



**India Meteorological Department
(Ministry of Earth Sciences)**

BULLETIN NO. 16: (ARB/01/2021)

TIME OF ISSUE: 1200 HOURS IST

DATED: 16.05.2021

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

The **Very Severe Cyclonic Storm "Tauktae" (pronounced as Tau'Te)** over eastcentral Arabian Sea moved nearly northwards with a speed of about 11 kmph during past 06 hours and lay centred at 0830 hours IST of today, the 16th May, 2021 over eastcentral Arabian Sea near latitude 15.3°N and longitude 72.7°E, about 120 km west-southwest of Panjim-Goa, 420 km south of Mumbai, 660 km south-southeast of Veraval (Gujarat) and 810 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 17th & cross Gujarat coast between Porbandar & Mahuva (Bhavnagar district) around 18th May early morning.

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 |
|----------------|------------------------------------|--|-------------------------------------|
| 16.05.21/0830 | 15.3/72.7 | 130-140 gusting to 155 | Very Severe Cyclonic Storm |
| 16.05.21/1130 | 15.8/72.6 | 135-145 gusting to 155 | Very Severe Cyclonic Storm |
| 16.05.21/1730 | 16.5/72.2 | 140-150 gusting to 165 | Very Severe Cyclonic Storm |
| 16.05.21/2330 | 17.3/71.6 | 145-155 gusting to 170 | Very Severe Cyclonic Storm |
| 17.05.21/0530 | 18.1/71.2 | 150-160 gusting to 175 | Very Severe Cyclonic Storm |

| | | | |
|---------------|-----------|------------------------|----------------------------|
| 17.05.21/1730 | 19.5/70.7 | 150-160 gusting to 175 | Very Severe Cyclonic Storm |
| 18.05.21/0530 | 21.0/70.6 | 150-160 gusting to 175 | Very Severe Cyclonic Storm |
| 18.05.21/1730 | 22.6/71.0 | 70-80 gusting to 90 | Cyclonic Storm |
| 19.05.21/0530 | 24.2/71.7 | 30-40 gusting to 50 | Depression |

Warnings:

(i) Rainfall:

- **Kerala:** Light to moderate rainfall at many places with heavy to very to very heavy falls at isolated places on 16th and heavy falls at isolated places on 17th May.
- **Karnataka (coastal & adjoining Ghat districts):** Light to moderate rainfall at most places with heavy to very heavy falls at isolated places on 16th.
- **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 16th and heavy to very heavy falls at isolated places on 17th May.
- **North Konkan:** Light to moderate rainfall at most places with heavy to very heavy falls at isolated places on 16th and 17th 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 17th and with heavy to very heavy falls at a few places over Saurashtra & Kutch and Diu & south Gujarat region with extremely heavy falls (≥ 20 cm) at isolated places on 18th.
- **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 130–140 kmph gusting to 155 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 16th May mid-night.
- Gale winds speed reaching 80-90 kmph gusting to 100 kmph along & off south Maharashtra –Goa and adjoining Karnataka coasts on 16th, 50-60 kmph gusting to 70 kmph along & off north Maharashtra coast on 16th. It is likely to become 65- 75 kmph gusting to 85 kmph along & off north Maharashtra coast from 17th till 18th 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 16th 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 18th. 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 17th mid-night till 18th morning.

(iii) Sea condition

- Sea condition over eastcentral Arabian Sea will be very high to Phenomenal on 16th May and over northeast Arabian Sea on 17th & 18th May.
- Sea conditions will be very rough to High along & off Maharashtra–Goa coasts on 16th May and along & off north Maharashtra coast on 17th Morning. It is very likely to be very rough to High along & off south Gujarat coast from 17th May morning and very high to Phenomenal from 17th 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 17th May.
- The fishermen are advised not to venture into eastcentral Arabian Sea along & off Karnataka coast till 17th Morning and into eastcentral Arabian Sea and along & off Maharashtra–Goa coasts and into northeast Arabian Sea along & off Gujarat 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.

