
13.06.23/0600	21.0/66.7	120-130 GUSTING TO 145	VERY SEVERE CYCLONIC STORM
13.06.23/1800	21.6/66.4	120-130 GUSTING TO 145	VERY SEVERE CYCLONIC STORM
14.06.23/0600	22.1/66.1	105-115 GUSTING TO 125	SEVERE CYCLONIC STORM
14.06.23/1800	22.6/66.0	95-105 GUSTING TO 115	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 ARABIAN SEA BETWEEN LATITUDE 12.0°N & 17.0°N LONGITUDE 62.0°E & 67.7°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 70 KNOTS GUSTING TO 80 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 978 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

THE WELL MARKED LOW PRESSURE AREA OVER THE NORTHEAST BAY OF BENGAL PERSISTS OVER THE SAME REGION AT 1800 UTC OF TODAY, THE 9TH JUNE, 2023.

AS PER INSAT 3D IMAGERY, THE WELL MARKED LOW PRESSURE AREA IS CENTERED WITHIN HALF A DEG OF 20.1N°/91.9°E. INTENSITY OF THE SYSTEM IS T1.0. ASSOCIATED SCATERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION OVER NORTH BAY OF BEGNGAL BETWEEN LATITUDE 18.0°N TO 21.5°N LONGITITUDE 88.0°E TO 92.0°E. MINIMUM CLOUD TOP TEMPERATURE IS MINUS 93°C.

REMARKS:

THE MADDEN JULIAN OSCILLATION (MJO) INDEX IS CURRENTLY IN PHASE 3 WITH AMPLITUDE LESS THAN 1. IT WOULD MOVE ACROSS PHASE 3 AND 4 DURING NEXT 3 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 30-32°C OVER CENTRAL & ADJOINING SOUTH ARABIAN SEA. THE CYCLONIC STORM "BIPARJOY" IS CURRENTLY IN A VERY FAVOURABLE ENVIROMENT WITH POSITIVE LOW LEVEL VORTICITY IS AROUND $250X10^{-6}S^{-1}$ NEAR SYSTEM CENTRE, LOW LEVEL CONVERGENCE IS ABOUT $35X10^{-5}S^{-1}$ TO THE NORTHWEST OF THE SYSTEM CENTRE AND UPPER LEVEL DIVERGENCE IS ABOUT $30X10^{-5}S^{-1}$ TO THE WEST OF SYSTEM CENTRE. WIND SHEAR IS MODERATE OVER SYSTEM AREA (15-20 KNOTS) AND IS WEAK 10-15 KTS ALONG THE FORECAST TRACK .

LATEST GUIDANCE FROM VARIOUS MODELS INDICATE INTIAL NEAR NORTHWARDS MOVEMENT TOWARDS PAKISTAN-GUJARAT COASTS. MOST OF THE MODELS ARE INDICATING MOVEMENT TOWARDS PAKISTAN COAST AND UKMO MODEL IS INDICATING MOVEMENT TOWARDS GUJARAT COAST. 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. THEN IT WOULD MOVE GRADUALLY NORTH-NORTHWESTWARDS DURING SUBSEQUENT 3 DAYS.

