



India Meteorological Department
(Ministry of Earth Sciences)

BULLETIN NO. 23: (ARB/01/2021)

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Subject: Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te) over Eastcentral Arabian Sea into an Extremely Severe Cyclonic Storm: Cyclone Warning & post landfall outlook for Gujarat & Diu coasts (Red message)

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 lay centred at 0530 hours IST of 17th May, 2021 over eastcentral Arabian Sea near latitude 18.5°N and longitude 71.5°E, about 160 km west-southwest of Mumbai, 290 km south-southeast of Veraval (Gujarat), 250 km south-southeast of Diu and 840 km south-southeast of Karachi (Pakistan).

It is very likely to move north-northwestwards and reach Gujarat coast in the evening hours of 17th & cross Gujarat coast between Porbandar & Mahuva (Bhavnagar district) during the night (2000 – 2300 hrs IST) of 17th 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(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
17.05.21/0530	18.5/71.5	180-190 gusting to 210	Extremely Severe Cyclonic Storm
17.05.21/1130	18.9/71.4	180-190 gusting to 210	Extremely Severe Cyclonic Storm
17.05.21/1730	20.2/71.1	170-180 gusting to 200	Extremely Severe Cyclonic Storm

17.05.21/2330	21.0/71.1	150-160 gusting to 175	Very Severe Cyclonic Storm
18.05.21/0530	21.9/71.3	110-120 gusting to 130	Severe Cyclonic Storm
18.05.21/1730	23.5/71.9	70-80 gusting to 90	Cyclonic storm
19.05.21/0530	25.2/72.8	40-50 gusting to 60	Depression

Warnings:

(i) Rainfall:

- **Konkan & adjoining Madhya Maharashtra:** Light to moderate rainfall at most places with heavy to very heavy falls and extremely heavy falls at isolated places on 17th May and isolated heavy rainfall over north Konkan on 18th May.
- **Gujarat:** Light to moderate rainfall at many places with heavy to very heavy falls at a few places and extremely heavy falls at isolated places very likely over southern districts of Saurashtra, Diu and Gujarat region on 17th & 18th May. Isolated heavy to very heavy rainfall also likely over Kutch during the same period.
- **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 18th & heavy to very heavy falls at isolated places over Rajasthan on 19th May.

(ii) Wind warning

- Gale wind speed reaching 180–190 kmph gusting to 210 kmph is likely to prevailing over eastcentral Arabian Sea during next six hours
- Gale winds speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail along & off Maharashtra coast on 17th and gradually decrease thereafter.
- Gale wind speed reaching 90-100 kmph gusting to 110 kmph is prevailing over adjoining northeast Arabian Sea. It would gradually increase becoming 170–180 kmph gusting to 200 kmph from forenoon for subsequent 12 hrs and decrease thereafter
- Gale wind speed reaching 70-80 kmph gusting to 90 kmph is prevailing along and off south Gujarat & Daman and Diu coasts. It is likely to increase becoming Gale winds speed reaching 155-165 kmph gusting to 185 kmph along & off Gujarat coast (Junagarh, Gir Somnath, Amreli, Bhavnagar) and 120 -140 kmph gusting to 165 kmph over Bharuch, Anand, south Ahmedabad, Botad, Porbandar, 90 -100 kmph gusting to 120 kmph over Devbhoomi Dwarka, Jamnagar, Rajkot, Morbi, Kheda districts of Gujarat from tonight till 18th early morning. Gale winds speed reaching 80-90 kmph gusting to 100 kmph likely to prevail along & off Dadra, Nagar Haveli, Daman, Valsad, Navsari, Surat, Surendranagar, districts from 17th evening till 18th morning.

(iii) Sea condition

- Sea conditions will be Phenomenal over eastcentral and adjoining northeast Arabian Sea till 18th morning and improve gradually thereafter.
- Sea conditions will be High to very High along & off Maharashtra coast during next 12 hours and improve thereafter.
- It is very likely to be High along & off south Gujarat, Daman, Diu, Dadra & Nagar Haveli coasts during next 6 hours and thereafter Phenomenal till 18th morning. It will improve gradually thereafter.

(iv) Storm surge warning

- Tidal wave above astronomical tide is likely to inundate coastal areas as per details below: about 3 meter (m) over Amreli, Gir Somnath, Diu, Bhavnagar, 2-3 m over Bharuch, Anand, southern parts of Ahmedabad, 1-2 m over Surat, Navsari, Valsad, and 0.5 – 1m over 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, northeast Arabian Sea and along & off Gujarat, Daman, Diu, Dadra & Nagar Haveli coasts till the Noon of 18th May.
- The fishermen are advised not to venture into eastcentral Arabian Sea along & off Maharashtra - Goa coasts and into northeast Arabian Sea along & off Gujarat, Daman, Diu, Dadra & Nagar Haveli coast till 18th 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.

