



REGIONAL SPECIALISED METEOROLOGICAL CENTRE-TROPICAL CYCLONES, NEW DELHI  
TROPICAL CYCLONE ADVISORY BULLETIN NO. 22

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. 22 FOR NORTH INDIAN OCEAN (THE BAY OF BENGAL AND ARABIAN SEA) VALID FOR NEXT 120 HOURS ISSUED AT 1130 UTC OF 17.05.2021 BASED ON 0900 UTC OF 17.05.2021.

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

THE **EXTREMELY SEVERE CYCLONIC STORM “TAUKTAE” (PRONOUNCED AS TAU’TE)** OVER EASTCENTRAL ARABIAN SEA CONTINUED TO MOVE NORTH-NORTHWESTWARDS WITH A SPEED OF ABOUT 15 KMPH DURING PAST 06 HOURS, AND LAY CENTRED AT 0900UTC OF TODAY, THE 17<sup>TH</sup> MAY, 2021 OVER EASTCENTRAL & ADJOINING NORTHEAST ARABIAN SEA NEAR LATITUDE 19.6°N AND LONGITUDE 71.4°E, ABOUT 165 KM WEST-NORTHWEST OF MUMBAI (43003), 165 KM SOUTH-SOUTHEAST OF DIU (42914), 180 KM SOUTHEAST OF VERAVAL (42909) AND 380 KM EAST-SOUTHEAST OF KARACHI (41780).

IT IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS AND REACH GUJARAT COAST DURING 1200-1500 UTC OF 17<sup>TH</sup> & CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT 42838) **TO THE EAST OF DIU DURING 1500-1800 UTC OF 17<sup>TH</sup> MAY** 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 SURFACE WIND SPEED (KMPH)	SUSTAINED WIND SPEED	CATEGORY OF CYCLONIC DISTURBANCE
17.05.21/0900	19.6/71.4	175-185 GUSTING TO 205		EXTREMELY SEVERE CYCLONIC STORM
17.05.21/1200	20.0/71.3	170-180 GUSTING TO 200		EXTREMELY SEVERE CYCLONIC STORM
17.05.21/1800	20.8/71.1	150-160 GUSTING TO 175		VERY SEVERE CYCLONIC STORM
18.05.21/0000	21.6/71.1	110-120 GUSTING TO 130		SEVERE CYCLONIC STORM
18.05.21/0600	22.5/71.4	70-80 GUSTING TO 90		CYCLONIC STORM
18.05.21/1800	24.0/72.2	50-60 GUSTING TO 70		DEEP DEPRESSION
19.05.21/0600	25.7/73.0	35-45 GUSTING TO 55		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 0900 UTC OF TODAY THE 17<sup>th</sup> MAY 2021, THE INTENSITY OF THE SYSTEM IS **CATEGORISED AS T 5.5 WITH EYE PATTERN. HOWEVER, EYE CONTINUED TO REMAIN RAGGED.** EYE TEMPERATURE MINUS 46.0 DEG C. BROKEN LOW AND MEDIUM CLOUDS WITH EMBEDDED INTENSE TO VERY INTENSE CONVECTION LAY OVER EASTCENTRAL & ADJOINING NORTHEAST ARABIAN SEA (AS) BETWEEN LATITUDE 16.0°N & 22.5°N AND EAST OF LONG 68.0E AND ALSO OVER GULF OF CAMBAY, GUJARAT, KONKAN GOA AND MADHYA MAHARASHTRA. MINIMUM CLOUD TOP TEMPERATURE IS -93°C.

THE ASSOCIATED MAXIMUM SUSTAINED WIND SPEED IS 100 KNOTS GUSTING TO 110 KNOTS. THE ESTIMATED CENTRAL PRESSURE IS 950HPA. 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 17<sup>TH</sup>. 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 2 DAYS. THE TROPICAL CYCLONE HEAT POTENTIAL (TCHP) IS 80-110 KJ/CM<sup>2</sup> OVER EAST CETNRAL AS AND DECREASING TOWARDS NORTH AS. SEA SURFACE TEMPERATURE (SST) IS AROUND 30°C EAST CETNRAL AS AND DECREASING TO 29°C TOWARDS NORTH AS.