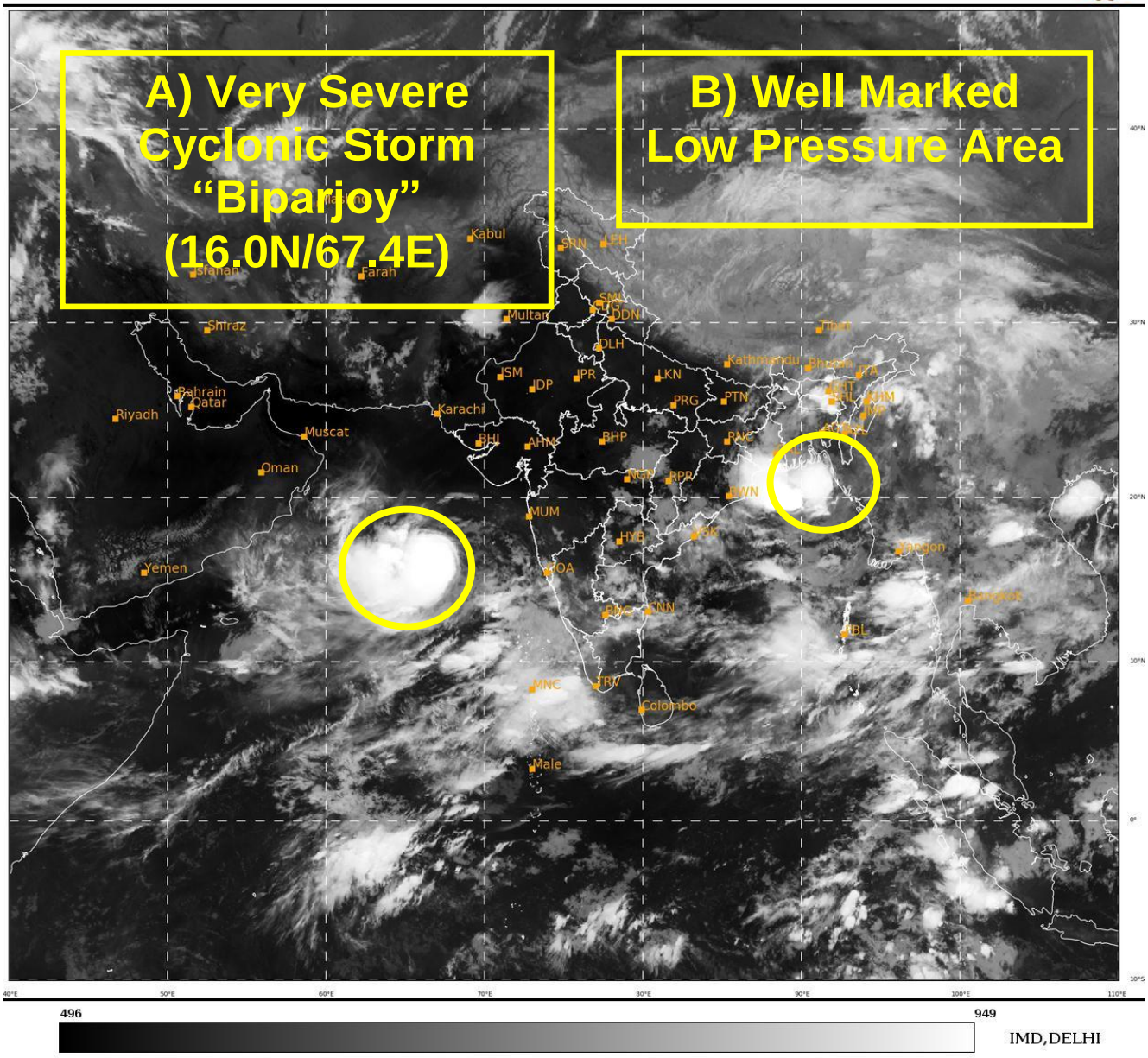
(B) BAY OF BENGAL:

SEA SURFACE TEMPERATURE IS AROUND 30-32°C OVER EASTCENTRAL AND ADJOINING NORTHEAST BAY OF BENGAL AND IS SLIGHTLY LESS OFF MYANMAR COAST. LOW LEVEL VORTICITY IS AROUND $50X10^{-6}$ S^{-1} OVER EASTCENTRAL AND ADJOINING NORTHEAST BAY OF BENGAL. LOW LEVEL CONVERGENCE IS ABOUT $10X10^{-5}S^{-1}$ AROUND SYSTEM AREA AND IS NORTHEAST ORIENTED. UPPER LEVEL DIVERGENCE IS ABOUT $10X10^{-5}S^{-1}$ TO THE SOUTHWEST OF SYSTEM CENTRE AND IS ALSO NORTHEAST ORIENTED. WIND SHEAR IS HIGH OVER SYSTEM AREA (25-30 KNOTS).

