



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 19

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. 19 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 0300 UTC OF 17.05.2021 BASED ON 0000 UTC OF 17.05.2021.

SUB: VERY SEVERE CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE) OVER EASTCENTRAL ARABIAN SEA INTENSIFIED INTO AN EXTREMELY SEVERE CYCLONIC STORM

THE **VERY SEVERE CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE)** OVER EASTCENTRAL ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 20 KMPH DURING PAST 06 HOURS, INTENSIFIED INTO AN **EXTREMELY SEVERE CYCLONIC STORM** AND AND LAY CENTRED AT 0000UTC OF TODAY, THE 17TH MAY, 2021 OVER EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.5°N AND LONGITUDE 71.5°E, ABOUT 160 KM WEST-SOUTHWEST OF MUMBAI (43003), 350 KM SOUTH-SOUTHEAST OF VERAVAL (42909), 310 KM SOUTH-SOUTHEAST OF DIU (42914) AND 840 KM SOUTH-SOUTHEAST OF KARACHI (41780).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND REACH GUJARAT COAST DURING 1200-1500 UTC OF 17th & CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT 42838) AROUND 1500-1800 UTC OF 17th MAY AS A VERY SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED OF 155-165 KMPH GUSTING TO 185 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
17.05.21/0000	18.5/71.5	180-190 GUSTING TO 210	EXTREMELY SEVERE CYCLONIC STORM
17.05.21/0600	18.9/71.4	180-190 GUSTING TO 210	EXTREMELY SEVERE CYCLONIC STORM
17.05.21/1200	20.2/71.1	170-180 GUSTING TO 200	EXTREMELY SEVERE CYCLONIC STORM
17.05.21/1800	21.0/71.1	150-160 GUSTING TO 175	VERY SEVERE CYCLONIC STORM
18.05.21/0000	21.9/71.3	110-120 GUSTING TO 130	SEVERE CYCLONIC STORM
18.05.21/1200	23.5/71.9	70-80 GUSTING TO 90	CYCLONIC STORM
19.05.21/0000	25.2/72.8	40-50 GUSTING TO 60	DEPRESSION

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

REMARKS:

AS PER INSAT-3D SATELLITE IMAGERY BASED ON 0000 UTC OF TODAY THE 17th MAY 2021, THE INTENSITY OF THE SYSTEM IS **CATEGORISED AS T 5.5 WITH EYE PATTERN. HOWEVER, EYE HAS BECOME RAGGED.** BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL ARABIAN SEA (AS) BETWEEN LATITUDE 14.5°N & 22°N AND EAST OF LONG 67.0E, OVER ADJOINING GOA, SOUTH KONKAN GOA AND SOUTHWEST OF MADHYA MAHARASHTRA.

THE ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 105 KNOTS GUSTING TO 115 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 950 HPA. SEA CONDITION IS PHENOMENAL.

THE MADDEN JULIAN INDEX (MJO) CURRENTLY LIES IN PHASE 2 WITH AMPLITUDE MORE THAN 1. IT WILL CONTINUE TO BE IN SAME PHASE & SAME AMPLITUDE TILL 17TH. THEREAFTER, IT WILL MOVE TO PHASE 3 WITH AMPLITUDE NEAR 1 DURING SUBSEQUENT TWO DAYS. THUS, MJO IS CONDUCIVE FOR ENHANCED CONVECTION OVER THE ARABIAN SEA (AS) DURING NEXT 3 DAYS. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS MORE THAN 140 KJ/CM² OVER SOUTHEAST AS AND IS DECREASING OVER CENTRAL PARTS OF CENTRAL AS & NORTH AS. SEA SURFACE TEMPERATURE (SST) IS AROUND 30°C OVER ENTIRE AS.

THE LOW LEVEL CYCLONIC VORTICITY IS ABOUT $250 \times 10^{-6} \text{ S}^{-1}$ AROUND SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ($60 \times 10^{-5} \text{ S}^{-1}$) TO THE SOUTHEAST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS ($40 \times 10^{-5} \text{ S}^{-1}$) SOUTH OF THE SYSTEM CENTRE. UPPER TROPOSPHERIC RIDGE RUNS ALONG 21°N. THE SYSTEM IS IN THE REGION OF LOW VERTICAL WIND SHEAR (VWS) (10-15 KTS).

