



**REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY NO. 01**

DEMS-RSMCSPECIAL TROPICAL CYCLONES NEW DELHI DATED 23.10.2024

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. 01 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0400 UTC OF 23.10.2024 BASED ON 0000 UTC OF 23.10.2024

SUB: CYCLONIC STORM “DANA” (PRONOUNCED AS DANA) OVER EASTCENTRAL BAY OF BENGAL

YESTERDAY’S DEEP DEPRESSION OVER EASTCENTRAL BAY OF BENGAL MOVED WEST-NORTHWESTWARDS WITH A SPEED OF 18 KMPH DURING PAST 6 HOURS, INTENSIFIED INTO A CYCLONIC STORM “DANA” (PRONOUNCED AS DANA), AND LAY CENTRED AT 0000 UTC OF TODAY, THE 23ND OCTOBER, OVER THE SAME REGION NEAR LATITUDE 16.3°N AND LONGITUDE 89.9°E, ABOUT 560 KM SOUTHEAST OF PARADIP (42976, ODISHA), 630 KM SOUTH-SOUTHEAST OF SAGAR ISLAND (42903, WEST BENGAL) AND 630 KM SOUTH-SOUTHEAST OF KHEPUPARA (41984, BANGLADESH).

IT IS VERY LIKELY TO MOVE WEST-NORTHWESTWARDS AND INTENSIFY INTO A SEVERE CYCLONIC STORM OVER NORTHWEST BAY OF BENGAL AROUND 0000 UTC OF 24TH AND CROSS NORTH ODISHA AND WEST BENGAL COASTS BETWEEN PURI AND SAGAR ISLAND DURING 1800 UTC OF 24TH AND 0000 UTC TO 25TH OCTOBER, 2024 AS A SEVERE CYCLONIC STORM WITH A WIND SPEED OF 100-110

KMPH GUSTING 120 KMPH.

Forecast track and intensity are given in the following table:

Date/Time (UTC)	Position (Lat. °N/ Long. °E)	Maximum Sustained Surface Wind Speed (Kmph)	Category Of Cyclonic Disturbance
23.10.24/0000	16.3/89.9	60-70 GUSTING TO 80	CYCLONIC STORM
23.10.24/0600	16.8/89.3	70-80 GUSTING TO 90	CYCLONIC STORM
23.10.24/1200	17.4/88.8	80-90 GUSTING TO 100	CYCLONIC STORM
23.10.24/1800	18.1/88.4	90-100 GUSTING TO 110	SEVERE CYCLONIC STORM
24.10.24/0000	18.8/88.1	100-110 GUSTING 120	SEVERE CYCLONIC STORM
24.10.24/1200	20.0/87.4	100-110 GUSTING 120	SEVERE CYCLONIC STORM
25.10.24/0000	20.9/86.9	100-110 GUSTING 120	SEVERE CYCLONIC STORM
25.10.24/1200	21.5/86.1	80-90 GUSTING TO 100	CYCLONIC STORM
26.10.24/0000	21.7/85.3	45-55 GUSTING TO 65	DEPRESSION

THE CLOUD MASS SHOWS FURTHER ORGANISATION IN PAST SIX HOURS. THE SATELLITE IMAGERY SHOWS THAT THE SYSTEM IS SHEAR PATTERN. THE INTENSITY IS CHARACTERISED AS T2.5. THE VERY INTENSE CONVECTIVE CLOUD MASS ASSOCIATED WITH THE SYSTEM LIES OVER WEST SECTOR OF THE SYSTEM CENTRE. MINIMUM CTT MINUS 93 DEGREE CELSIUS. ASSOCIATED SCATTERED TO BROCKEN LOW/MEDIUM CLOUDS WITH EMBEDDED INTENCE TO VERY INTENCE CONVECTION OVER CENTRAL & NORTH BAY OF BENGAL BETWEEN LAT 12.0N TO 21.0N AND LONGITUDE 84.0E TO 93.0E (MIMUMUM CLOUD TOP TEMPERATURE IS MINUS 80-93 DEG CEL) (

ESTIMATED CENTRAL PRESSURE IS 998 HPA AND MAXIMUM SUSTAINED WIND SPEED IS 35 KNOTS GUSTING TO 45 KNOTS. SEA CONDITION IS HIGH OVER EASTCENTRAL BAY OF BENGAL.

