



India Meteorological Department
(Ministry of Earth Sciences)

BULLETIN NO.31: (ARB/01/2021)

TIME OF ISSUE: 0730 HOURS IST

DATED: 18.05.2021

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

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23092398/23093750)

CONTROL ROOM NDMA (FAX.NO. 26701729)

CABINET SECRETARIAT (FAX.NO.23012284, 23018638)

PS TO HON'BLE MINISTER FOR S & T AND EARTH SCIENCES (FAX NO.23316745)

SECRETARY, MOES (FAX NO. 24629777)

H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)

DIRECTOR GENERAL, DOORDARSHAN (23385843)

DIRECTOR GENERAL, AIR (23421101, 23421105, 23421219)

PIB MOES (FAX NO. 23389042)

UNI (FAX NO. 23355841)

D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)

DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)

CHIEF SECRETARY, GOA (FAX NO. 0832-2415201)

CHIEF SECRETARY, MAHARASHTRA (FAX NO. 022- 22028594)

CHIEF SECRETARY, GUJARAT (FAX NO. 079-23250305)

CHIEF SECRETARY, DAMAN & DIU (FAX NO. 0260-2230775)

CHIEF SECRETARY, DADRA & NAGAR HAVELI (FAX NO. 0260-2645466)

CHIEF SECRETARY, RAJASTHAN (FAX NO. 0141-2227114)

Subject: Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te) over Saurashtra: Cyclone Warning for Gujarat & Diu coasts & post landfall outlook for Gujarat & Rajasthan (Red message)

The **Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te)** over Saurashtra moved north-northeast wards with a speed of about 11 kmph during past 06 hours and lay centred at 0530 hours IST of today, the 18th May, 2021 over Saurashtra near latitude 21.5°N and longitude 71.2°E, about 95 km north-northeast of Diu and 10 km south of Amreli and 230 km south-southwest of Ahmedabad.

It is very likely to move north-northeastwards and weaken gradually into a severe cyclonic storm by next 03 hours.

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
18.05.21/0530	21.5/71.2	115-125 gusting to 140	Very Severe Cyclonic Storm
18.05.21/1130	22.2/71.5	90-100 gusting to 110	Severe Cyclonic Storm
18.05.21/1730	23.0/71.8	60-70 gusting to 80	Cyclonic Storm
18.05.21/2330	23.8/72.1	50-60 gusting to 70	Deep Depression
19.05.21/0530	24.6/72.4	35-45 gusting to 55	Depression

Warnings:

(i) Rainfall:

- **North Konkan:** Light to moderate rainfall at most places with isolated heavy rainfall likely over north Konkan during next 06 hours.
- **Gujarat:** Light to moderate rainfall at most places with heavy to very heavy falls at a few places and extremely heavy falls at isolated places very likely over Gujarat region and heavy to very heavy falls & extremely heavy falls at isolated places very likely over Saurashtra on 18th May. Isolated 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 90-100 kmph gusting to 110 kmph is likely to prevail over northeast & adjoining eastcentral Arabian Sea during next 06 hours. It is likely to reduce gradually from the morning of 18th, become 70-80 kmph gusting to 90 kmph.
- Gale wind speed reaching 50-60 gusting to 70 kmph along & off extreme north Maharashtra coast and speed reaching 40-50 gusting to 60 kmph along & off remaining parts of north Maharashtra coast during next 06 hours.
- Gale winds speed reaching 115-125 kmph gusting to 135 kmph likely to prevail along & off Gujarat coast (Amreli, Bhavnagar, Botad): 100-110 kmph gusting to 120 kmph over Diu, Gir Somnath, Junagarh, Kheda, Bharuch, Anand, South Ahmedabad : 70-80 kmph gusting to 90 kmph over Jamnagar, Porbandar & Morbi till morning of 18th and gradually decrease thereafter.
Squally wind speed reaching 50-60 kmph gusting to 70 kmph likely to prevail along and off Dadra, Nagar Haveli, Daman, Valsad, Navsari, Surat, Surendranagar, Rajkot districts and 40-50 kmph gusting to 60 kmph over Devbhoomi Dwarka & Kutch till morning of 18th and gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely to prevail over south Rajasthan from the noon of 18th till 19th early 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 becoming Phenomenal till 18th morning. It will improve gradually thereafter.