DURING PAST 06 HOURS THE SYSTEM HAS INTENSIFIED INTO AN EXTREMELY SEVERE CYCLONIC STORM DUE TO MODERATE SHEAR AND HIGH OCEAN HEAT CONTENT OVER THE REGION ON ITS PATH. THE MOVEMENT OF THE SYSTEM BECAME FASTER DURING PAST 12 HOURS DUE TO STRONG STEERING FROM UPPER TROPOSPHERIC WINDS.

THUS, UNDER FAVOURABLE ENVIRONMENT, THE EXTREMELY SEVERE CYCLONIC STORM OVER EASTCENTRAL ARABIAN SEA IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS MAINTAINING ITS INTENSITY AND WEAKEN A LITTLE TO CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT; 42838) BETWEEN 12 UTC AND 21 UTC OF 17th MAY AS A VERY SEVERE CYCLONIC STORM. DIFFERENT NWP MODELS WITH DETERMINISTIC AND ENSEMBLE FORECASTS ARE SUGGESTING THE SIMILAR SITUATION.

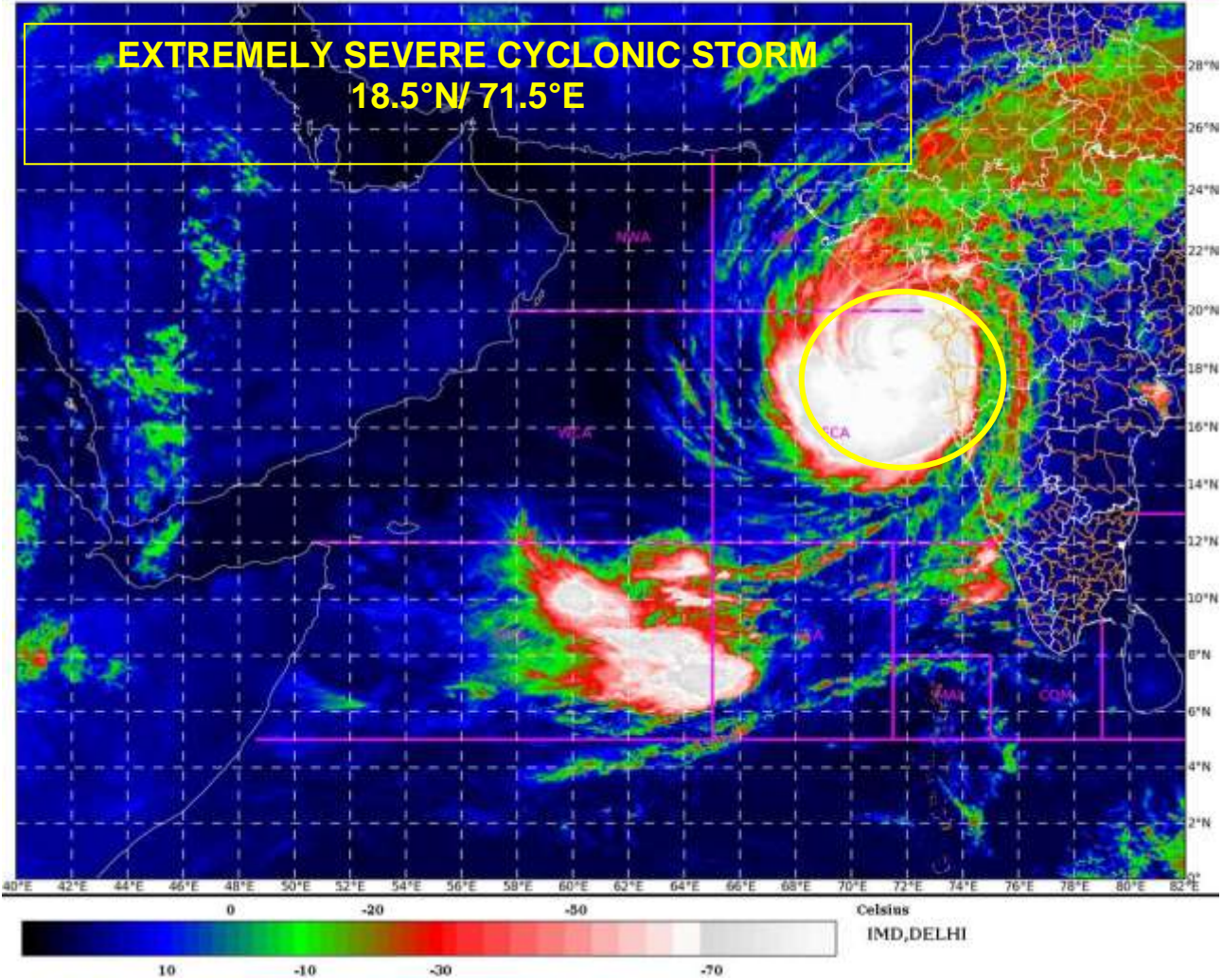
(ANANDA KUMAR DAS)
SCIENTIST-E
RSMC, NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%

SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN_SEA

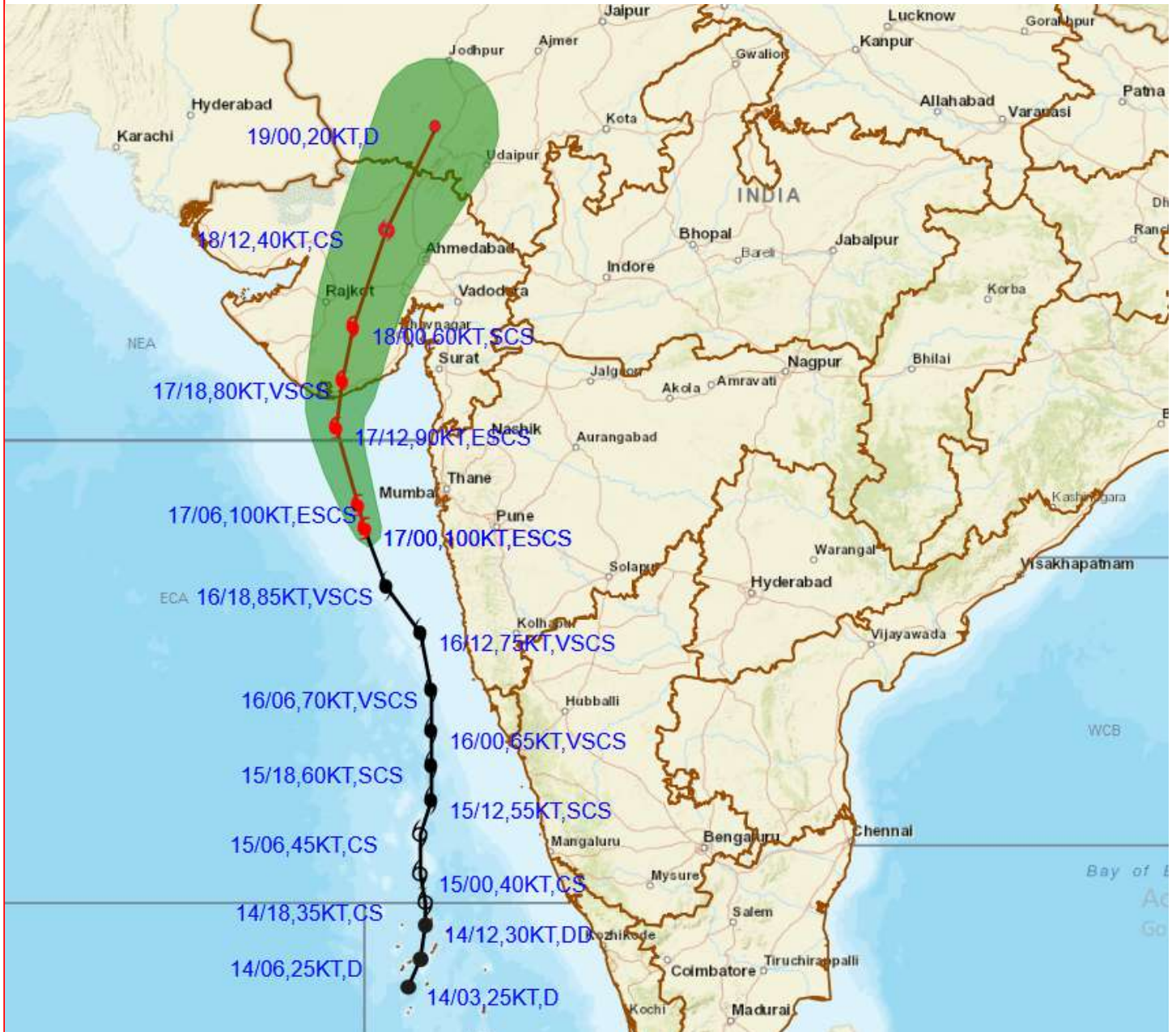
17-05-2021/(0000 to 0026) GMT
17-05-2021/(0530 to 0556) IST