THE LOW LEVEL CYCLONIC VORTICITY IS ABOUT 250-300 X10<sup>-6</sup> S<sup>-1</sup> AROUND SYSTEM CENTRE. LOW LEVEL CONVERGENCE IS (40 X10<sup>-5</sup> S<sup>-1</sup>) TO THE SOUTHEAST OF SYSTEM CENTRE. POSITIVE UPPER LEVEL DIVERGENCE IS (30 X 10<sup>-5</sup> S<sup>-1</sup>) LIES NOW AROUND THE SYSTEM CENTRE. UPPER TROPOSPHERIC RIDGE RUNS ALONG 21<sup>0</sup>N. THE SYSTEM IS IN THE REGION OF LOW VERTICAL WIND SHEAR (VWS) (10-15 KTS) AND LIKELY TO COME UNDER INFLUENCE OF MODERATE WIND SHEAR DURING NEXT 18-HOURS.

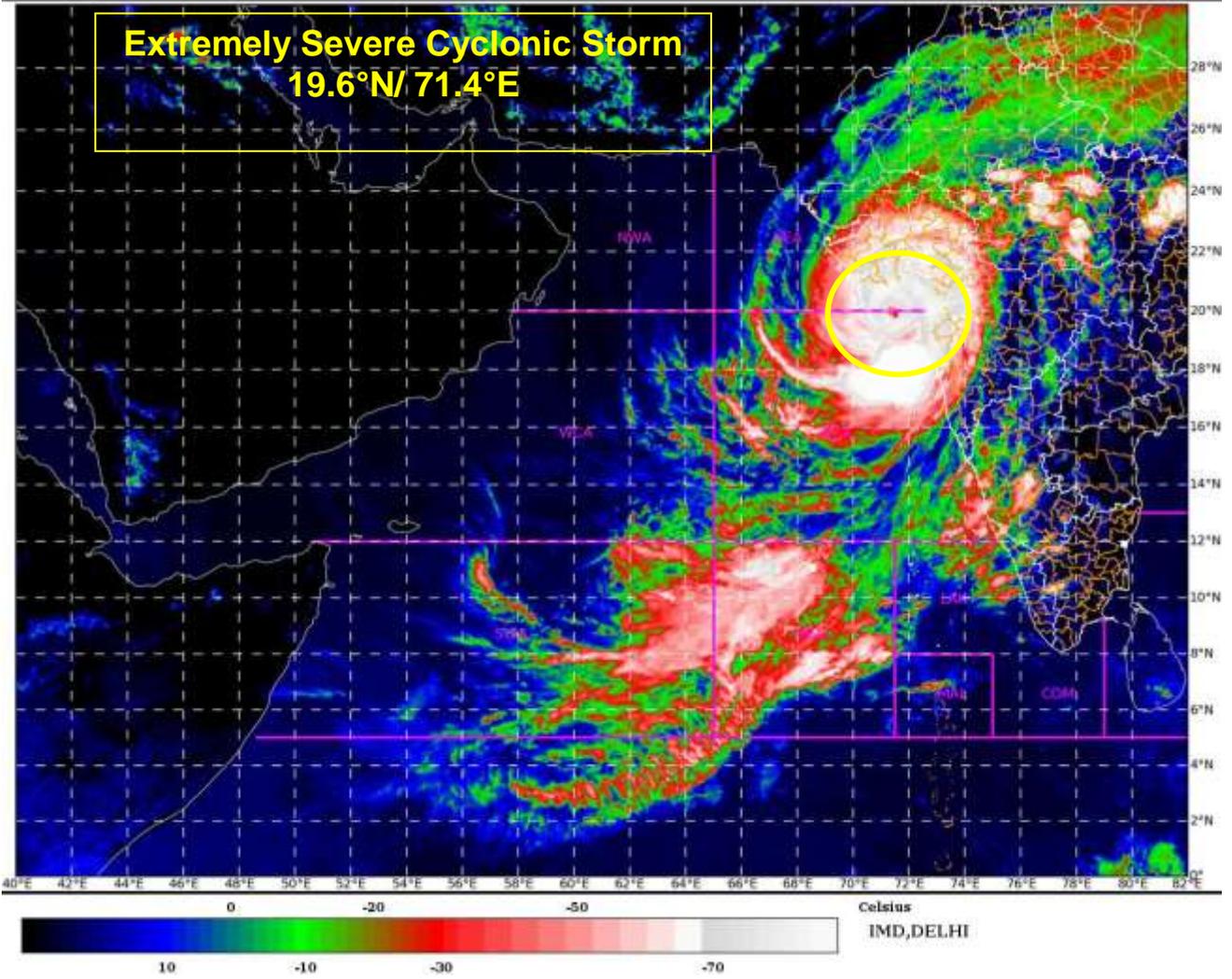
THUS, UNDER FAVOURABLE ENVIRONMENT, THE EXTREMELY SEVERE CYCLONIC STORM OVER EASTCENTRAL ARABIAN SEA IS VERY LIKELY TO MOVE NORTH-NORTHWESTWARDS MAINTAINING ITS INTENSITY AND WEAKEN A LITTLE TO CROSS GUJARAT COAST BETWEEN PORBANDAR (42830) & MAHUVA (BHAVNAGAR DISTRICT; 42838) BETWEEN 1500 UTC AND 1800 UTC OF 17<sup>th</sup> MAY AS A VERY SEVERE CYCLONIC STORM. DIFFERENT NWP MODELS WITH DETERMINISTIC AND ENSEMBLE FORECASTS ARE SUGGESTING THE SIMILAR SITUATION.