(iv) Storm surge warning

Tidal wave above astronomical tide is likely to inundate coastal areas during next 06 hours, as per details below:

About 2 - 3 meter (m) over Anand & Amreli, Gir Somnath, Diu, Bhavnagar, 1-2 m over Bharuch, southern parts of Ahmedabad, about 01 m over Surat, Navsari, Valsad, and about 0.5m over the remaining coastal districts of Gujarat during next 06 hours.(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 the noon of 18th May.
- Those who are out at Sea over north Arabian Sea are advised to return to the coast.

(vi) (A) Damage Expected over Diu, 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, Porbandar, Kutch, Jamnagar, Rajkot & Morbi, Valsad, Surat, Vadodara, Bharuch, Navsari, Anand, Kheda and interior parts of Ahmedabad districts of Gujarat, Daman, Dadra & Nagar Haveli:

- 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.

(viii) Post Landfall Outlook for interior districts of Gujarat (Districts apart from those mentioned under warning above) and over the southern districts of Rajasthan:

After the landfall the system is very likely to re-curve north-northeastwards, across Gujarat and weaken gradually. It is likely to maintain the intensity of Cyclonic Storm till the evening of 18th May and thereafter it will weaken gradually into a Depression over south Rajasthan. Under its influence, light to moderate rainfall at most places with heavy to very heavy rainfall at a few places very likely over interior districts of Gujarat on 17th and continue till 18th afternoon and over south Rajasthan on 18th May. Squally winds are likely to prevail over south Rajasthan in association with the presence of the remnant system as a Depression over the region.

Damage expected over interior districts of Gujarat (Districts apart from those mentioned under warning) and over southern districts of Rajasthan on 18th May 2021.

(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. (iii) Breaking of tree branches, uprooting of small trees. (iv) Damage to banana and papaya trees. (v) People in affected areas to remain indoors.

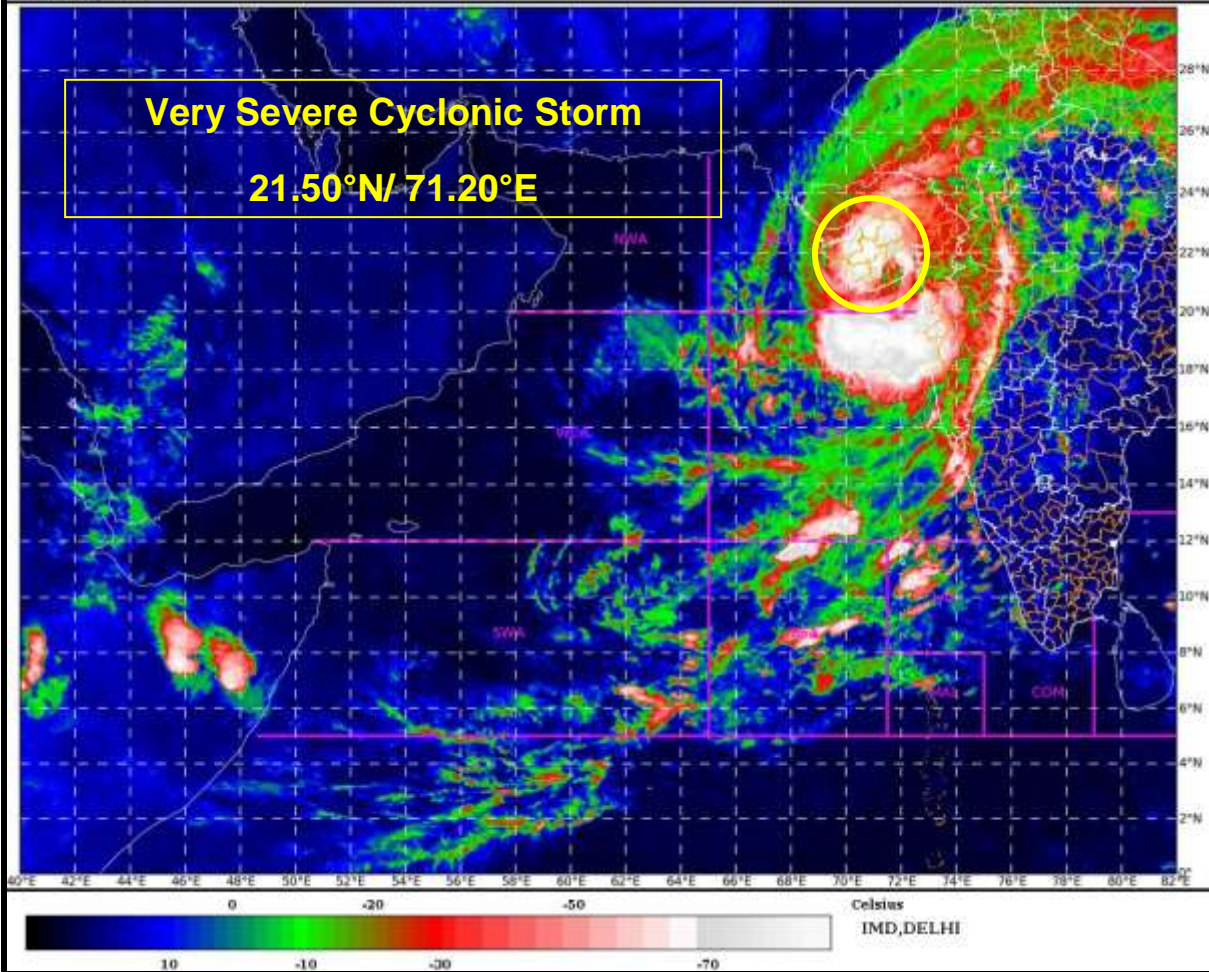
The next bulletin will be issued at 1130 hrs IST of 18th May, 2021.

