



Government of India
Ministry of Earth Sciences
Earth System Science Organisation



Earth System Science Organisation
India Meteorological Department

PRESS RELEASE- 3

Time of issue: 1330 hours IST

Dated: 04-12-2019

**Sub: (a) Deep depression over eastcentral Arabian Sea and
(b) Deep Depression over southwest Arabian Sea**

(a) Deep depression over eastcentral Arabian Sea

Yesterday's well marked low pressure area over southeast Arabian Sea (AS) and adjoining areas concentrated into a depression in the same midnight (2330 hrs IST of 3rd December) over eastcentral AS and adjoining areas of southeast AS & Lakshadweep. Moving northwestwards it intensified into a deep depression in the early morning (0530 hrs IST) of today, the 04th December, 2019 over eastcentral AS. At 0830 hrs IST of today, it lay over eastcentral AS, near latitude 14.7°N and longitude 69.5°E about 600 km south-southwest of Mumbai and 470 km of west-southwest of Panjim (Goa).

It is very likely to intensify into a cyclonic storm during next 12 hours. It is also very likely to move northwestwards away from Indian coast during next 48 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
04.12.19/0830	14.7/69.5	50-60 gusting to 70	Deep Depression
04.12.19/1130	15.0/69.2	50-60 gusting to 70	Deep Depression
04.12.19/1730	15.4/68.8	60-70 gusting to 80	Cyclonic Storm
04.12.19/2330	15.8/68.2	60-70 gusting to 80	Cyclonic Storm
05.12.19/0530	16.1/67.6	60-70 gusting to 80	Cyclonic Storm
05.12.19/1730	16.5/66.4	55-65 gusting to 75	Deep Depression
06.12.19/0530	16.8/65.2	40-50 gusting to 60	Depression

(b) Deep Depression over southwest Arabian Sea

Yesterday's deep depression over southwest Arabian Sea moved nearly and lay centred at 0830 hrs IST of 04th December, 2019 over the same region near latitude 7.4°N and longitude 56.6°E, about 650 km south-southeast of Socotra (Yemen) and 920 km east-southeast of Bosaso (Somalia).

It is very likely to intensify into a Cyclonic Storm during next 12 hours. It is very likely to move north-northwestwards for some more time and then recurve west-southwestwards towards Somalia coast during next 03 days.

Contact: Cyclone Warning Division, Office of the Director General of Meteorology,
India Meteorological Department, Ministry of Earth Sciences.

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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.

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
04.12.19/0830	7.4/56.6	55-65 gusting to 75	Deep Depression
04.12.19/1130	7.4/56.6	55-65 gusting to 75	Deep Depression
04.12.19/1730	7.6/56.5	60-70 gusting to 80	Cyclonic Storm
04.12.19/2330	7.8/56.3	60-70 gusting to 80	Cyclonic Storm
05.12.19/0530	8.0/55.9	70-80 gusting to 90	Cyclonic Storm
05.12.19/1730	8.3/54.8	65-75 gusting to 85	Cyclonic Storm
06.12.19/0530	8.1/53.1	60-70 gusting to 80	Deep Depression
06.12.19/1730	7.6/51.1	40-50 gusting to 60	Depression
07.12.19/0530	6.7/48.3	30-40 gusting to 50	Depression

Warnings:

(i) Rainfall Warning:

- **Konkan & Goa:** Light to moderate rainfall at a few places very likely during next 24 hours.

(ii) Wind warning:

- **Eastcentral Arabian Sea and adjoining areas of Southeast Arabian Sea & Lakshadweep area:**
 - Squally wind, speed reaching 50-60 kmph gusting to 70 kmph, likely to prevail over Eastcentral Arabian Sea during next 12 hours. It is likely to increase becoming Gale wind speed reaching 60-70 gusting to 80 kmph from today evening for subsequent 12 hours and likely to decrease gradually thereafter.
 - Squally wind, speed reaching 40-50 kmph gusting to 60 kmph, likely to prevail over Southeast Arabian Sea & Lakshadweep area and along & off Karnataka-south Maharashtra-Goa coasts during next 24 hours.
- **Southwest Arabian Sea and along & off Somalia Coast:**
Squally wind, speed reaching 55-65 kmph gusting to 75 kmph, very likely to prevail over southwest Arabian Sea during next 12 hours. It is very likely to increase becoming Gale wind, speed reaching 60-70 kmph gusting to 80 kmph, from today evening and 70-80 kmph gusting to 90 kmph from 05th December morning.

(iii) Sea conditions:

- **Eastcentral Arabian Sea and adjoining areas of Southeast Arabian Sea & Lakshadweep area:**
 - Very rough Sea conditions are very likely to prevail over Eastcentral Arabian Sea during next 12 hours. It is likely to become very rough to high during subsequent 12 hours and improve thereafter.
 - **Rough to very rough Sea conditions are likely to prevail over** Southeast Arabian Sea & Lakshadweep area, along & off Kerala-Karnataka-Maharashtra coasts during next 24 hours.

