



India Meteorological Department
(Ministry of Earth Sciences)

BULLETIN NO. 28: (ARB/01/2021)

TIME OF ISSUE: 2200 HOURS IST

DATED: 17.05.2021

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

The **Extremely Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te)** over northeast & adjoining eastcentral Arabian Sea continued to move north-northwestwards with a speed of about 17 kmph during past 06 hours and lay centred at 2030 hours IST of today, the 17th May, 2021 over northeast Arabian Sea near latitude 20.5°N and longitude 71.2°E, about 35 km east-southeast of Diu.

It is very likely to move north-northwestwards and cross Gujarat coast close to east of Diu during next 3 hours. Landfall process continues and will be completed during next 3 hours. Forward sector of the Eye is entering into land.

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
17.05.21/2030	20.5/71.2	160-170 gusting to 190	Extremely Severe Cyclonic Storm
17.05.21/2330	20.8/71.1	150-160 gusting to 175	Very Severe Cyclonic Storm
18.05.21/0530	21.6/71.1	110-120 gusting to 130	Severe Cyclonic Storm
18.05.21/1130	22.5/71.4	70-80 gusting to 90	Cyclonic Storm
18.05.21/1730	23.4/71.8	50-60 gusting to 70	Deep Depression
19.05.21/0530	25.1/72.6	35-45 gusting to 55	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 most places with heavy to very heavy falls at a few places and extremely heavy falls at isolated places very likely over Saurashtra, Diu and adjoining Gujarat region on 17th & heavy to very heavy falls at a few places over Gujarat region and heavy to very heavy falls at isolated places 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 160-170 kmph gusting to 190 kmph is likely to prevail over northeast & adjoining eastcentral Arabian Sea. It is likely to reduce gradually from the early hours of 18th, become 70-80 kmph gusting to 90 kmph from tomorrow morning and decrease further from tomorrow afternoon.
- Gale winds speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail along & off Maharashtra coast during next 06 hours and gradually decrease thereafter.
- Gale winds speed reaching 160-170 kmph gusting to 190 kmph likely to prevail along & off Gujarat coast (Amreli, Bhavnagar) Junagarh, Gir Somnath and 120-140 kmph gusting to 165 kmph over Bharuch, Anand, South Ahmedabad, Botad, 90-100 kmph gusting to 120 kmph over Devbhoomi Dwarka, Jamnagar, Porbandar, Rajkot, Morbi, Kheda districts of Gujarat till 18th early hours. 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 till 18th early hours
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is likely to prevail over south Rajasthan from the forenoon of 18th till 19th 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 as per details below: about 3 -4 meter (m) over Anand & Amreli, Gir Somnath, Diu, Bhavnagar, 2-3 m over Bharuch, southern parts of Ahmedabad, 1-2 m over Surat, Navsari, Valsad, and 0.5 – 1m 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.

