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. 24 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1300 UTC OF 09.06.2023 BASED ON 0900 UTC OF 09.06.2023

SUB: (A) VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA AND (B) LOW PRESSURE AREA OVER NORTHEAST BAY OF BENGAL OFF MYANMAR COAST

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 NORTHEASTWARDS WITH A SPEED OF 13 KMPH DURING PAST 6-HOURS AND LAY CENTERED AT 0900 UTC OF TODAY, THE 09TH JUNE, 2023 OVER THE SAME REGION NEAR LATITUDE 15.3°N AND LONGITUDE 66.9°E, ABOUT 740 KM WEST OF GOA (43192), 750 KM WEST-SOUTHWEST OF MUMBAI (43057), 760 KM SOUTH-SOUTHWEST OF PORBANDAR (42830) AND 1070 KM SOUTH OF KARACHI (41780).

IT WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 36 HOURS AND MOVE NEARLY NORTH-NORTHEASTWARDS DURING NEXT 48 HOURS AND 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
09.06.23/0900	15.3/66.9	125-135 gusting to 150	Very Severe Cyclonic Storm
09.06.23/1200	15.6/67.1	130-140 gusting to 155	Very Severe Cyclonic Storm
09.06.23/1800	16.2/67.3	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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10.06.23/0000	16.8/67.4	140-150 gusting to 165	Very Severe Cyclonic Storm
10.06.23/0600	17.4/67.5	140-150 gusting to 165	Very Severe Cyclonic Storm
10.06.23/1800	18.0/67.5	145-155 gusting to 170	Very Severe Cyclonic Storm
11.06.23/0600	18.7/67.3	140-150 gusting to 165	Very Severe Cyclonic Storm
11.06.23/1800	19.3/66.9	135-145 gusting to 160	Very Severe Cyclonic Storm
12.06.23/0600	19.9/66.6	130-140 gusting to 155	Very Severe Cyclonic Storm
12.06.23/1800	20.5/66.2	125-135 gusting to 150	Very Severe Cyclonic Storm
13.06.23/0600	21.1/65.9	120-130 gusting to 145	Very Severe Cyclonic Storm
13.06.23/1800	21.6/65.6	115-125 gusting to 140	Very Severe Cyclonic Storm
14.06.23/0600	22.2/65.3	110-120 gusting to 135	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 12.0N & 17.0N LONGITUDE 62.0E & 67.7E. 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 LOW PRESSURE OVER THE NORTHEAST BAY OF BENGAL PERSISTED OVER THE SAME REGION AT 0900 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 19.7N/91.5E. INTENSITY OF THE SYSTEM IS T1.0. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH BAY OF BENGAL BETWEEN LATITUDE 18.0N & 21.0N LONGITUDE 88.0E & 92.0E. 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.

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 $200X10^{-6}S^{-1}$ NEAR SYSTEM CENTRE, LOW LEVEL CONVERGENCE IS ABOUT $50X10^{-5}S^{-1}$ 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 NCUM IS INDICATING

MOVEMENT TOWARDS GUJARAT COAST. THE LANDFALL POINT IS VARYING BETWEEN LONGITUDE 66°E-69°E ON 15TH.

CONSIDERING ALL THE ABOVE, VERY SEVERE CYCLONIC STORM ”BIPARJOY” WOULD INTENSIFY FURTHER GRADUALLY DURING NEXT 36 HOURS AND MOVE NEARLY NORTH-NORTHEASTWARDS DURING NEXT 2 DAYS AND NORTH-NORTHWESTWARDS DURING SUBSEQUENT 3 DAYS.

(B) BAY OF BENGAL:

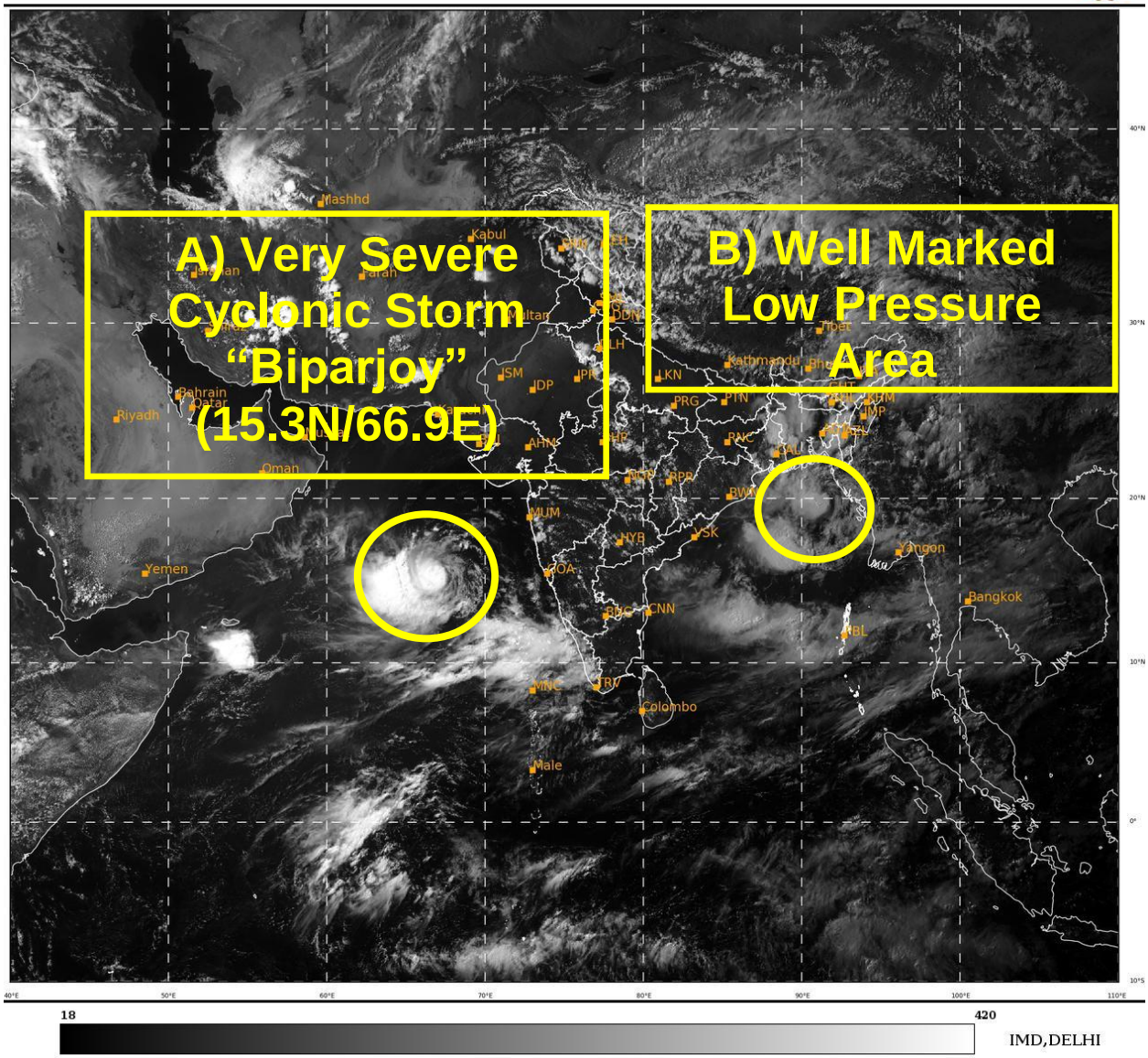
SEA SURFACE TEMPERATURE IS AROUND 30-32°C OVER EASTCENTRAL BAY OF BENGAL AND IS SLIGHTLY LESS OFF MYANMAR COAST. LOW LEVEL VORTICITY IS AROUND 50X10^{-6} S^{-1} OVER EASTCENTRAL BAY OF BENGAL. LOW LEVEL CONVERGENCE IS ABOUT 20X10^{-5}S^{-1} AROUND SYSTEM AREA AND IS NORTHEAST ORIENTED. UPPER LEVEL DIVERGENCE 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).

ECMWF ENSEMBLE IS INDICATING LIKELY PROBABILITY OF FORMATION OF DEPRESSION OVER NORTHEAST BAY OF BENGAL WITH MOVEMENT TOWARDS MYANMAR COAST.