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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.

- **Southwest Arabian Sea and along & off Somalia Coast:**

Very rough Sea Conditions are prevailing over Southwest Arabian Sea and are very likely to become very rough to High over southwest Arabian Sea and along & off Somalia coast from today evening for subsequent 24 hours and improve thereafter.

(iv) Fishermen Warning:

- **Eastcentral Arabian Sea and adjoining areas of Southeast Arabian Sea & Lakshadweep area:** The fishermen are advised not to venture into Eastcentral Arabian Sea during next 48 hours and into Southeast Arabian Sea & Lakshadweep area, along & off Kerala-Karnataka-south Maharashtra-Goa coasts during next 24 hours.
- **Southwest Arabian Sea and along & off Somalia Coast:** The fishermen are advised not to venture into southwest Arabian Sea and along & off Somalia coast during next 03 days.

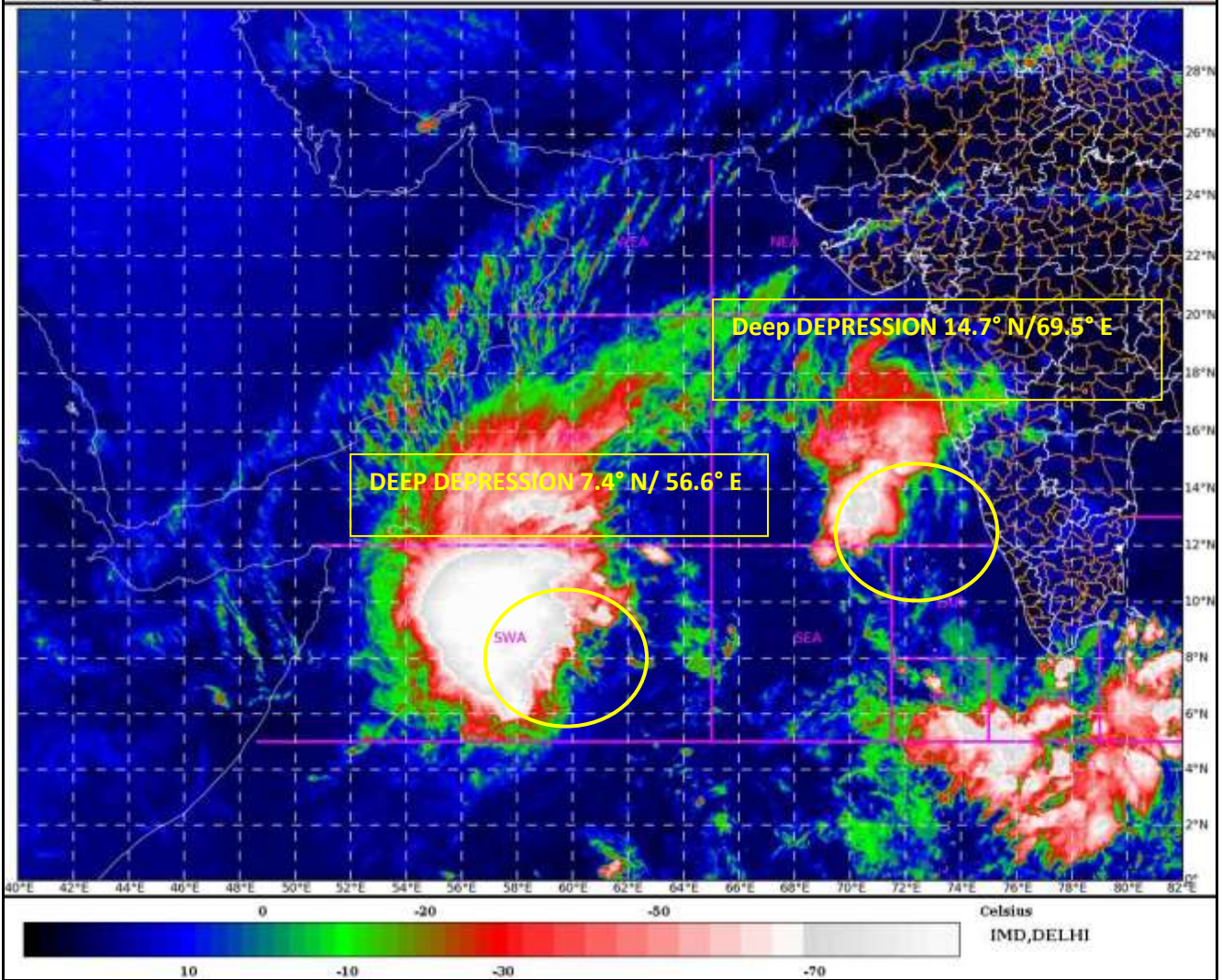
The salient features of the climatology of cyclonic disturbances over the north Indian Ocean vis-à-vis the enhanced cyclonic activity during 2019 is placed at Annexure-1.