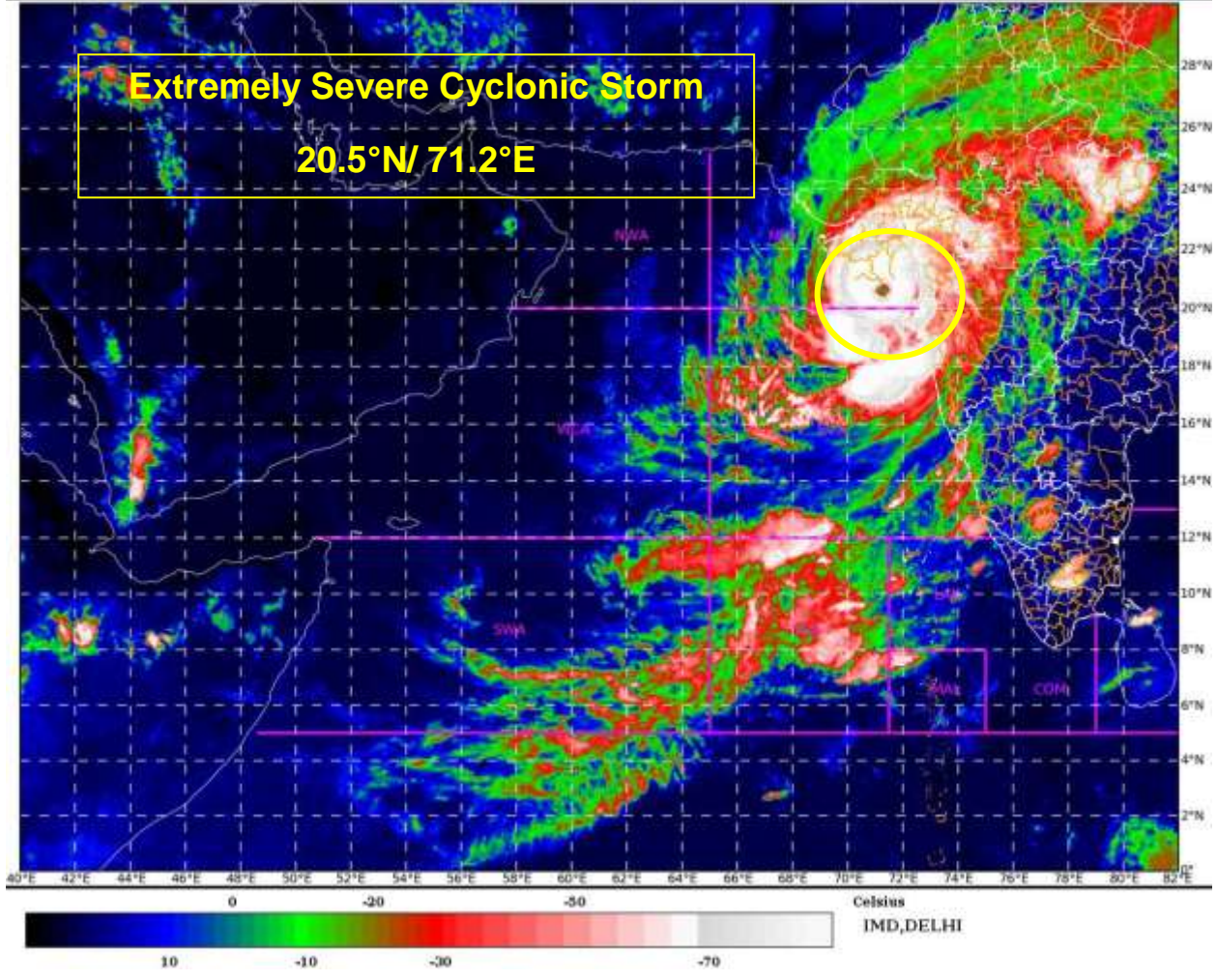
The next bulletin will be issued at 0230 hrs IST of 18th May, 2021.

