



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

**DEMS-RSMC TROPICAL CYCLONES NEW DELHI DATED 25.09.2021**

**SPECIAL TROPICAL WEATHER OUTLOOK FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0900 UTC OF 25.09.2021 BASED ON 0600 UTC OF 25.09.2021.**

SUB: DEEP DEPRESSION OVER NORTHWEST & ADJOINING WEST-CENTRAL BAY OF BENGAL

THE DEEP DEPRESSION OVER NORTHWEST & ADJOINING WESTCENTRAL BAY OF BENGAL MOVED WESTWARDS WITH A SPEED OF 17 KMPH IN LAST 6 HOURS AND LAY CENTERED AT 0600 UTC OF 25<sup>TH</sup> SEPTEMBER 2021, OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL NEAR LAT. 18.4°N AND LONG. 88.7°E, ABOUT 410 KM EAST-SOUTHEAST OF GOPALPUR (43049) & 480 KM EAST-NORTHEAST OF KALINGAPATNAM (43105).

IT IS LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 06 HOURS. IT IS LIKELY TO MOVE NEARLY WESTWARDS AND CROSS NORTH ANDHRA PRADESH - SOUTH ODISHA COASTS BETWEEN KALINGAPATNAM (43105) & GOPALPUR (43049) BY EVENING OF 26<sup>TH</sup> 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
25.09.21/0600	18.4/88.7	55-65 gusting to 75	Deep Depression
25.09.21/1800	18.5/87.0	65-75 gusting to 85	Cyclonic Storm
26.09.21/0600	18.6/85.3	75-85 gusting to 95	Cyclonic Storm
26.09.21/1800	18.7/83.6	70-80 gusting to 90	Cyclonic Storm
27.09.21/0600	18.9/82.0	50-60 gusting to 70	Deep Depression
27.09.21/1800	19.1/80.0	40-50 gusting to 60	Depression

AS PER INSAT-3D IMAGERY AT 0600 UTC OF 25<sup>TH</sup> SEP., THERE IS GRADUAL ORGANISATION OF CONVECTION DURING PAST SIX HOURS. THE INTENSITY OF THE SYSTEM IS CATEGORISED AS T 2.0. CLOUDS ARE ORGANISED IN CDO PATTERN. MINIMUM CLOUD TOP TEMPERATURE IS -93°C. TOTAL PRECIPITABLE WATER CONTENT IMAGERY AT 25<sup>TH</sup>/0130 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 16.0°N & 20.0°N AND LONGITUDE 87.0°E & 91.5°E .

THE ESTIMATED MAXIMUM SUSTAINED WIND SPEED IS 30 KNOTS GUSTING TO 40 KNOTS. THE SEA CONDITION IS VERY ROUGH OVER NORTH & ADJOINING CENTRAL BOB AROUND SYSTEM CENTRE. THE ESTIMATED CENTRAL PRESSURE IS 998 HPA.

A BUOY LOCATED NEAR LAT 17.5<sup>0</sup>N/LONG 89.1<sup>0</sup>E OBSERVED MEAN SEA LEVEL PRESSURE OF 1004.0 HPA AND WINDS OF 290<sup>0</sup>/20 KTS.

**STORM SURGE GUIDANCE:** TIDAL WAVE OF ABOUT 0.5 M HEIGHT ABOVE THE ASTRONOMICAL TIDE LIKELY TO INUNDATE LOW LYING AREAS OF SRIKAKULAM, VIZIANAGARAM, GANJAM DISTRICTS DURING THE TIME OF LANDFALL.

**REMARKS:**

SEA SURFACE TEMPERATURE (SST) OF ABOUT 28-29°C OVER CENTRAL & ADJOINING NORTH BAY OF BENGAL (BOB), TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS ABOUT 80-100 KJ/CM<sup>2</sup> OVER THE SAME AREA WITH SLIGHT DECREASE TOWARDS THE EAST COAST OF INDIA. MADDEN JULIAN OSCILLATION (MJO) INDEX IS LYING IN PHASE 4 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 TO THE SOUTHEAST OF SYSTEM CENTRE WITH VERTICAL EXTENSION UPTO 500 HPA LEVEL. A ZONE OF POSITIVE LOWER LEVEL CONVERGENCE OF  $20 \times 10^{-5} \text{S}^{-1}$  LIES TO THE SOUTHEAST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE OF  $30 \times 10^{-5} \text{S}^{-1}$  IS ALSO SEEN AROUND THE SYSTEM CENTRE. MODERATE VERTICAL WIND SHEAR (VWS) IS ABOUT (15-20 KTS) OVER NORTHWEST AND ADJOINING CENTRAL BOB. UNDER THESE FAVOURABLE SEA AND ENVIRONMENTAL CONDITIONS, THE SYSTEM IS LIKELY TO INTENSIFY INTO A CYCLONIC STORM DURING NEXT 06 HOURS. THE SUB-TROPICAL RIDGE IS SEEN ALONG LAT. 24°N. EASTERLY TO EAST-SOUTHEASTERLY WINDS PREVAILING TO THE SOUTH OF THE RIDGE WOULD STEER THE SYSTEM NEARLY WESTWARDS DURING NEXT 48 HOURS.