M. SHARMA
SCIENTIST-D
RSMC NEW DELHI

SAT : INSAT-3D IMG
Visible Count 0.65 um
L1C Mercator

09-06-2023/(1000 to 1026) GMT
09-06-2023/(1530 to 1556) IST



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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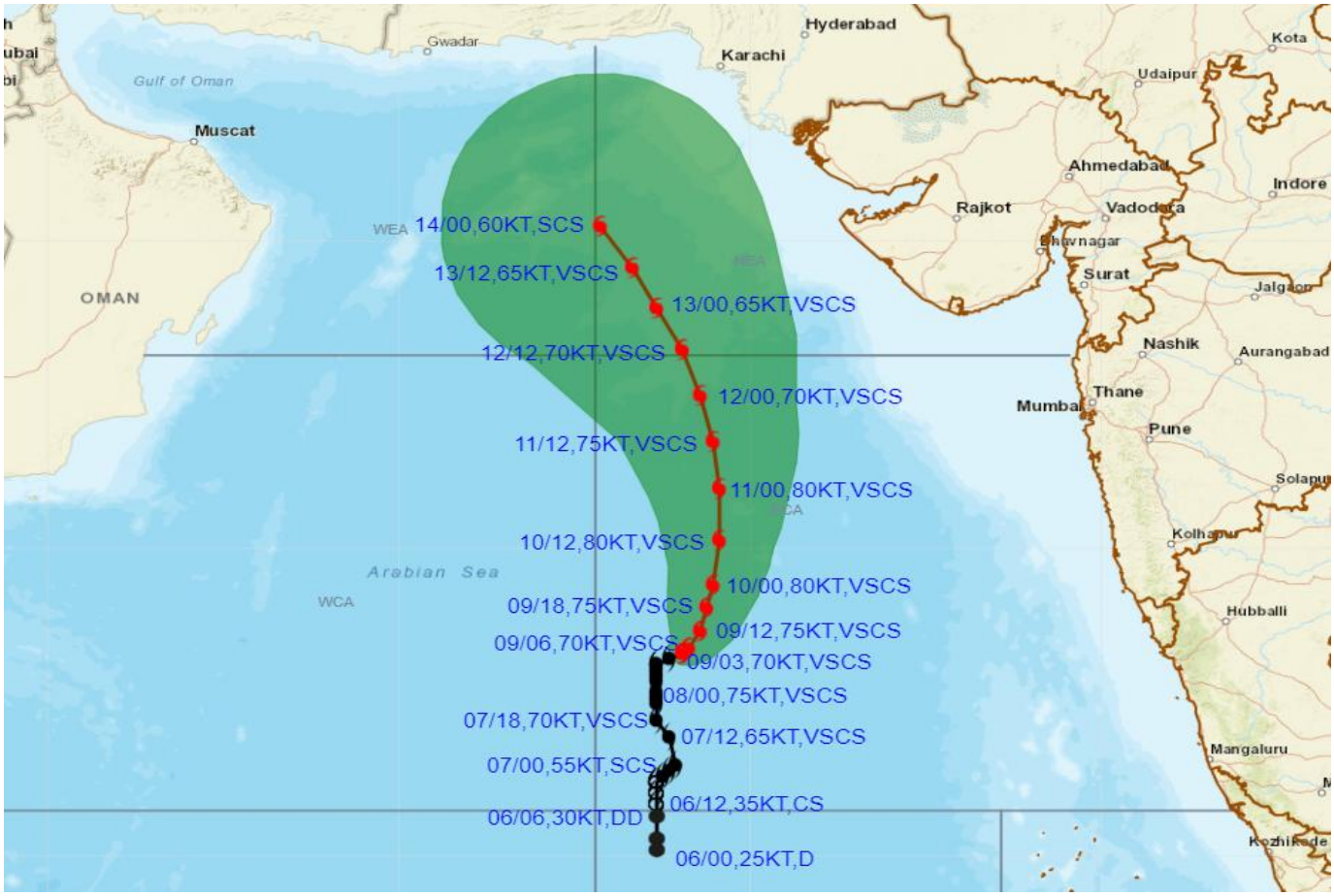
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC (0830 IST) OF 09TH JUNE 2023.