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

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

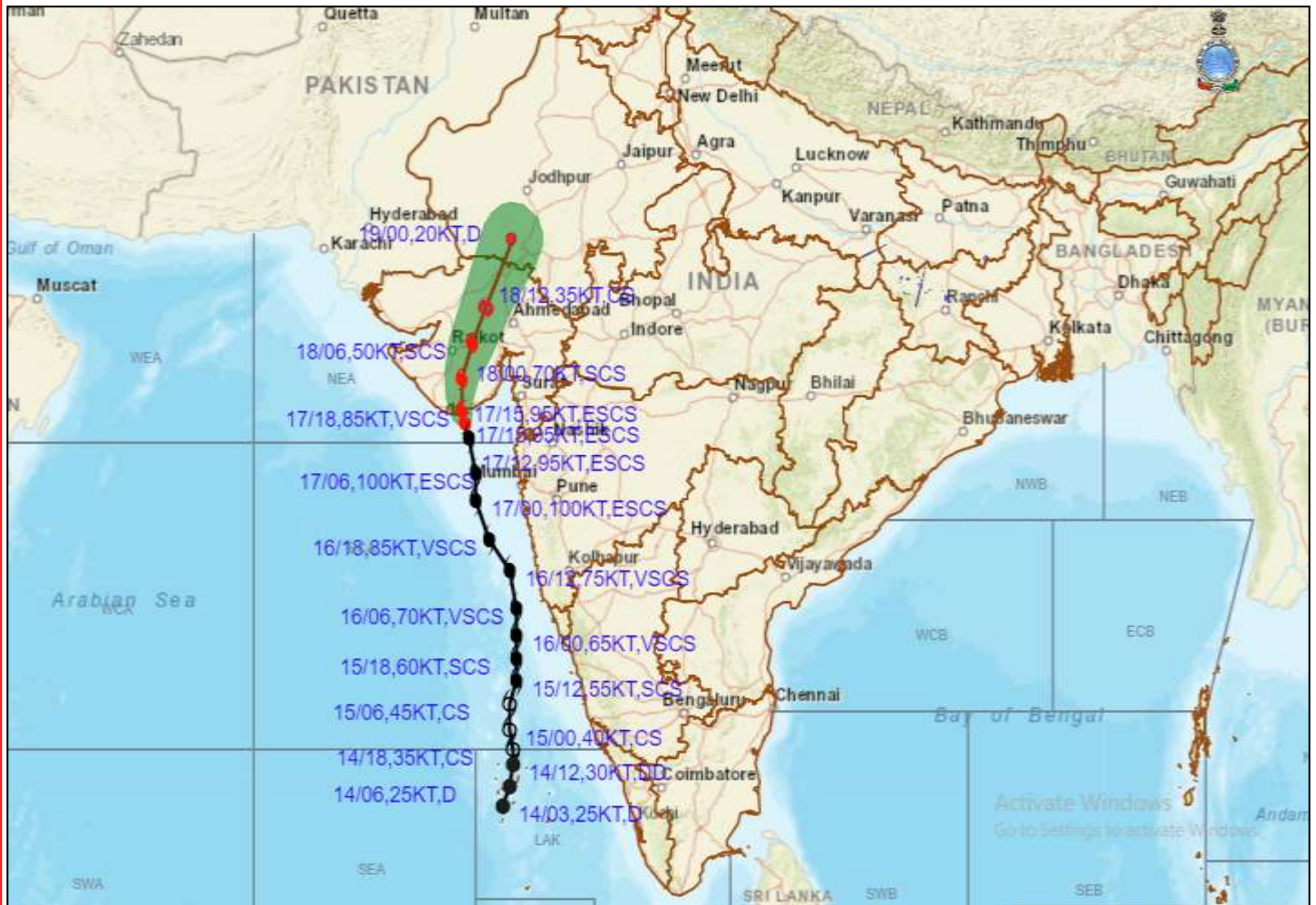
SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN SEA