NUMERICAL MODEL GUIDANCE SHOW GOOD CONSENSUS W.R.T. TRACK AND LANDFALL OF THE SYSTEM. HOWEVER, THERE IS DIVERGENCE AMONG VARIOUS MODELS W.R.T. INTENSIFICATION OF THE SYSTEM.

THE NEXT BULLETIN WILL BE ISSUED AT 1500 UTC OF 25<sup>TH</sup> SEPTEMBER, 2021.

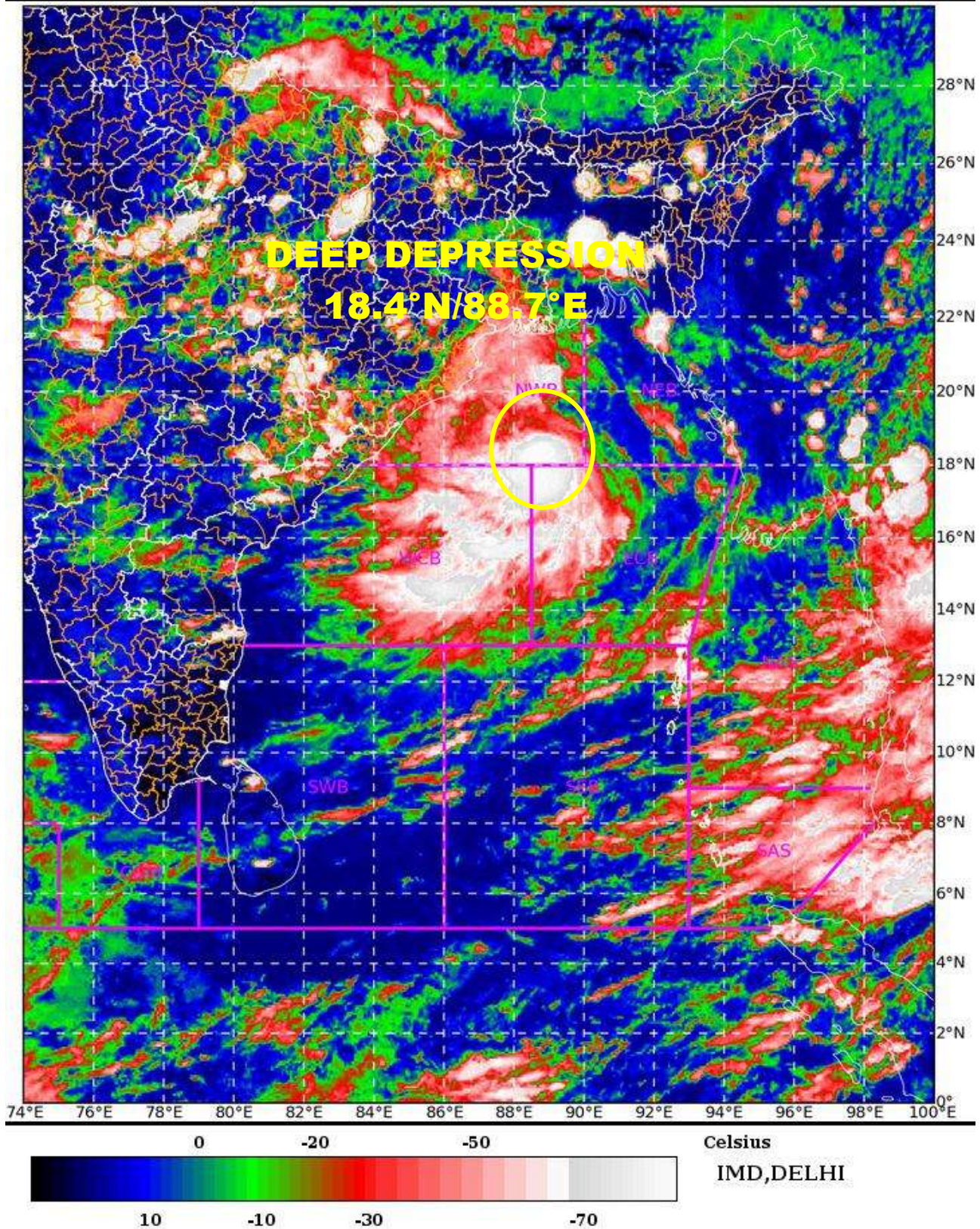
(SUNITHA DEVI S.)  
SCIENTIST-F, RSMC, NEW DELHI



SAT : INSAT-3D IMG      25-09-2021/(0800 to 0826) GMT  