(B) Damage Expected over Devbhoomi Dwarka, Kutch, Jamnagar, Rajkot & Morbi, Valsad, Surat, Vadodara, Bharuch, Navsari, Anand, Kheda and interior parts of 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.

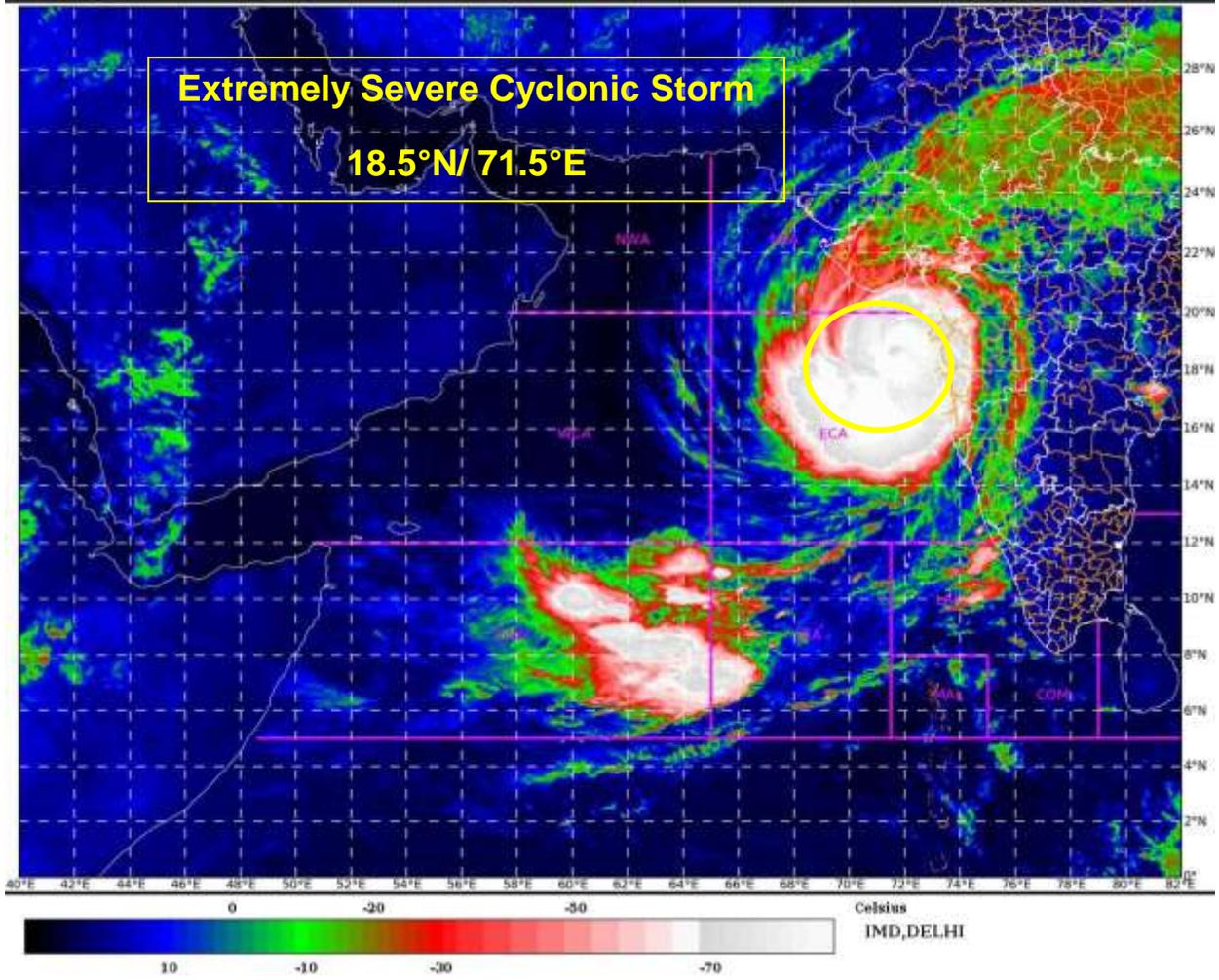
(vii) Action Suggested:

- 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 1130 hrs IST of the 17th May, 2021.