17-05-2021/(1530 to 1556) GMT
17-05-2021/(2100 to 2126) IST





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER NORTHEAST ARABIAN SEA BASED ON 1500 UTC OF 17TH MAY, 2021

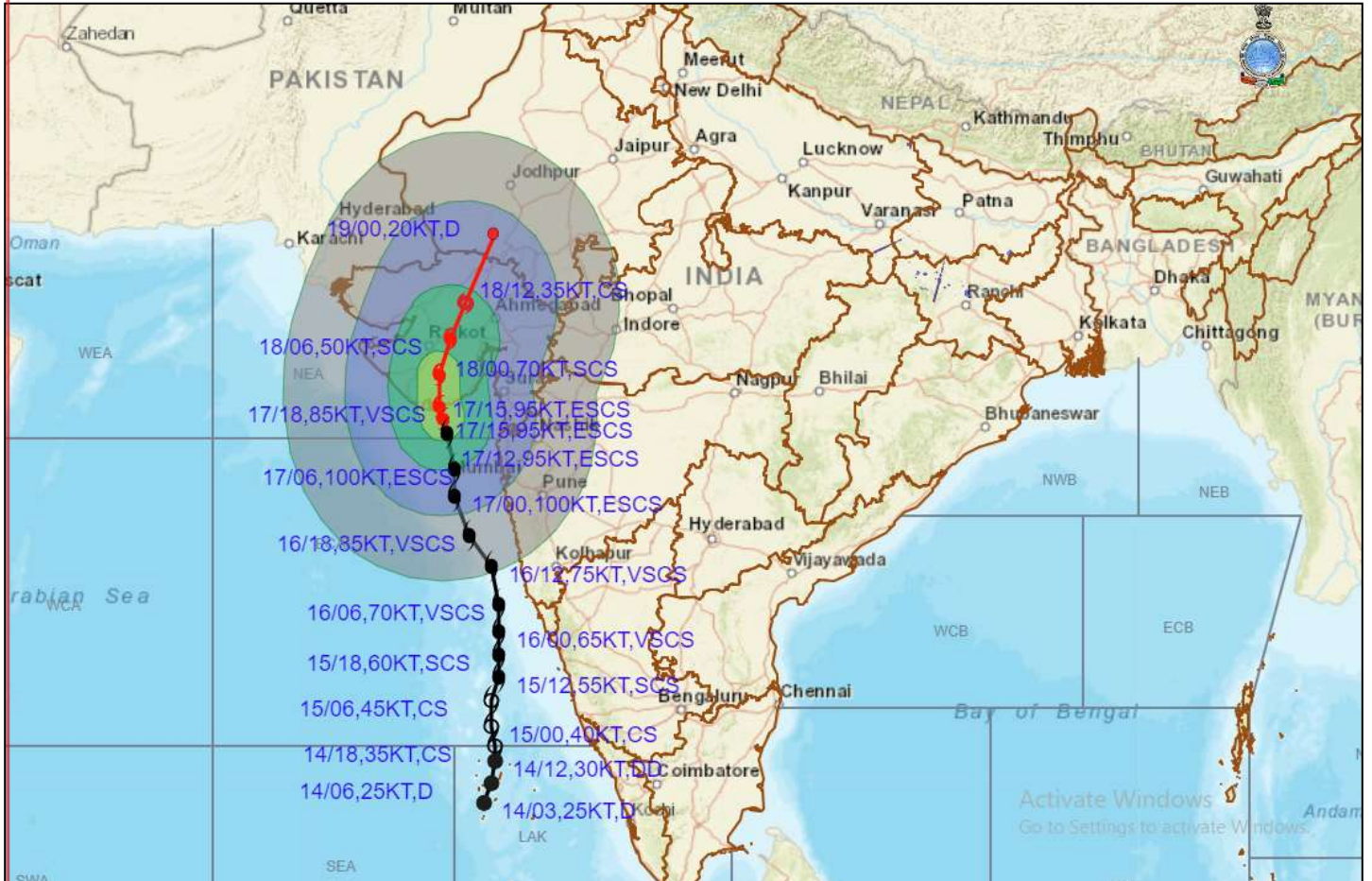


DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER NORTHEAST ARABIAN SEA BASED ON 1500 UTC OF 17TH MAY, 2021

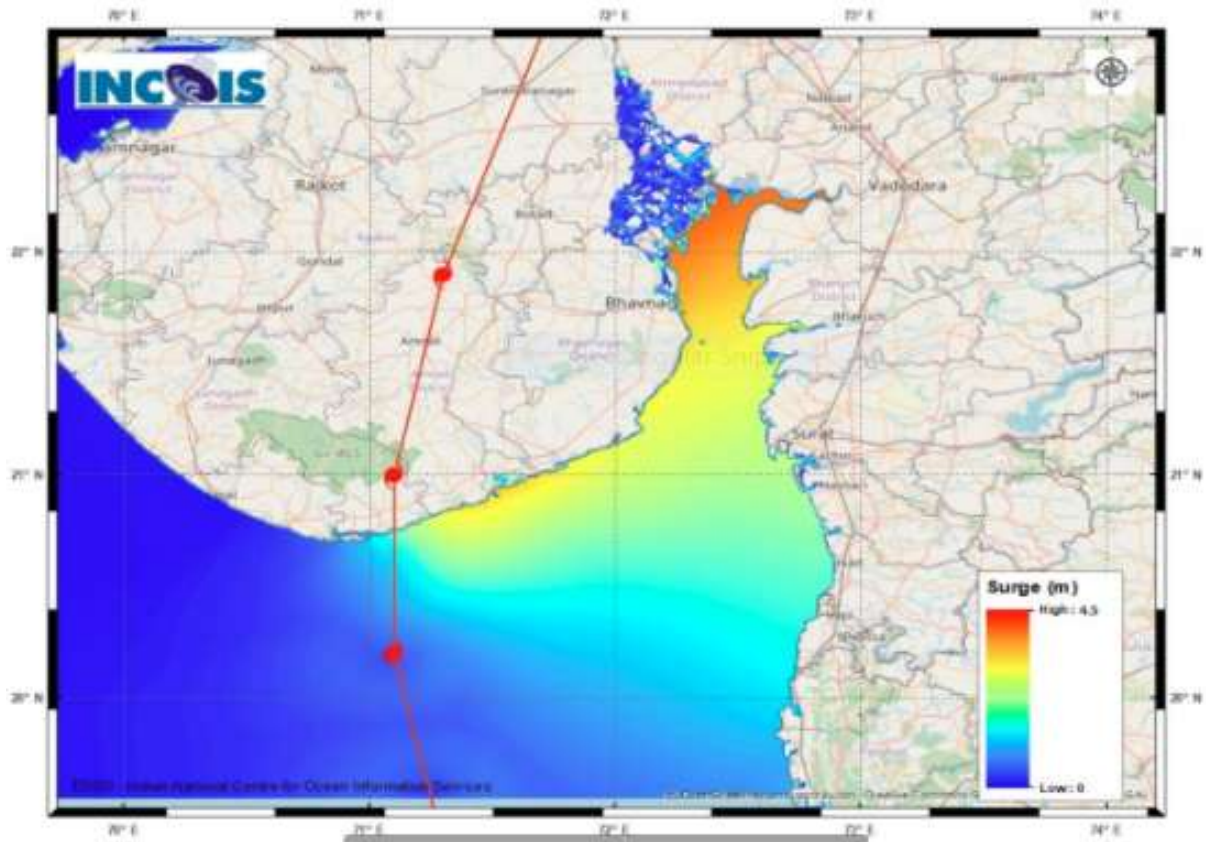


DATE/TIME IN UTC
 IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\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



Page 2 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)
Khambhat	Anand	Gujarat	Mitli	2.5-4.0	Upto 4.70
Bhavnagar	Bhavnagar	Gujarat	Narbad	1.5-3.6	Upto 2.67
Jambusar	Bharuch	Gujarat	Tinhor	1.0-3.6	Upto 2.61
Rajula	Amreli	Gujarat	Patva	1.8-3.6	Upto 0.88
Jafarabad	Amreli	Gujarat	Rohina	1.9-3.5	Upto 0.23
Mahuva	Bhavnagar	Gujarat	Gadhada	1.8-3.1	Upto 0.27
Mundra	Bhavnagar	Gujarat	Vadgam	3.1-3.1	Upto 1.28
Vagra	Bharuch	Gujarat	Harinagar	1.5-3.0	Upto 0.84
Talaja	Bhavnagar	Gujarat	Talaja	1.3-2.9	Upto 0.39
Bharuch	Bharuch	Gujarat	Kasva	1.7-2.8	Upto 0.19