(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.

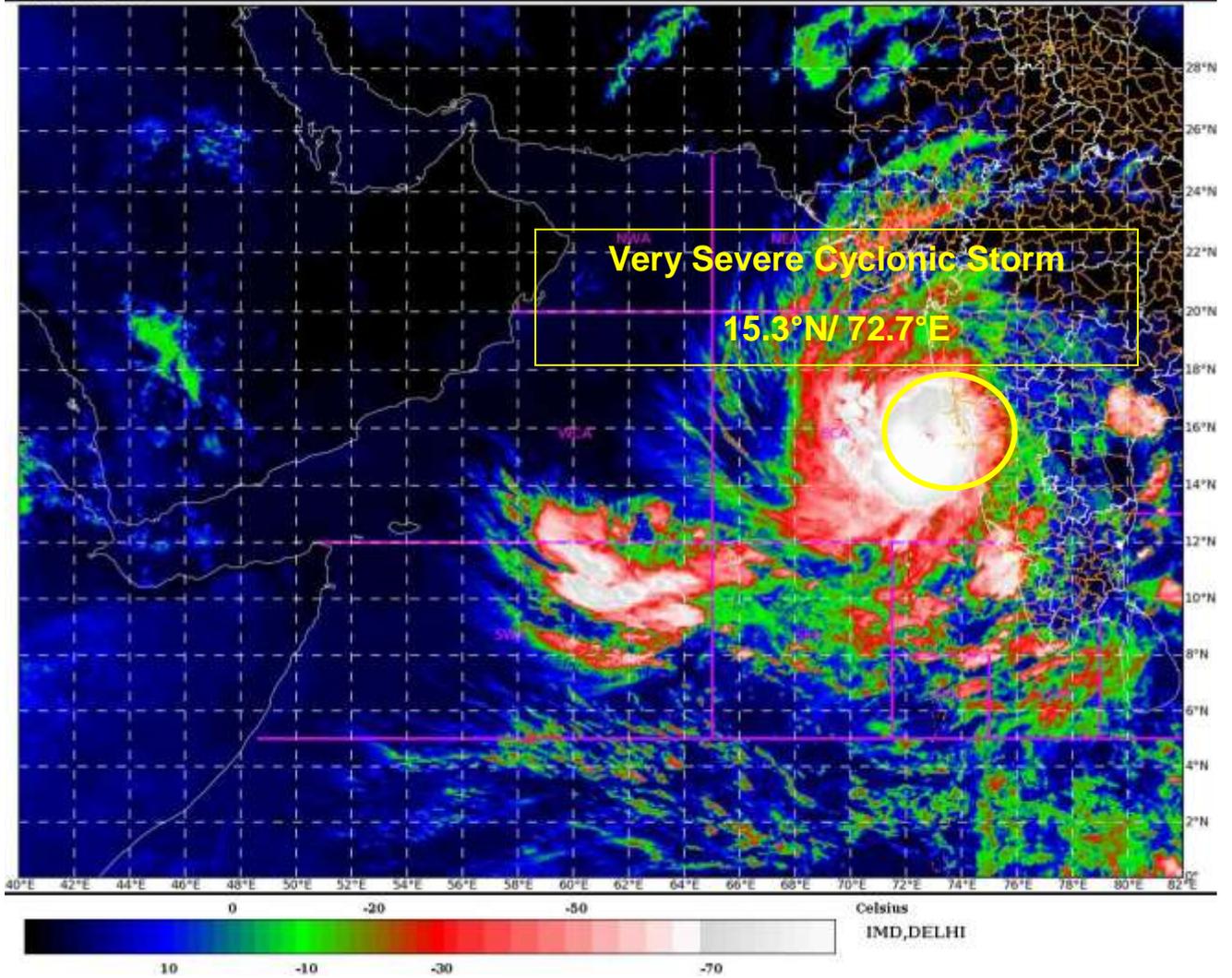
The next bulletin will be issued at 1430 hrs IST of today, the 16th May, 2021.

