



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI TROPICAL WEATHER OUTLOOK

DEMS-RSMC SPECIAL TROPICAL CYCLONES NEW DELHI DATED 23.10.2023

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. 17 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND THE ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 23.10.2023 BASED ON 0000 UTC OF 23.10.2023.

SUB: (A) EXTREMELY SEVERE CYCLONIC STORM "TEJ" (PRONOUNCED AS TEJ) OVER WESTCENTRAL ARABIAN SEA

THE EXTREMELY SEVERE CYCLONIC STORM "TEJ" (PRONOUNCED AS TEJ) OVER WESTCENTRAL ARABIAN SEA CONTINUED TO MOVE NORTHWESTWARDS WITH A SPEED OF 13 KMPH DURING PAST 6 HOURS AND LAY CENTERED AT 0000 UTC OF TODAY, THE 23RD OCTOBER OVER WESTCENTRAL ARABIAN SEA, NEAR LATITUDE 14.4°N AND LONGITUDE 53.5°E, ABOUT 200 KM NORTH-NORTHWEST OF SOCOTRA (YEMEN, 41494), 300 KM SOUTH OF SALALAH (OMAN, 41316) AND 240 KM SOUTHEAST OF AL GHAIDAH (YEMEN, 41398).

IT IS VERY LIKELY TO CONTINUE TO MOVE NORTHWESTWARDS AND WEAKEN INTO A VERY SEVERE CYCLONIC STORM DURING NEXT 06 HOURS. IT IS LIKELY TO CROSS YEMEN COAST CLOSE TO AL- GHAIDAH DURING 1800 – 2100 UTC OF 23RD OCTOBER AS A **VERY SEVERE CYCLONIC STORM** WITH WIND SPEED OF 125-135 KMPH GUSTING TO 150 KMPH.

DATE/TIME(UTC)		MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	LAT. ON/ LONG. E	SURFACE	DISTURBANCE
		WIND SPEED (KMPH)	
23.10.23/0000	14.4/53.5	165-175 GUSTING TO 195	EXTREMELY SEVERE CYCLONIC
			STORM
23.10.23/0600	14.9/53.1	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
23.10.23/1200	15.3/52.7	135-145 GUSTING TO 160	VERY SEVERE CYCLONIC STORM

23.10.23/1800	15.6/52.3	130-140 GUSTING TO 155	VERY SEVERE CYCLONIC STORM
24.10.23/0000 15.9/51.9 80-90 GUSTING TO 100		CYCLONIC STORM	
24.10.23/1200 16.2/51.5 40-50 GUSTING TO 60		DEPRESSION	
25.10.23/0000	16.6/51.0	25-35 GUSTING TO 45	WELL MARKED LOW

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 4.5/5.0. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER WESTCENTRAL ARABIAN SEA BETWEEN LATITUDE 12.5°N TO 18.0°N LONGITUDE 50.5°E TO 57.0°E. MINIMUM CLOUD TOP TEMPRATURE IS MINUS 85°C. IR IMAGERY SHOWS INTENSE CONVECTION ENCIRCLING THE SYTEM CENTRE. THE OUTERMOST OUTFLOW BANDS ARE SEEN OVER N SOMALIA EAST YEMEN AND OMAN.

MULTISATELLITE WINDS INDICATE STRONGER WINDS IN THE EASTERN SECTOR. TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE SYSTEM CORE. DRY AIR INCURSION IS EXPECTED FROM ARABIAN PENINSULA AS THE SYSTEM MOVES FURTHER NEAR THE YEMEN-OMAN COASTS.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 90 KNOTS GUSTING TO 100 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 966 HPA.

STORM SURGE GUIDANCE:

STORM SURGE OF ABOUT 2 METER HEIGHT ABOVE THE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS BETWEEN AL GHAYDAH AND AL FAYDAMI NEAR THE LANDFALL POINT AT THE TIME OF LANDFALL.

