



India Meteorological Department  
(Ministry of Earth Sciences)

BULLETIN NO. 17: (ARB/01/2021)

TIME OF ISSUE: 1430 HOURS IST

DATED: 16.05.2021

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

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**Sub: Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te) over Eastcentral Arabian Sea: Cyclone Warning for Gujarat & Diu coasts (Orange message)**

The Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te) over eastcentral Arabian Sea moved nearly northwards with a speed of about 13 kmph during past 06 hours and lay centred at 1130 hours IST of today, the 16<sup>th</sup> May, 2021 over eastcentral Arabian Sea near latitude 15.7°N and longitude 72.7°E, about 120 km west-northwest of Panjim-Goa, 380 km south-southwest of Mumbai, 620 km south-southeast of Veraval (Gujarat) and 790 km southeast of Karachi (Pakistan).

It is very likely to intensify further during next 24 hours. It is very likely to move north-northwestwards and reach Gujarat coast in the evening hours of 17<sup>th</sup> & cross Gujarat coast between Porbandar & Mahuva (Bhavnagar district) around 18<sup>th</sup> May early morning.

The System is being monitored by Doppler weather RADAR Goa.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
16.05.21/1130	15.7/72.7	135-145 gusting to 160	Very Severe Cyclonic Storm
16.05.21/1730	16.5/72.4	140-150 gusting to 165	Very Severe Cyclonic Storm
16.05.21/2330	17.4/71.8	145-155 gusting to 170	Very Severe Cyclonic Storm
17.05.21/0530	18.2/71.3	150-160 gusting to 175	Very Severe Cyclonic Storm

17.05.21/1130	19.0/71.0	155-165 gusting to 185	Very Severe Cyclonic Storm
17.05.21/2330	20.2/70.8	155-165 gusting to 185	Very Severe Cyclonic Storm
18.05.21/1130	21.7/71.0	110-120 gusting to 135	Severe Cyclonic Storm
18.05.21/2330	23.4/71.6	50-60 gusting to 70	Deep Depression
19.05.21/1130	24.9/72.2	35-45 gusting to 55	Depression

### Warnings:

#### (i) Rainfall:

- **Kerala:** Light to moderate rainfall at many places with heavy to very to very heavy falls at isolated places on 16<sup>th</sup> and heavy falls at isolated places on 17<sup>th</sup> May.
- **Karnataka (coastal & adjoining Ghat districts):** Light to moderate rainfall at most places with heavy to very heavy falls at isolated places on 16<sup>th</sup>.
- **South Konkan & Goa:** Light to moderate rainfall at most places with heavy to very heavy falls at a few places and extremely heavy falls at isolated places over south Konkan & Goa and adjoining Ghat areas on 16<sup>th</sup> and heavy to very heavy falls at isolated places on 17<sup>th</sup> May.
- **North Konkan:** Light to moderate rainfall at most places with heavy to very heavy falls at isolated places on 16<sup>th</sup> and 17<sup>th</sup> May.
- **Gujarat:** Light to moderate rainfall at many places very likely to commence over coastal districts of Saurashtra from today afternoon, with heavy to very heavy falls at isolated places over Saurashtra & Kutch, Diu and southern most Gujarat region with extremely heavy falls at isolated places on 17<sup>th</sup> and with heavy to very heavy falls at a few places over Saurashtra & Kutch and Diu & south Gujarat region with extremely heavy falls ( $\geq 20$  cm) at isolated places on 18<sup>th</sup>.
- **Rajasthan:** Light to moderate rainfall at many places with heavy to very heavy falls & extremely heavy falls at isolated places very likely over south Rajasthan on 18<sup>th</sup> & heavy to very heavy falls at isolated places over Rajasthan on 19<sup>th</sup> May.