IMG\_TIR1\_TEMP 10.8 um    25-09-2021/(1330 to 1356) IST



L1C Mercator

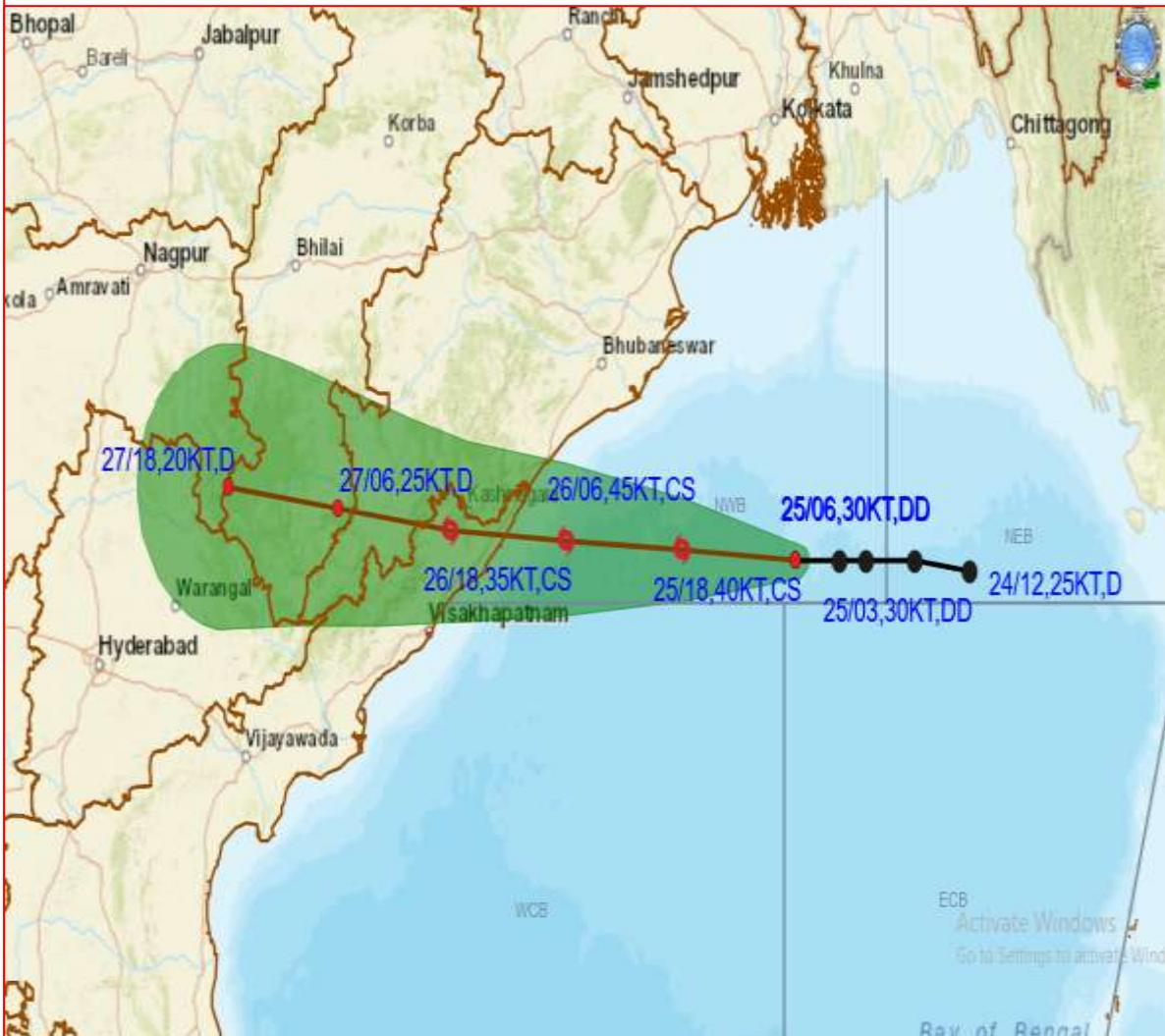


PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION):NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%  
This is a guidance Bulletin for the WMO/ESCAP Panel Member countries., Please visit respective National websites for Country specific Bulletins





