India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 01 (BOB/02/2019)

TIME OF ISSUE: 1200 HOURS IST **DATED: 26.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0413-2337575, 2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

Sub: Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

Latest satellite imageries & surface observations indicate that a depression has formed over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal and lay centred at 0830 hrs IST of today, the 26th April, 2019 near latitude 2.7°N and longitude 89.7°E, about 1140 km east-southeast of Trincomalee (Sri Lanka), 1490 km southeast of Chennai (Tamil Nadu) and 1760 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify further into a deep depression during next 24 hours and into a Cyclonic Storm during the subsequent 12 hours.

It is very likely to move northwestwards off Srilanka coast during next 96 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
26.04.19/0830	2.7/89.7	40-50 gusting to 65	Depression
26.04.19/1730	3.8/89.1	45-55 gusting to 65	Depression
27.04.19/0530	4.9/88.3	50-60 gusting to 70	Deep Depression
27.04.19/1730	6.4/87.2	60-70 gusting to 80	Cyclonic Storm
28.04.19/0530	7.7/86.3	70-80 gusting to 90	Cyclonic Storm
28.04.19/1730	9.0/85.3	80-90 gusting to 100	Cyclonic Storm
29.04.19/0530	10.0/84.5	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/1730	11.0/83.5	100-110 gusting to 125	Severe Cyclonic Storm
30.04.19/0530	11.7/82.7	110-120 gusting to 135	Severe Cyclonic Storm

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over north coastal Tamil Nadu on 30th April & 1st May, 2019 and over Kerala on 29th & 30th April, 2019.

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.

- Light to moderate rainfall at many places with heavy falls at isolated places also very likely over south coastal Andhra Pradesh on 30th April and light to moderate rainfall at most places with heavy to very heavy falls at isolated places likely over coastal Andhra Pradesh on 1st May, 2019.

(ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; gale wind speed reaching 65-75 kmph gusting to 85 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; 80-90 kmph gusting to 100 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka coast on 28th and 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal, along & off Sri Lanka coast and off Tamilnadu & Puducherry coast on 29th.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 28th night and becoming Squally wind speed reaching 50-60 kmph gusting to 70 kmph from 29th morning. Wind speed would gradually increase further becoming 90-100 kmph gusting to 115 kmph along & off north Tamilnadu & Puducherry and adjoining south Andhra Pradesh districts coasts from 30th afternoon.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning.

(iii) Sea condition

- The sea condition likely to be rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; rough to very rough over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th.
- The sea condition likely to be very rough to high over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th; high to very high over Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th.

(iv) Fishermen Warning

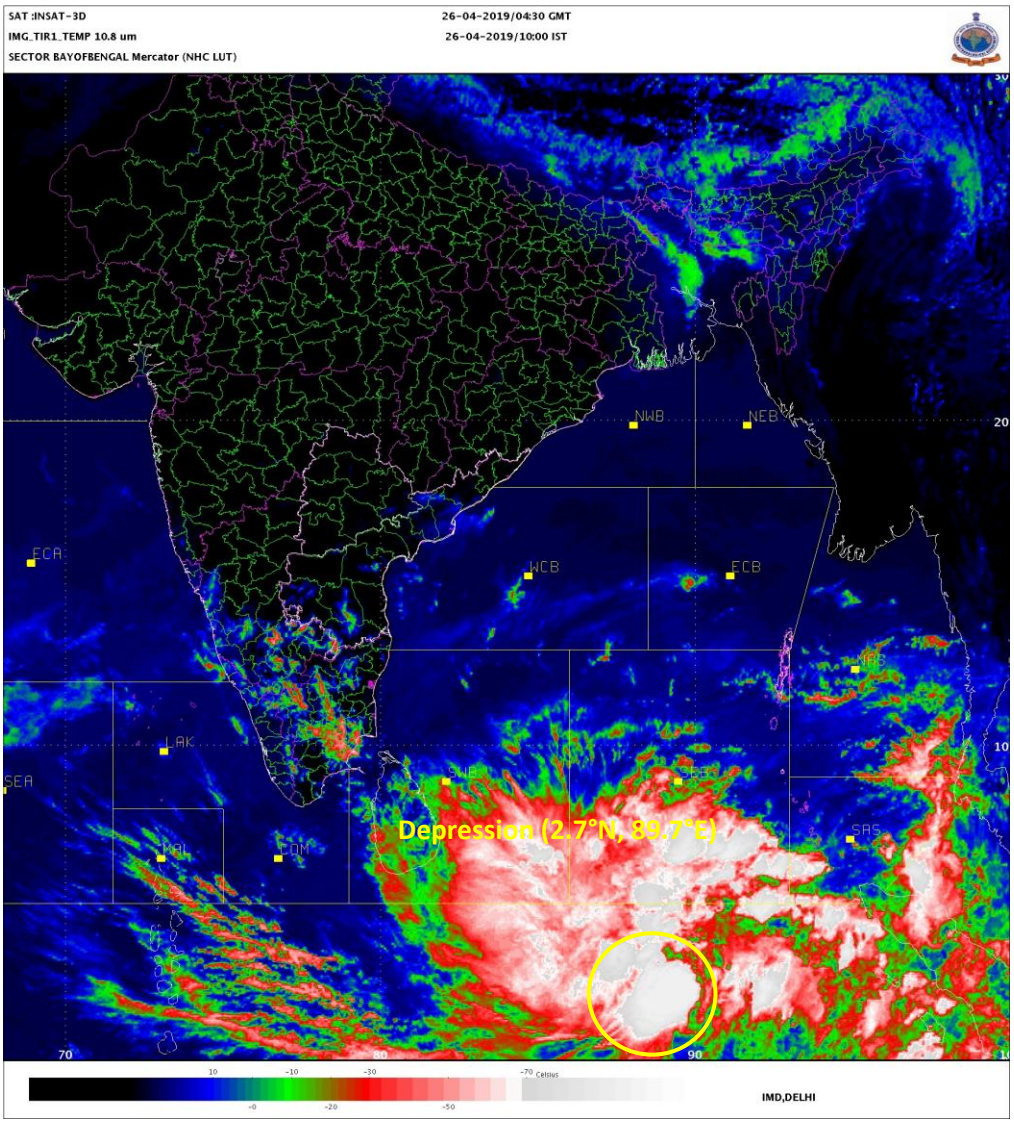
- The fishermen are advised not to venture into deep sea areas of East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th and Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 1430 hrs IST of 26th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