#### (ii) Wind warning

- Gale wind speed reaching 135–145 kmph gusting to 160 kmph is prevailing over eastcentral Arabian Sea. It is likely to increase over eastcentral Arabian Sea becoming 145-155 kmph gusting to 170 kmph from 16<sup>th</sup> May mid-night.
- Gale winds speed reaching 80-90 kmph gusting to 100 kmph along & off south Maharashtra –Goa and adjoining Karnataka coasts on 16<sup>th</sup>, 50-60 kmph gusting to 70 kmph along & off north Maharashtra coast on 16<sup>th</sup>. It is likely to become 65- 75 kmph gusting to 85 kmph along & off north Maharashtra coast from 17<sup>th</sup> till 18<sup>th</sup> morning.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely over northeast Arabian Sea and along & off south Gujarat & Daman and Diu coasts from 16<sup>th</sup> morning and gradually increase becoming Gale winds speed reaching 150-160 kmph gusting to 175 kmph over northeast Arabian Sea and along & off Gujarat coast (Porbandar, Junagarh, Gir Somnath, Amreli, Bhavnagar) and 100 -120 kmph gusting to 135 kmph over Bharuch, Anand, south Ahmedabad, Botad, Surendranagar, 90 -100 kmph gusting to 120 kmph over Devbhoomi Dwarka, Jamnagar, Rajkot, Morbi districts of Gujarat from early hours of 18<sup>th</sup>. Gale winds

speed reaching 70-90 kmph gusting to 100 kmph likely to prevail along & off Dadra, Nagar Haveli, Daman, Valsad, Navsari, Surat, Kheda districts from 17<sup>th</sup> mid-night till 18<sup>th</sup> morning.

**(iii) Sea condition**

- Sea condition over eastcentral Arabian Sea will be very high to Phenomenal on 16<sup>th</sup> May and over northeast Arabian Sea on 17<sup>th</sup> & 18<sup>th</sup> May.
- Sea conditions will be very rough to High along & off Maharashtra–Goa coasts on 16<sup>th</sup> May and along & off north Maharashtra coast on 17<sup>th</sup> Morning. It is very likely to be very rough to High along & off south Gujarat coast from 17<sup>th</sup> May morning and very high to Phenomenal from 17<sup>th</sup> midnight.

**(iv) Storm surge warning**

Tidal wave above astronomical tide is likely to inundate coastal areas as per details below:

about 3 m over Junagarh, 1-2.5 m over Diu, Gir Somnath, Amreli, Bharuch, Bhavnagar, Ahmedabad, Anand, Surat and about 0.5 -1m over Devbhoomi Dwarka, Jamnagar, Porbandar, Kutch the remaining coastal districts of Gujarat during the time of landfall. (Details given in Annexure-I).

**(v) Fishermen Warning**

- Total suspension of fishing operations over eastcentral Arabian Sea and along & off Karnataka-Goa–Maharashtra coasts.
- Total suspension of fishing operations over northeast Arabian Sea and along & off Gujarat coast from 17<sup>th</sup> May.
- The fishermen are advised not to venture into eastcentral Arabian Sea along & off Karnataka coast till 17<sup>th</sup> Morning and into eastcentral Arabian Sea and along & off Maharashtra–Goa coasts and into northeast Arabian Sea along & off Gujarat coast till 18<sup>th</sup> May.
- Those who are out at Sea over north Arabian Sea are advised to return to the coast.

**(vi) (A) Damage Expected over Porbandar, Amreli Junagarh, Gir Somnath Botad & Bhavnagar and coastal areas of Ahmedabad:**

- Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects.
- Bending/ uprooting of power and communication poles.
- Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead power lines and signaling systems.
- Widespread damage to salt pans & standing crops,. Blowing down of bushy trees.
- Small boats, country crafts may get detached from moorings.
- Visibility severely affected.

**(vi) (B) Damage Expected over Devbhoomi Dwarka, Kutch, Jamnagar, Rajkot & Morbi, Valsad, Surat, Vadodara, Bharuch, Navsari, Anand, Ahmedabad districts of Gujarat:**

- Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly.
- Minor damage to power and communication lines.

- Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes.
- Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees.
- Major damage to coastal crops.
- Damage to embankments/ salt pans.