UNDER IT'S INFLUENCE:

(II) WIND WARNING:

EASTCENTRAL BAY OF BENGAL: SQUALLY WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH IS PREVAILING AND LIKELY TO INCREASE BECOMING 70-90 KMPH GUSTING TO 100 KMPH FROM 1200 UTC OF 23RD TILL 0300 UTC OF 24TH OCTOBER. IT IS LIKELY TO DECREASE THEREAFTER.

ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL: SQUALLY WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH IS PREVAILING. IT IS LIKELY TO INCREASE GRADUALLY BECOMING 80-90 KMPH GUSTING TO 100 KMPH FROM 0900 UTC OF 23RD AND 90-100 KMPH GUSTING TO 110 KMPH FROM 0000 UTC OF 24TH TILL 1200 OF 24TH OCTOBER. IT IS LIKELY TO DECREASE THEREAFTER.

NORTHWEST BAY OF BENGAL: SQUALLY WIND SPEED REACHING 40-50 KMPH GUSTING TO 60 KMPH IS PREVAILING. IT IS VERY LIKELY TO INCREASE GRADUALLY BECOMING GALE WIND SPEED REACHING 70-90 KMPH GUSTING TO 100 KMPH FROM 1200 UTC OF 23RD TILL 1800 UTC 24TH AND THEREAFTER 100-110 KMPH GUSTING TO 120 KMPH TILL 0000 UTC OF 25TH OCTOBER. IT IS LIKELY TO DECREASE GRADUALLY THEREAFTER.

ADJOINING AREAS OF NORTHEAST BAY OF BENGAL: SQUALLY WIND SPEED

REACHING 40-50 KMPH GUSTING TO 60 KMPH IS VERY LIKELY TO COMMENCE FROM 1800 UTC OF 23RD, BECOMING 50-60 KMPH GUSTING TO 70 KMPH FROM 24TH TILL 0000 UTC OF 25TH AND DECREASE GRADUALLY THEREAFTER.

ALONG & OFF ODISHA-WEST BENGAL COASTS: SQUALLY WIND SPEED REACHING 40-50 GUSTING TO 60 KMPH IS VERY LIKELY TO COMMENCE FROM 1200 UTC OF 23RD OCT. IT WOULD GRADUALLY INCREASE BECOMING GALE WIND SPEED REACHING 60-70 KMPH GUSTING TO 80 KMPH FROM 0000 UTC OF 24TH AND REACHING 100-110 KMPH GUSTING TO 120 KMPH FROM 24TH/1800 UTC TILL 0000 UTC OF 25TH OCT AND DECREASE GRADUALLY THEREAFTER.

(III) SEA CONDITION:

EASTCENTRAL BAY OF BENGAL: SEA CONDITION IS LIKELY TO BE HIGH TILL 24TH OCTOBER/1200 UTC AND IMPROVE GRADUALLY THEREAFTER.

ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL: SEA CONDITION IS LIKELY TO BE VERY ROUGH TO HIGH ON 23RD AND HIGH TILL 1200 UTC OF 24TH OCTOBER. IT IS LIKELY TO IMPROVE GRADUALLY THEREAFTER.

NORTHWEST BAY OF BENGAL: SEA CONDITION IS LIKELY TO BE VERY ROUGH TILL 23RD/1200 UTC AND WOULD BECOME HIGH TO VERY HIGH FROM 23RD/1800 UTC TILL 0000 UTC OF 25TH OCTOBER AND IMPROVE GRADUALLY THEREAFTER.

ADJOINING AREAS OF NORTHEAST BAY OF BENGAL: SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH FROM 23RD/1800 UTC TILL 25TH/0000 UTC AND IMPROVE GRADUALLY THEREAFTER.

ALONG & OFF ODISHA-WEST BENGAL COASTS: SEA CONDITION IS LIKELY TO BE ROUGH TO VERY ROUGH FROM 23RD/1200 UTC AND WOULD BECOME HIGH TO VERY HIGH FROM 24TH OCTOBER/0000 UTC TO 25TH OCT/0900 UTC AND IMPROVE GRADUALLY THEREAFTER.