(RK J ENAMANI)  
SCIENTIST-F  
RSMC, NEW DELHI

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**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**

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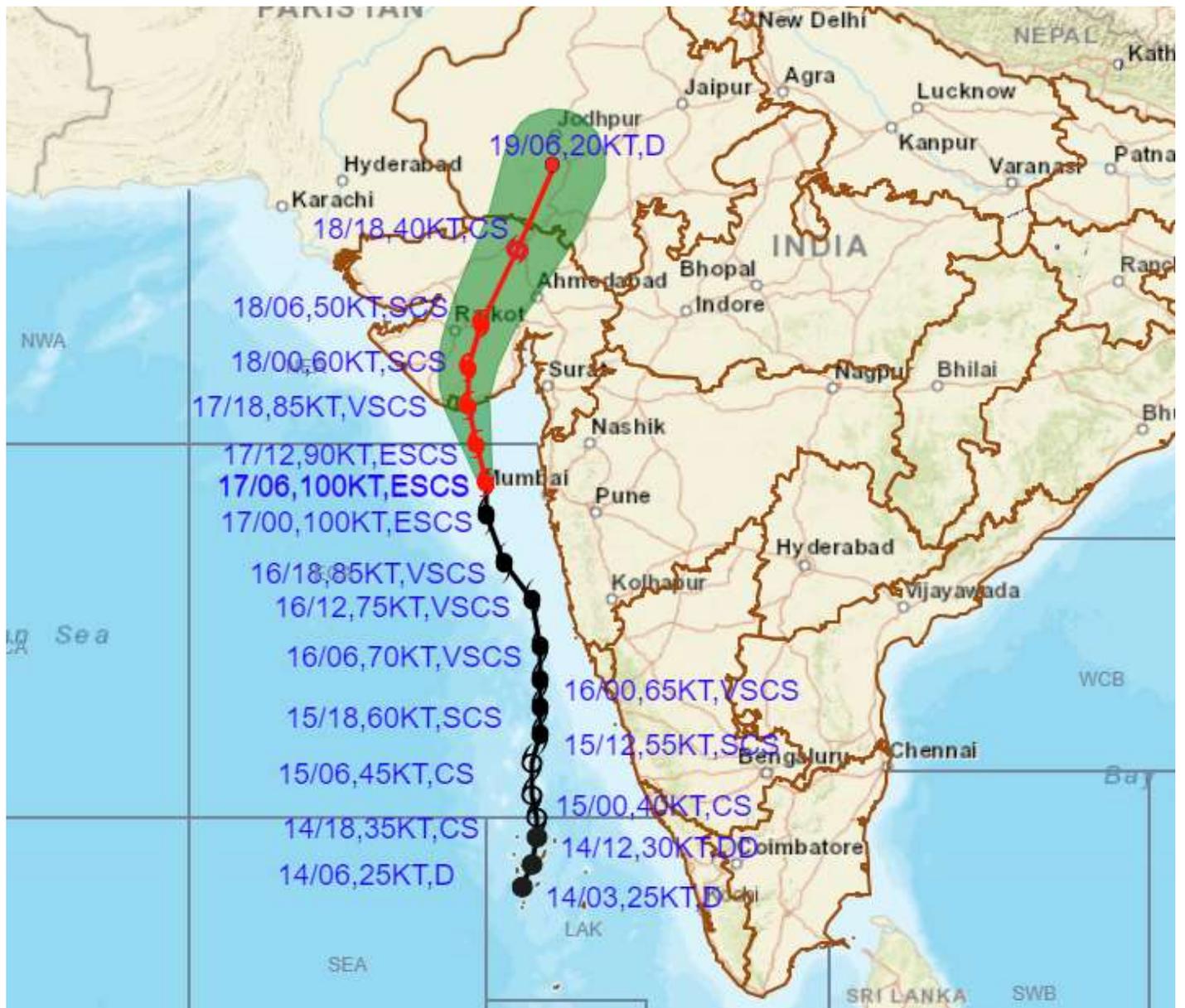


