



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI
TROPICAL CYCLONE ADVISORY BULLETIN NO. 18

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. 18 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 2300 UTC OF 16.05.2021 BASED ON 2100 UTC OF 16.05.2021.

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

THE VERY SEVERE CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE) OVER EASTCENTRAL ARABIAN SEA MOVED NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 18 KMPH DURING PAST 06 HOURS AND AND LAY CENTRED AT 2100UTC OF TODAY, THE 16TH MAY, 2021 OVER EASTCENTRAL ARABIAN SEA NEAR LATITUDE 18.0°N AND LONGITUDE 71.7°E, ABOUT 360 KM NORTH-NORTHWEST OF PANJIM-GOIA (43192), 170 KM SOUTH-SOUTHWEST OF MUMBAI(43003), 350 KM SOUTH-SOUTHEAST OF VERAVAL (42909), 310 KM SOUTH-SOUTHEAST OF DIU (42914) AND 900 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 0000 UTC OF 18th MAY AS A VERY SEVERE CYCLONIC STORM WITH A MAXIMUM SUSTAINED WIND SPEED 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 SURFACE WIND (KMPH)	SUSTAINED WIND SPEED	CATEGORY OF CYCLONIC DISTURBANCE
16.05.21/2100	18.0/71.7	150--160	GUSTING TO 175	VERY SEVERE CYCLONIC STORM
17.05.21/0000	18.2/71.4	155-165	GUSTING TO 185	VERY SEVERE CYCLONIC STORM
17.05.21/0600	19.0/71.0	155-165	GUSTING TO 185	VERY SEVERE CYCLONIC STORM
17.05.21/1200	19.7/70.9	155-165	GUSTING TO 185	VERY SEVERE CYCLONIC STORM
17.05.21/1800	20.5/70.9	155-165	GUSTING TO 185	VERY SEVERE CYCLONIC STORM
18.05.21/0600	21.8/71.1	100-110	GUSTING TO 120	SEVERE CYCLONIC STORM
18.05.21/1800	23.4/71.7	50-60	GUSTING TO 70	DEEP DEPRESSION
19.05.21/0600	24.9/72.4	30-40	GUSTING TO 50	DEPRESSION

REMARKS:

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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

AS PER INSAT-3D SATELLITE IMAGERY BASED ON 2100 UTC OF TODAY THE 16th MAY 2021, THE INTENSITY OF THE SYSTEM IS **CATEGORISED AS T 5.0 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 13.5°N & 20°N AND EAST OF LONG 67.0E, OVER SOUTH KONKAN GOA AND SOUTHWEST OF MADHYA MAHARASHTRA.

THE ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 85 KNOTS GUSTING TO 95 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 960 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 30⁰C OVER ENTIRE AS.

THE LOW LEVEL CYCLONIC VORTICITY IS ABOUT $300 \times 10^{-6} \text{ S}^{-1}$ AROUND SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS ($40 \times 10^{-5} \text{ S}^{-1}$) TO THE SOUTHWEST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS ($20 \times 10^{-5} \text{ S}^{-1}$) AROUND THE SYSTEM CENTRE. UPPER TROPOSPHERIC RIDGE RUNS ALONG 21⁰N. THE SYSTEM IS IN THE REGION OF LOW VERTICAL WIND SHEAR (VWS) (10-15 KTS).

MOST OF THE MODELS ARE INDICATING THAT THE VERY SEVERE CYCLONIC STORM OVER EASTCENTRAL ARABIAN SEA WOULD INTENSIFY FURTHER. IT WOULD MOVE NORTH-NORTHWESTWARDS AND CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT; 42838) BETWEEN 0000 UTC AND 0600 UTC OF 18th MAY.