SEA CONDITION:

• SOUTHWEST ARABIAN SEA:

PHENOMENAL SEA CONDITION IS PREVAILING AND IT IS LIKELY TO IMPROVE GRADUALLY BECOMING **HIGH TO VERY ROUGH** TILL 1200 UTC OF 23^{RD} , VERY ROUGH TO ROUGH TILL 1200 UTC OF 24^{TH} OCTOBER AND WOULD IMPROVE THEREAFTER.

WESTCENTRAL ARABIAN SEA:

PHENOMENAL SEA CONDITION IS PREVAILING AND WILL CONTINUE TILL 1200 UTC OF 23RD OCTOBER. IT WOULD IMPROVE GRADUALLY THEREAFTER BECOMING **HIGH TO VERY ROUGH** BY 2100 UTC OF 23RD OCTOBER. THEREAFTER, IT WOULD IMPROVE GRADUALLY.

(B) DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL

THE DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL MOVED NORTHEASTWARDS DURING PAST 6 HOURS WITH A SPEED OF 08 KMPH AND LAY CENTERED AT 0000 UTC OF TODAY, THE 23RD OCTOBER OVER WESTCENTRAL BAY OF BENGAL, NEAR LATITUDE 16.7°N AND LONGITUDE 86.7°E, ABOUT 400 KM SOUTH OF PARADIP (ODISHA, 42976), 550 KM SOUTH-SOUTHWEST OF DIGHA (WEST BENGAL, 42901), AND 690 KM SOUTH-SOUTHWEST OF KHEPUPARA (BANGLADESH, 41984).

IT IS LIKELY TO INTENSIFY INTO A **CYCLONIC STORM** DURING NEXT 12 HOURS. IT IS VERY LIKELY TO MOVE NEARLY NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST BETWEEN KHEPUPARA AND CHITTAGONG AROUND 2200 UTC OF 25TH OCTOBER AS A **DEEP DEPRESSION**.

FORECAST TRACK AND INTENSITY ARE GIVEN BELOW:

DATE/TIME(UTC)	POSITION	MAXIMUM SUSTAINED	CATEGORY OF CYCLONIC
	LAT. ⁰ N/ LONG. ⁰ E	SURFACE	DISTURBANCE
		WIND SPEED (KMPH)	
23.10.23/0000	16.7/86.7	55-65 GUSTING TO 75	DEEP DEPRESSION
23.10.23/0600	17.5/87.0	55-65 GUSTING TO 75	DEEP DEPRESSION
23.10.23/1200	18.2/87.3	60-70 GUSTING TO 80	CYCLONIC STORM
23.10.23/1800	18.8/87.7	60-70 GUSTING TO 80	CYCLONIC STORM
24.10.23/0000	19.3/88.2	60-70 GUSTING TO 80	CYCLONIC STORM
24.10.23/1200	20.2/89.1	60-70 GUSTING TO 80	CYCLONIC STORM
25.10.23/0000	21.1/89.8	55-65 GUSTING TO 75	DEEP DEPRESSION
25.10.23/1200	21.9/90.3	50-60 GUSTING TO 70	DEEP DEPRESSION
26.10.23/0000	22.8/90.7	25-35 GUSTING TO 45	WELL MARKED LOW

AS PER INSAT 3D IMAGERY, INTENSITY OF THE SYSTEM IS CHARACTERISED AS T 2.0. SHEAR PATTERN IS SEEN IN CLOUD IMAGERY.

CLOUDS ARE SHEARED IN NORTHEAST SECTOR. BANDING FEATURES ARE APPEARING IN CLOUD IMAGERY ALONGWITH FURTHER INCREASE IN CONVECTIVE CLOUDS IN CORE AREA, INDICATING FURTHER INTENSIFICATION OF THE SYSTEM.