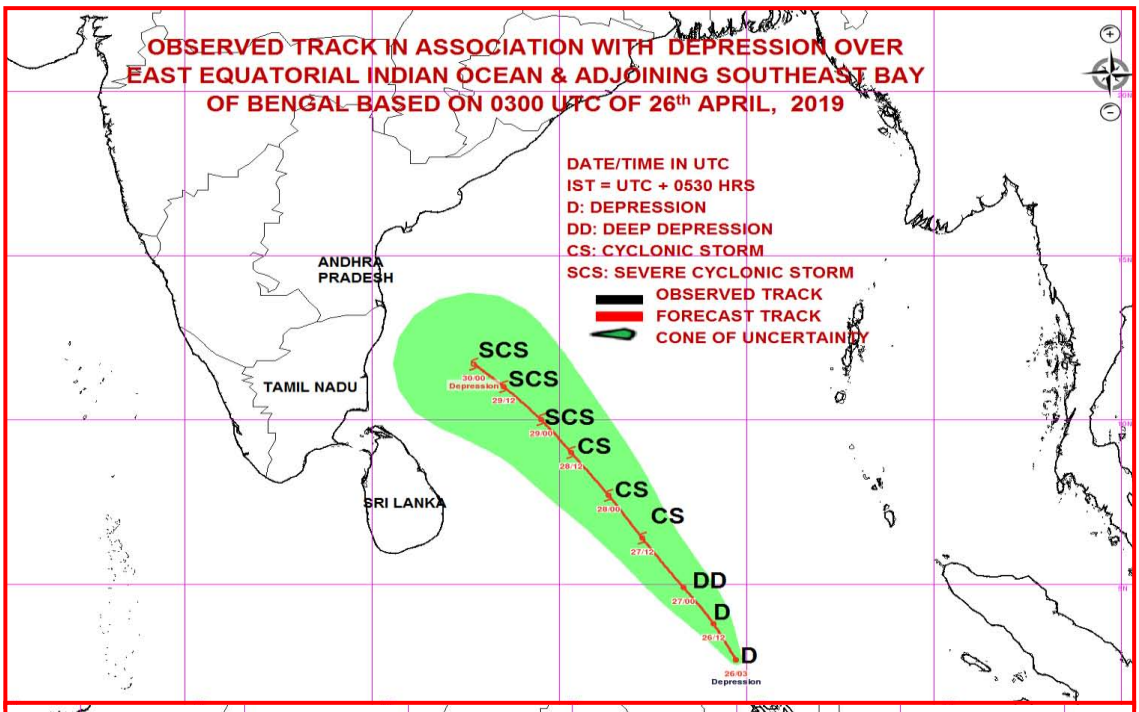
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

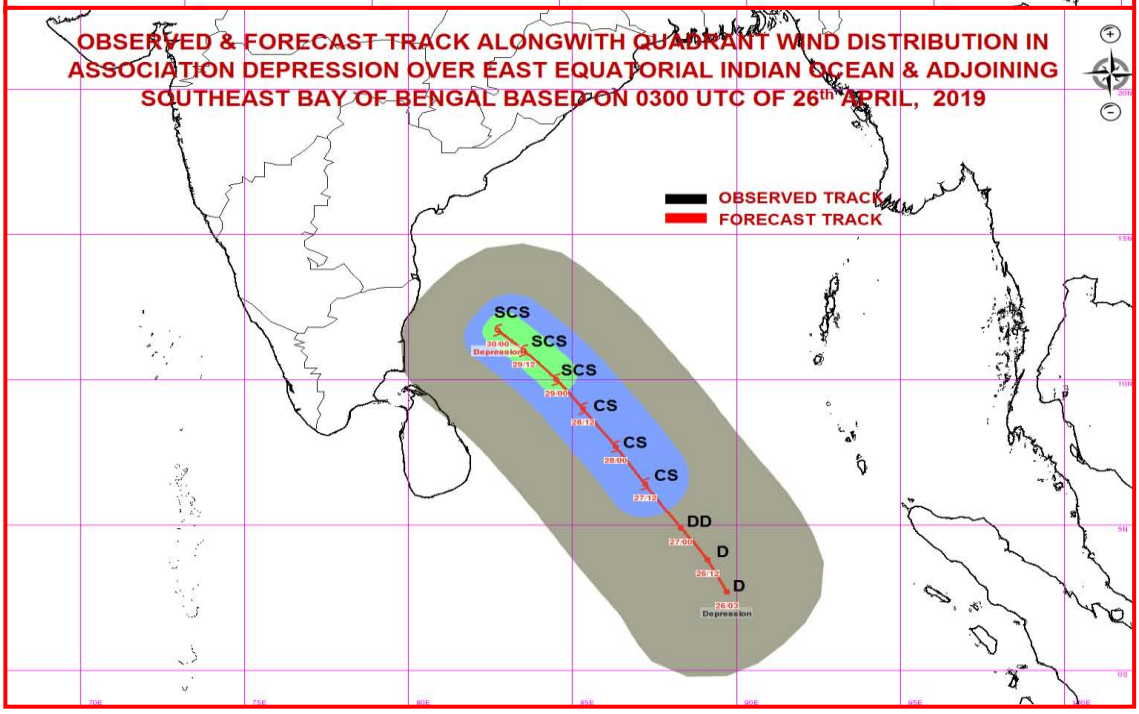
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Fishermen advised not to venture into open seas
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
50-63/(92-168)	Very High seas	Total suspension of fishing operations.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 02 (BOB/02/2019)

TIME OF ISSUE: 1400 HOURS IST **DATED: 26.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0413-2337575, 2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

Sub: Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

The depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal moved northwestwards with a speed of about 16 kmph in last 03 hours and lay centred at 1130 hrs IST of today, the 26th April, 2019 near latitude 3.0°N and longitude 89.4°E, about 1090 km east-southeast of Trincomalee (Sri Lanka), 1440 km southeast of Chennai (Tamil Nadu) and 1720 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify further into a deep depression during next 24 hours and into a Cyclonic Storm during the subsequent 12 hours.