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

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

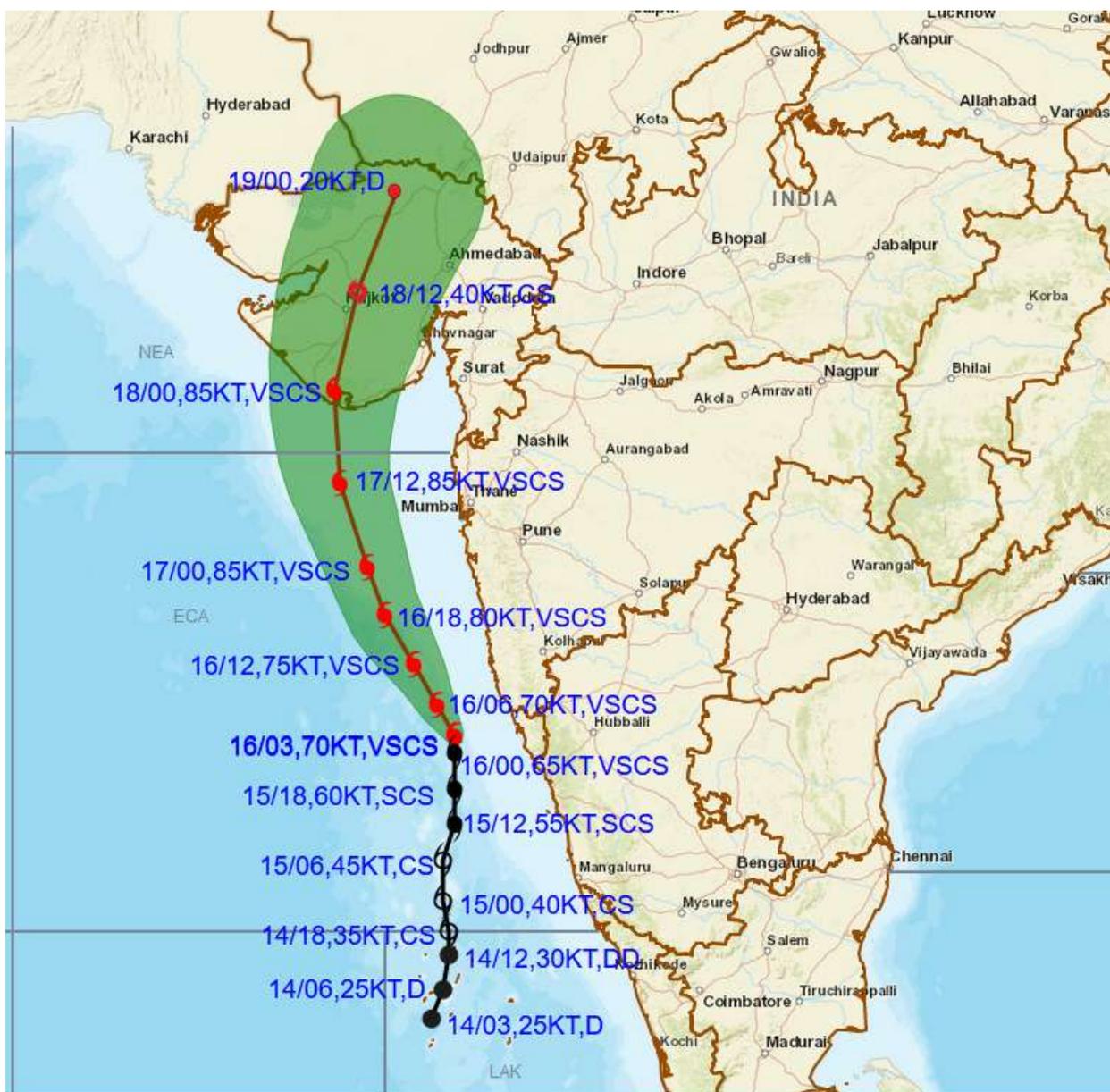
SAT : INSAT-3D IMG
IMG_TIR1_TEMP 10.8 um
ARABIAN_SEA