THUS, UNDER FAVOURABLE ENVIRONMENT LIKE MJO, HIGH SST, HIGH TCHP, GOOD POLEWARD OUTFLOW, LOW VWS AND WESTERLY WIND BURST, THE VERY SEVERE CYCLONIC STORM OVER EASTCENTRAL ARABIAN SEA WOULD INTENSIFY FURTHER DURING NEXT 24 HOURS. IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT; 42838) AROUND 0000 UTC OF 18th MAY.

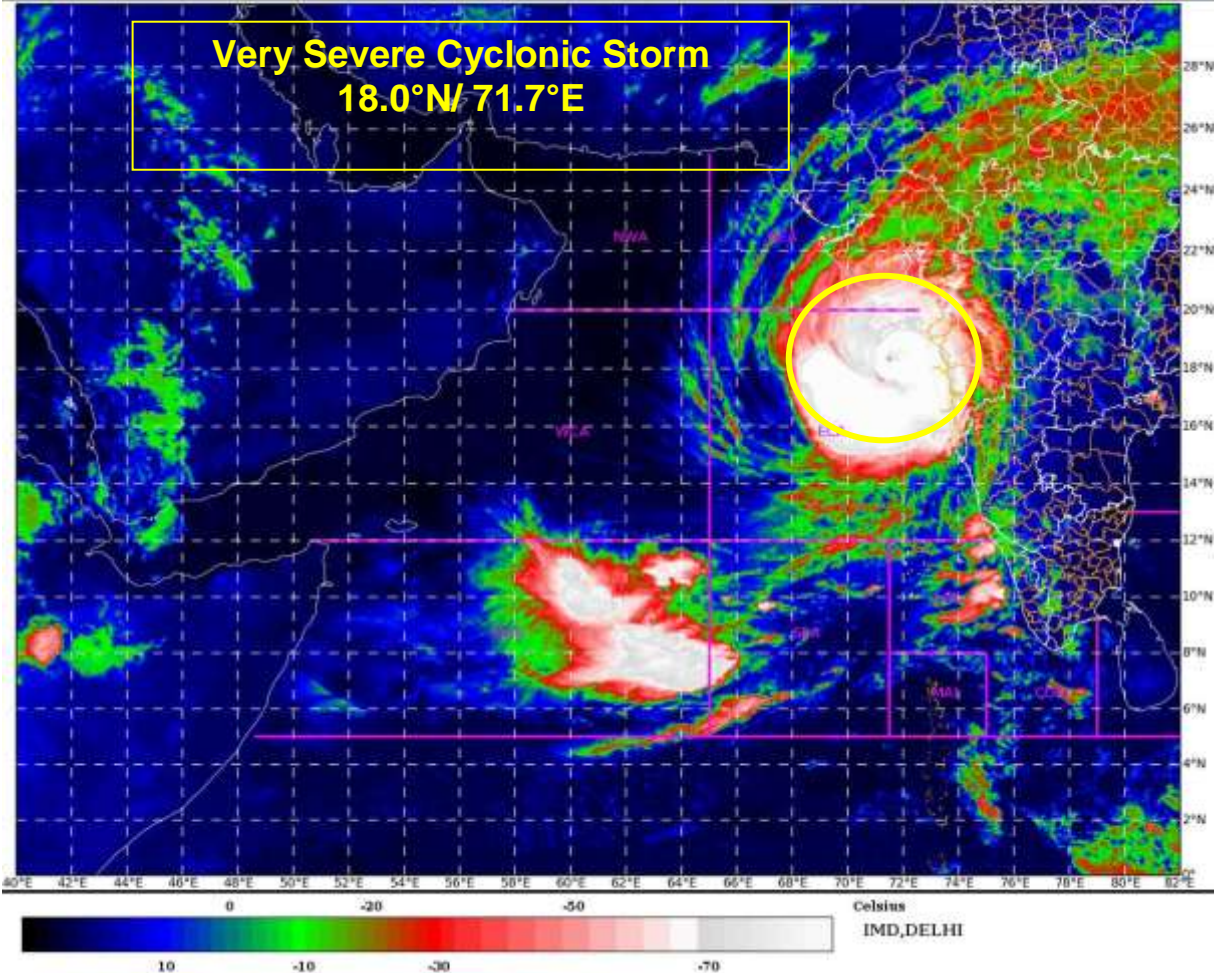
(ANANDA KUMAR DAS)
SCIENTIST-E
RSMC, NEW DELHI

PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)