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NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0000 UTC OF 17TH MAY, 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 (\geq 120 KT)

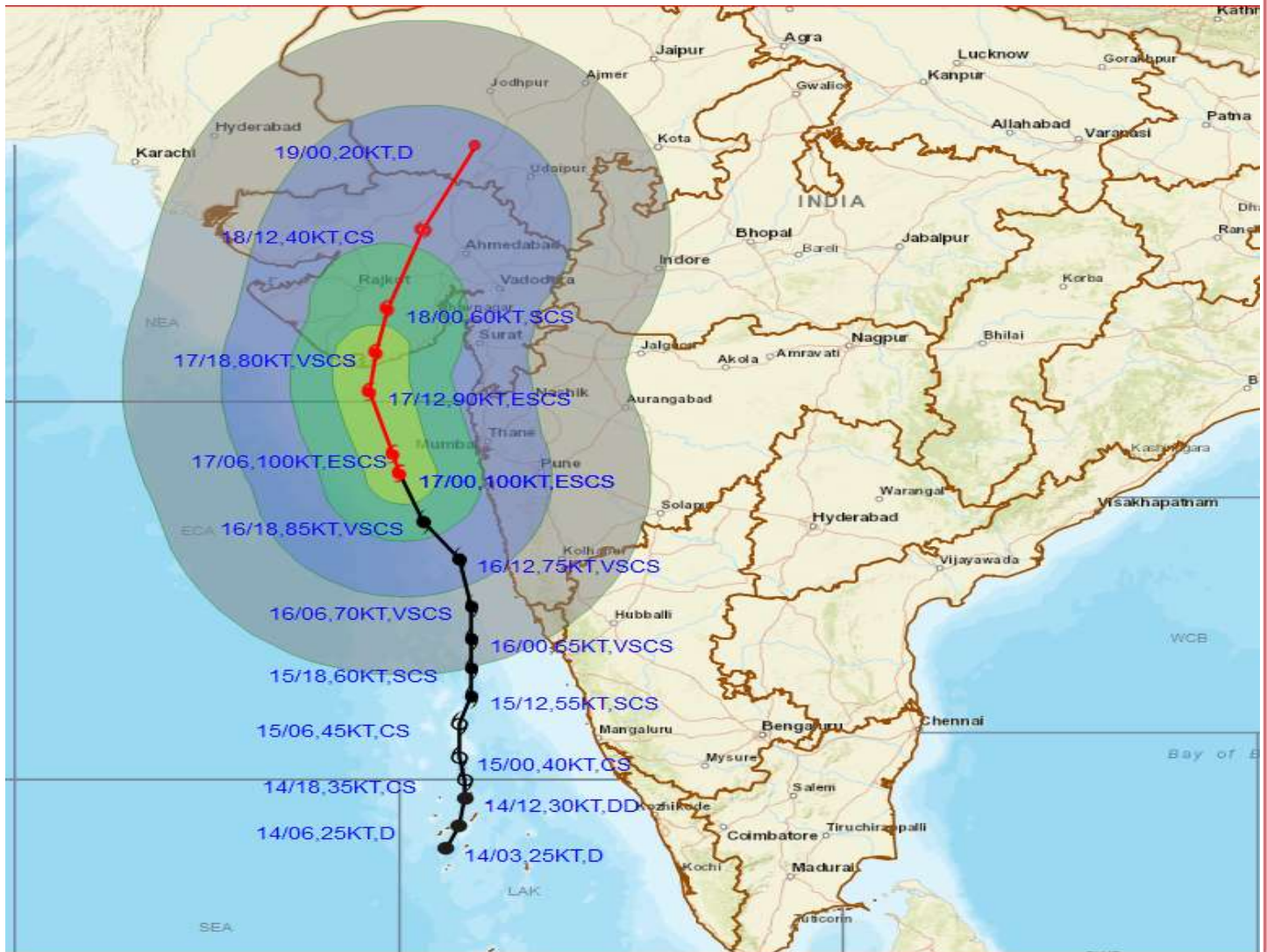
- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