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	Lead Period	PORBANDAR	BOMBAY / COLABA	GOA/PANJIM	KARACHI AIRPOR	MASIRAH
10.06.23/0000	21	690, SSW	700, WSW	750, W	990, S	990, ESE
11.06.23/0000	45	520, SSW	630, WSW	770, WNW	800, S	910, ESE
12.06.23/0000	69	400, SW	650, W	870, WNW	620, S	820, E
13.06.23/0000	93	400, WSW	750, WNW	1020, NW	470, SSW	730, E
14.06.23/0000	117	470, W	880, WNW	1180, NW	360, SW	660, ENE

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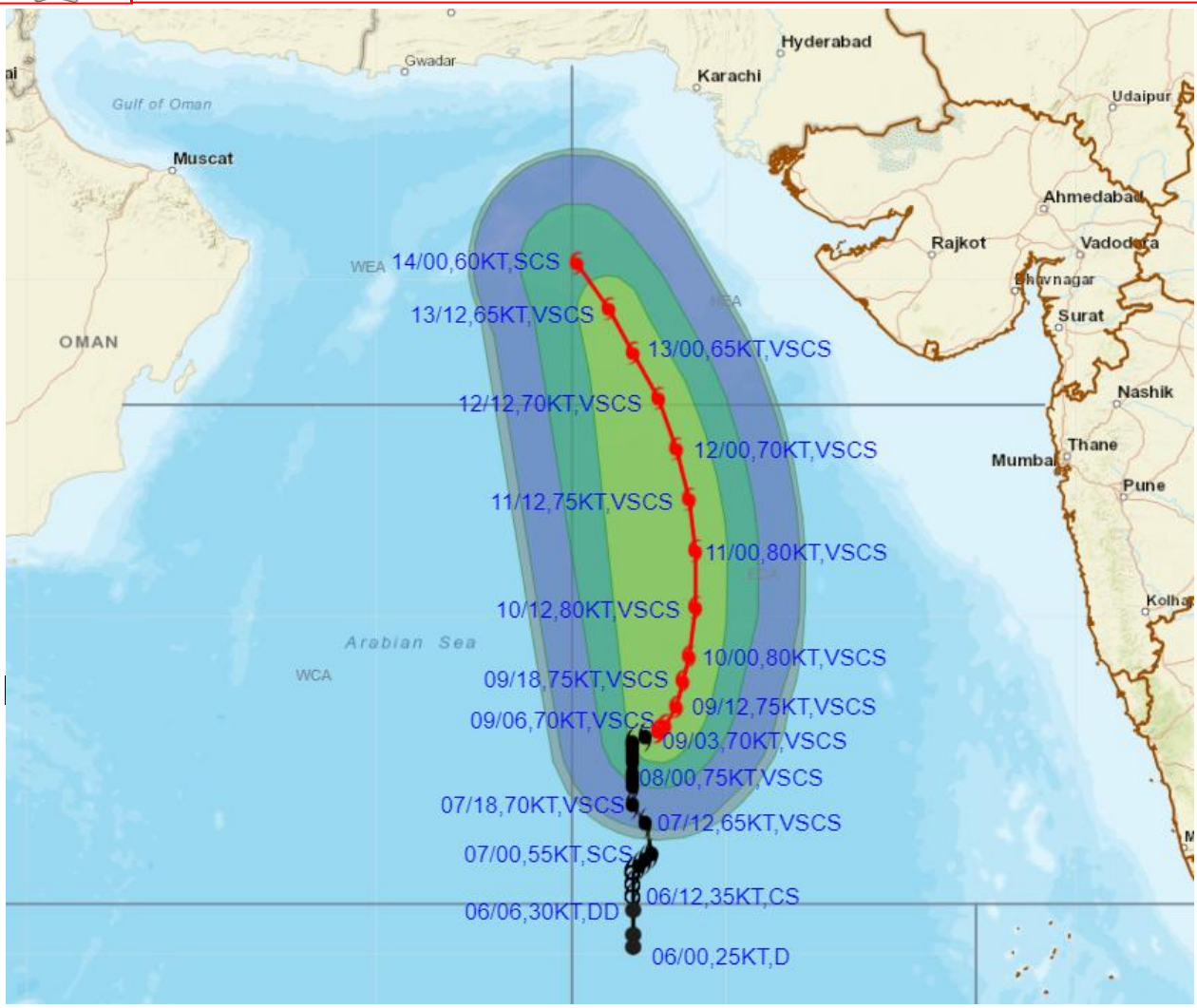
OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF VERY SEVERE CYCLONIC STORM "BIPARJOY" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC (0830 IST) OF 09TH JUNE 2023.



