



Government of India
Ministry of Earth Sciences
Earth System Science Organisation



Earth System Science Organisation
India Meteorological Department

PRESS RELEASE- 11

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Dated: 03-11-2019

Sub: (a) Severe Cyclonic Storm “MAHA” over eastcentral Arabian Sea (CYCLONE WATCH FOR GUJARAT COAST) (b) Depression over westcentral Arabian Sea weakened into a well marked low pressure area

(a) Severe Cyclonic Storm “MAHA” over eastcentral Arabian Sea

Yesterday’s severe cyclonic storm “MAHA” (Pronounced as M’maha) over eastcentral Arabian Sea moved west-northwestwards in past 24 hrs and lay centered at 0830 hrs IST of today, the 3rd November, 2019 over the same region near latitude 17.6°N and longitude 66.4°E, about 550 km west-southwest of Veraval (Gujarat) and 580 km west-southwest of Diu.

It is very likely to intensify into a **Very Severe Cyclonic Storm** over eastcentral Arabian Sea during next 06 hours. It is very likely to move west-northwestwards till 04th November, re-curve east-northeastwards thereafter and weaken gradually from 5th November onwards. It is very likely to cross Gujarat coast between Diu and Dwarka as a Severe Cyclonic Storm with a maximum sustained wind speed of 100-110 Kmph gusting to 120 Kmph around mid-night of 6th November/ early hours of 7th November, 2019.

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
03.11.19/0830	17.6/66.4	110-120 gusting to 130	Severe Cyclonic Storm
03.11.19/1130	17.7/66.0	120-130 gusting to 145	Very Severe Cyclonic Storm
03.11.19/1730	17.9/65.5	130-140 gusting to 155	Very Severe Cyclonic Storm
03.11.19/2330	18.2/65.0	140-150 gusting to 165	Very Severe Cyclonic Storm
04.11.19/0530	18.4/64.5	150-160 gusting to 175	Very Severe Cyclonic Storm
04.11.19/1730	18.9/63.5	160-170 gusting to 185	Very Severe Cyclonic Storm
05.11.19/0530	19.3/63.5	150-160 gusting to 175	Very Severe Cyclonic Storm
05.11.19/1730	19.8/64.2	130-140 gusting to 155	Very Severe Cyclonic Storm
06.11.19/0530	20.3/66.4	110-120 gusting to 135	Severe Cyclonic Storm
06.11.19/1730	20.9/68.5	100-110 gusting to 125	Severe Cyclonic Storm
07.11.19/0530	21.7/71.0	80-90 gusting to 100	Cyclonic Storm
07.11.19/1730	22.3/74.0	50-60 gusting to 70	Deep Depression
08.11.19/0530	22.8/76.5	30-40 gusting to 50	Depression

Warnings:

(i) Rainfall:

- Light to moderate rainfall at most places with heavy to very heavy falls at a few places very likely over Saurashtra and Gujarat region during 6th & 7th November.
- Light to moderate rainfall at most places with isolated heavy falls very likely over north Madhya Maharashtra and north Konkan during 6th & 7th November.

(ii) Wind warning

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Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

- **Gujarat Coast:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely to commence over northeast Arabian Sea along & off Gujarat coast from 6th November morning. It is very likely to increase gradually becoming 100-110 Kmph gusting to 120 Kmph from 6th November evening for next 12 hours.
- **Maharashtra Coast:** Squally wind speed reaching 40-50 kmph gusting to 60 kmph likely along & off Maharashtra coast from 6th morning, it is very likely to increase becoming 50-60 Kmph gusting to 70 Kmph from 6th November evening for next 12 hours.
- Gale wind speed reaching 110-120 kmph gusting to 130 kmph is prevailing over eastcentral Arabian Sea around the system centre. It is very likely to increase gradually over east-central Arabian Sea becoming 160-170 kmph gusting to 185 kmph over eastcentral & adjoining westcentral and northeast Arabian Sea by 4th November.