Harnot Mahul	Bharuch	Gujarat	Kantiyajal	1.6-2.8	Upto 3.74
Olpad	Surat	Gujarat	Vasva	1.9-2.5	Upto 0.79
Una	Junagadh	Gujarat	Una	0.8-2.4	Upto 0.56
Hazira	Surat	Gujarat	Hajira Ina (ina)	1.5-2.3	Upto 1.03
Chorasi	Surat	Gujarat	Bhimpor	0.5-2.1	Upto 1.85
Navsari	Navsari	Gujarat	Borsi	1.2-2.1	Upto 0.54
Gandevi	Navsari	Gujarat	Mendhar	1.4-1.8	Upto 1.26
Valsad	Valsad	Gujarat	Malvan	1.3-1.7	Upto 0.32
Daman	Daman	Daman and Diu	Daman	1.0-1.4	Upto 0.12
Umargam	Valsad	Gujarat	Umargam	1.3-1.4	Upto 0.20
Dahanu	Palghar	Maharashtra	Narpad	0.4-1.2	Upto 1.05
Greater Bombay	Mumbai Suburban	Maharashtra	Greater Bombay	0.3-1.1	Upto 1.69
Alibag	Raigarh	Maharashtra	Ranjankhar Duvali	0.3-1.0	Upto 1.90
Diu	Diu	Daman and Diu	Diu	0.7-1.0	Upto 0.33
Palghar	Palghar	Maharashtra	Akkarpatti	0.4-1.0	Upto 0.54
Vasai	Palghar	Maharashtra	Jalsar	0.8-1.0	Upto 1.11
Panvel	Raigarh	Maharashtra	Gavhan	0.8-0.9	Upto 0.72
Uran	Raigarh	Maharashtra	Jasai	0.8-0.9	Upto 2.40
Wada	Thane	Maharashtra	Juchandra	0.3-0.9	Upto 0.21
Kodinar	Gir Somnath	Gujarat	Chhara	0.3-0.7	Upto 0.32