(IV) FISHERMEN WARNING:

TOTAL SUSPENSION OF FISHING OPERATION IS ADVISED TILL 25TH OCTOBER
FISHERMEN ARE ADVISED NOT TO VENTURE INTO:

- EASTCENTRAL BAY OF BENGAL DURING 23RD-24TH OCTOBER.
- **ADJOINING AREAS OF WESTCENTRAL BAY OF BENGAL ON 23RD AND 24TH OCT.**
- **NORTH BAY OF BENGAL AND ALONG & OFF ODISHA, WEST BENGAL AND BANGLADESH COASTS DURING 23RD TO 25TH OCTOBER.**

ARABIAN SEA:

SCATTERED LOW AND MEDIUM CLOUDS WITH EMBEDDED MODERATE TO INTENSE CONVECTION OVER SOUTHEAST ARABIAN SEA, LAKSHADWEEP, MALDIVES AND COMORINE AREA.

***PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION) DURING NEXT 168 HRS:**

24 HOURS	24-48 HOURS	48-72 HOURS	72-96 HOURS	96-120 HOURS	120-144 HOURS	144-168 HOURS
NIL	NIL	NIL	NIL	NIL	NIL	NIL

***NOTE: EVERY 24HR FORECAST IS VALID UPTO 0300 UTC (0830 IST) OF NEXT DAY**

REMARKS:

THE MADDEN-JULIAN OSCILLATION (MJO) IS CURRENTLY IN PHASE 5, WITH AMPLITUDE MORE THAN 1, AND IS EXPECTED TO MOVE ACROSS PHASE 5 DURING NEXT 7 DAYS WITH FURTHER INCREASING AMPLITUDE. THUS, MJO WOULD SUPPORT ENHANCEMENT OF CONVECTIVE ACTIVITY OVER CENTRAL AND NORTH BAY OF BENGAL DURING NEXT 5 DAYS.

THE GUIDANCE FROM NCICS BASED FORECAST OVER BOB INDICATES EASTWARD MOVING MJO & KELVIN WAVES ALONG WITH EQUATORIAL ROSSBY WAVES OVER THE CENTRAL BAY OF BENGAL DURING NEXT 5 DAYS. THESE FEATURES INDICATE HIGHLY FAVOURABLE ENVIRONMENT FOR INTENSIFICATION OF SYSTEM OVER THE CENTRAL & NORTH PARTS OF THE BAY OF BENGAL.

THE SEA SURFACE TEMPERATURE (SST) IS 30°C OVER CENTRAL & NORTH BOB. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS >100 KJ/CM² OVER WESTCENTRAL BOB, <80 KJ/CM² OVER NORTHWEST. VORTICITY AT LOW LEVEL HAS INCREASED AND IS 150X 10⁵S⁻¹ AROUND SYSTEM CENTRE OVER EASTCENTRAL BAY OF BENGAL WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. POSITIVE LOW-LEVEL CONVERGENCE HAS INCREASED AND IS 30 X10⁻⁵S⁻¹ TO THE NORTHWEST OF SYSTEM AREA. POSITIVE UPPER-LEVEL DIVERGENCE HAS ALSO INCREASED AND IS 30X10⁻⁵S⁻¹ AROUND THE NORTHEAST OF SYSTEM AREA. VERTICAL WIND SHEAR (VWS) IS MODERATE TO HIGH (10-20 KT) OVER CENTRAL BOB.