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**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**  
**NIL: 0%, LOW: 1-25%, FAIR: 26-50%, MODERATE: 51-75% AND HIGH: 76-100%**



**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 17<sup>TH</sup> 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

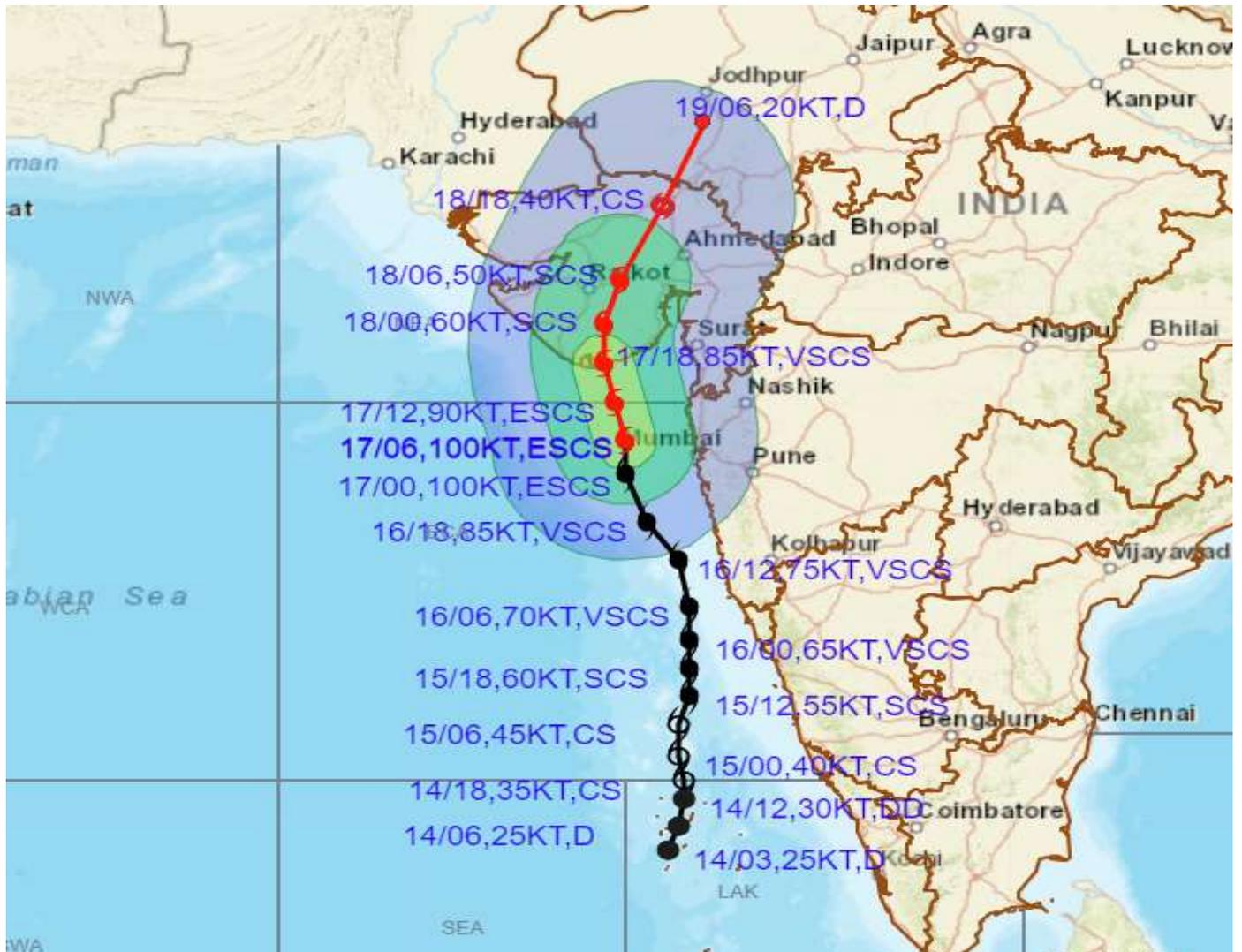
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 17<sup>TH</sup> MAY, 2021**