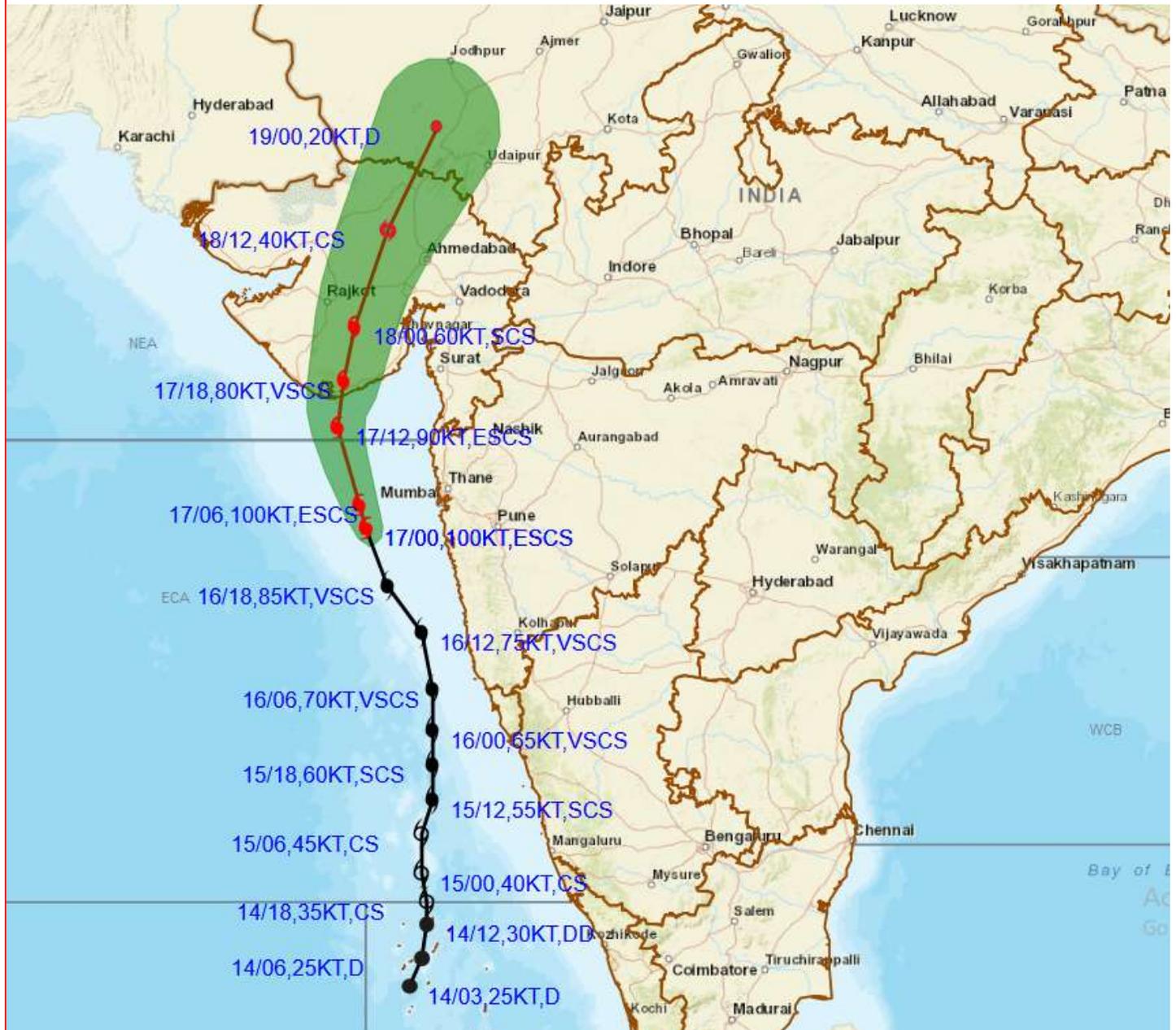
(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

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





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 (≥ 120 KT)

