



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

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. 2 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 72 HOURS ISSUED AT 1800 UTC OF 25.05.2021 BASED ON 1500 UTC OF 25.05.2021.

SUB: THE CYCLONIC STORM 'GULAB' (PRONOUNCED AS GUL-AAB) OVER NORTHWEST & ADJOINING WEST-CENTRAL BAY OF BENGAL: CYCLONE WARNING FOR NORTH ANDHRA PRADESH AND SOUTH ODISHA COASTS

THE CYCLONIC STORM 'GULAB' (PRONOUNCED AS GUL-AAB) OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL MOVED NEARLY WESTWARDS WITH A SPEED OF 07 KMPH IN LAST 6 HOURS, AND LAY CENTERED AT 1500 UTC OF 25TH SEPTEMBER 2021, OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL NEAR LAT. 18.3°N AND LONG. 88.1°E, ABOUT 350 KM EAST-SOUTHEAST OF GOPALPUR (43049) & 420 KM EAST OF KALINGAPATNAM (43105).

IT IS LIKELY TO MOVE NEARLY WESTWARDS AND CROSS NORTH ANDHRA PRADESH - SOUTH ODISHA COASTS BETWEEN KALINGAPATNAM (43105) & GOPALPUR (43049) DURING 1200-1500 UTC OF 26TH SEPTEMBER, 2021.

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
25.09.21/1500	18.3/88.1	60-70 gusting to 80	Cyclonic Storm
25.09.21/1800	18.3/87.6	65-75 gusting to 85	Cyclonic Storm
26.09.21/0000	18.4/86.8	70-80 gusting to 90	Cyclonic Storm
26.09.21/0600	18.4/85.9	75-85 gusting to 95	Cyclonic Storm
26.09.21/1200	18.5/84.8	75-85 gusting to 95	Cyclonic Storm
27.09.21/0000	18.7/83.1	45-55 gusting to 65	Deep Depression
27.09.21/1200	18.9/81.4	40-50 gusting to 60	Depression

AS PER INSAT-3D IMAGERY AT 1500 UTC OF 25TH SEP. THE INTENSITY OF THE SYSTEM IS CATEGORISED AS T 2.5. CLOUDS ARE ORGANISED IN CDO PATTERN. MINIMUM CLOUD TOP

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%
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TEMPERATURE IS -93°C . TOTAL PRECIPITABLE WATER CONTENT IMAGERY AT 25TH/0740 UTC INDICATES GOOD WARM MOIST AIR INCURSION INTO THE CORE OF SYSTEM. ASSOCIATED BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER NORTH AND ADJOINING CENTRAL BAY OF BENGAL BETWEEN LATITUDE 15.0°N & 19.0°N AND LONGITUDE 85.0°E & 89.0°E .

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 35 KNOTS GUSTING TO 45 KNOTS. THE SEA CONDITION IS VERY ROUGH TO HIGH OVER NORTHWEST & ADJOINING WESTCENTRAL BOB AROUND SYSTEM CENTRE DURING NEXT 24 HOURS. THE ESTIMATED CENTRAL PRESSURE IS 997 HPA.

STORM SURGE: PEAK STORM SURGE OF 0.3M OVER AND ABOVE THE ASTRONOMICAL TIDE IS NOTICED AT (I) SOMPETA, SRIKAKULAM DISTRICT, ANDHRA PRADESH AND (II) BRAHMAPUR, GANJAM DISTRICT, ODISHA.