ASSOCIATED SCATTERED TO BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER CENTRAL AND ADJOINING NORTH BAY OF BENGAL BETWEEN LATITUDE 15.0°N TO 20.0N AND LONGITUDE 84.0°E TO 92.0°E. MINIMUM CLOUD TOP TEMPRATURE IS MINUS 93°C. MULTISATELLITE WINDS INDICATE STRONGER WINDS IN EASTERN SECTOR. TOTAL PRECIPITABLE WATER IMAGERY INDICATES WARM MOIST AIR INCURSION INTO THE SYSTEM CORE.

ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 1003 HPA.

WIND GUIDANCE (WARNING MAP ENCLOSED):

- WESTCENTRAL BAY OF BENGAL: SQUALLY WIND SPEED REACHING 50-60 KMPH GUSTING TO 70 KMPH IS PREVAILING AND LIKELY TO INCREASE BECOMING 55-65 KMPH GUSTING TO 75 KMPH FROM 1200 UTC 23RD TILL 0000 UTC OF 24TH OCTOBER. IT IS LIKELY TO DECREASE GRADUALLY THEREAFTER BECOMING SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING 60 KMPH BY 1200 UTC 24TH.
- ADJOINING EASTCENTRAL BAY OF BENGAL: SQUALLY WIND SPEED REACHING 45-55 KMPH GUSTING TO 65 KMPH IS LIKELY TO INCREASE GRADUALLY BECOMING 50-60 KMPH GUSTING TO 70 KMPH ON 24TH AND DECREASE FROM 25TH ONWARDS.
- NORTH BAY OF BENGAL:
- SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS PREVAILING AND LIKELY TO BECOME 50-60 KMPH GUSTING TO 70 KMPH FROM 1200 UTC OF TODAY. IT WOULD BECOME GALE WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH ON 24^{TH} OCTOBER.
- ALONG & OFF ODISHA, WEST BENGAL, BANGLADESH AND NORTH MYANMAR COASTS:
 SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS LIKELY FROM

1200 UTC OF 23^{RD} TO 24^{TH} ALONG & OFF ODISHA COAST. **SQUALLY WIND** SPEED REACHING **40-50 KMPH GUSTING TO 60 KMPH** IS LIKELY TO COMMENCE ALONG & OFF WEST BENGAL, BANGLADESH AND NORTH MYANMAR COASTS FROM 0000 UTC OF 24^{TH} . IT WOULD GRADUALLY INCREASE BECOMING **55-65 KMPH GUSTING TO 75 KMPH** ALONG & OFF BANGLADESH COAST, **50-60 KMPH GUSTING TO 70 KMPH** ALONG & OFF NORTH MYANMAR COAST AND **45-55 KMPH GUSTING TO 65** ALONG & OFF WEST BENGAL COAST ON 25^{TH} OCTOBER.

SEA CONDITION

- WESTCENTRAL BAY OF BENGAL: ROUGH TO VERY ROUGH SEA CONDITION IS PREVAILING AND WILL CONTINUE TILL 25TH OCTOBER. IT IS LIKELY TO IMPROVE GRADUALLY THEREAFTER.
- ADJOINING EASTCENTRAL BAY OF BENGAL: MODERATE TO ROUGH SEA CONDITION IS PREVAILING AND LIKELY TILL 24TH OCTOBER. IT IS LIKELY TO IMPROVE GRADUALLY THEREAFTER.
- NORTH BAY OF BENGAL: ROUGH SEA CONDITION IS LIKELY ON 23RD AND BECOMING VERY ROUGH TO HIGH FROM 24TH AND VERY ROUGH ON 25TH OCTOBER.
- ALONG & OFF ODISHA, WEST BENGAL, BANGLADESH AND NORTH MYANMAR COASTS: ROUGH SEA CONDITION IS LIKELY ON $23^{\rm RD}$ AND BECOMING ROUGH TO VERY ROUGH SEA CONDITION FROM $24^{\rm TH}$ TO $25^{\rm TH}$ OCTOBER.