(D R Pattanaik)
Scientist-F, RSMC, New Delhi

Copy to: MC Jaipur /ACWC Mumbai /CWC Ahmedabad.

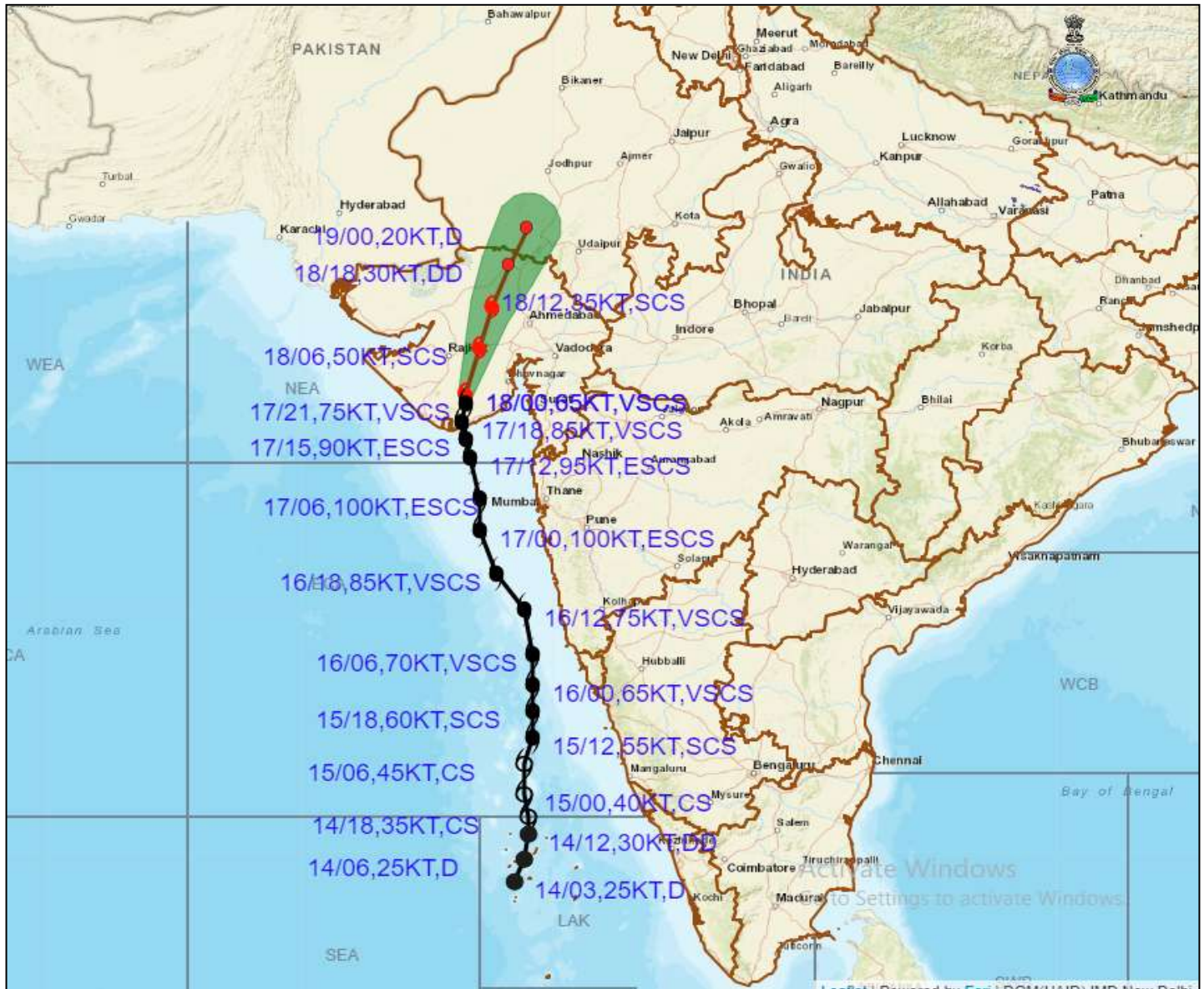
SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN SEA