● LESS THAN 34 KT

⊙ 34-47 KT

⊙ ≥ 48 KT

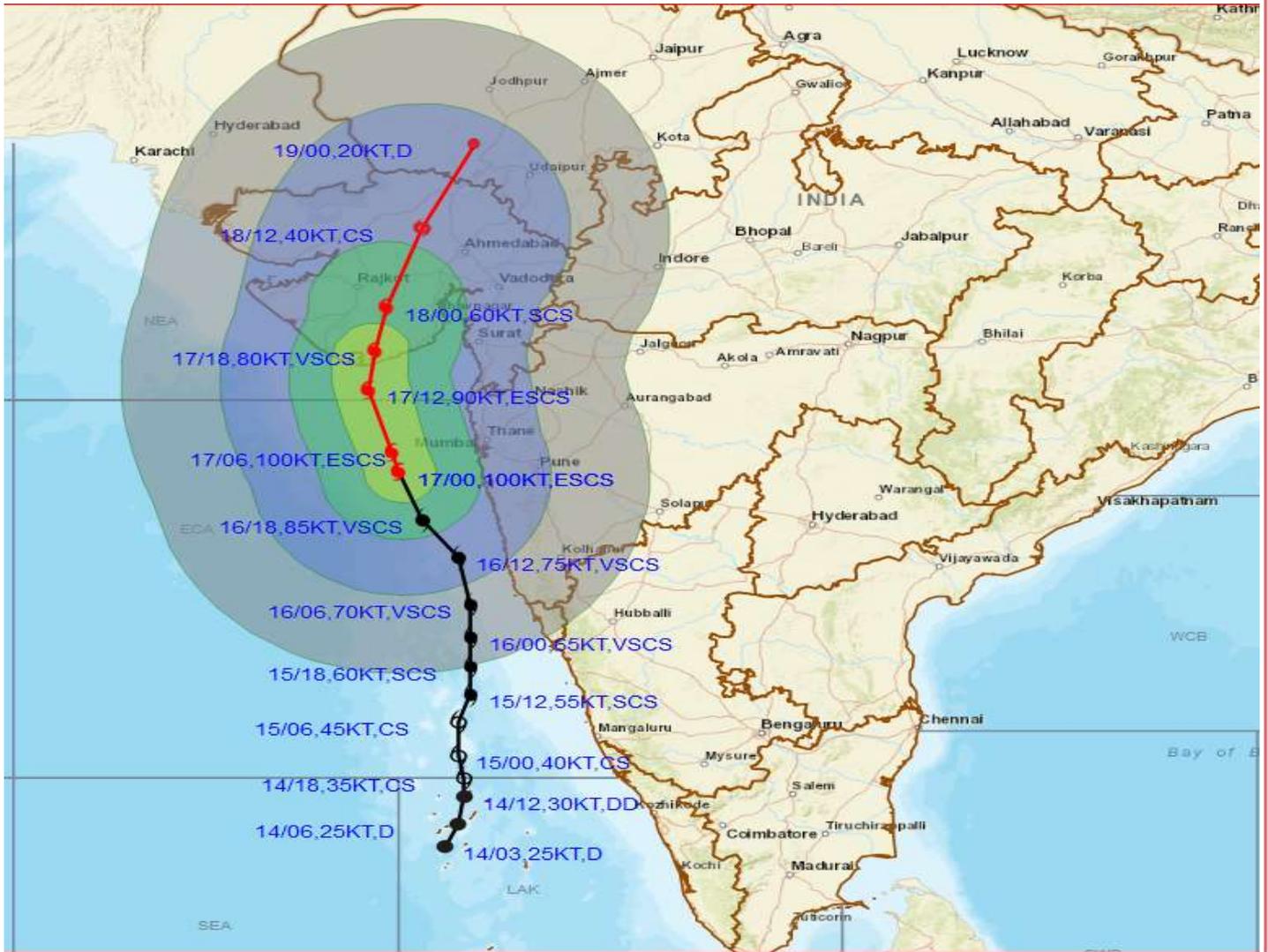
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



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SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● 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