REMARKS:

ARABIAN SEA:

MADDEN JULIAN OSCILLATION INDEX IS IN PHASE 8 WITH AMPLITUDE LESS THAN 1. IT WOULD CONTINUE IN SAME PHASE DURING NEXT 4 DAYS. SEA SURFACE TEMPERATURE IS 27-28°C OVER WESTCENTRAL ARABIAN SEA. THE TROPICAL CYCLONE HEAT POTENTIAL IS AROUND 20-30 KJ/CM² OVER WESTCENTRAL ARABIAN SEA NEAR THE SYSTEM LOCATION AND ALSO ALONG & OFF OMAN-YEMEN COASTS. THE LOW LEVEL POSITIVE VORTICITY IS AROUND 200-250 X10-6S-1 TO THE SOUTH OF THE SYSTEM CENTER WITH VERTICAL EXTENSION UPTO 200 HPA LEVEL. THE POSITIVE LOW LEVEL CONVERGENCE IS ABOUT 30X10-5S-1 TO THE SOUTH OF SYSTEM CENTER. POSITIVE UPPER LEVEL DIVERGENCE IS ABOUT 30 X10-5 S-1 AROUND THE SYSTEM CENTRE. WIND SHEAR IS LOW TO MODERATE (10-15 KNOTS) OVER SYSTEM AREA AND ALONG THE EXPECTED TRACK.

EXISTING FEATURES INDICATE THAT THE SYSTEM IS OVER THE SEA SURFACE OF LOWER SST OF 27DEGC AND ENTERED INTO AN AREA OF LOW OCEAN THERMAL ENERGY. MORE OVER, THE SYSTEM IS GOING TO EXPERINCE DRY COLD AIR INCURSION INTO THE CORE FROM ARABIAN PENINSULAR REGION. UNDER SUCH ENVIRONMENTAL CONDTIONS, THE SYSTEM WILL WEAKEN FURTHER BEFORE ITS LANDFALL.

MOST OF THE MODELS ARE INDICATING THE SYSTEM TO CROSS YEMEN (EXCEPT IMD GEFS). IMD MULTI MODEL GUIDANCE IS ALSO INDICATING LANDFALL OVER YEMEN. MOST OF THE MODELS ARE INDICATING WEAKENING PRIOR TO LANDFALL. THIS IS SUPPORTED BY DECREASING OCEAN THERMAL ENERGY AND INCREASING WIND SHEAR AND COLD DRY AIR ENTRAINMENT WHEN SYSTEM WILL APPROACH COAST.

IN VIEW OF ABOVE, THE EXTREMELY SEVERE CYCLONIC STORM "TEJ" (PRONOUNCED AS TEJ) IS VERY LIKELY TO MOVE NORTHWESTWARDS AND CROSS YEMEN COAST CLOSE TO AL GHAIDAH (YEMEN) DURING 1800 – 2100 UTC OF 23RD OCTOBER AS A VERY SEVERE CYCLONIC STORM WITH WIND SPEED OF 125-135 KMPH GUSTING TO 150 KMPH (70 KNOTS GUSTING 80 KNOTS).

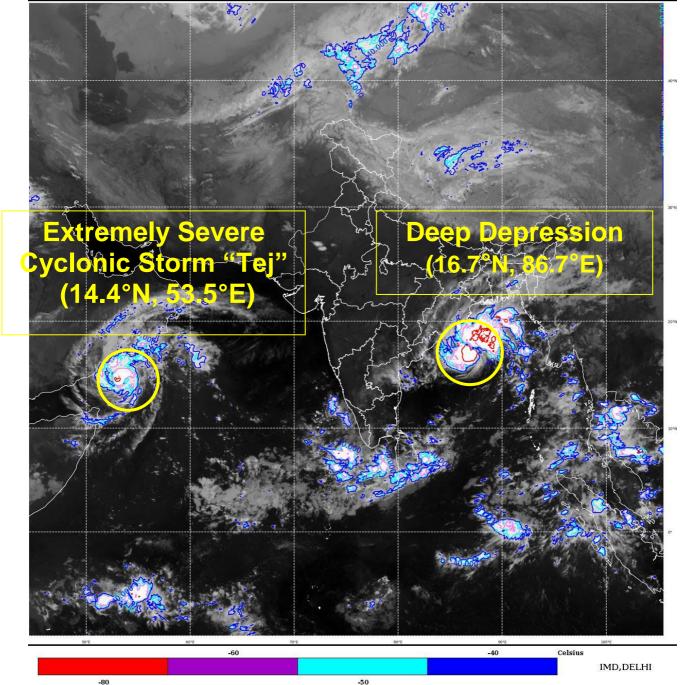
BAY OF BENGAL:

MJO IS NOT SUPPORTIVE FOR CYCLOGENESIS OVER BOB. HOWEVER, WARM SST AND LOW TO MODERATE VERTICAL WIND SHEAR OVER SOUTH & CENTRAL BOB ARE LIKELY TO SUPPORT THE DEVELOPMENT OF DEEP DEPRESSION OVER NORTH BOB. THE GLOBAL MODELS ARE IN AGREEMENT THAT THE DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL IS LIKELY TO INTENSIFY INTO A CYCLONIC STORM OVER WEST CENTRAL AND ADJOINING NORTH BAY OF BENGAL AROUND 1200 UTC OF 23RD OCTOBER 2023. THERE IS CONSENSUS AMONG VARIOUS MODELS WRT MOVEMENT TOWARDS BANGLADESH.

CONSIDERING ALL THESE, THE DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL IS VERY LIKELY TO INTENSIFY FURTHER INTO A CYCLONIC STORM DURING NEXT 12 HOURS. IT IS LIKELY TO MOVE NEARLY NORTH-NORTHEASTWARDS AND CROSS BANGLADESH COAST BETWEEN KHEPUPARA AND CHITTAGONG AROUND 2200 UTC OF 25TH OCTOBER AS A DEEP DEPRESSION.

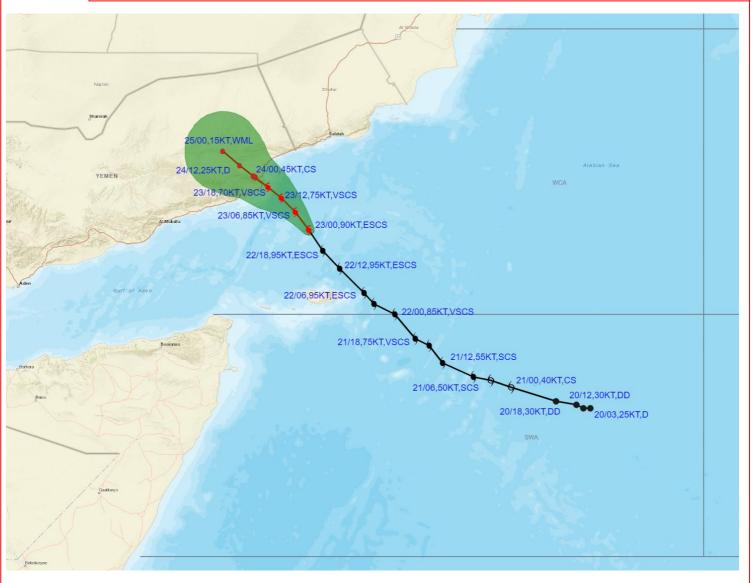
(R K JENAMANI) SCIENTIST-G RSMC, NEW DELHI SAT: INSAT-3D IMG IMG_TIR1_TEMP 10.8 um CTBT L1C Mercator 23-10-2023/(0130 to 0156) GMT 23-10-2023/(0700 to 0726) IST







OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF EXTREMELY SEVERE CYCLONIC STORM "TEJ" OVER WESTCENTRAL ARABIAN SEA BASED ON 0000 UTC (0530 IST) OF 23RD OCTOBER 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)