17-05-2021/(2330 to 2356) GMT
18-05-2021/(0500 to 0526) IST





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER SAURASHTRA BASED ON 0000 UTC OF 18TH 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

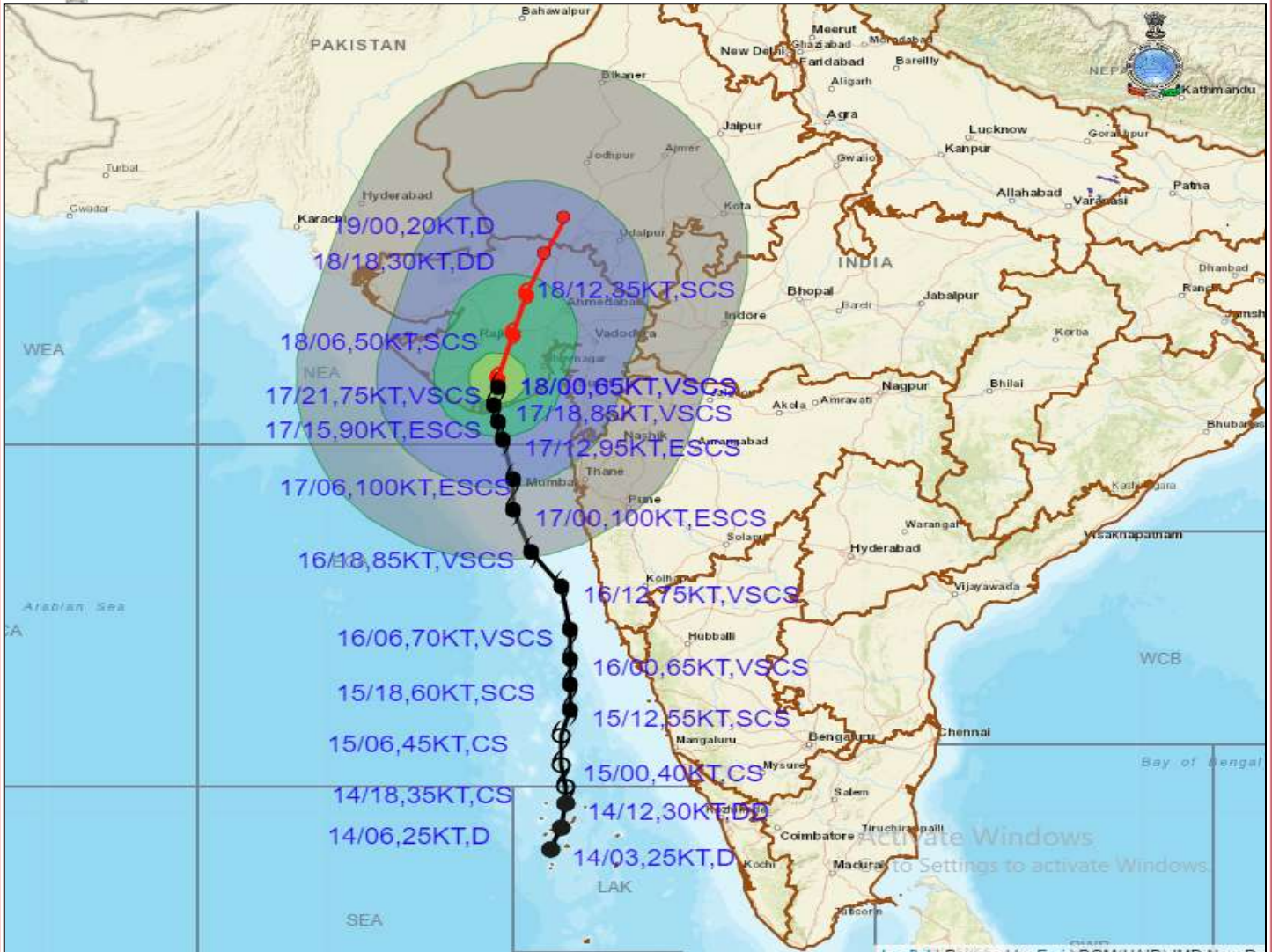
— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER SAURASHTRA BASED ON 0000 UTC OF 18TH 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