It is very likely to move northwestwards off Srilanka coast during next 96 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
26.04.19/1130	3.0/89.4	40-50 gusting to 65	Depression
26.04.19/1730	3.8/89.1	45-55 gusting to 65	Depression
27.04.19/0530	4.9/88.3	50-60 gusting to 70	Deep Depression
27.04.19/1730	6.4/87.2	60-70 gusting to 80	Cyclonic Storm
28.04.19/0530	7.7/86.3	70-80 gusting to 90	Cyclonic Storm
28.04.19/1730	9.0/85.3	80-90 gusting to 100	Cyclonic Storm
29.04.19/0530	10.0/84.5	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/1730	11.0/83.5	100-110 gusting to 125	Severe Cyclonic Storm
30.04.19/0530	11.7/82.7	110-120 gusting to 135	Severe Cyclonic Storm

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over north coastal Tamil Nadu on 30th April & 1st May, 2019 and over Kerala on 29th & 30th April, 2019.

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.

- Light to moderate rainfall at many places with heavy falls at isolated places also very likely over south coastal Andhra Pradesh on 30th April and light to moderate rainfall at most places with heavy to very heavy falls at isolated places likely over coastal Andhra Pradesh on 1st May, 2019.

(ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; gale wind speed reaching 65-75 kmph gusting to 85 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; 80-90 kmph gusting to 100 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka coast on 28th and 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal, off Sri Lanka coast and north Tamilnadu & Puducherry coast on 29th and 110-120 kmph gusting to 135 kmph over southwest Bay of Bengal, off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 30th.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning.

(iii) Sea condition

- The sea condition likely to be rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; rough to very rough over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th.
- The sea condition likely to be very rough to high over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th; high to very high over Southwest Bay of Bengal, off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th. Sea conditions very likely to be rough to very rough along & off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 29th & 30th April 2019.

(iv) Fishermen Warning

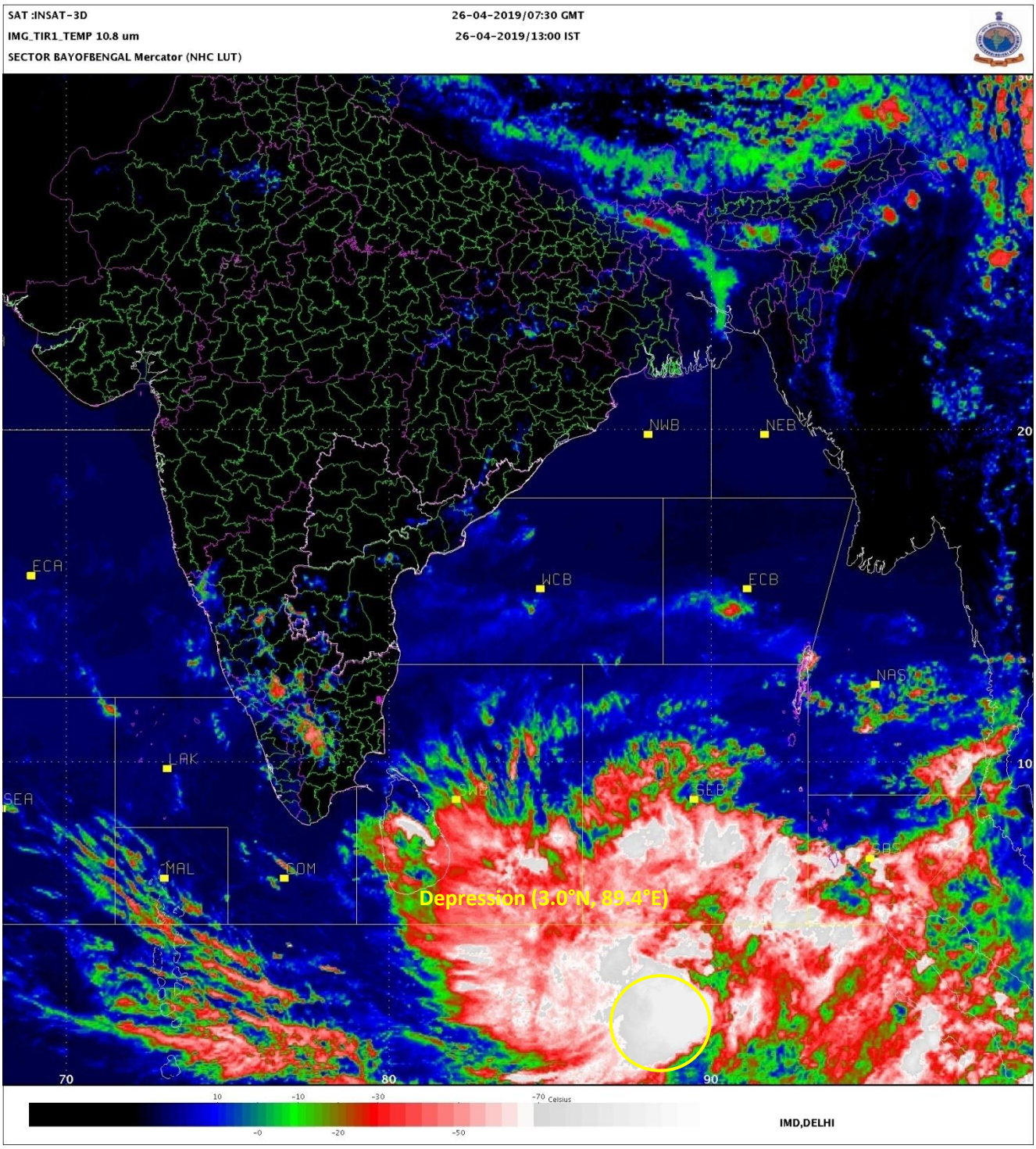
- The fishermen are advised not to venture into deep sea areas of East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th and Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 2030 hrs IST of 26th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