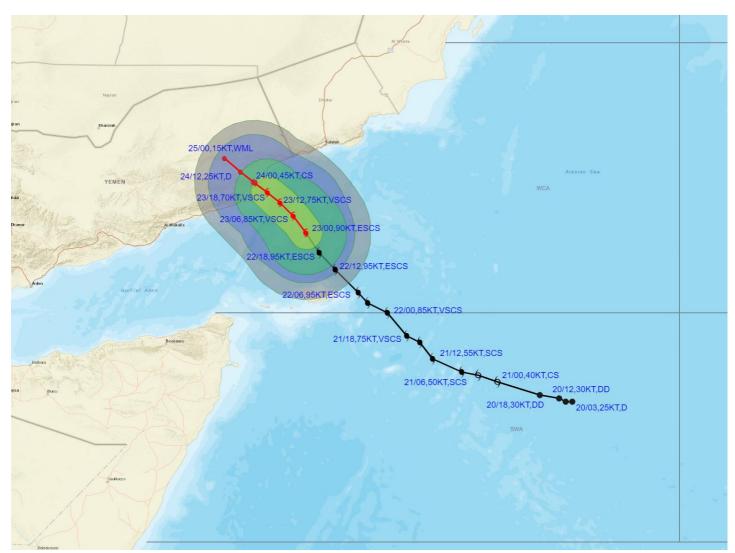
Sucs: Super cyclonic Storm @ 120 kT)

•	LESS THAN 34 KT
9	34-47 KT
9	≥ 48 KT
	OBSERVED TRACK
	FORECAST TRACK
	CONE OF UNCERTAINTY

Forecast	DISTANCE(KM) AND DIRECTION FROM STATIONS		
Date and Time	SOCOTRA	SALALAH	AL-GHAIDAH
24.10.23/0000	430, NNW	270, WSW	30, SW
25.10.23/0000	540, NW	330, W	130, WNW



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF EXTREMELY SEVERE CYCLONIC STORM "TEJ" OVER WESTCENTRAL ARABIAN SEA BASED ON 0000 UTC (0530 IST) OF 23RD OCTOBER 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)

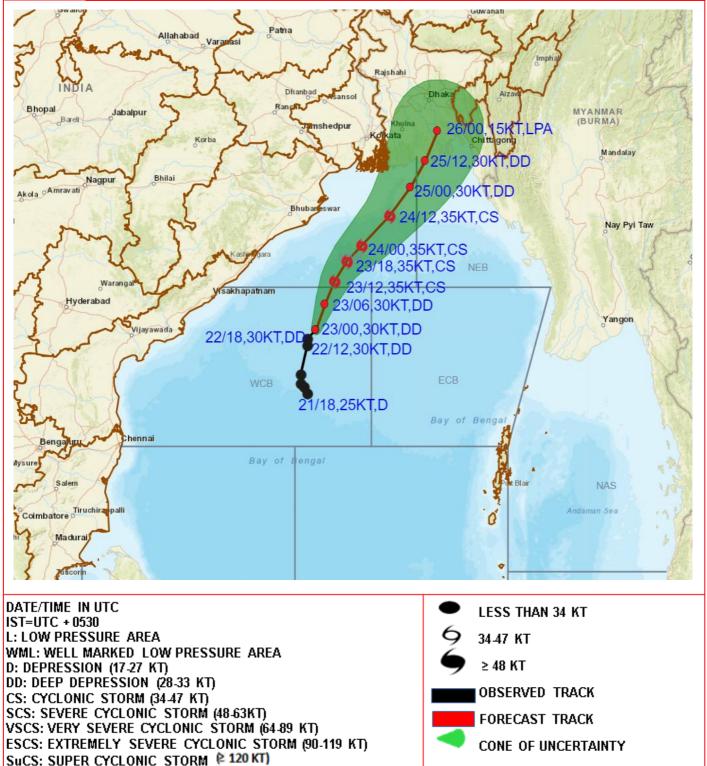
Sucs: SUPER CYCLONIC STORM (2 120 KT)