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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
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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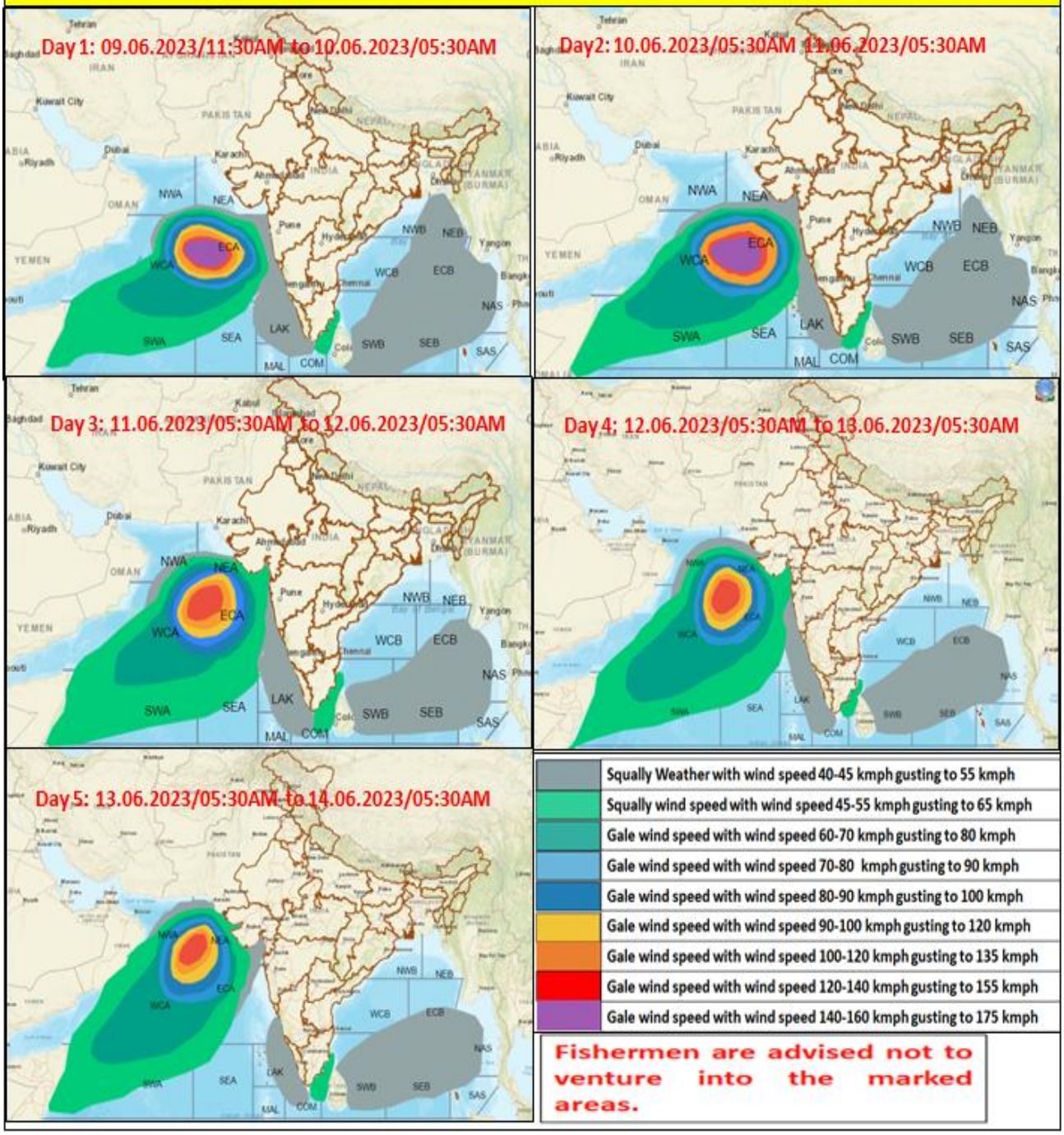
Fishermen warning graphics



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