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SAT: INSAT-3D IMG
IMG_TIRI_TEMP.10.8 um
ARABIAN SEA

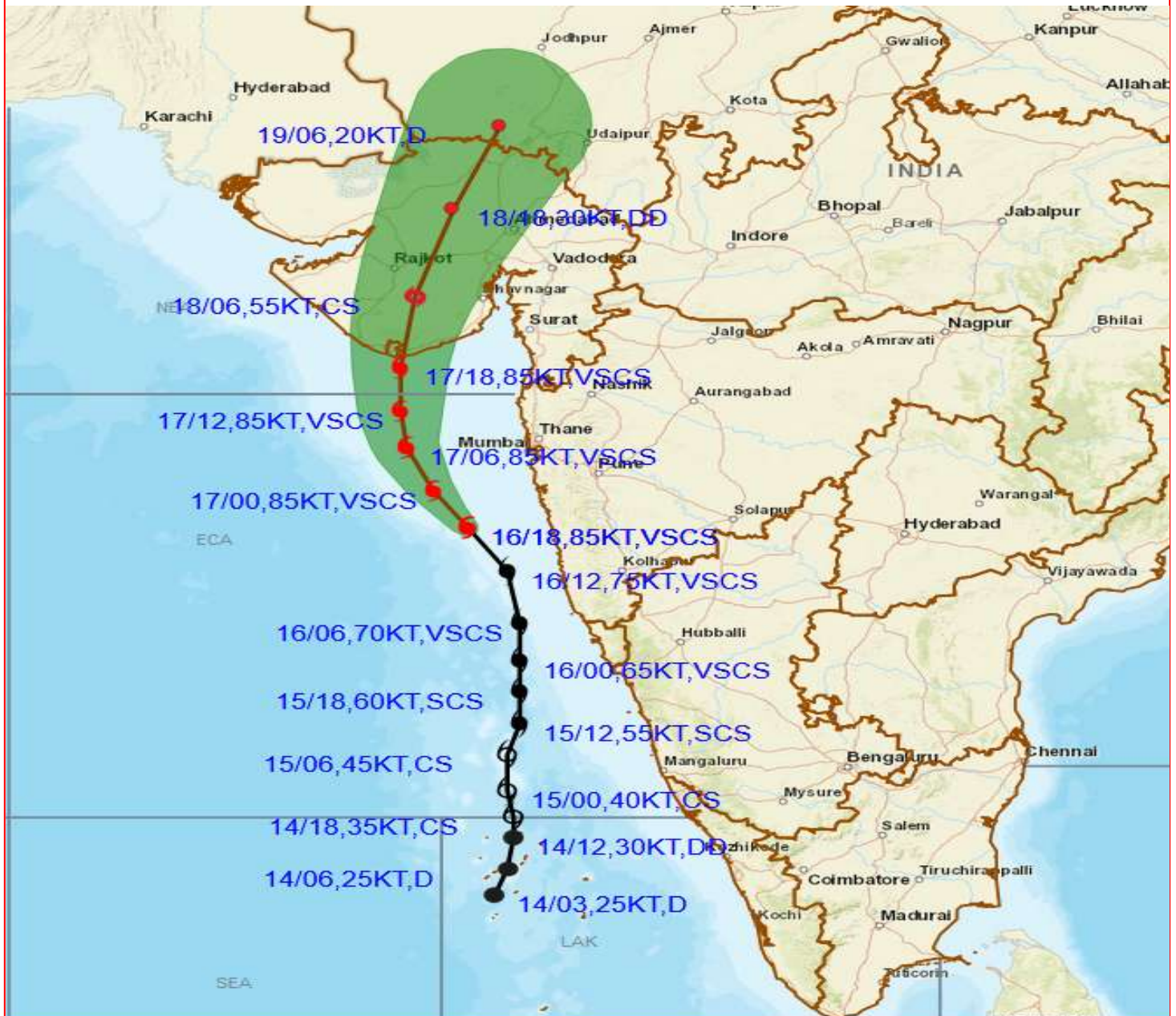
16-05-2021/(2200 to 2226) GMT
17-05-2021/(0330 to 0356) IST