(iii) Sea condition

- Sea condition will be rough to very rough along & off Gujarat coast from 6th November morning and becoming high to very high from 6th evening.
- Sea condition will be rough to very rough along & off north Maharashtra coast during 06th November.
- Sea condition will be very high over eastcentral Arabian Sea for the next 06 hours and will become phenomenal thereafter for subsequent 03 days.
- Sea condition will be high to phenomenal over westcentral Arabian Sea during 3rd- 6th November and over northeast Arabian Sea during 4th to 6th November.

(iv) Fishermen Warning

- The fishermen are advised not to venture into westcentral Arabian Sea till 5th November and over eastcentral & adjoining northeast Arabian Sea till 06th November.
- The fishermen are advised not to venture into sea along & off Gujarat coast and adjoining north Maharashtra coast from 5th – 6th November.
- The fishermen out at sea are advised to return to the coast.

(b) Depression over westcentral Arabian Sea weakened into a well marked low pressure area

The depression over westcentral Arabian Sea moved west-southwestwards and weakened into a well marked low pressure area over westcentral and adjoining areas of southwest Arabian Sea, Gulf of Aden and coastal Somalia during midnight of 2nd November. It is very likely to move west-southwestwards and weaken further.

This is last update in association with the SuCS Kyarr and its remnant.

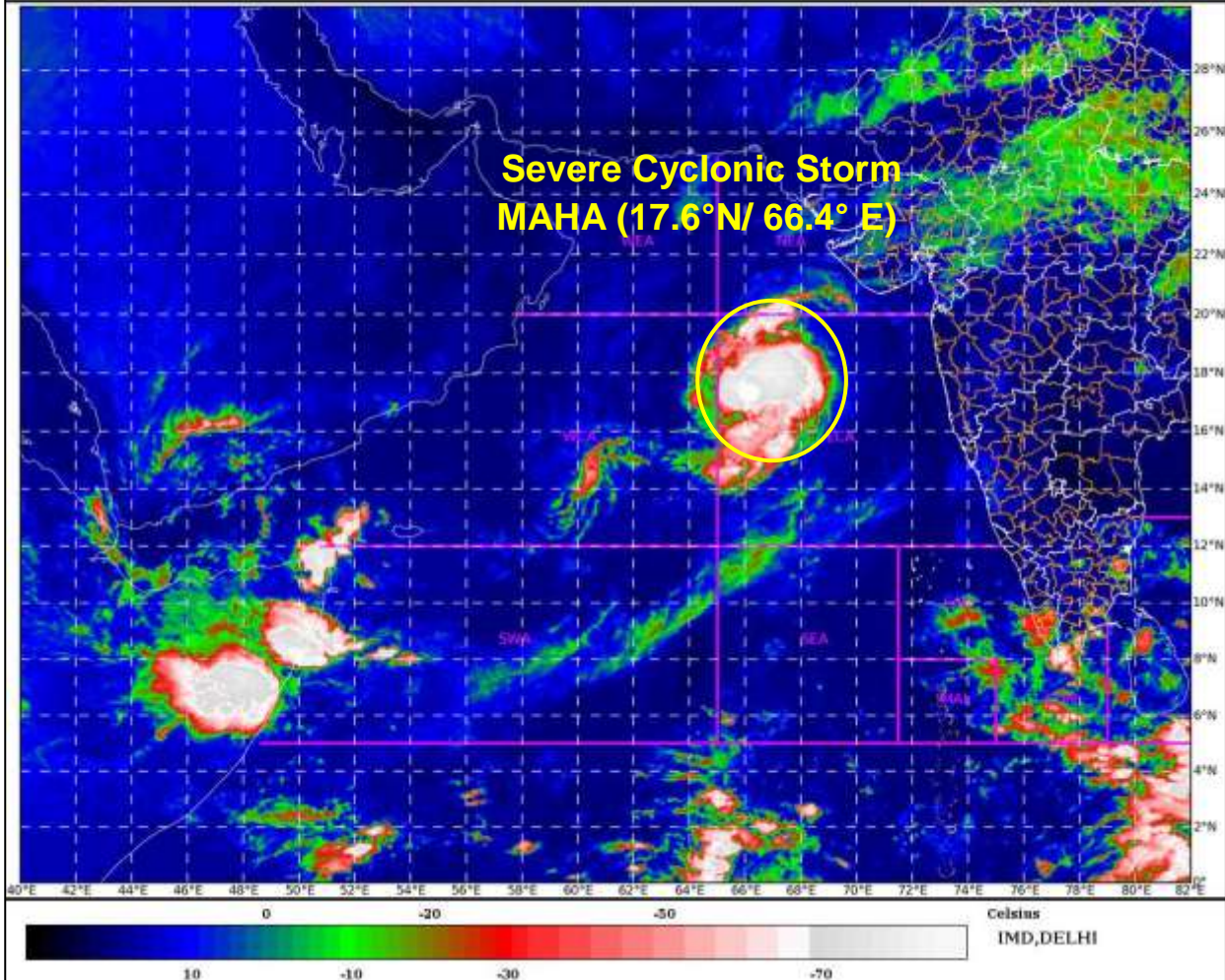
SCS MAHA is under continuous surveillance and concerned state governments are being informed regularly.