## OBSERVED AND FORECAST TRACK OF DEEP DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC OF 25<sup>TH</sup> 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 (≥20 KT)

● LESS THAN 34 KT

⊙ 34-47 KT

⊙ ≥ 48 KT

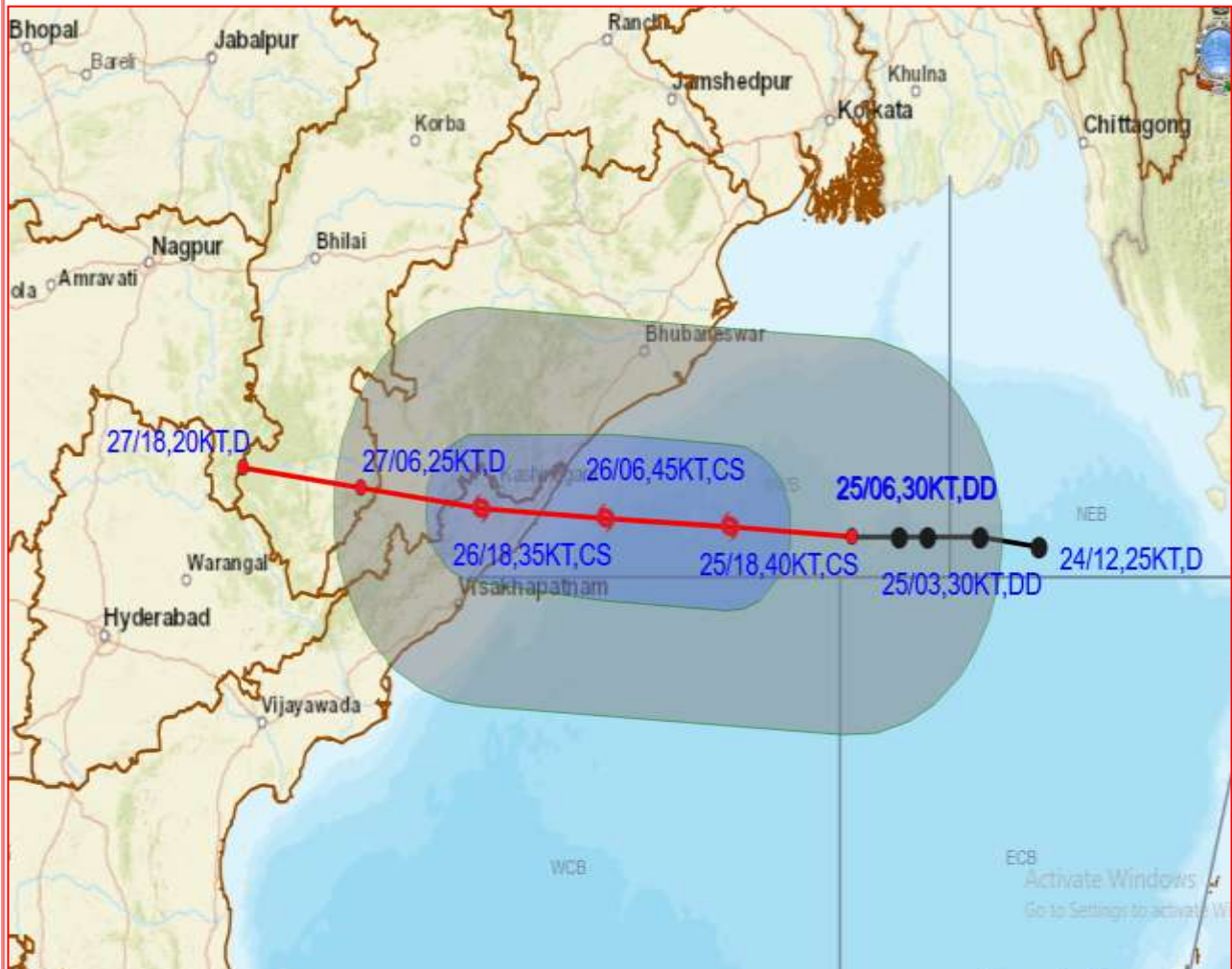
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