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OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 1800 UTC OF 16TH 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)

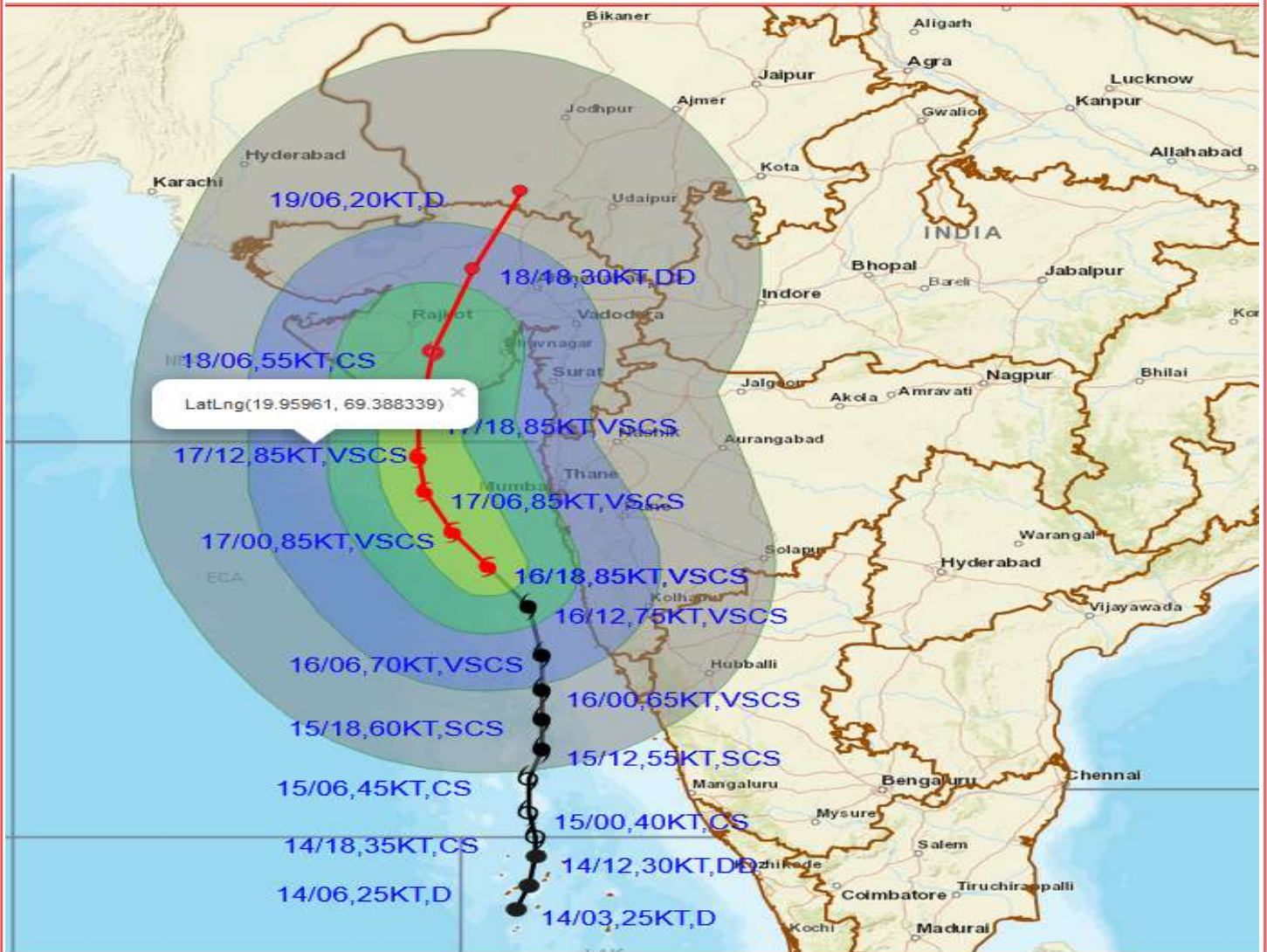
- LESS THAN 34 KT
- 34-47 KT
- \geq 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

