



India Meteorological Department
(Ministry of Earth Sciences)

BULLETIN NO. 27: (ARB/01/2021)

TIME OF ISSUE: 2030 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 adjoining Eastcentral 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 eastcentral & adjoining northeast Arabian Sea continued to move north-northwestwards with a speed of about 17 kmph during past 06 hours and lay centred at 1730 hours IST of today, the 17th May, 2021 over northeast & adjoining eastcentral Arabian Sea near latitude 20.1°N and longitude 71.3°E, about 195 km west-northwest of Mumbai, 80 km south-southeast of Diu, 130 km southeast of Veraval (Gujarat).

It is very likely to move north-northwestwards and cross Gujarat coast between Porbandar & Mahuva (Bhavnagar district) to the east of Diu with a maximum sustained wind speed 155-165 kmph gusting to 185 kmph.

As per the latest observations based on 1930 IST, the landfall process has started. Outer cloud band of the system lies over coastal Saurashtra. The landfall process will continue during next 2 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 |
|----------------|---------------------------------|---|-------------------------------------|
| 17.05.21/1730 | 20.1/71.3 | 170-180 gusting to 200 | 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 170–180 kmph gusting to 200 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 90-100 kmph gusting to 100 kmph is likely to prevail along & off Maharashtra coast during next 12 hours and gradually decrease thereafter.
- Gale wind speed reaching 80-90 kmph gusting to 100 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 (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 from today evening 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.
- 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 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 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.

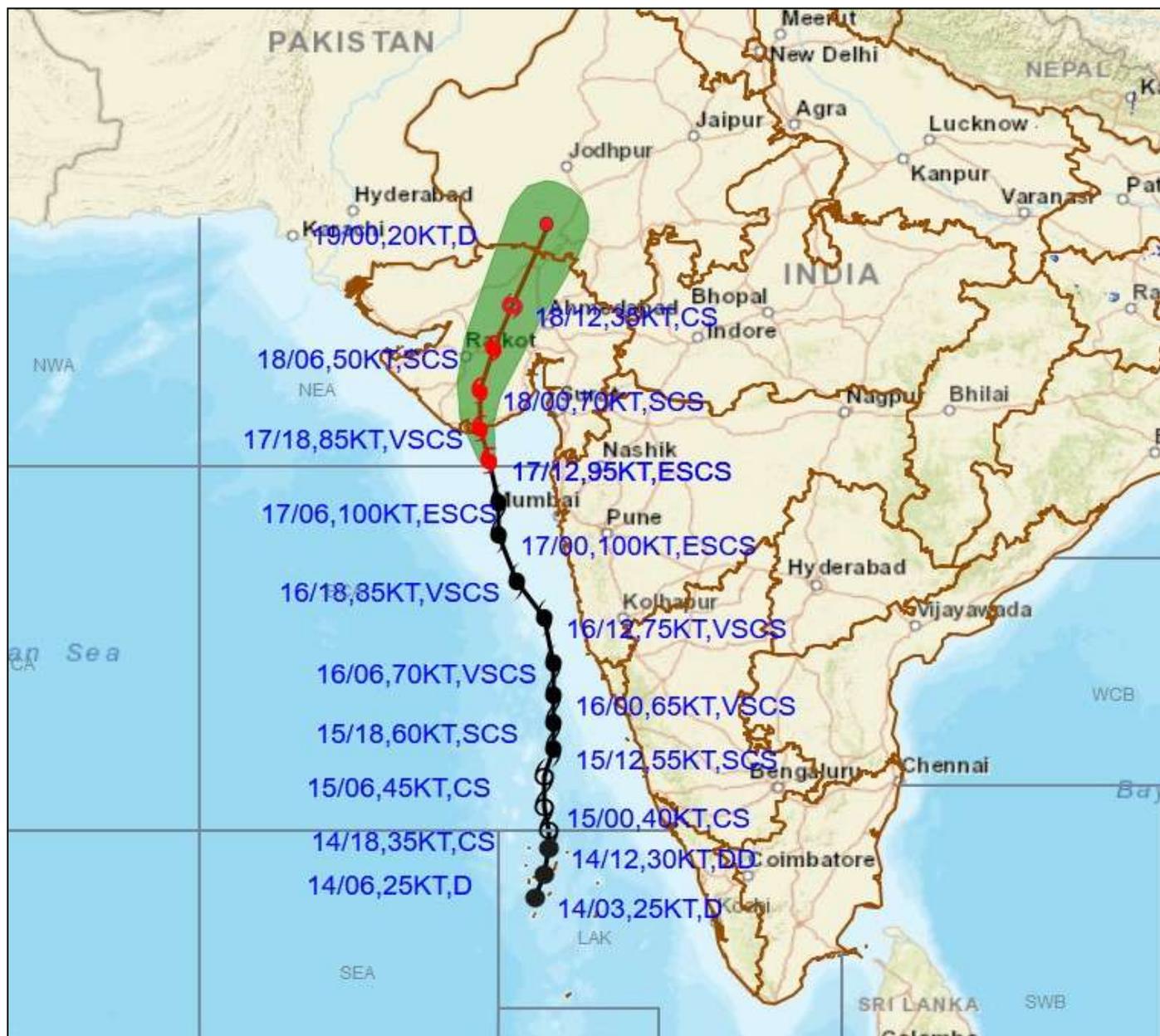
The next bulletin will be issued at 2330 hrs IST of 17th May, 2021.