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 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)

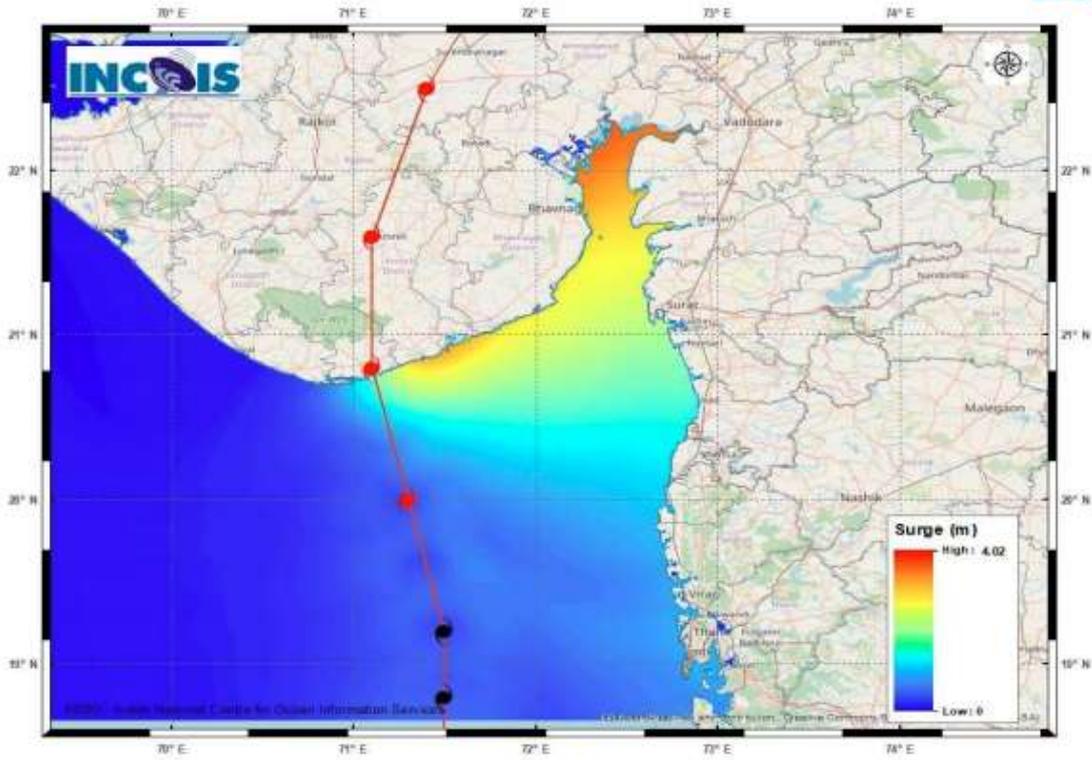


Figure:Storm Surge Map

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**PROBABILITY OF CYCLOGENESIS (FORMATION OF DEPRESSION)**  
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