16-05-2021/(0400 to 0426) GMT
16-05-2021/(0930 to 0956) IST





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF VERY SEVERE CYCLONIC STORM "TAUKTAE" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC OF 16TH MAY, 2021

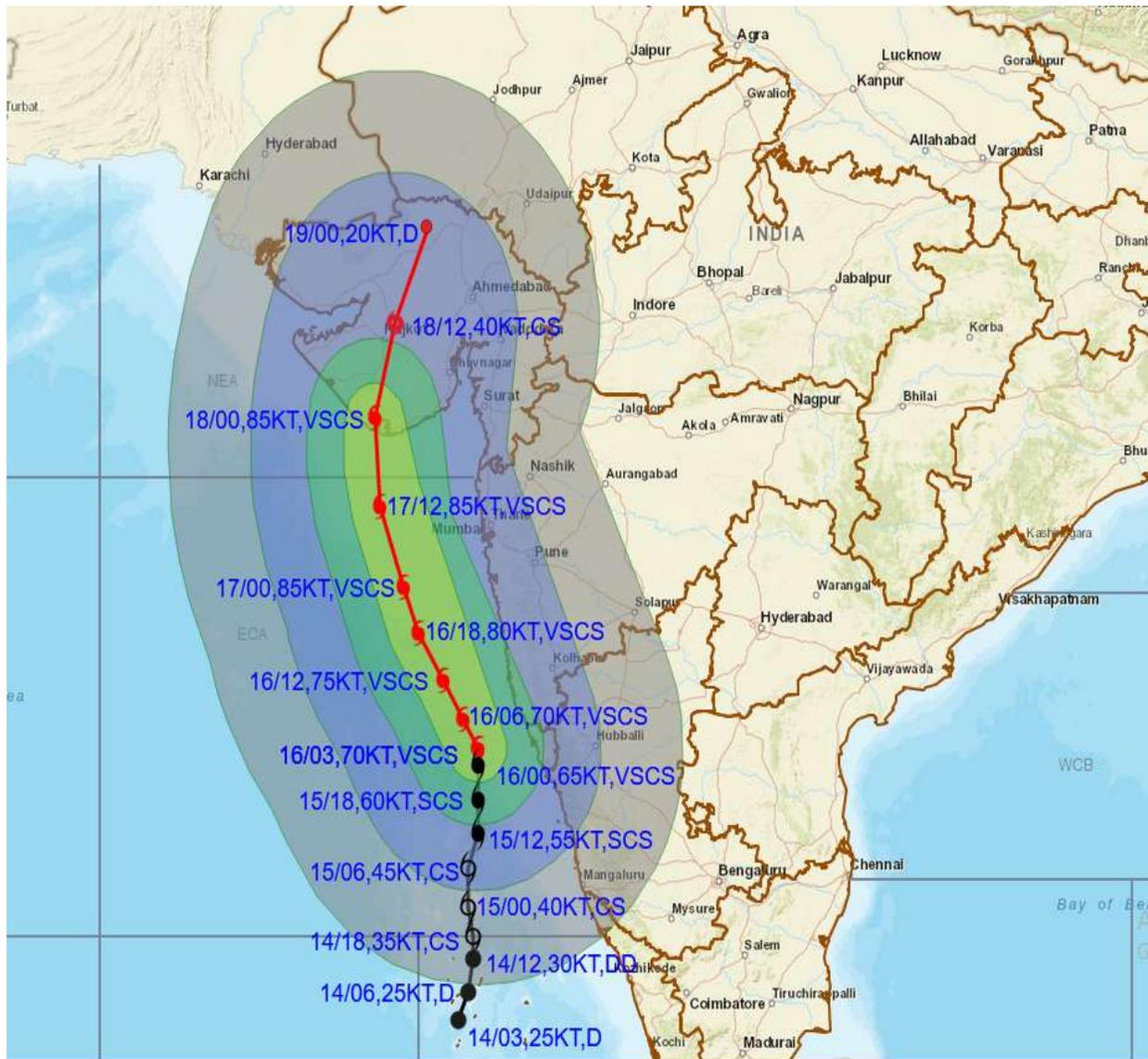


DATE/TIME IN UTC
 IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 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 0300 UTC OF 16TH 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)