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

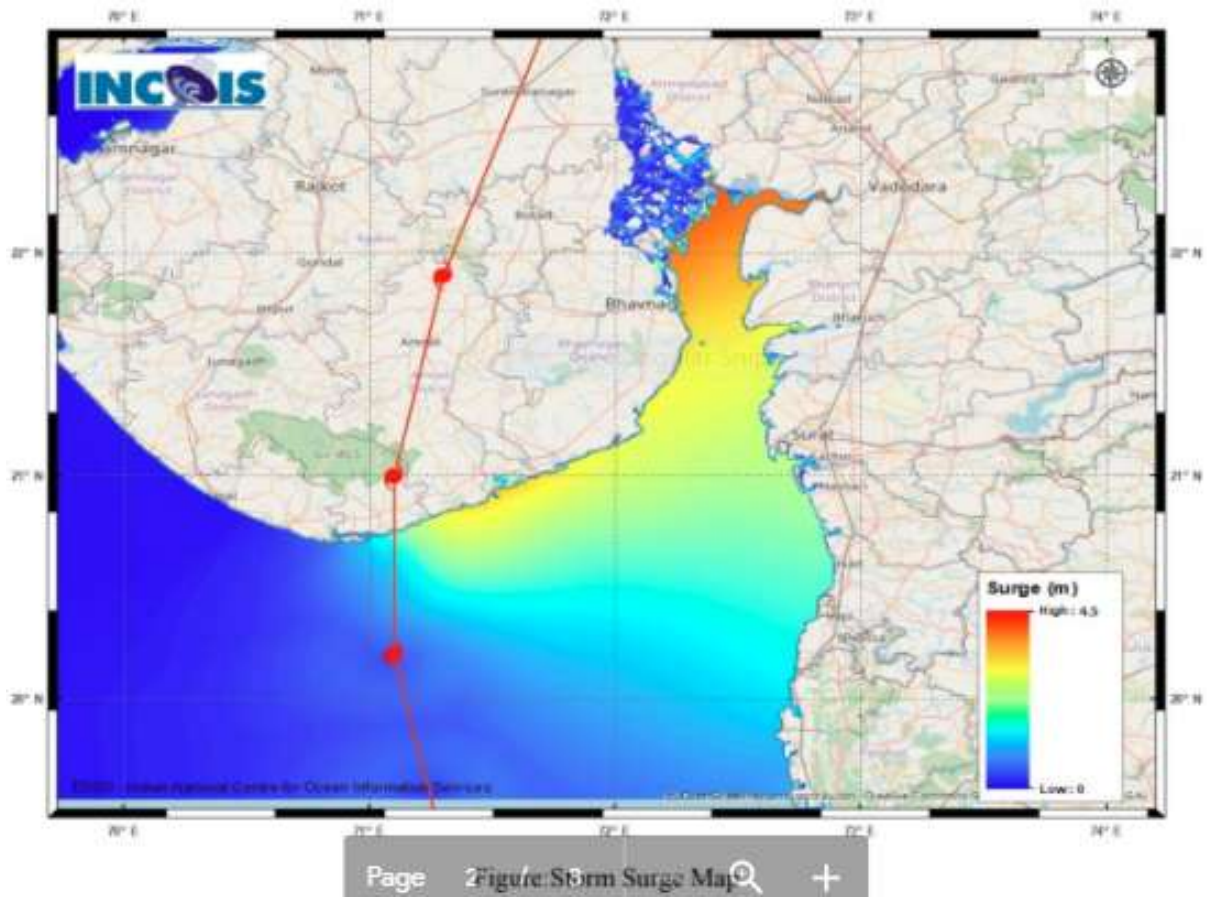
■ 34-49 KT (62-91 KMPH)