SHASHI KANT
SCIENTIST-C
RSMC NEW DELHI

SAT : INSAT-3D IMG
IMG_TIR1 10.8 um
L1C Mercator

09-06-2023/(1930 to 1956) GMT
10-06-2023/(0100 to 0126) IST



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IMD,DELHI

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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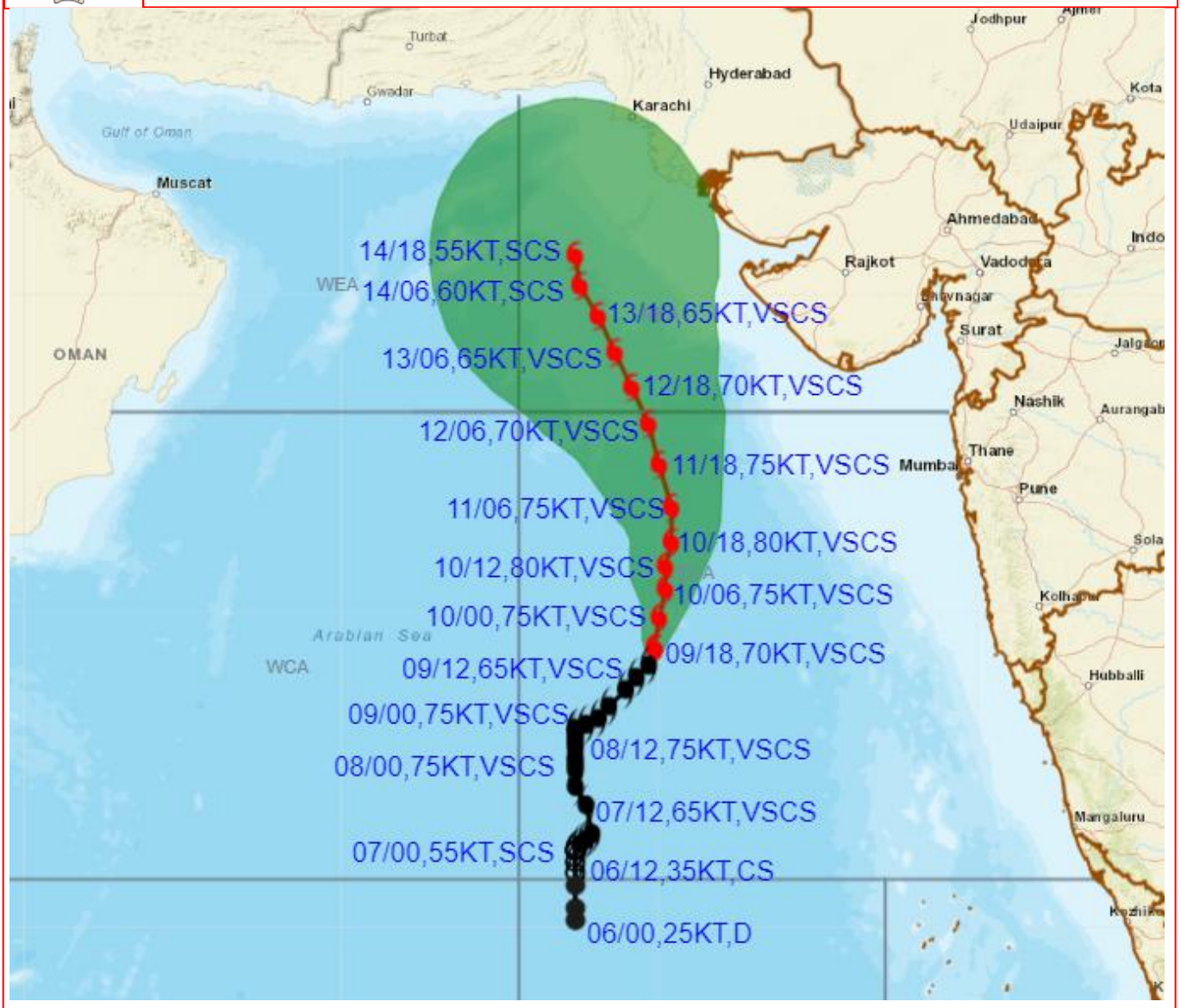
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 1800 UTC (2330 IST) OF 09TH JUNE 2023.