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

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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 1200 UTC OF 17TH MAY, 2021

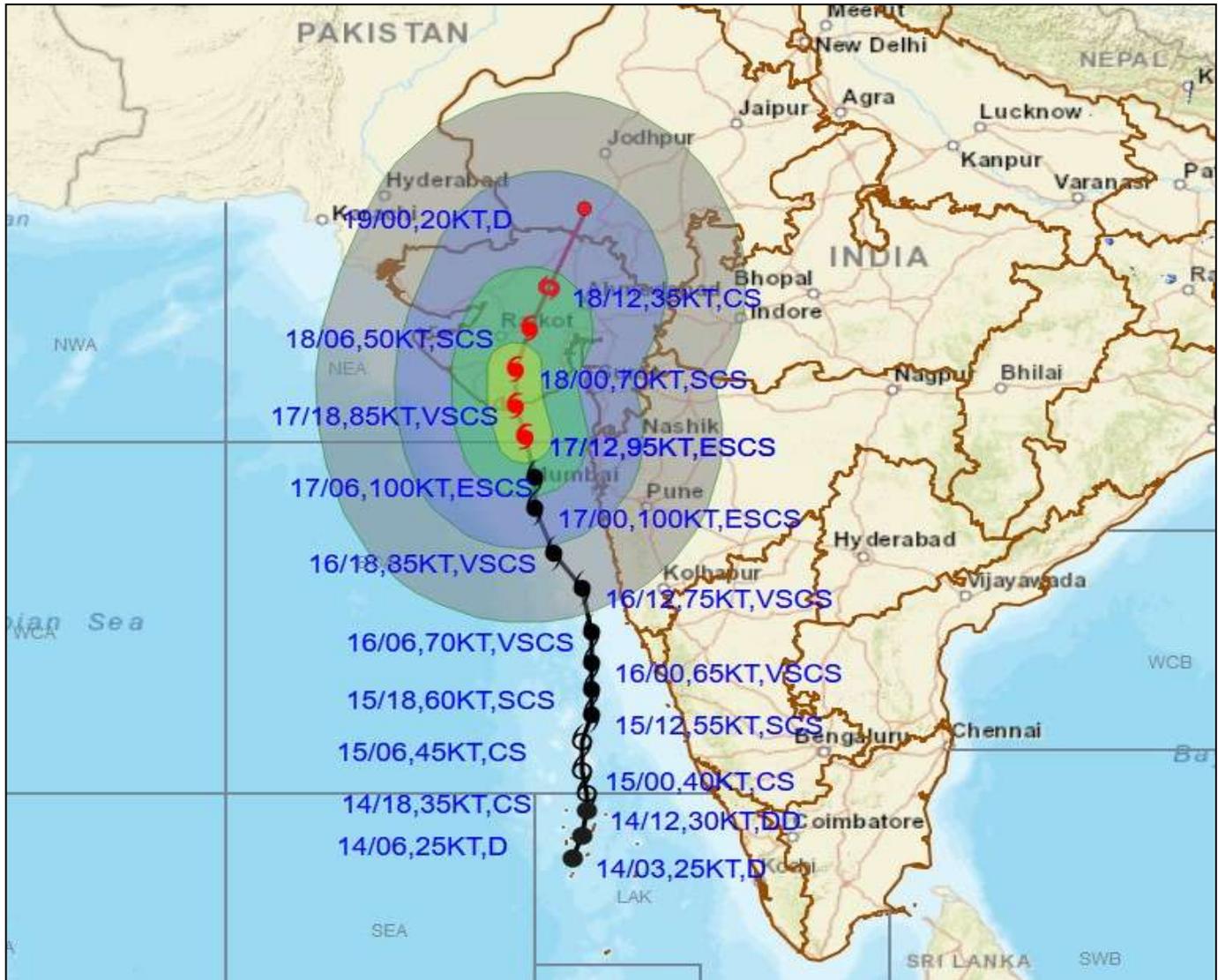


DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM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



OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF EXTREMELY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 1200 UTC OF 17TH MAY, 2021

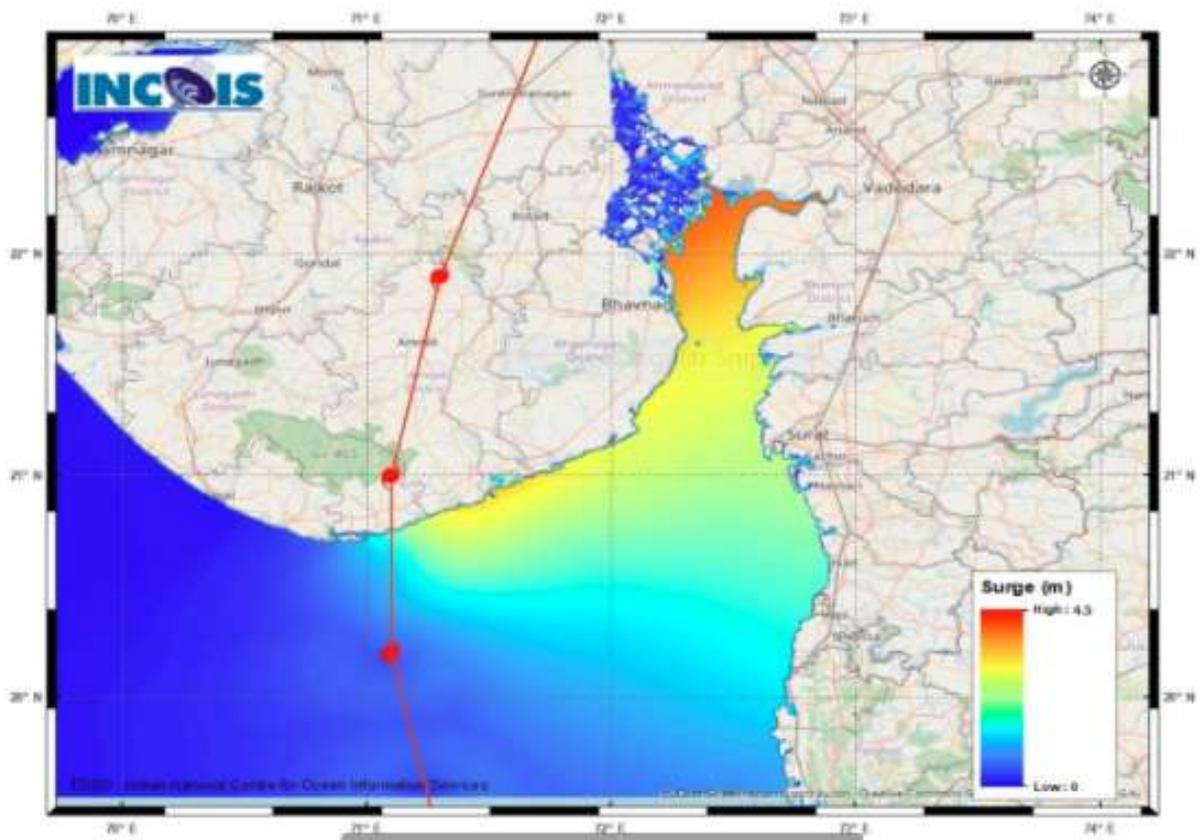


DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34.47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (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
 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 |



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 | Narhad | 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 |
| Jafanabad | Amreli | Gujarat | Rohisa | 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 |
| Hansot Mahal | Bharuch | Gujarat | Kantiyajal | 1.6-2.8 | Upto 3.74 |
| Olpad | Surat | Gujarat | Vansva | 1.9-2.5 | Upto 0.79 |
| Una | Junagadh | Gujarat | Una | 0.8-2.4 | Upto 0.56 |
| Hazira | Surat | Gujarat | Hajira Ina (ma) | 1.5-2.3 | Upto 1.03 |
| Chorasi | Surat | Gujarat | Bhimpor | 0.5-2.1 | Upto 1.85 |
| Navsari | Navsari | Gujarat | Botsi | 1.2-2.1 | Upto 0.54 |
| Gardevi | 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 |