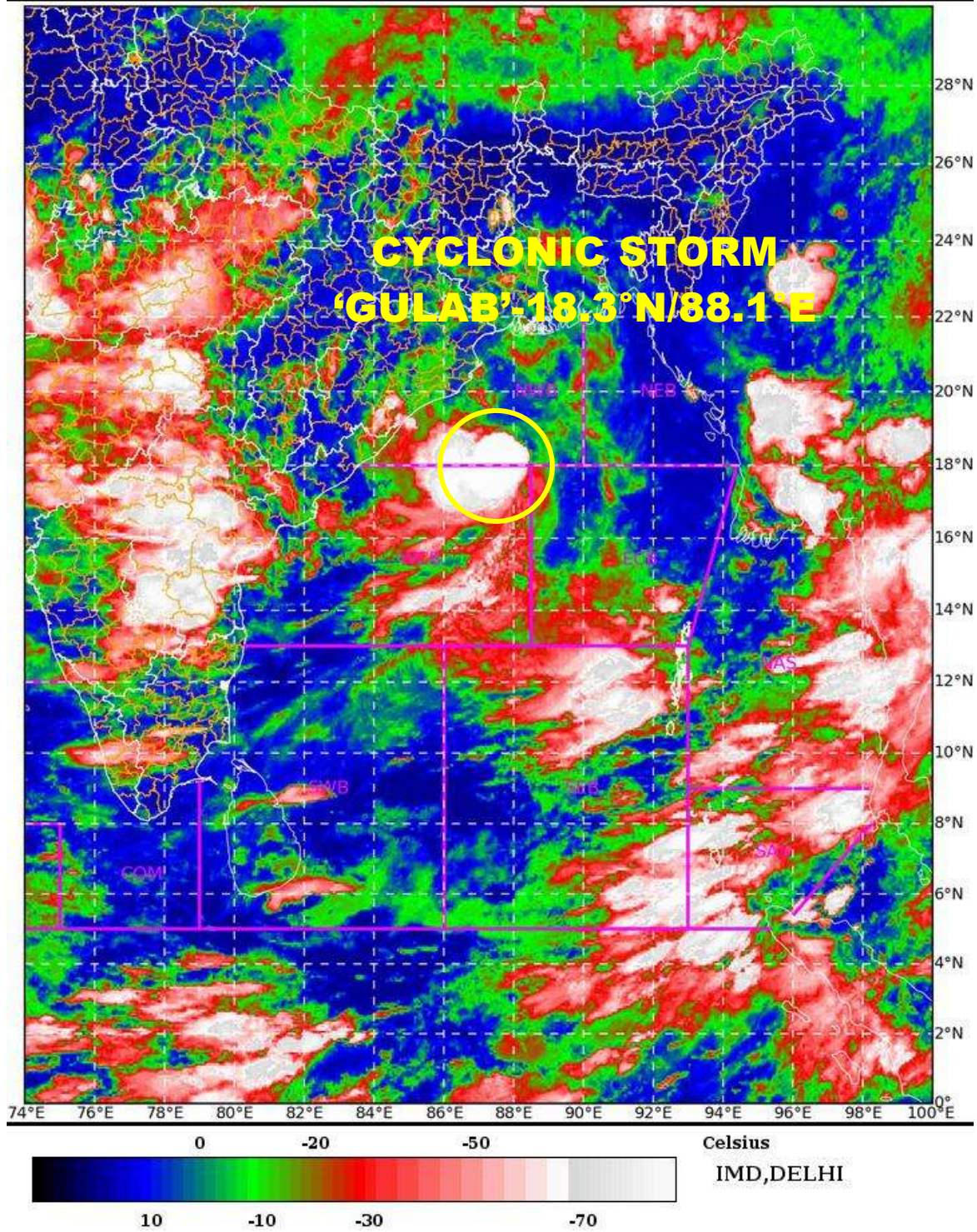
REMARKS:

SEA SURFACE TEMPERATURE (SST) IS ABOUT $28-29^{\circ}\text{C}$ OVER CENTRAL & ADJOINING NORTH BAY OF BENGAL (BOB) AND TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT $80-100\text{ KJ}/\text{CM}^2$ OVER THE SAME AREA. MADDEN JULIAN OSCILLATION (MJO) INDEX IS LYING IN PHASE 5 WITH AMPLITUDE CLOSE TO 1, THEREAFTER IT WILL MOVE TO PHASE 4 WITH AMPLITUDE BECOMING MORE THAN 1 FOR NEXT 5 DAYS. A ZONE OF POSITIVE LOW LEVEL VORTICITY ($100 \times 10^{-6}\text{S}^{-1}$) LIES AROUND THE SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO UPPER TROPOSPHERIC LEVEL. A ZONE OF POSITIVE LOWER LEVEL CONVERGENCE OF $10 \times 10^{-5}\text{S}^{-1}$ LIES TO THE NORTHWEST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE OF $10 \times 10^{-5}\text{S}^{-1}$ IS ALSO SEEN AROUND THE SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR (VWS) IS ABOUT (15-20 KTS) OVER NORTHWEST AND ADJOINING CENTRAL BOB ALONG THE FORECAST TRACK. MAINLY THE MODERATE VERTICAL WIND SHEAR, HIGH TROPICAL CYCLONE HEAT POTENTIAL AND FAVOURABLE MJO PHASE HELPED IN MARGINAL INTENSIFICATION OF THE SYSTEM INTO A CYCLONIC STORM. THE EASTERLY TO EAST-NORTHEASTERLY WINDS PREVAILING OVER THE SYSTEM AREA IN ASSOCIATION WITH THE ANTICYCLONE LYING OVER THE NORTH INDIA REGION WOULD STEER THE SYSTEM NEARLY WESTWARDS DURING NEXT 48 HOURS.

NUMERICAL MODEL GUIDANCE SHOW GOOD CONSENSUS W.R.T. TRACK, LANDFALL POINT AND MARGINAL INTENSIFICATION OF THE SYSTEM.

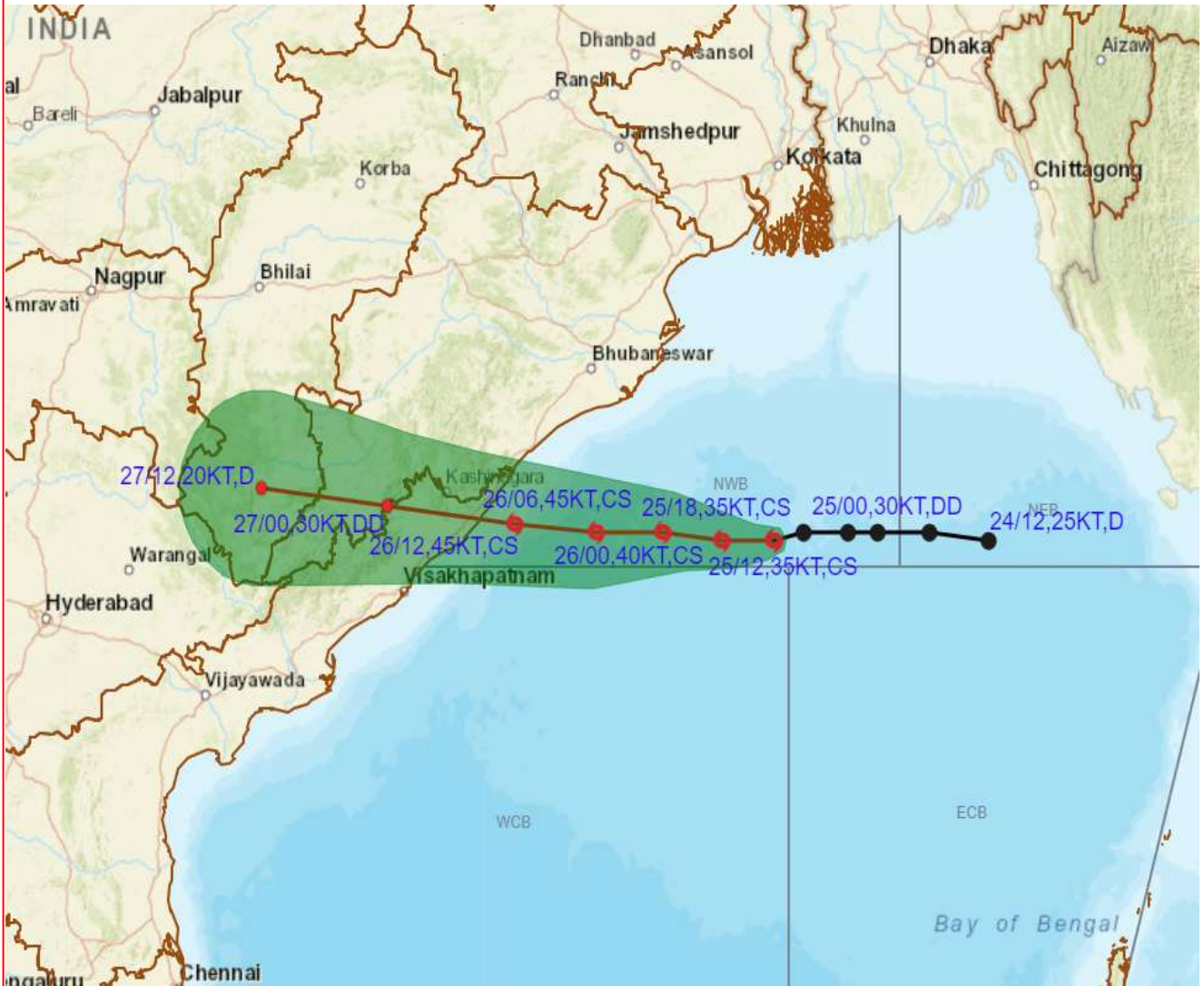
THE NEXT BULLETIN WILL BE ISSUED AT 2100 UTC OF 25TH SEPTEMBER, 2021.