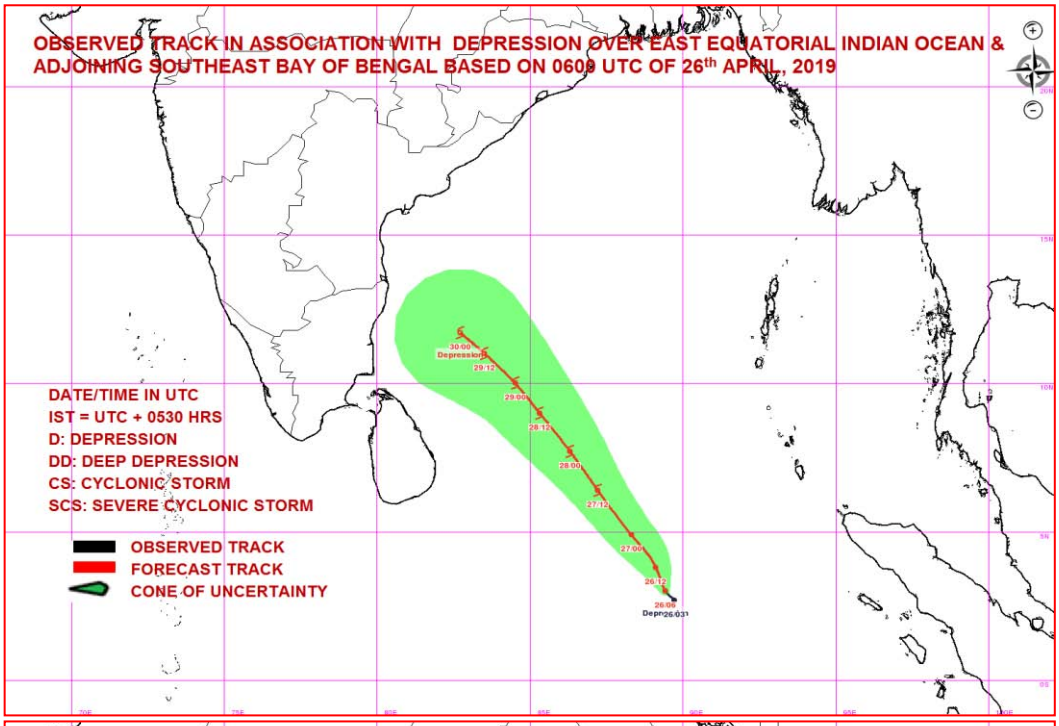
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

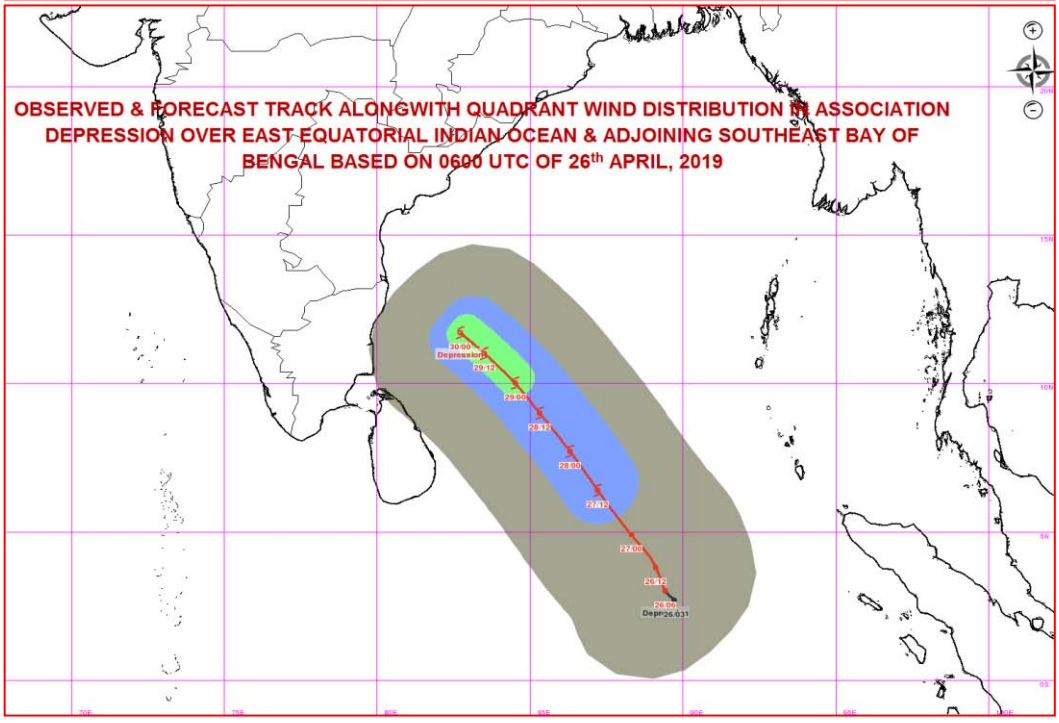
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Fishermen advised not to venture into open seas
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
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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.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 03 (BOB/02/2019)

TIME OF ISSUE: 1930 HOURS IST **DATED: 26.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)
CONTROL ROOM NDMA (FAX.NO. 26701729)
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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 (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)
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CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

Sub: Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

The depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal moved further northwestwards with a speed of about 05 kmph in last six hours and lay centred at 1730 hrs IST of today, the 26th April, 2019 near latitude 3.2°N and longitude 89.2°E, about 1060 km east-southeast of Trincomalee (Sri Lanka), 1410 km southeast of Chennai (Tamil Nadu) and 1690 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify further into a deep depression during next 12 hours and into a Cyclonic Storm during the subsequent 12 hours.

It is very likely to move northwestwards off Srilanka coast during next 96 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
26.04.19/1730	3.2/89.2	45-55 gusting to 65	Depression
27.04.19/0530	4.5/88.5	50-60 gusting to 70	Deep Depression
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29.04.19/1730	9.6/84.6	100-110 gusting to 125	Severe Cyclonic Storm
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Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over north coastal Tamil Nadu on 30th April & 1st May, 2019 and over Kerala on 29th & 30th April, 2019.

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.

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over south coastal Andhra Pradesh on 30th April and light to moderate rainfall at most places with heavy to very heavy falls at isolated places likely over coastal Andhra Pradesh on 1st May, 2019.

(ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; gale wind speed reaching 65-75 kmph gusting to 85 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; 80-90 kmph gusting to 100 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka coast on 28th and 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal, off Sri Lanka coast and north Tamilnadu & Puducherry coast on 29th and 110-120 kmph gusting to 135 kmph over southwest Bay of Bengal, off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 30th.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning.