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
10.06.23/1800	470, SSW	560, WSW	710, WNW	790, S	970, ESE
11.06.23/1800	360, SW	570, W	790, WNW	640, S	910, E
12.06.23/1800	320, WSW	640, WNW	910, NW	500, S	840, E
13.06.23/1800	340, W	740, WNW	1040, NW	370, S	780, E
14.06.23/1800	390, WNW	820, WNW	1140, NW	280, SSW	760, ENE

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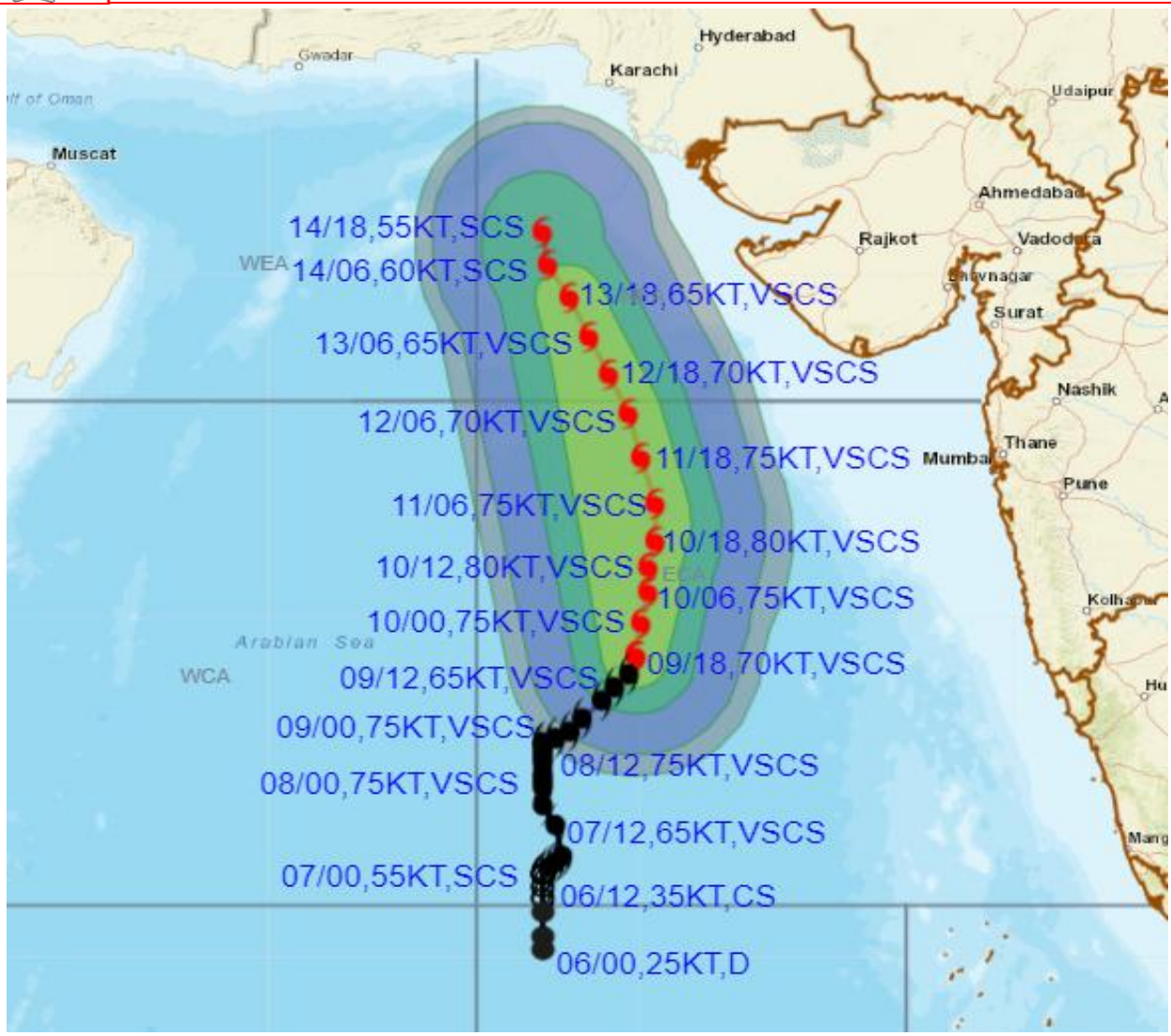
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 1800 UTC (2330 IST) OF 09TH JUNE 2023.