■ 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



STORM SURGE GUIDANCE FROM INCOIS BASED ON 0530 HRS IST OBSERVATIONS

STORM SURGE HEIGHT INFORMATION:Open with 

* The below listed surge heights are over and above ast

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Khambhat	Anand	Gujarat	Mitli	3.0-4.5	Upto 9.15
Bhavnagar	Bhavnagar	Gujarat	Narbad	3.0-4.2	Upto 2.90
Rajula	Amreli	Gujarat	Patva	2.1-3.8	Upto 1.08
Mundra	Bhavnagar	Gujarat	Vadgam	3.5-3.7	Upto 1.36
Jafarabad	Amreli	Gujarat	Rohisa	1.9-3.5	Upto 0.23
Vagra	Bharuch	Gujarat	Harinagar	1.8-3.4	Upto 0.88
Mahuva	Bhavnagar	Gujarat	Gadhada	1.6-3.3	Upto 0.31
Talaja	Bhavnagar	Gujarat	Talaja	1.6-3.2	Upto 0.39
Bharuch	Bharuch	Gujarat	Kasva	1.9-3	Upto 0.19
Hansot Mahal	Bharuch	Gujarat	Kantivajal	1.7-3	Upto 4.41
Olpad	Surat	Gujarat	Vansva	2.1-2.7	Upto 1.16
Una	Junagadh	Gujarat	Una	0.8-2.7	Upto 0.56
Hazira	Surat	Gujarat	Hajira Ina (ina)	1.8-2.6	Upto 1.33
Chorasi	Surat	Gujarat	Bhimpor	0.8-2.5	Upto 2.31
Navsari	Navsari	Gujarat	Borsi	1.5-2.4	Upto 0.64
Gandevi	Navsari	Gujarat	Mendhar	1.9-2.1	Upto 1.26
Valsad	Valsad	Gujarat	Malvan	1.6-2.1	Upto 0.51
Daman	Daman	Daman and Diu	Daman	1.4-1.8	Upto 0.12
Umargam	Valsad	Gujarat	Umargam	1.6-1.7	Upto 0.21
Dahanu	Palghar	Maharashtra	Narpad	0.7-1.5	Upto 1.05
Palghar	Palghar	Maharashtra	Akkarpatti	0.5-1.2	Upto 0.75
Diu	Diu	Daman and Diu	Diu	0.9-1.1	Upto 0.32
Vasai	Palghar	Maharashtra	Jalsar	0.6-1.1	Upto 1.13
Wada	Thane	Maharashtra	Juchandra	1.1-1.1	Upto 0.21
Borsad	Anand	Gujarat	Tithor	1.4-1.5	Upto 0.52
Alibag	Raigarh	Maharashtra	Raniankhar Davali	0.3-0.9	Upto 1.90
Bombay	Mumbai City	Maharashtra	Greater Bombay	0.7-0.9	Nil
Kodinar	Gir Somnath	Gujarat	Chhara	0.4-0.8	Upto 0.32
Panvel	Raigarh	Maharashtra	Gavhan	0.7-0.8	Upto 0.72
Uran	Raigarh	Maharashtra	Jasai	0.7-0.8	Upto 2.40
Murud	Raigarh	Maharashtra	Borli	0.5-0.7	Upto 0.21
Dapoli	Ratnagiri	Maharashtra	Tadachkond	0.4-0.5	Upto 0.11
Mandangarh	Ratnagiri	Maharashtra	Danda	0.4-0.5	Nil

HEAVY RAINFALL WARNING FOR GUJARAT STATE TILL 0830 HOURS IST OF 18TH MAY



HEAVY RAINFALL WARNING FOR GUJARAT STATE FROM 0830 HOURS IST OF 18TH TO 0830 HOURS IST OF 19TH MAY



WIND WARNING FOR GUJARAT STATE FROM 17TH NIGHT TO 18TH MAY NOON.