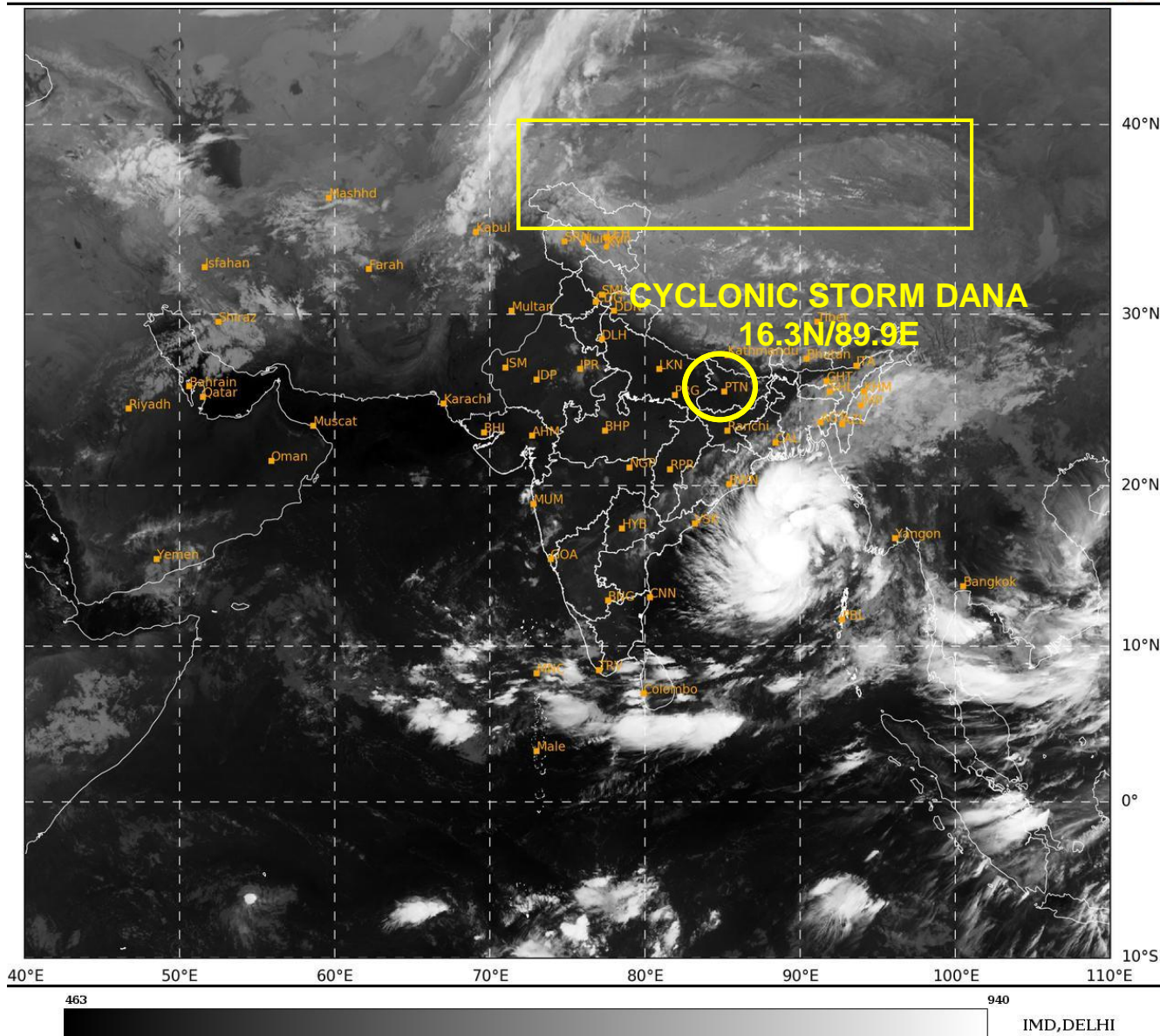
MOST OF THE NWP MODELS ARE INDICATING FURTHER INTENSIFICATION OF CYCLONIC STORM INTO SEVERE CYCLONIC STORM OVER NORTHWEST BAY OF BENGAL AROUND 0000 UTC OF 24TH OCTOBER. IMD-GFS, NCEP-GFS, ECMWF AND NCMRWF UM MODELS INDICATING LANDFALL OVER NORTH ODISHA-WEST BENGAL COASTS BETWEEN 1800 UTC OF 24TH AND 0600 UTC OF 25TH OCTOBER 2024. ALL THE MODELS ARE INDICATING THE INTENSITY OF SEVERE CYCLONIC STORM DURING THE LAND CROSSING TIME.

CONSIDERING ALL THE ABOVE, THE CYCLONIC STORM OVER EASTCENTRAL BAY OF BENGAL IS VERY LIKELY TO MOVE NORTHWESTWARDS AND INTENSIFY INTO A SEVERE CYCLONIC STORM OVER NORTHWEST BAY OF BENGAL BY 1800-2100 UTC OF 23RD OCTOBER. IT IS VERY LIKELY TO CROSS NORTH ODISHA AND WEST BENGAL COASTS BETWEEN PURI AND SAGAR ISLAND DURING 1800 UTC OF 24TH TO 0000 UTC TO 25TH OCTOBER, 2024 AS A SEVERE CYCLONIC STORM WITH A WIND SPEED OF 100-110 KMPH GUSTING 120 KMPH.