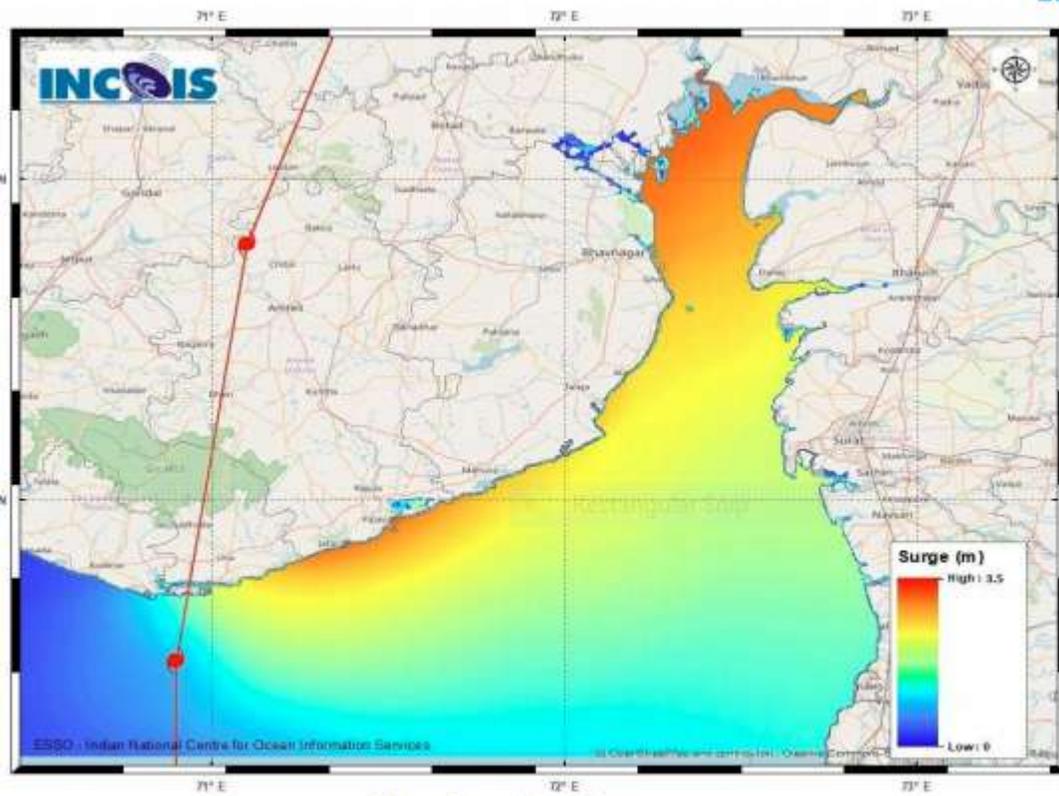


Figure:Storm Surge Map

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)
Dhandhuka	Ahmadabad	Gujarat	Mitli	0.9-3.5	Upto 4.75
Rajula	Amreli	Gujarat	Patva	1.6-3.3	Upto 0.79
Bhavnagar	Bhavnagar	Gujarat	Narbad	0.3-3.2	Upto 2.44
Jafarabad	Amreli	Gujarat	Rohisa	1.8-3.1	Upto 0.23
Una	Junagadh	Gujarat	Una	0.8-3	Upto 0.91
Borsad	Anand	Gujarat	Tithor	2.1-2.9	Upto 0.35
Mahuva	Bhavnagar	Gujarat	Gadhada	1.6-2.9	Upto 0.27
Mundra	Bhavnagar	Gujarat	Vadgam	2.7-2.7	Upto 1.02
Talaja	Bhavnagar	Gujarat	Talaja	1.9-2.7	Upto 0.39
Vagra	Bharuch	Gujarat	Harinagar	1.9-2.7	Upto 0.59
Diu	Diu	Daman and Diu	Diu	1.2-2.5	Upto 0.70
Bharuch	Bharuch	Gujarat	Kasva	1.4-2.4	Upto 0.19
Hansot Mahal	Bharuch	Gujarat	Kantiyajal	1.1-2.4	Upto 3.39
Hazira	Surat	Gujarat	Hajira Ina (ina)	1.3-2.2	Upto 1.03
Olpad	Surat	Gujarat	Vansva	1.6-2.2	Upto 0.63
Navsari	Navsari	Gujarat	Borsi	1.1-2	Upto 0.54
Gandevi	Navsari	Gujarat	Mendhar	0.8-1.7	Upto 1.23
Valsad	Valsad	Gujarat	Malvan	1.2-1.6	Upto 0.31
Kodinar	Gir Somnath	Gujarat	Kodinar	0.7-1.5	Upto 0.45
Daman	Daman	Daman	Upto 0.12	1	1-4
Umargam	Valsad	Gujarat	Umargam	1.3-1.4	Upto 0.20
Dahanu	Palghar	Maharashtra	Narpad	0.4-1.2	Upto 1.05
Palghar	Palghar	Maharashtra	Akkarpatti	0.4-1	Upto 0.54
Vasai	Palghar	Maharashtra	Jalsar	0.7-0.8	Upto 1.11
Wada	Thane	Maharashtra	Juchandra	0.7-0.7	Upto 0.21
Alibag	Raigarh	Maharashtra	Ranjankhar Davali	0.2-0.6	Upto 1.90
Bombay	Mumbai City	Maharashtra	Greater Bombay	0.5-0.6	Nil
Panvel	Raigarh	Maharashtra	Gavhan	0.6-0.6	Upto 0.58
Uran	Raigarh	Maharashtra	Sheva	0.5-0.6	Upto 2.25