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 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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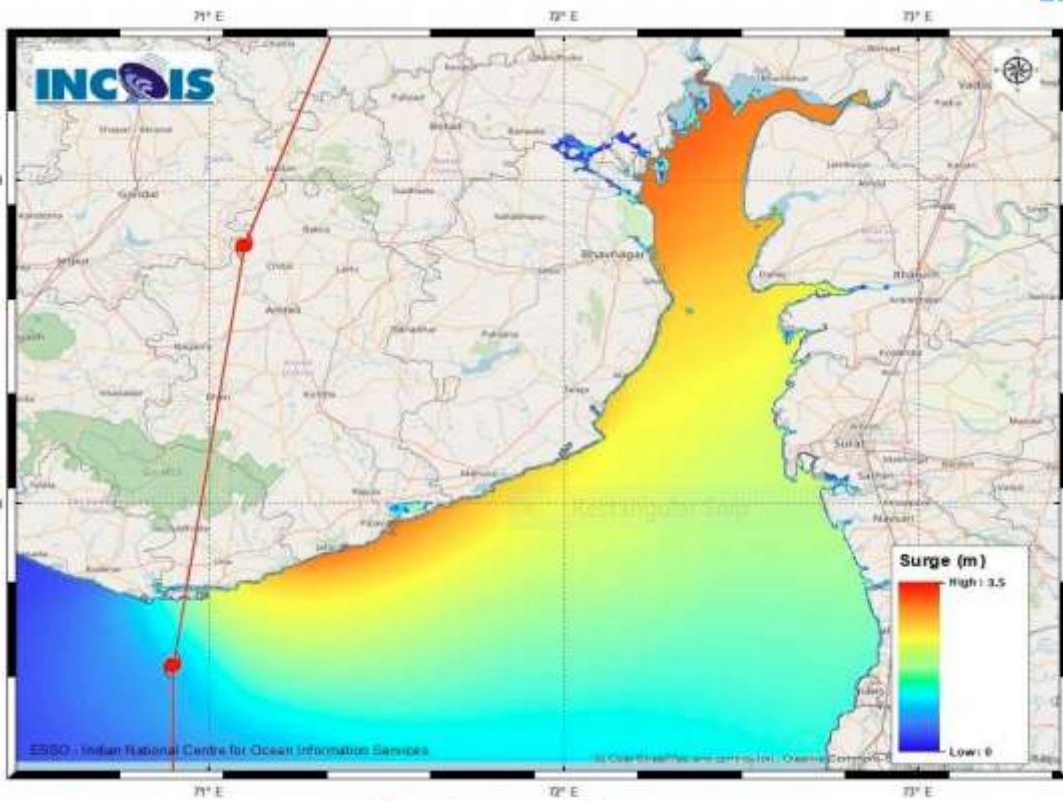


Figure:Storm Surge Map

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