## OBSERVED AND FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER NORTHWEST AND ADJOINING WESTCENTRAL BAY OF BENGAL BASED ON 0600 UTC OF 25<sup>TH</sup> SEPTEMBER, 2021

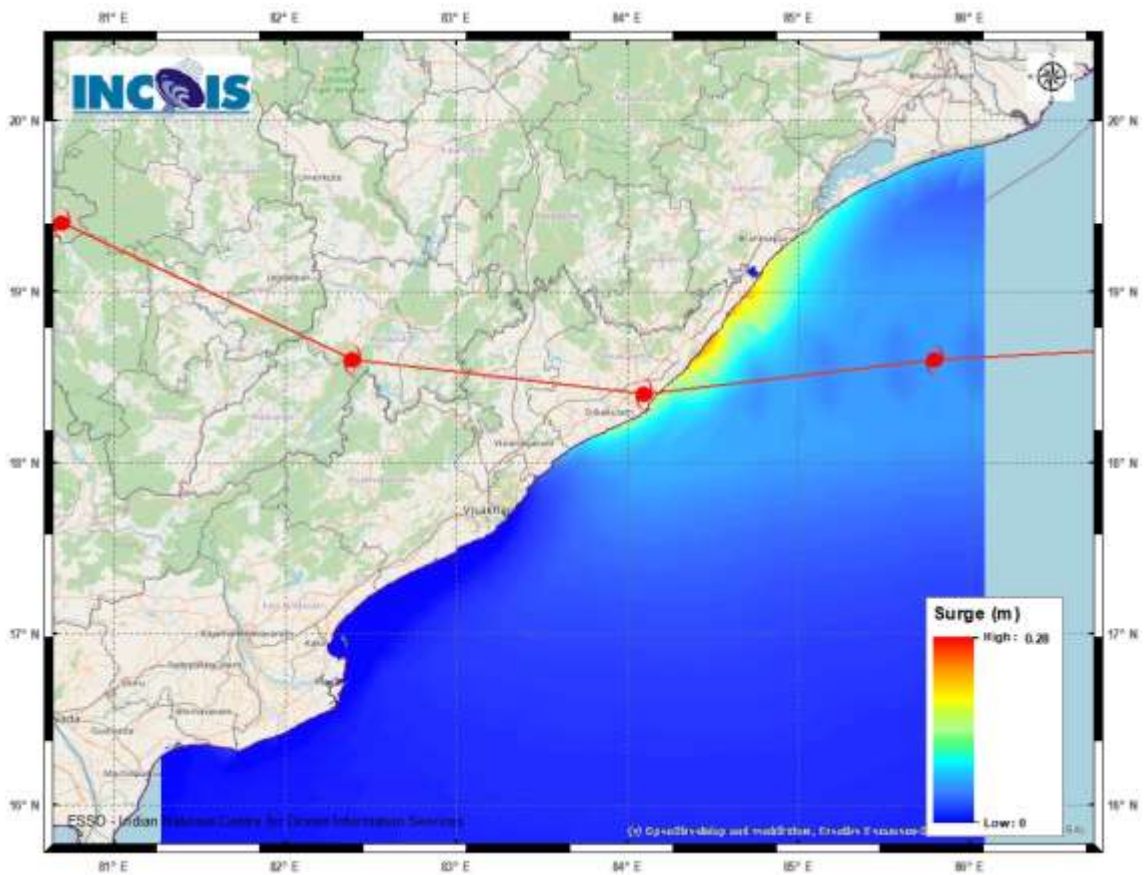


DATE/TIME IN UTC  
 IST=UTC + 0530  
 L: LOW PRESSURE AREA  
 WML: WELL MARKED LOW PRESSURE AREA  
 D: DEPRESSION (17-27 KT)  
 DD: DEEP DEPRESSION (28-33 KT)  
 CS: CYCLONIC STORM (34-47 KT)  
 SCS: SEVERE CYCLONIC STORM (48-63KT)  
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)  
 ESCS: EXTREMELY SEVERE 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  
 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 graphic from INCOIS for the current depression (BoB/04/2021)

Peak storm surge upto 0.5 m over and above the astronomical tide near Tekkali, Srikakulam, Andhra Pradesh .