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● LESS THAN 34 KT
 ○ 34.47 KT
 ● \geq 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)
 ■ \geq 64 KT (\geq 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
\geq 64 (\geq 118)	Phenomenal	Total suspension of fishing operations

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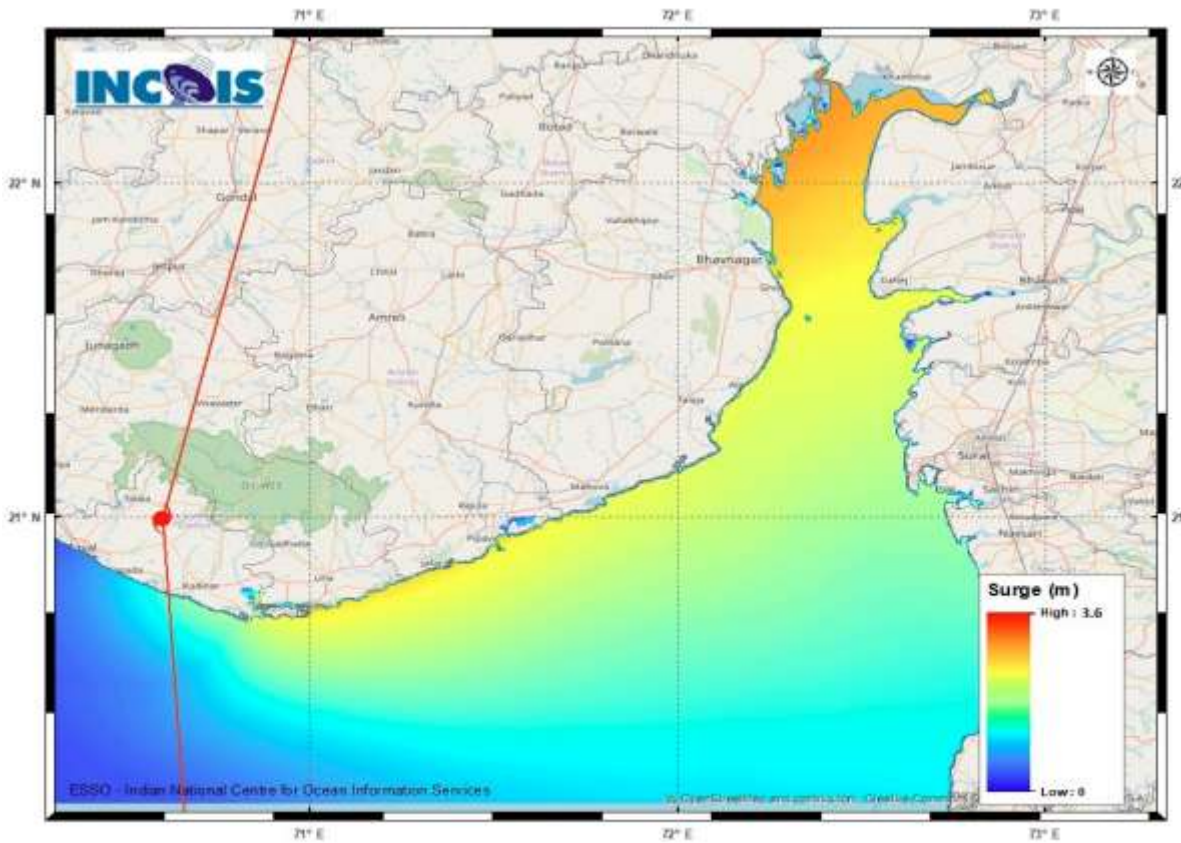