(iii) Sea condition

- The sea condition likely to be rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; rough to very rough over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th.
- The sea condition likely to be very rough to high over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th; high to very high over Southwest Bay of Bengal, off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th. Sea conditions very likely to be rough to very rough along & off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 29th & 30th April 2019.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal on 26th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th and Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 0230 hrs IST of 27th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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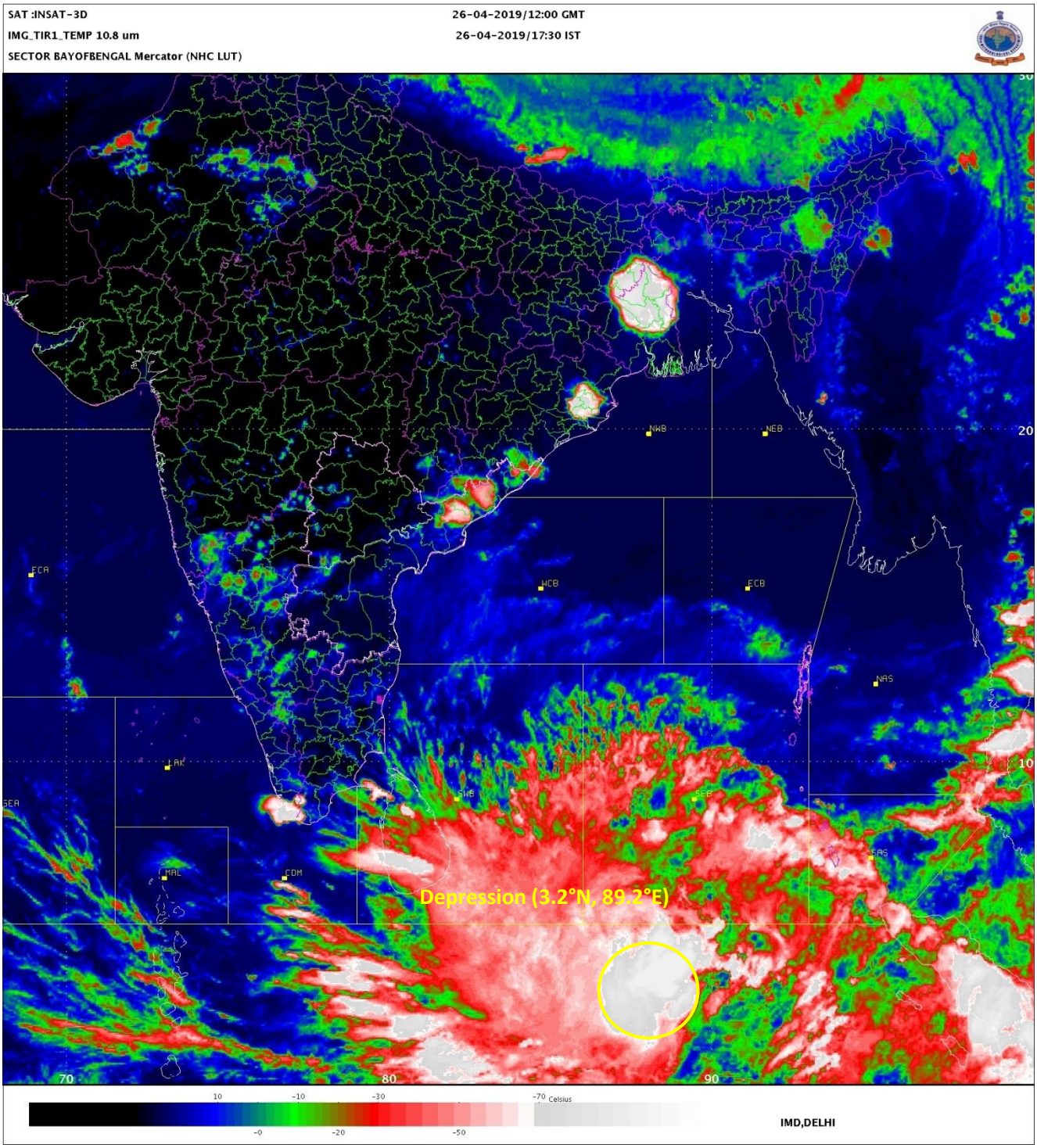