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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 |

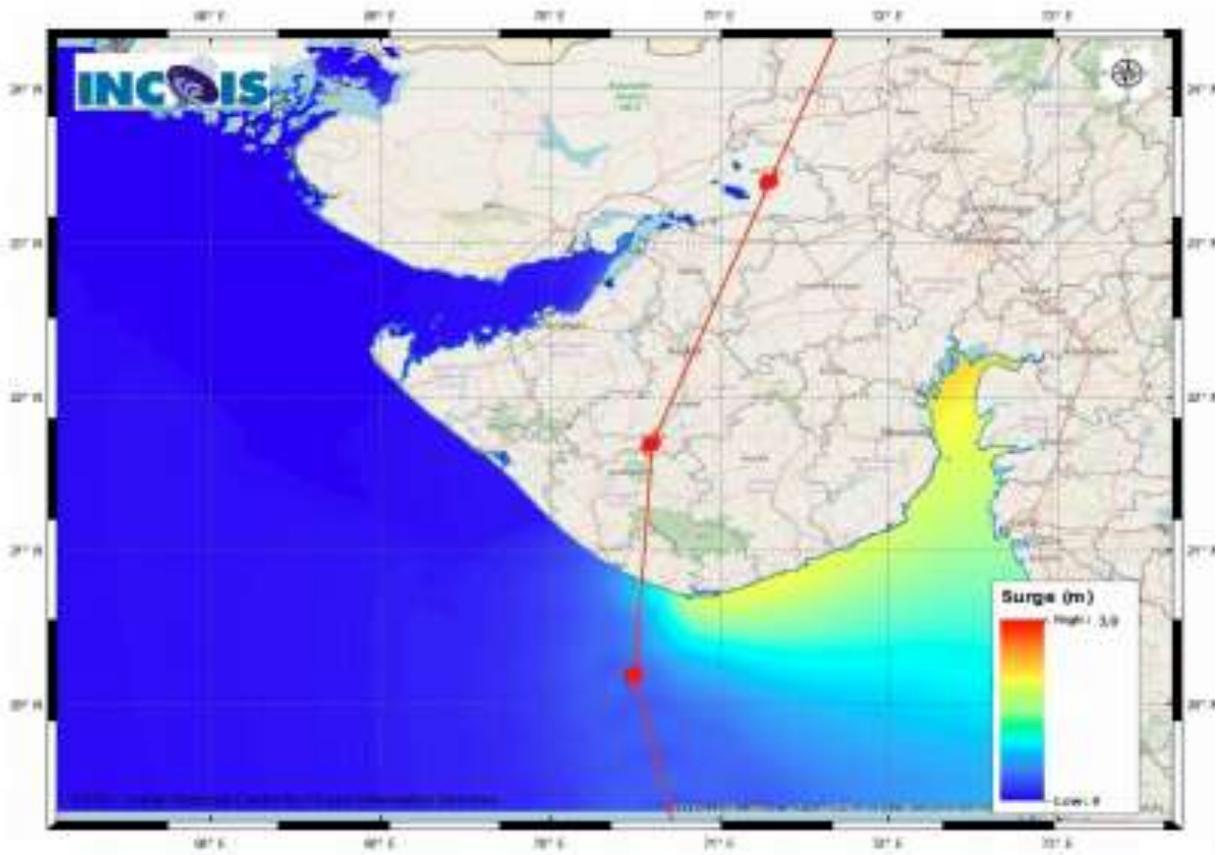


Figure:Storm Surge Map

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 |
| Dhandbuka | 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 | Khambhaliya | 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 |