Figure:Storm Surge Map

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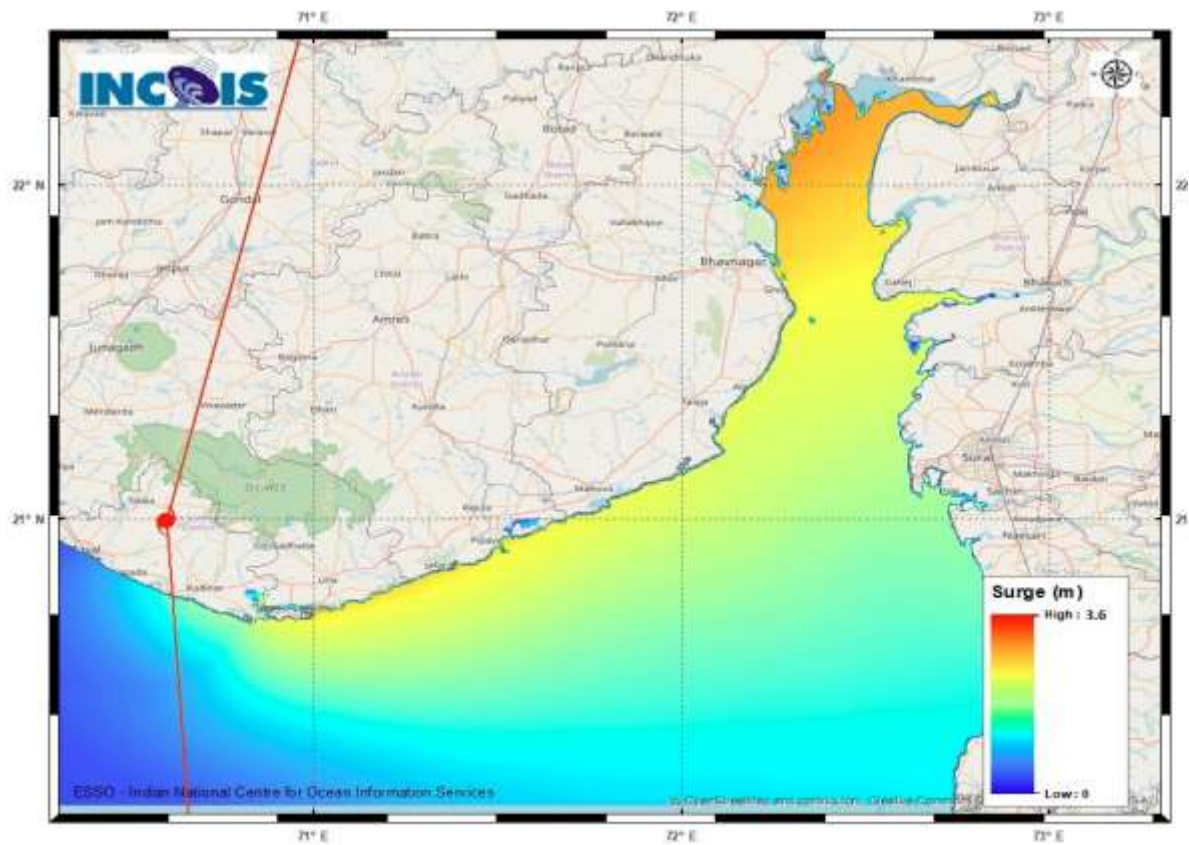


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