Both the systems are 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.

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

04-12-2019(0500 to 0527) GMT
04-12-2019(1030 to 1057) IST



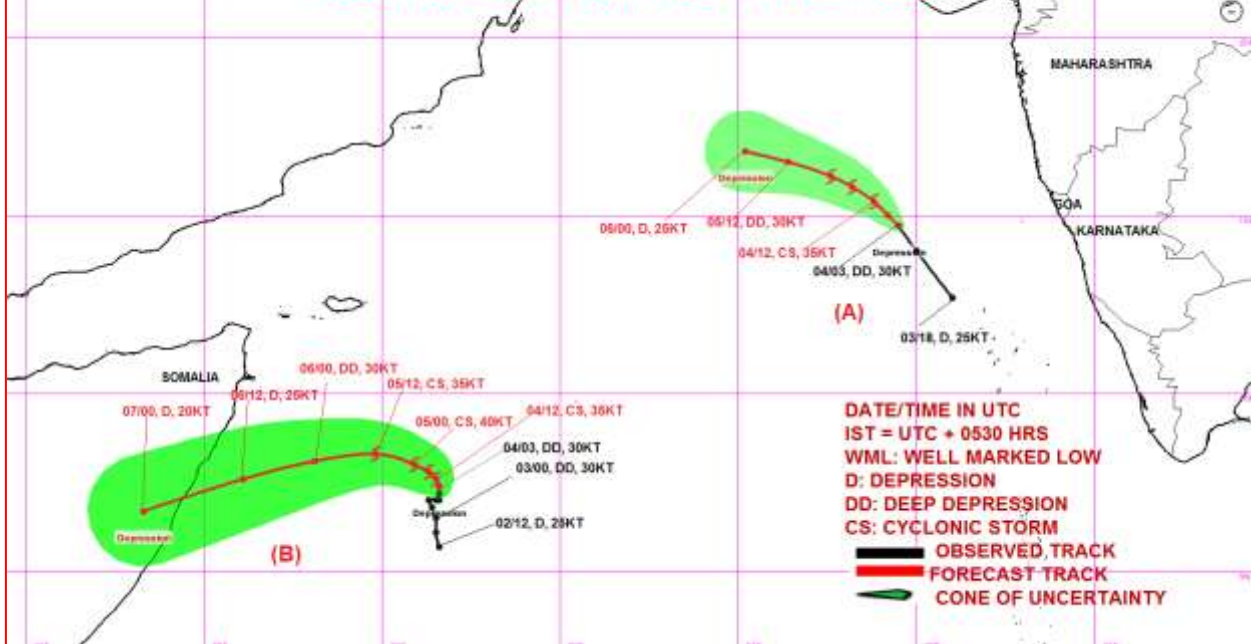
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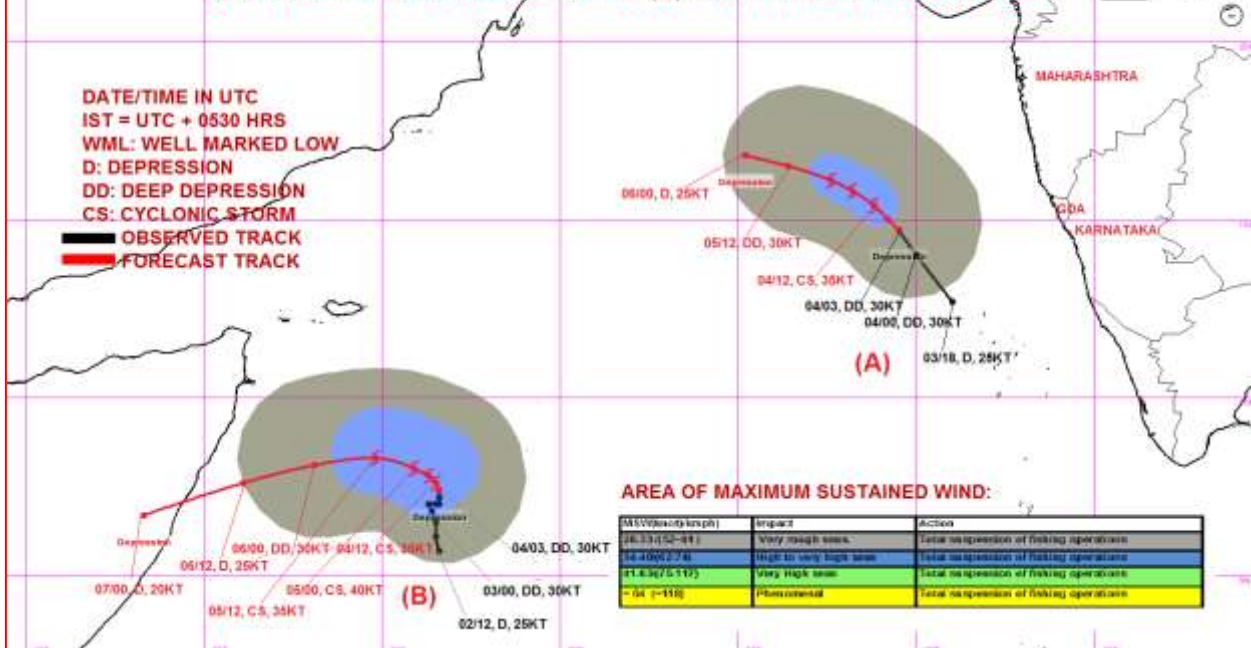
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OBSERVED & FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY BASED ON 0300 UTC OF 4th DECEMBER 2019 IN ASSOCIATION WITH DEEP DEPRESSIONS OVER (A) EASTCENTRAL ARABIAN SEA AND (B) SOUTHWEST ARABIAN SEA



OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION BASED ON 0300 UTC OF 4th DECEMBER 2019 IN ASSOCIATION WITH DEEP DEPRESSIONS OVER (A) EASTCENTRAL ARABIAN SEA AND (B) SOUTHWEST ARABIAN SEA



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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.

Climatology of cyclonic disturbances over north Indian Ocean vis-a-vis the enhanced cyclonic activity during 2019

1. So far 11 cyclonic disturbances (CDs) developed over the north Indian Ocean (NIO) including 4 over the Bay of Bengal (BoB) and 7 over the Arabian Sea (AS) during the year 2019 against the normal of 12 CDs over the NIO.
2. It includes 7 cyclones (3 over BoB and 4 over AS) and 4 depressions/deep depressions (1 over BoB and 3 over AS).
3. Details of these CDs are listed below:
 - i. Cyclonic Storm Pabuk over Andaman Sea during 04-08 January
 - ii. Extremely severe cyclonic storm FANI over the Bengal during 26 April-04 May
 - iii. Very severe cyclonic storm VAYU over the Arabian Sea during 10-17 June
 - iv. Deep depression over the Bay of Bengal during 06-12 August
 - v. Very severe cyclonic storm HIKAA over the Arabian Sea during 22-25 September
 - vi. Depression over the Arabian Sea during 29 September-01 October, (AS)
 - vii. Super Cyclonic Storm Kyarr over eastcentral Arabian Sea during 24 Oct.-02 Nov.
 - viii. Extremely Severe Cyclonic Storm Maha over the Arabian Sea during 30 Oct.-07 Nov.
 - ix. VSCS BULBUL over the Bay of Bengal during 05-11 November
 - x. Deep depression over the southwest Arabian Sea during 2nd December- till date
 - xi. Deep depression over eastcentral Arabian Sea during 3rd December, (AS)- till date
4. Thus, the Arabian Sea has been more active during 2019 with the formation of 7 CDs against the normal of 1.7 CDs per year. Similarly, 4 cyclones have developed over Arabian Sea against the normal of 1 per year.
5. The year 2019 also witnessed development of **more intense cyclones over the Arabian Sea**, as out of 4 cyclones, there were 2 very severe cyclonic storms (Vayu, Hikaa), 1 extremely severe cyclonic storm (Maha) and 1 super cyclonic storm (Kyarr). Maximum number of 5 cyclones including 4 severe cyclones had developed over AS in the year 1902.
6. Considering the past data (1891-2018), the year 2019 witnessed the formation of **maximum number of CDs** so far (total 7) over the Arabian Sea. In the past a maximum of 6 CDs developed over the Arabian Sea in the year 1998.
7. The **activity over the Bay of Bengal** has been subdued this year as compared to Arabian Sea with the formation of only 3 cyclones (Pabuk, Fani, Bulbul) against the normal of 4 per year. Out of these, there were two severe cyclones (Fani & Bulbul) against the normal of 2 per year.
8. **Comparing the post and pre-monsoon cyclone seasons**, the post-monsoon cyclone season has been more active over the Arabian Sea and subdued over the Bay of Bengal with the formation of **4 CDs over the Arabian Sea** against normal of 1 per year and 1 over Bay of Bengal against normal of 3.5 per year during post monsoon season. It included **2 cyclones over the AS** against normal of 1 per year and 1 cyclone over the BOB against normal of 2 per year. This is the maximum frequency of CDs observed over the Arabian Sea so far. Last such activity was observed in 1982 and 2011 with 4 CDs in the post monsoon season.