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WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 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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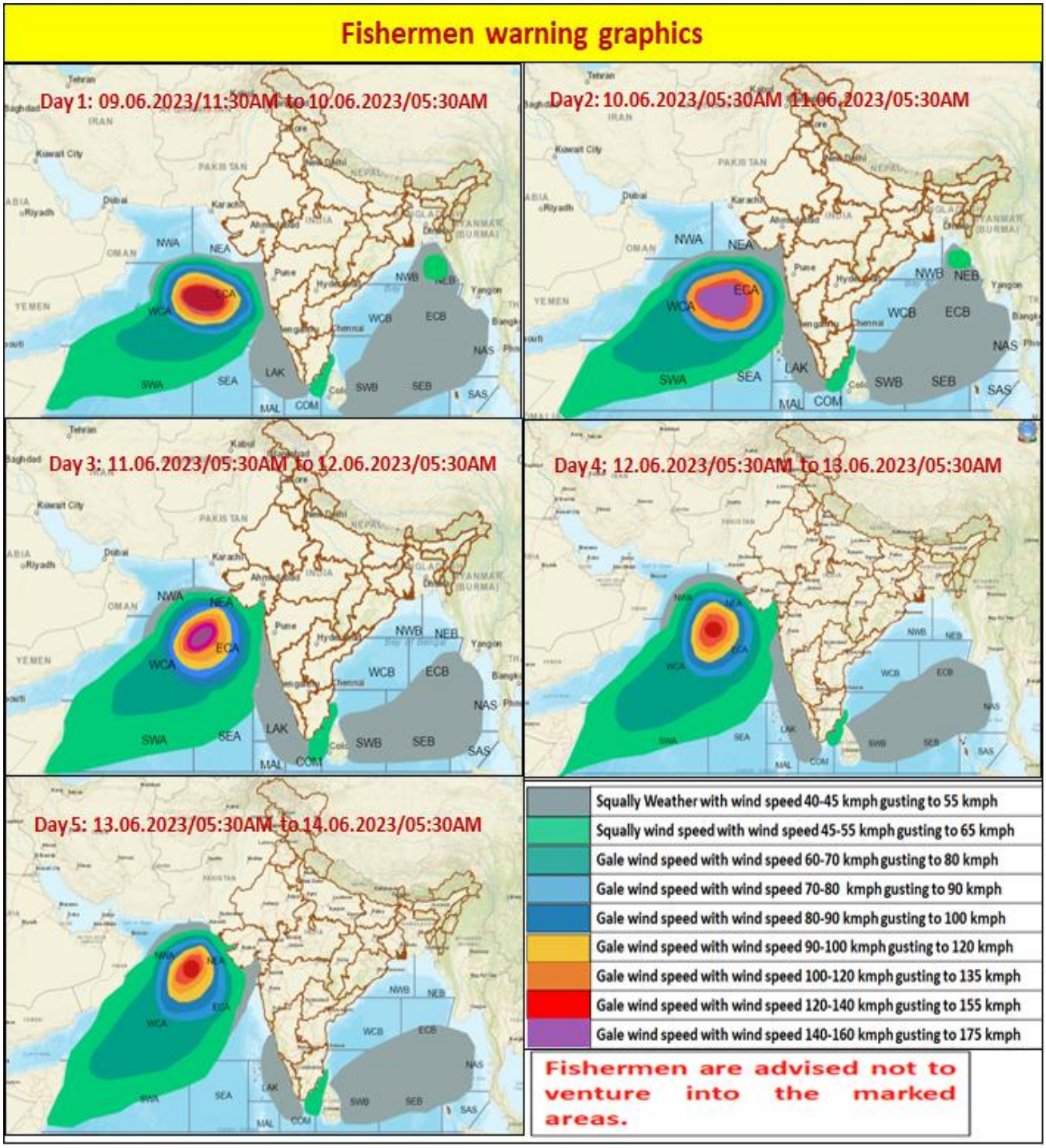
Fishermen warning graphics



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