•	LESS THAN 34 KT
6	34.47 KT
6	≥ 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 (>110)	Phenomenal	Total suspension of fishing operations	

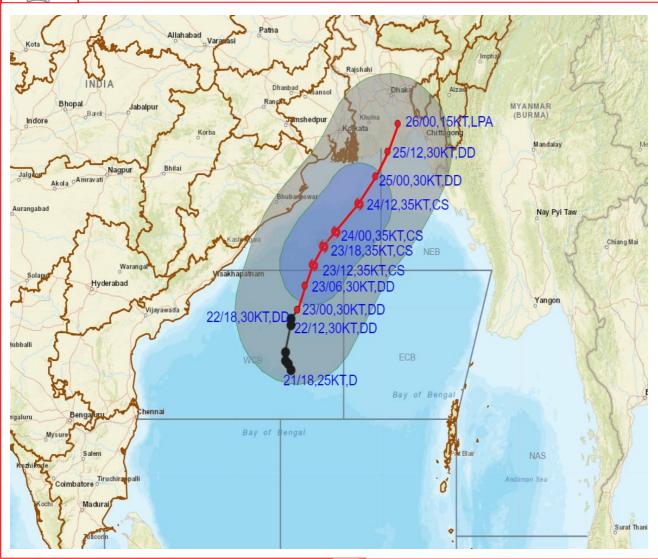


OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINITY OF DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL BASED ON 0000 UTC (0530 IST) OF 23RD OCTOBER 2023.





OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER WESTCENTRAL BAY OF BENGAL BASED ON 0000 UTC (0530 IST) OF 23RD OCTOBER 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)

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)

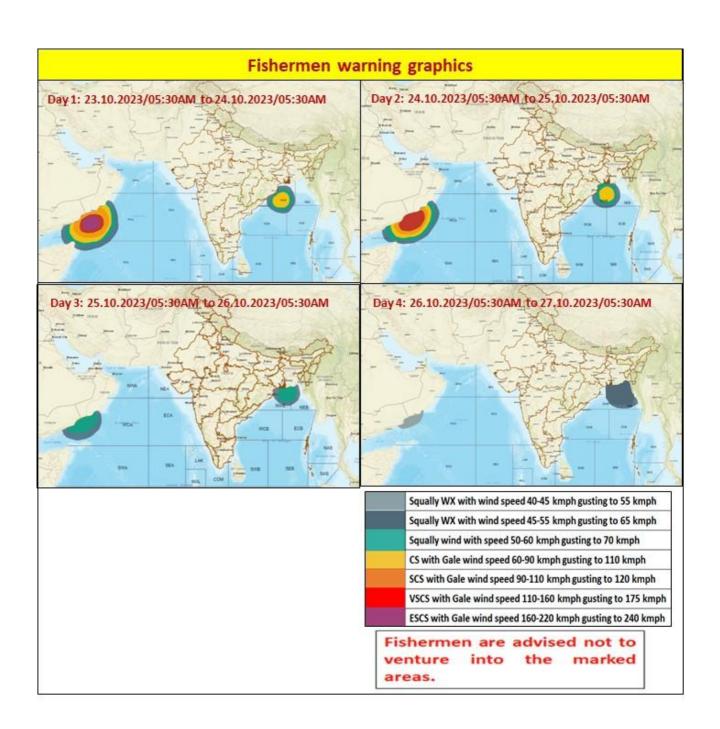
•	LESS THAN 34 KT
6	34-47 KT
6	≥ 48 KT
	OBSERVED TRACK
	FORECAST TRACK
—	CONE OF UNCERTAINTY

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



STORM SURGE GUIDANCE:

STORM SURGE OF ABOUT 2 METER HEIGHT ABOVE THE ASTRONOMICAL TIDE IS LIKELY TO INUNDATE LOW LYING AREAS BETWEEN AL GHAYDAH AND AL FAYDAMI NEAR THE LANDFALL POINT AT THE TIME OF LANDFALL.