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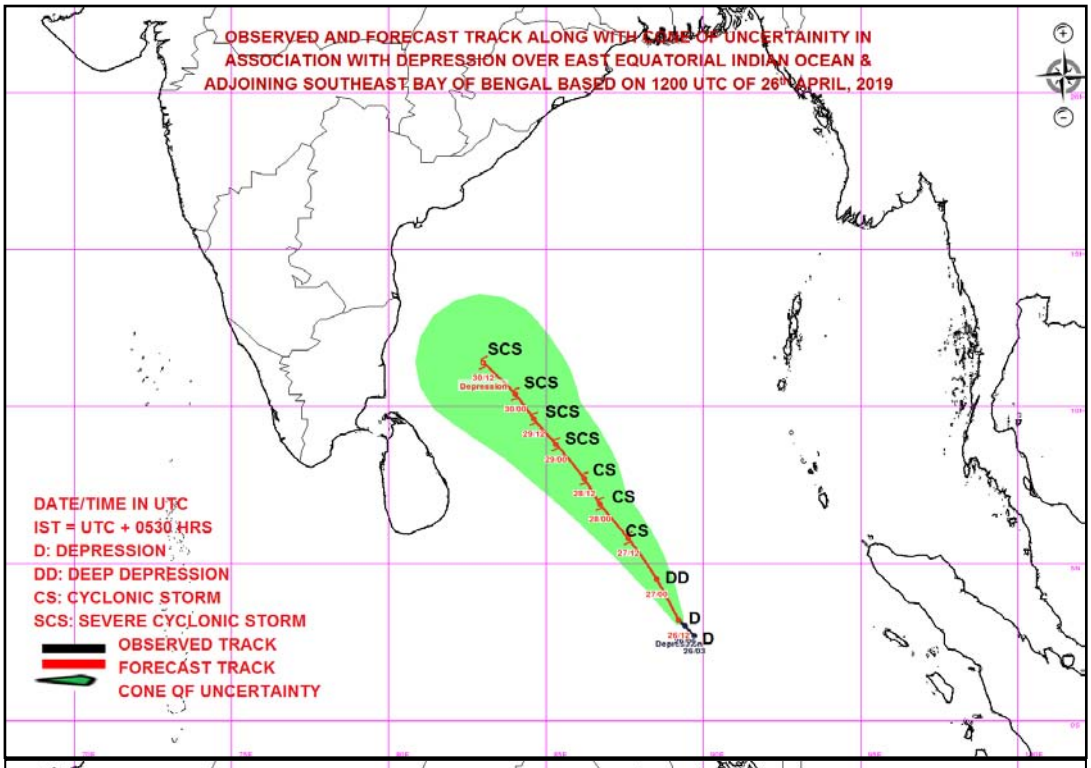
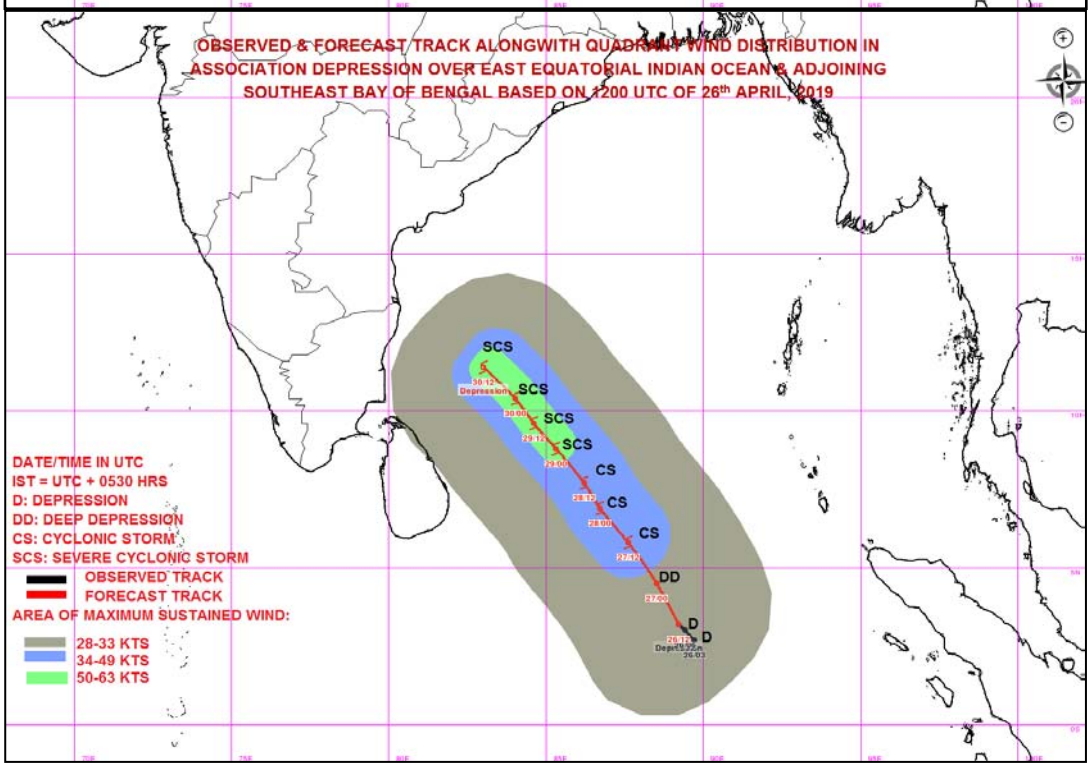
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Fishermen advised not to venture into open seas
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
50-63/(92-117)	Very High seas	Total suspension of fishing operations.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 04 (BOB/02/2019)

TIME OF ISSUE: 0130 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

Sub: Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

The depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal moved further northwestwards with a speed of about 06 kmph in last six hours and lay centred at 2330 hrs IST of 26th April, 2019 near latitude 3.7°N and longitude 88.8°E, about 940 km east-southeast of Trincomalee (Sri Lanka), 1340 km southeast of Chennai (Tamil Nadu) and 1620 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify further into a deep depression during next 06 hours and into a Cyclonic Storm during the subsequent 12 hours.

It is very likely to move northwestwards off Sri Lanka coast during next 96 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
26.04.19/2330	3.7/88.8	45-55 gusting to 65	Depression
27.04.19/0530	4.4/88.4	50-60 gusting to 70	Deep Depression
27.04.19/1130	5.0/88.0	55-65 gusting to 75	Deep Depression
27.04.19/1730	5.5/87.6	70-80 gusting to 90	Cyclonic Storm
27.04.19/2330	6.2/87.1	80-90 gusting to 100	Cyclonic Storm
28.04.19/1130	7.3/86.4	90-100 gusting to 115	Cyclonic Storm
28.04.19/2330	8.2/85.7	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1130	9.2/84.9	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.0/84.3	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/1130	10.9/83.5	115-125 gusting to 140	Severe Cyclonic Storm

Warnings:

- **Heavy rainfall warning**
- Light to moderate rainfall at many places with heavy falls at isolated places very likely over north coastal Tamil Nadu on 30th April & 1st May, 2019 and over Kerala on 29th & 30th April, 2019.

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.

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over south coastal Andhra Pradesh on 30th April and light to moderate rainfall at most places with heavy to very heavy falls at isolated places likely over coastal Andhra Pradesh on 1st May, 2019.

(i) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal till 27th early morning; gale wind speed reaching 65-75 kmph gusting to 85 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; 80-90 kmph gusting to 100 kmph over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka coast on 28th and 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal, off Sri Lanka coast and north Tamilnadu & Puducherry coast on 29th and 110-120 kmph gusting to 135 kmph over southwest Bay of Bengal, off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 30th.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning.

(ii) Sea condition

- The sea condition likely to be rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal till 27th early morning; rough to very rough over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th.
- The sea condition likely to be very rough to high over Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th; high to very high over Southwest Bay of Bengal, off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th. Sea conditions very likely to be rough to very rough along & off Tamilnadu & Puducherry and south Andhra Pradesh Coasts on 29th & 30th April 2019.