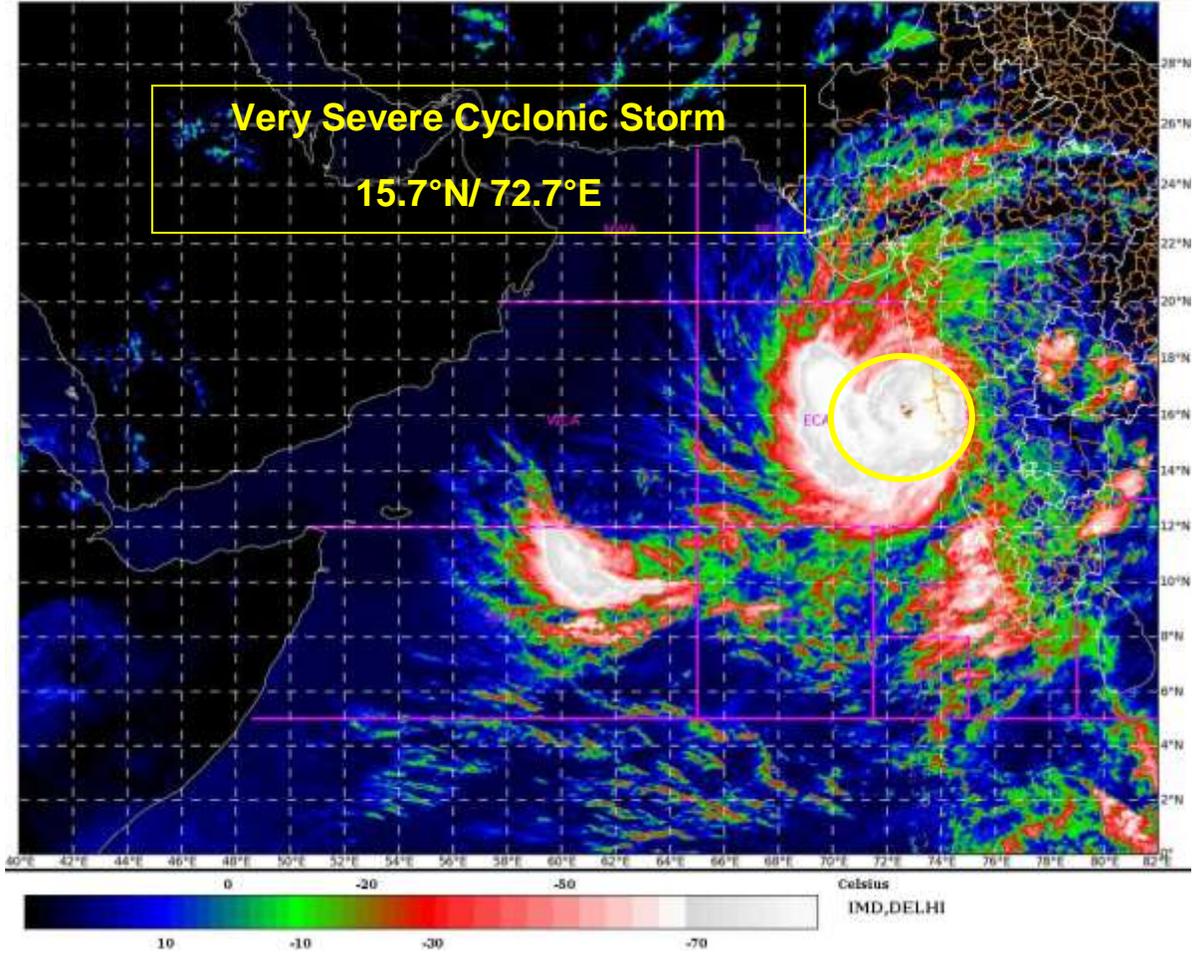
**(vii) Action Suggested:**

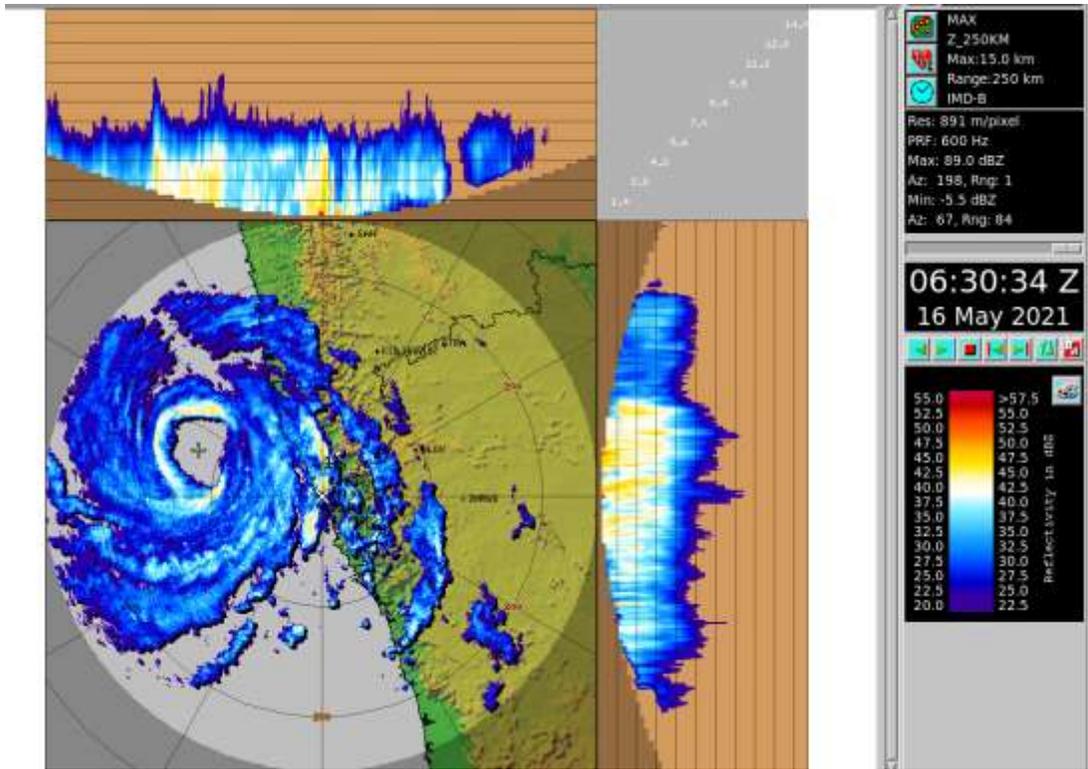
- Mobilise evacuation in vulnerable areas.
- Total suspension of fishing operations.
- Judicious regulation of rail and road traffic.
- People in affected areas to remain indoors.
- Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 1730 hrs IST of today, the 16th May, 2021.

**(Sunitha Devi S)**  
**Scientist-F, RSMC, New Delhi**

Copy to: ACWC Chennai/ ACWC Mumbai/ MC Goa/ MC Bengaluru/ CWC Ahmedabad/  
Thiruvananthapuram.