(D R Pattanaik)
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OBSERVED AND FORECAST TRACK OF CYCLONIC STORM GULAB OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 1500 UTC OF 25TH SEPTEMBER, 2021

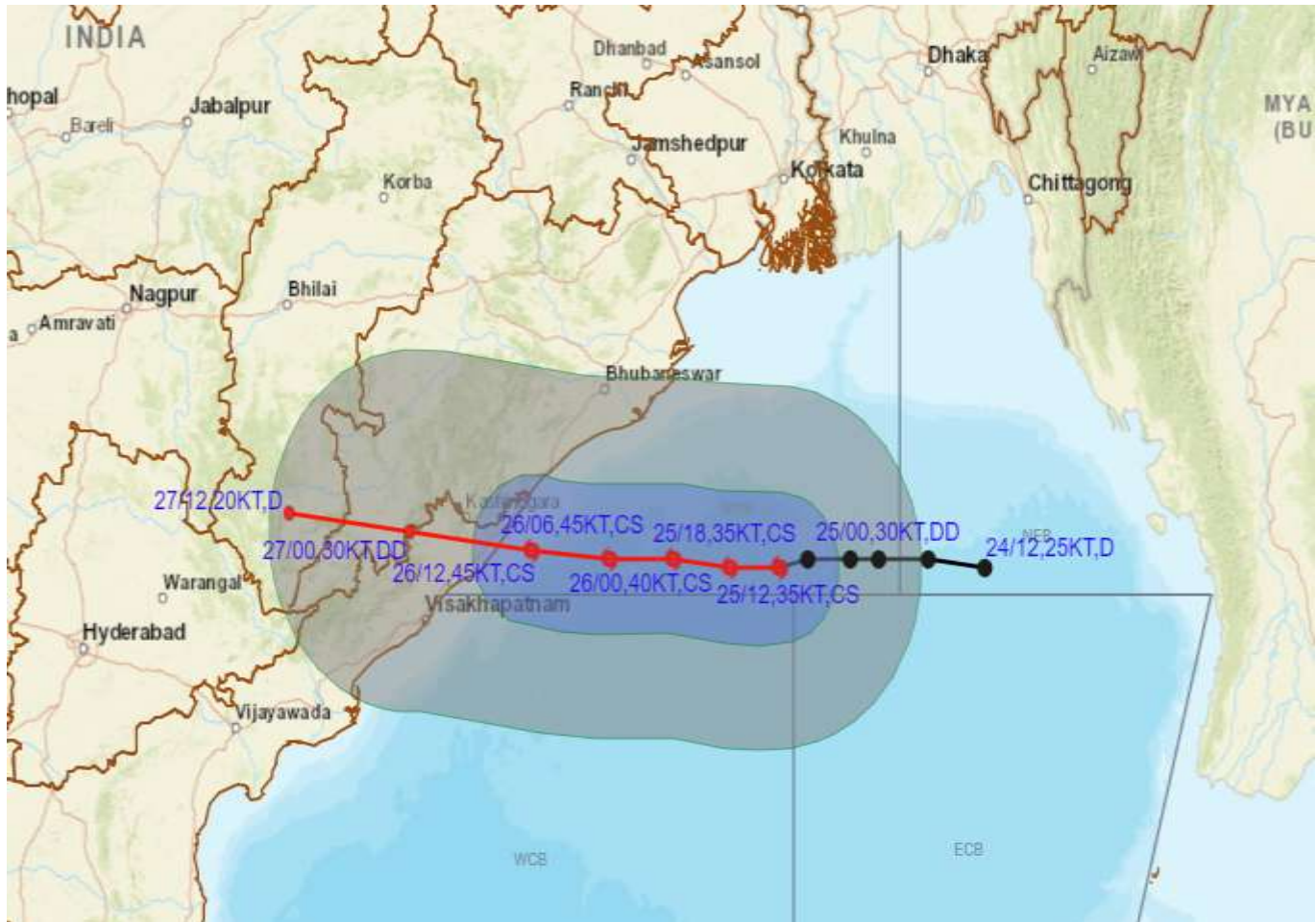


DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM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



OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM GULAB OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 1500 UTC OF 25TH SEPTEMBER, 2021



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

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)

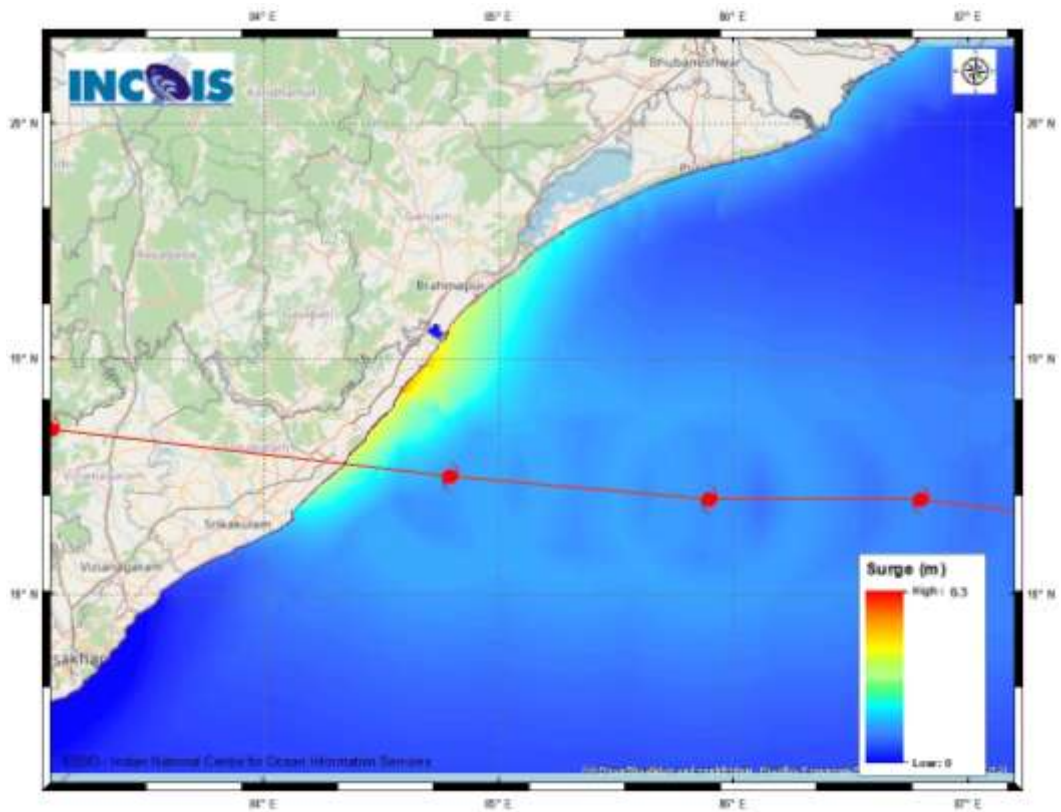
■ ≥ 64 KT (≥118 KMPH)

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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STORM SURGE GRAPHIC FROM INCOIS FOR THE CURRENT SYSTEM (BOB/04/2021)