(M. T. BUSHAIR)
SCIENTIST-C
RSMC NEW DELHI

SAT : INSAT-3DR IMG
IMG_TIR1 10.8 um
LIC Mercator

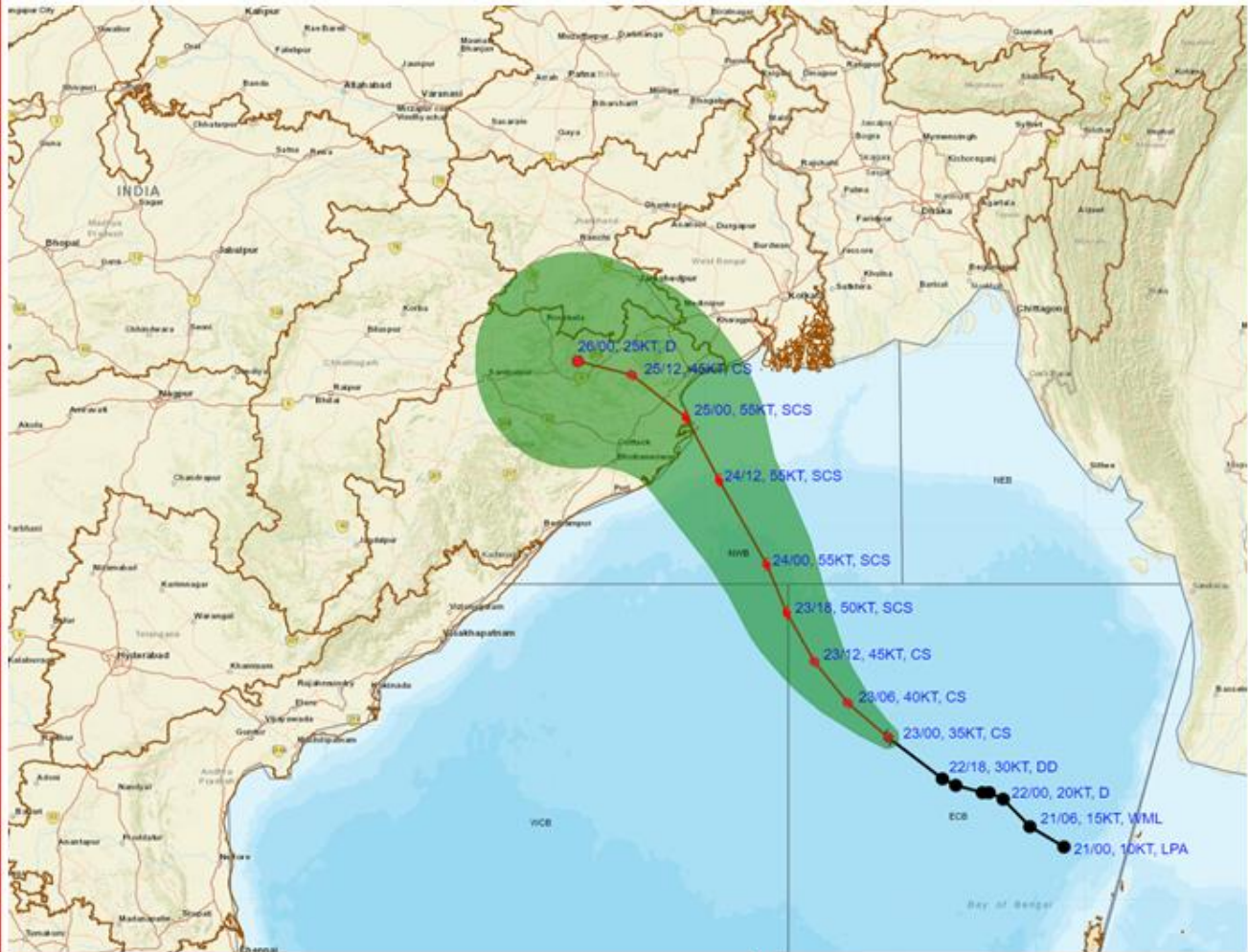
23-10-2024/(0145 to 0212) GMT
23-10-2024/(0715 to 0742) IST



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%
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 CYCLONIC STORM 'DANA' OVER EASTCENTRAL BAY OF BENGAL BASED ON 0000 UTC (0530 Hrs. IST) OF 23RD OCTOBER 2024