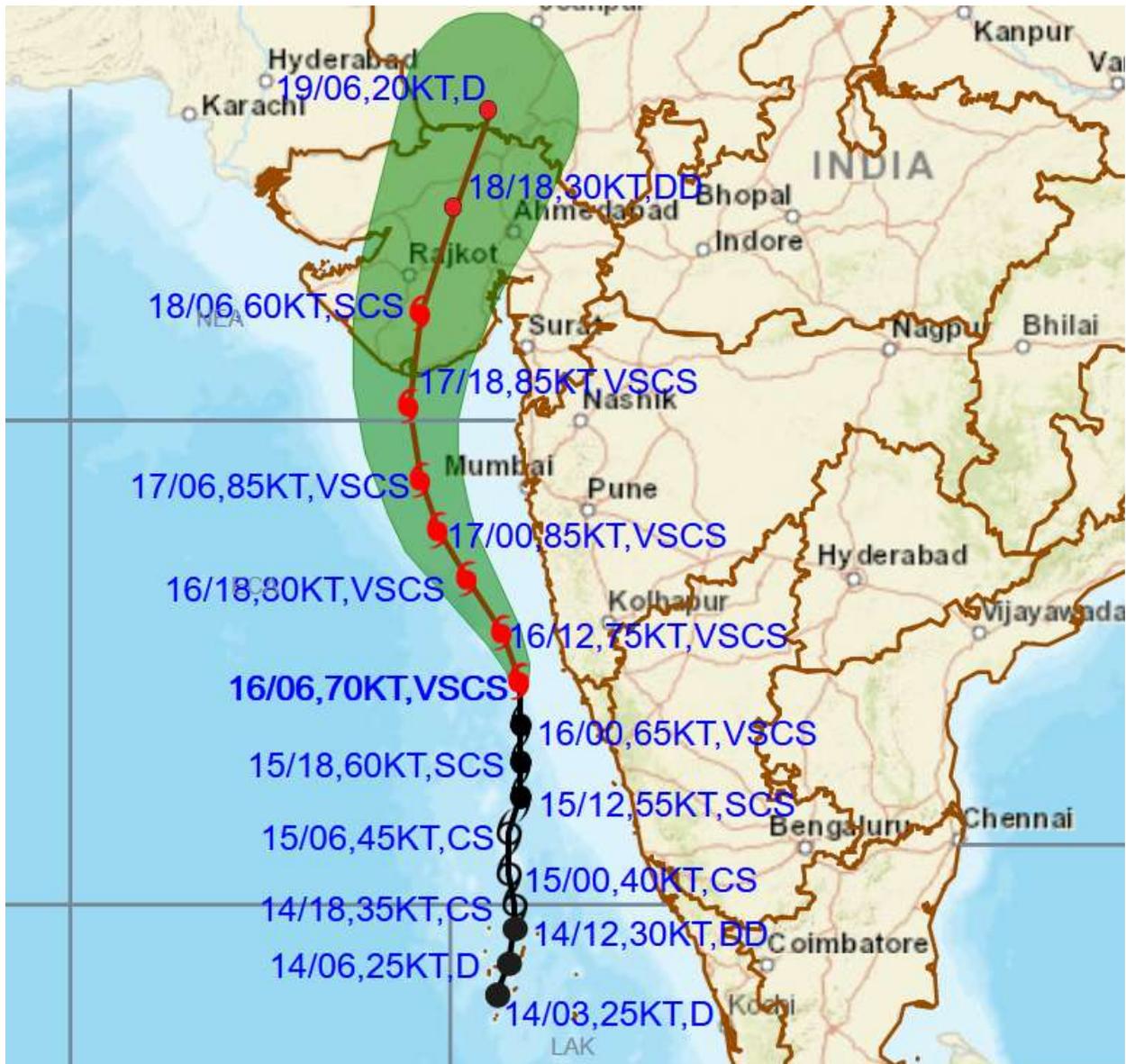




Reflectivity product from Doppler weather RADAR Goa



**OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 