(iii) Fishermen Warning

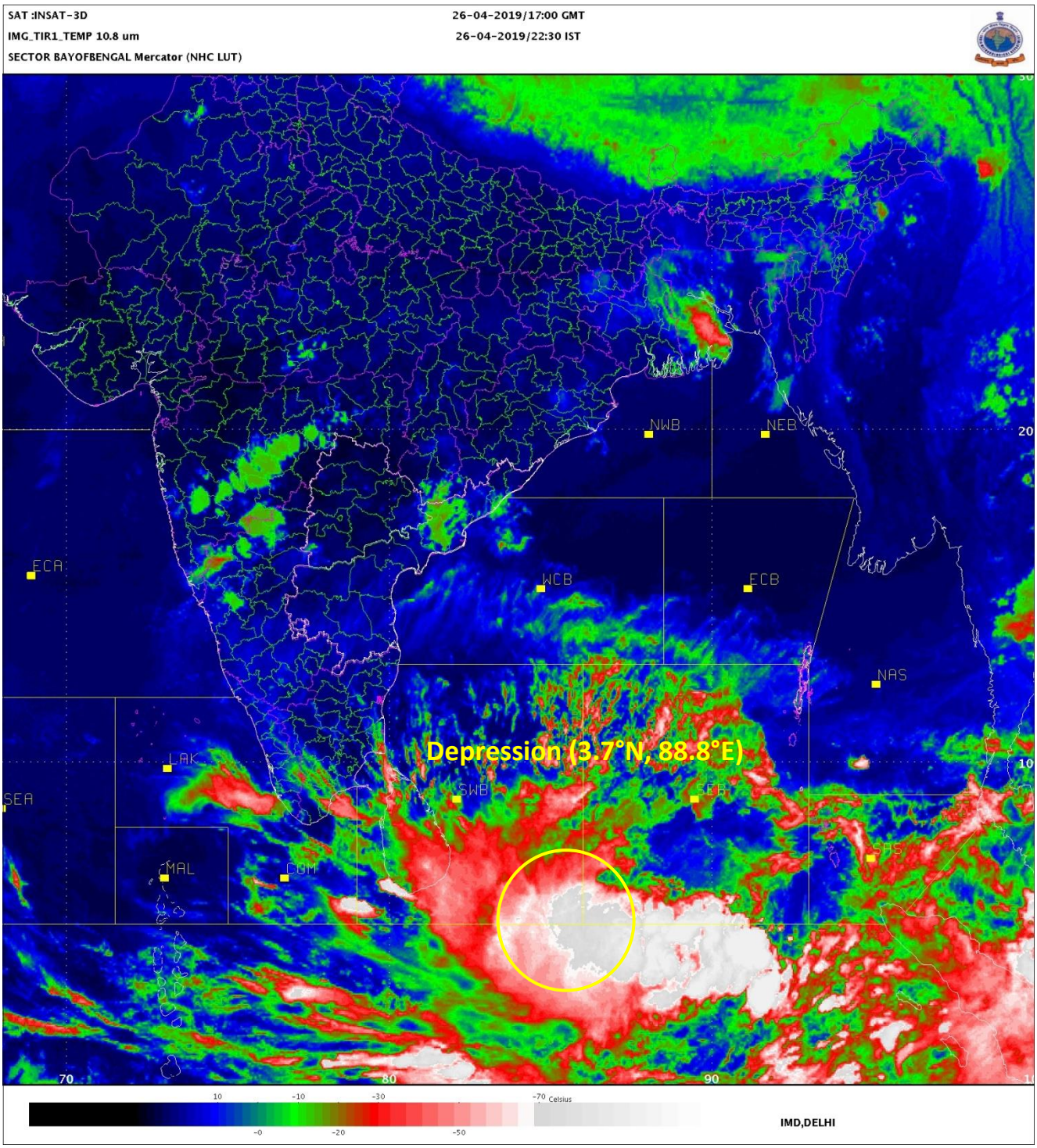
- The fishermen are advised not to venture into deep sea areas of Southwest Bay of Bengal & adjoining Equatorial Indian Ocean on 27th; Southwest Bay of Bengal & adjoining Equatorial Indian Ocean and along & off Sri Lanka on 28th and Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & adjoining south Andhra Pradesh coasts on 29th & 30th.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 0830 hrs IST of 27th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

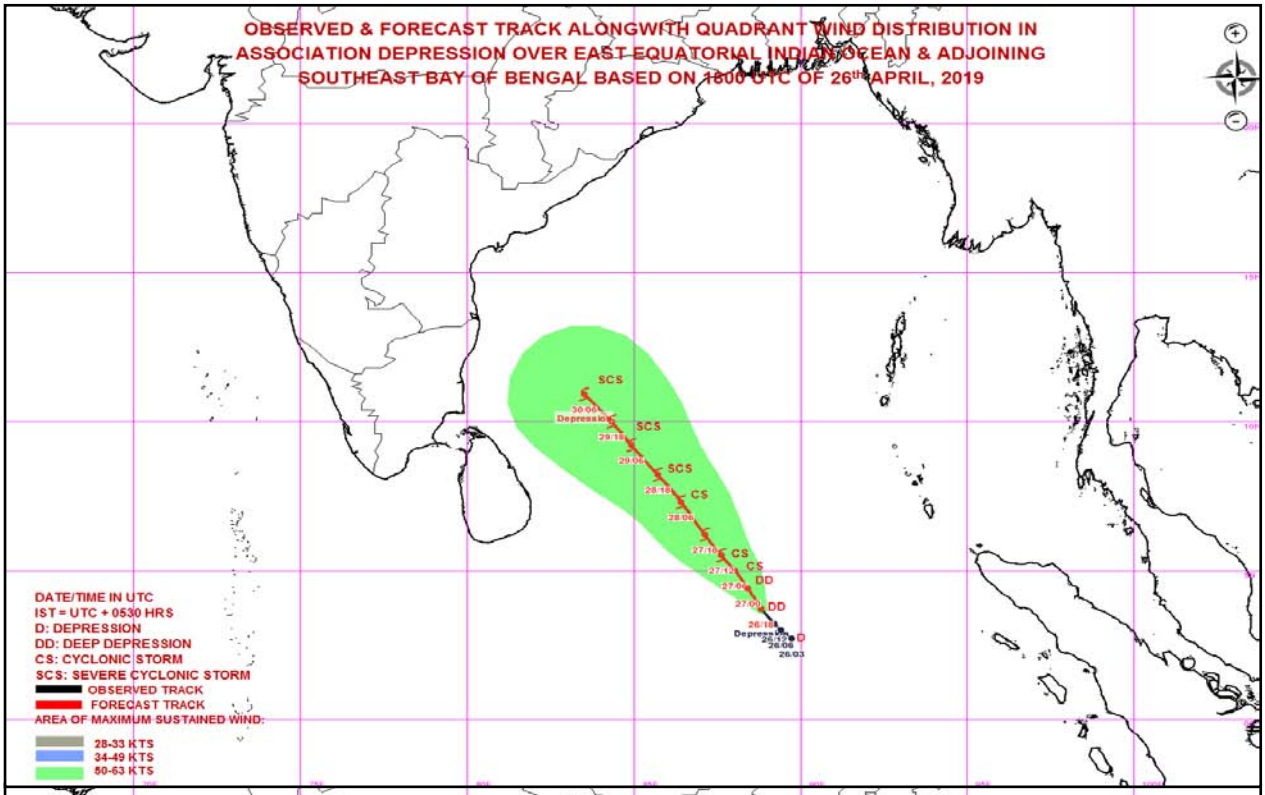
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