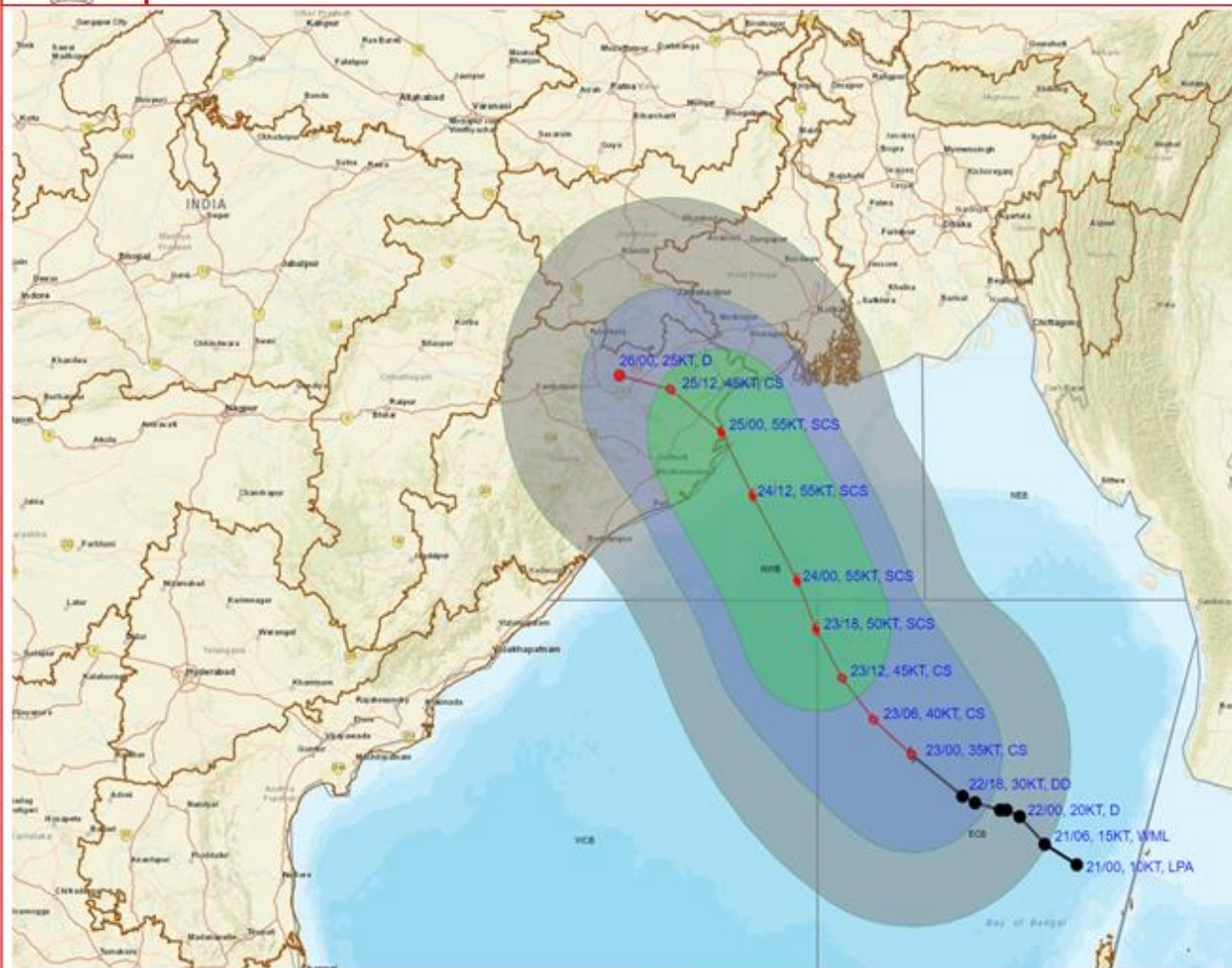
DATE/TIME : IN UTC
IST : UTC + 0530
KT : NAUTICAL MILE S/HOUR = 1.85 KM/HOUR
LPA : LOW PRESSURE AREA
WML : WELL MARKED LOW PRESSURE AREA
D : DEPRESSION (17-27KT)
DD : DEEP DEPRESSION (28-33 KT)
CS : CYCLONIC STORM (34-47 KT)
SCS : SEVERE CYCLONIC STORM (48-63 KT)
VSCS : VERY SEVERE CYCLONIC STORM (64-89 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

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OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM 'DANA' OVER EASTCENTRAL BAY OF BENGAL BASED ON 0000 UTC (0530 Hrs. IST) OF 23RD OCTOBER 2024