Kindly visit www.imd.gov.in, www.rsmcnewdelhi.imd.gov.in and www.mausam.imd.gov.in for updates on the system.

The salient climatological features of cyclonic disturbances developed over Arabian Sea during 1891-2018 vis-s-vis 2019 is presented in Annexure-1

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

03-11-2019(0400 to 0427) GMT
03-11-2019(0930 to 0957) IST



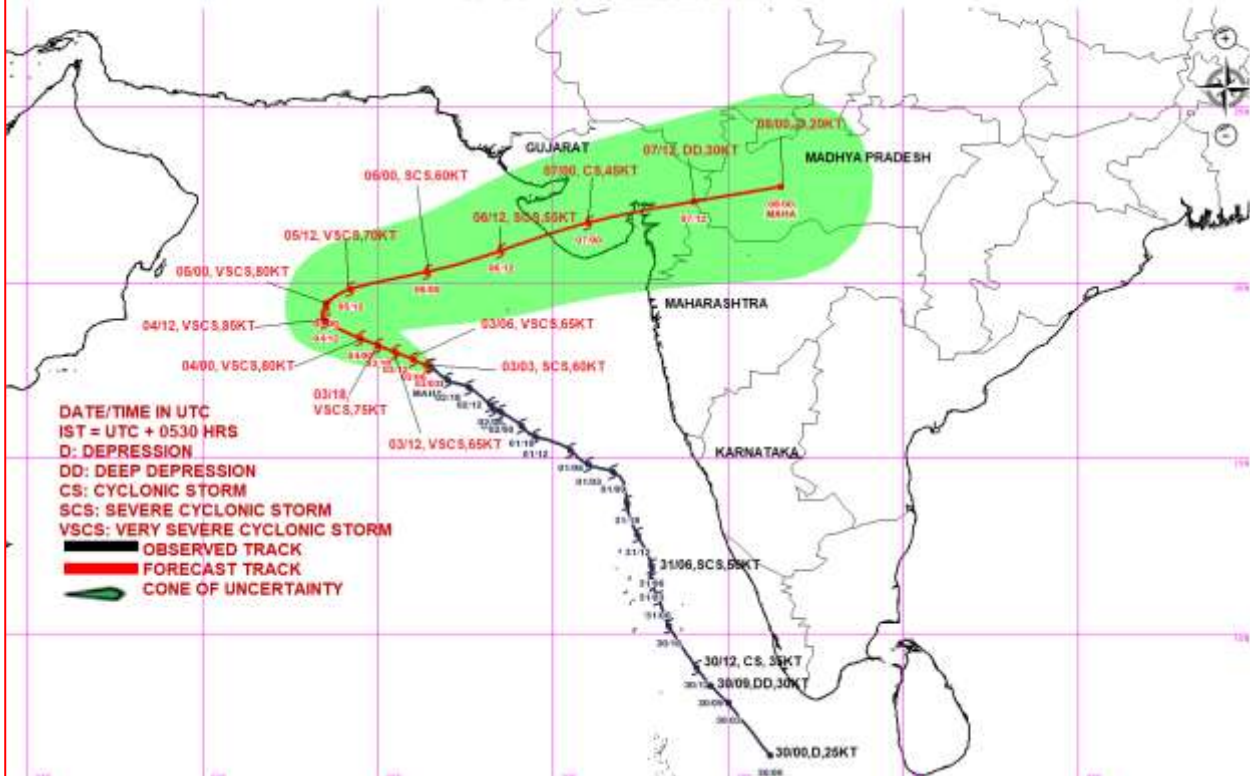
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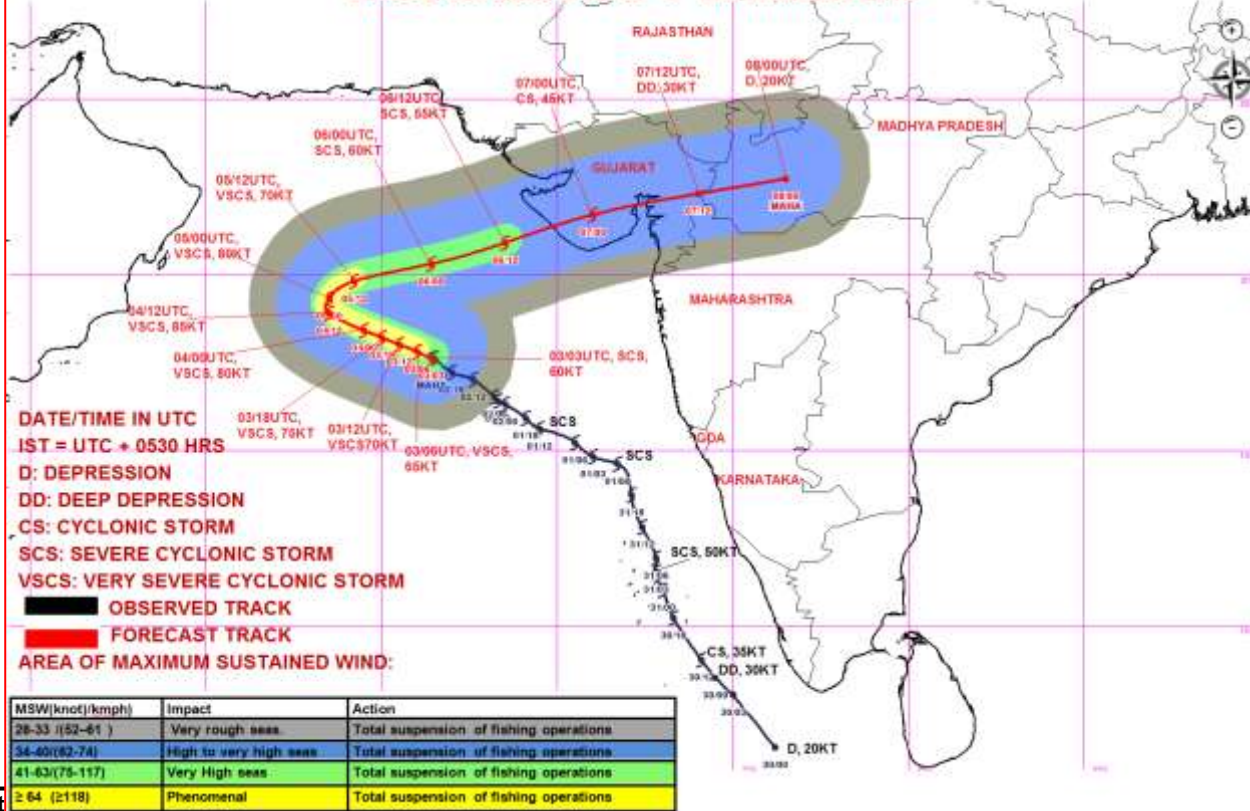
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OBSERVED & FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MAHA" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC OF 03RD NOVEMBER 2019



OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH SEVERE CYCLONIC STORM "MAHA" OVER EASTCENTRAL ARABIAN SEA BASED ON 0300 UTC OF 3RD NOVEMBER 2019



Cont

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Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

The salient climatological features of cyclonic disturbances developed over Arabian Sea during 1891-2018 vis-s-vis 2019

1. In the recorded history since 1891 onwards, Arabian Sea has been highly active during 1902, 1948, 1975, 1982, 1998, 2004 and 2015. During these years there was development of 5 or more cyclonic disturbances (maximum sustained wind speed ≥ 17 kt) over Arabian Sea.
2. The occurrence of 5 or more cyclonic disturbances has increased in recent years since 1975, as there have been six and two such years during 1975-2019 and 1891-1974 respectively.
3. During the period of 1891-2019, the maximum number of 5 cyclonic storms formed in 1902 and out of these, 4 intensified into severe cyclonic storm and above intensity. Tracks of cyclonic storms during 1902 is presented in Fig.1.
4. During the period, 1891-2018, the maximum number of 6 cyclonic disturbances developed in 1998. Out of these, 3 turned into cyclonic storms (maximum sustained wind speed ≥ 34 kt). Tracks of cyclonic disturbances during 1998 is presented in Fig.2.
5. The year 2019 has been the first such year after 1902 that witnessed development of 4 cyclones.
6. The year 2019 has been the first such year after 1902 that witnessed development of 4 severe cyclones (maximum sustained wind speed ≥ 48 kt). The year 1902 witnessed 4 severe cyclones followed by 2004 with 3 severe cyclones.
7. The year 2019 experienced 4 very severe cyclonic storms (maximum sustained wind speed ≥ 64 kt), namely VAYU, HIKAA, KYARR and MAHA. This is the first such year in the satellite era (1965 onwards) to experience 4 very severe cyclonic storms.



Fig.1: Tracks of (a) cyclonic disturbances (depressions & cyclones) (Total 6 including 1 cyclonic storm and 2 severe cyclonic storms) and (b) cyclones in the year 1998

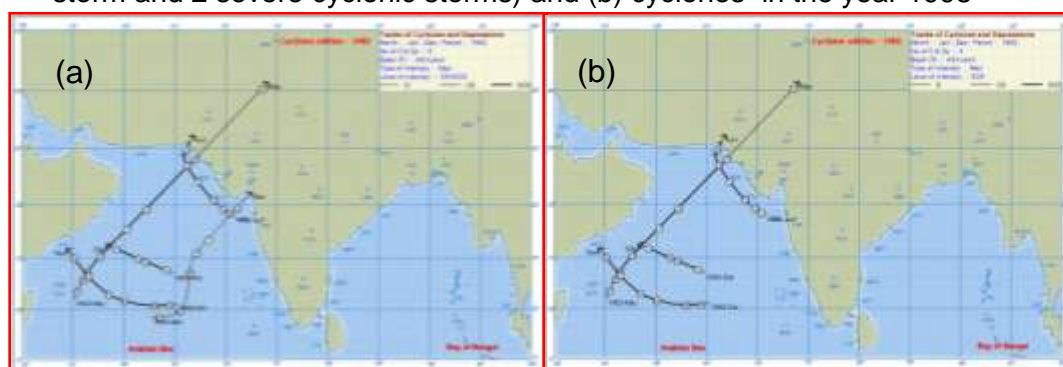


Fig.2: Tracks of (a) cyclonic storms and above intensity storms (Total 5) and (b) severe cyclonic storms and above intensity storms (Total 4) in the year 1902

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