16<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

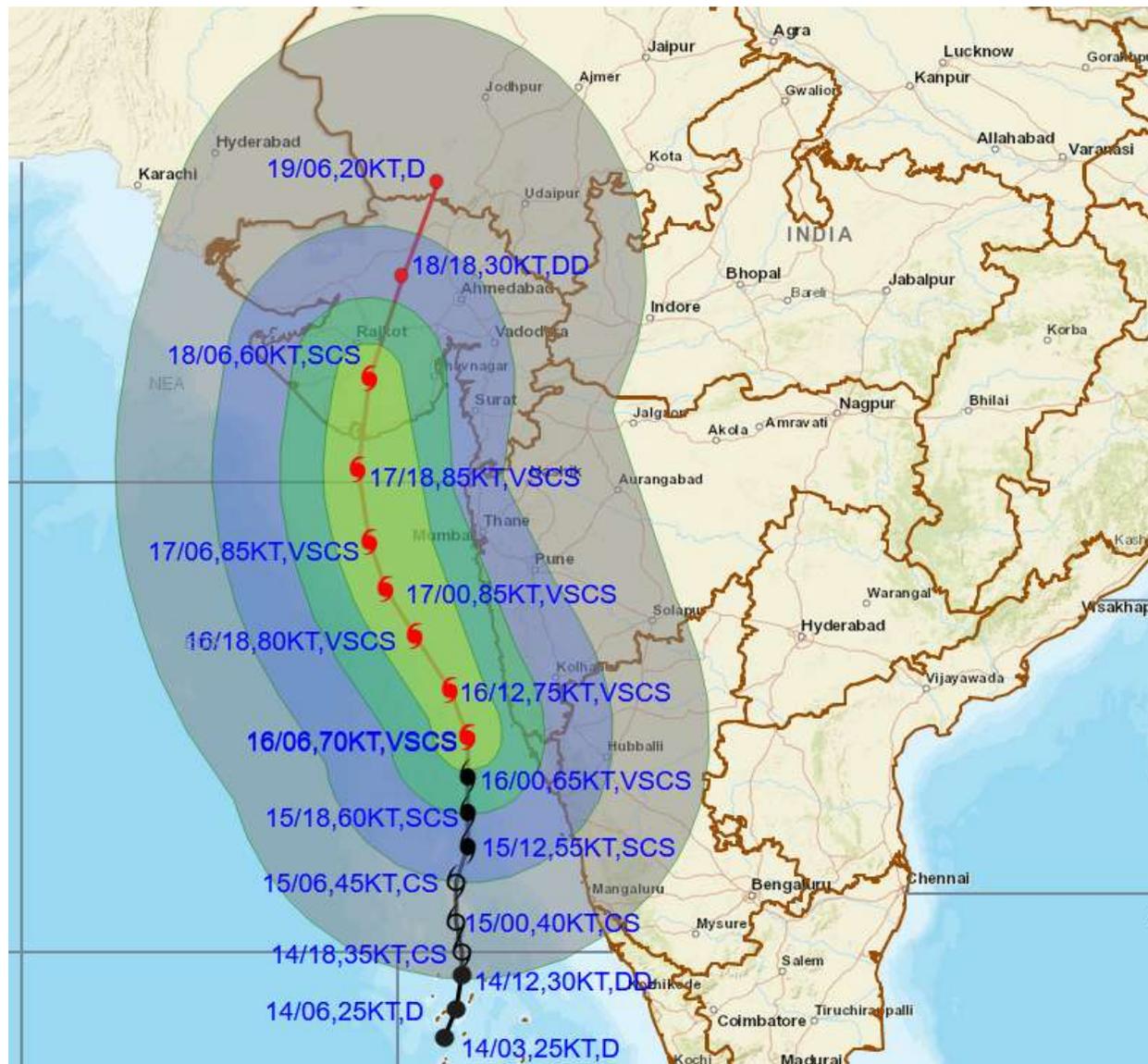
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



## OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0600 UTC OF 16<sup>TH</sup> MAY, 2021



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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

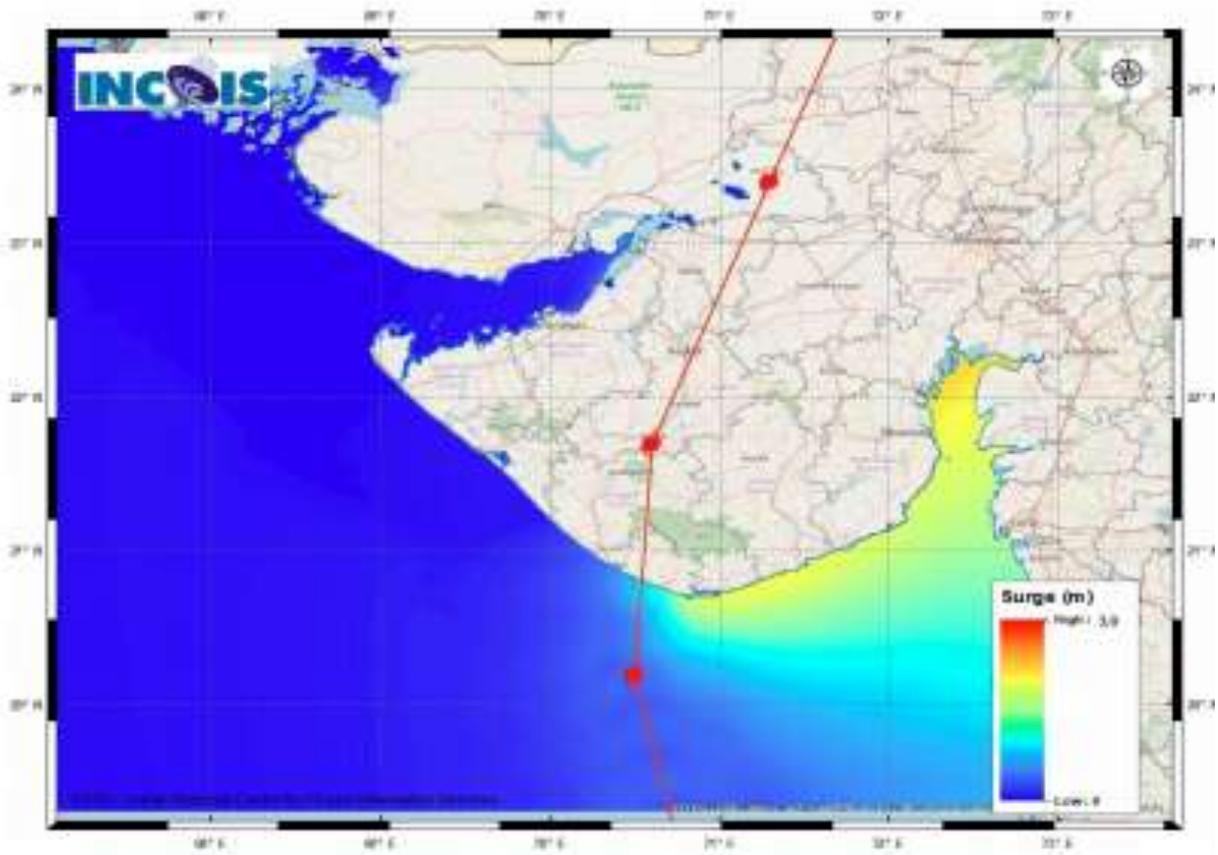


Figure:Storm Surge Map

**STORM SURGE HEIGHT INFORMATION:**

\* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Una	Junagadh	Gujarat	Una	1.4-3.0	Upto 0.9
Kodinar	Gir Somnath	Gujarat	Kodinar	1.3-2.4	Upto 0.4
Kodinar	Gir Somnath	Gujarat	Kodinar	1.3-2.4	Upto 0.4
Khambhat	Anand	Gujarat	Akhol	0.8-2.3	Upto 1.2
Khambhat	Anand	Gujarat	Akhol	0.8-2.3	Upto 1.2
Dhansdnka	Ahmadabad	Gujarat	Mitli	0.6-2.3	Upto 2.1
Diu	Diu	Daman and Diu	Diu	1.1-2.3	Upto 0.7
Rajula	Amreli	Gujarat	Patva	0.6-2.2	Upto 0.3
Jambusar	Bharuch	Gujarat	Devla	1.1-2.2	Upto 2.2
Jafarabad	Amreli	Gujarat	Rohisa	2.0-2.1	Upto 0.1
Mahuva	Bhavnagar	Gujarat	Mahuva	1.7-2.0	Upto 0.1
Mahuva	Bhavnagar	Gujarat	Mahuva	1.7-2.0	Upto 0.1
Alibag	Raigarh	Maharashtra	Ranjankhar Duvali	0.3-0.7	Upto 1.9
Bharuch	Bharuch	Gujarat	Manad	1.6-1.8	Upto 0.1
Bhavnagar	Bhavnagar	Gujarat	Narbad	1.2-2.2	Upto 2.4
Bombay	Mumbai City	Maharashtra	Greater Bombay	0.6-0.8	Nil
Borsad	Anand	Gujarat	Tithor	1.6-1.6	Upto 0.3
Chorasi	Surat	Gujarat	Bhimpor	1.2-1.5	Upto 0.5
Dahanu	Palghar	Maharashtra	Narpad	0.2-1.0	Upto 1.0
Daman	Daman	Daman and Diu	Daman	0.8-1.1	Nil
Gandevi	Navsari	Gujarat	Mendhar	1.1-1.3	Upto 1.2
Greater Bombay	Mumbai Suburban	Maharashtra	Greater Bombay	0.7-0.8	Upto 1.6
Hansot Mahal	Bharuch	Gujarat	Kantivajal	1.0-1.8	Upto 0.9
Hazira	Surat	Gujarat	Hajira Ina (ina)	0.9-1.7	Upto 1.0
Jamnagar	Jamnagar	Gujarat	Jamnagar	0.3-0.3	Nil
Jodiya	Jamnagar	Gujarat	Navlakhi	0.2-0.4	Upto 0.1
Maliya	Junagadh	Gujarat	Vadodra Dodiya	0.4-0.4	Upto 0.1
Mangson	Raigarh	Maharashtra	Water Body	0.5-0.5	Upto 0.1
Mangrol	Junagadh	Gujarat	Khambhaliva	0.2-0.3	Upto 0.1
Morbi	Kachchh	Gujarat	Navlakhi	0.2-0.4	Upto 1.0
Mundra	Bhavnagar	Gujarat	Vadgam	1.7-1.7	Upto 0.6
Murud	Raigarh	Maharashtra	Water Body	0.5-0.6	Upto 0.2
Navsari	Navsari	Gujarat	Borsi	0.7-1.5	Upto 0.4