DATE/TIME : IN UTC
 IST : UTC + 0530
 KT : NAUTICAL MILE/ HOUR = 1.85 KM/HOUR
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 WML : WELL MARKED LOW PRESSURE AREA
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 SuCS : SUPER CYCLONIC STORM (≥ 120 KT)

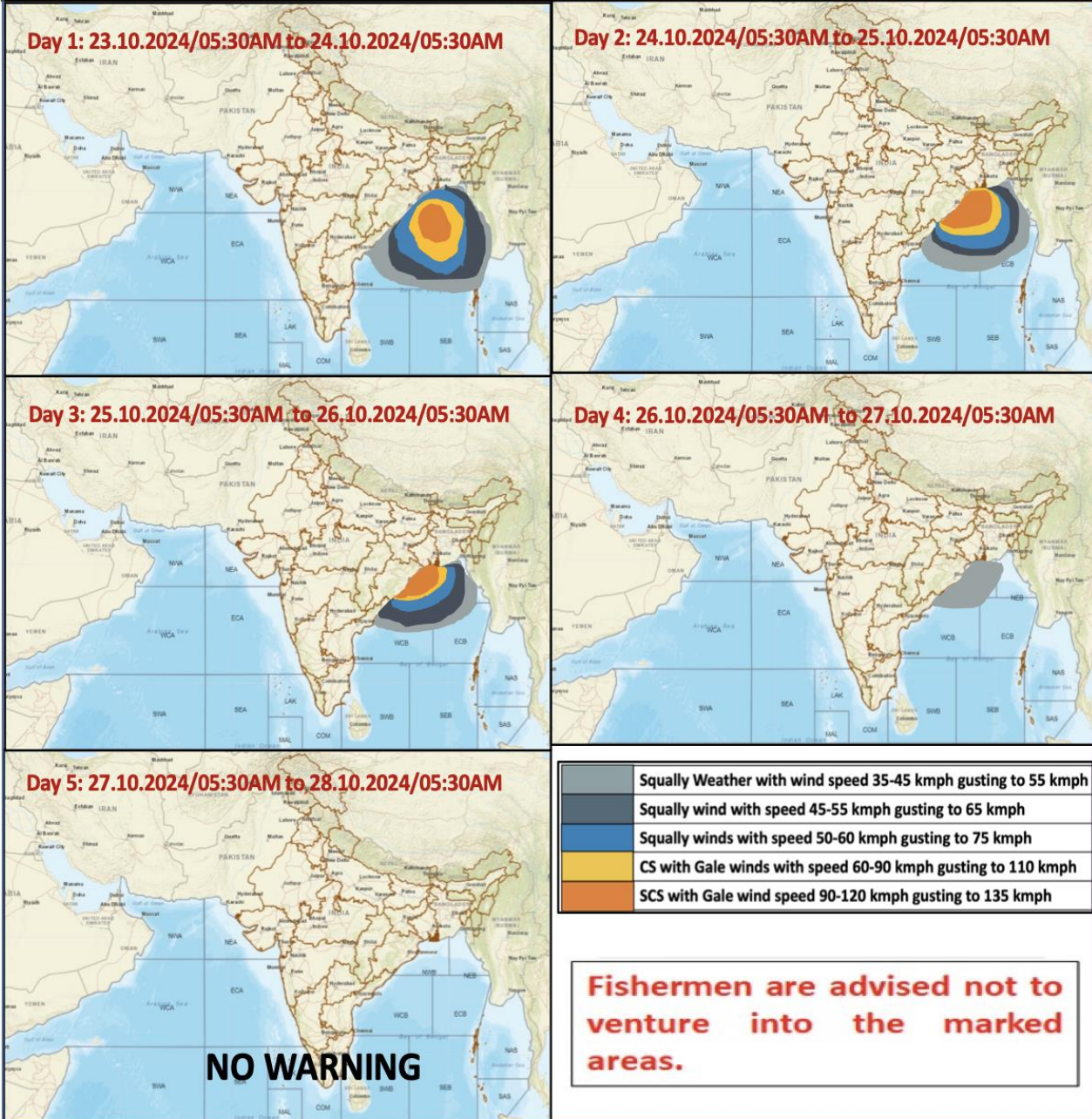
● LESS THAN 34 KT
 ○ 34-47 KT
 ○ ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 — CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥ 118 KMPH)

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



NO WARNING

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