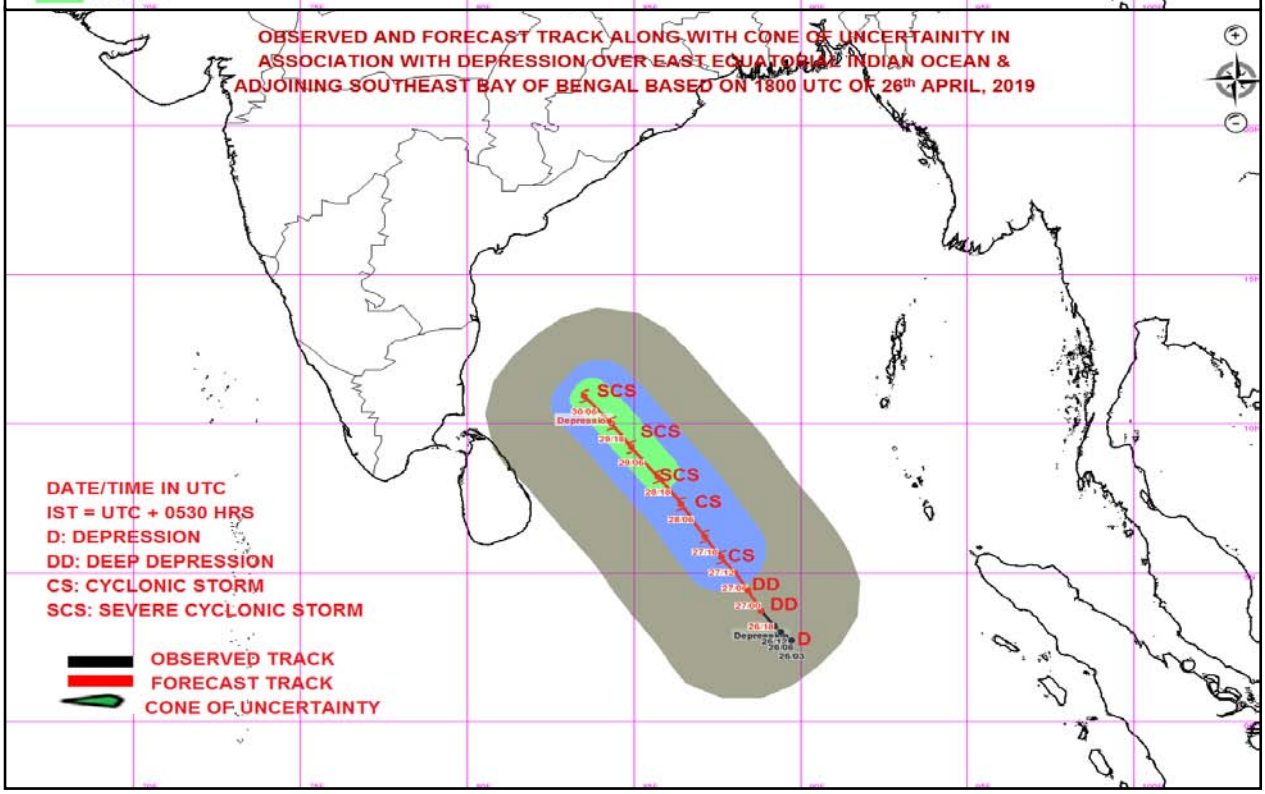
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Fishermen advised not to venture into open seas
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
50-63/(92-117)	Very High seas	Total suspension of fishing operations.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 05 (BOB/02/2019)

TIME OF ISSUE: 0830 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 0413-262184)

Sub: Depression intensified into Deep Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

The depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal moved further northwestwards with a speed of about 20 kmph in last six hours, intensified into a deep depression and lay centred at 0530 hrs IST of 27th April, 2019 near latitude 4.5°N and longitude 88.0°E, about 870 km east-southeast of Trincomalee (Sri Lanka), 1210 km southeast of Chennai (Tamil Nadu) and 1500 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a Cyclonic Storm during next 12 hours and further into a Severe Cyclonic Storm during subsequent 24 hours.

It is very likely to move northwestwards off Sri Lanka coast during next 72 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/0530	4.5/88.0	50-60 gusting to 70	Deep Depression
27.04.19/1130	5.4/87.5	55-65 gusting to 75	Deep Depression
27.04.19/1730	6.2/87.1	60-70 gusting to 80	Cyclonic Storm
27.04.19/2330	6.8/86.6	70-80 gusting to 90	Cyclonic Storm
28.04.19/0530	7.5/86.0	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	8.8/85.2	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/0530	10.0/84.3	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.9/83.3	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.5/82.3	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1730	12.2/81.5	125-135 gusting to 150	Very Severe Cyclonic Storm
01.05.19/0530	12.5/81.3	135-145 gusting to 160	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph prevailing over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal; is very likely to become gale wind speed reaching 60-70 kmph gusting to 80 kmph over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean from 27th evening; 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal and off Sri Lanka coast from 28th evening; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 30th morning and 135-145 kmph gusting to 160 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is rough to very rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal. It is likely to become high over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean from today, the 27th evening.
- It is very likely to become high to very high over Southwest Bay of Bengal and off Sri Lanka coast from 28th evening; very high to phenomenal over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 30th morning and over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019.

(iv) Fishermen Warning

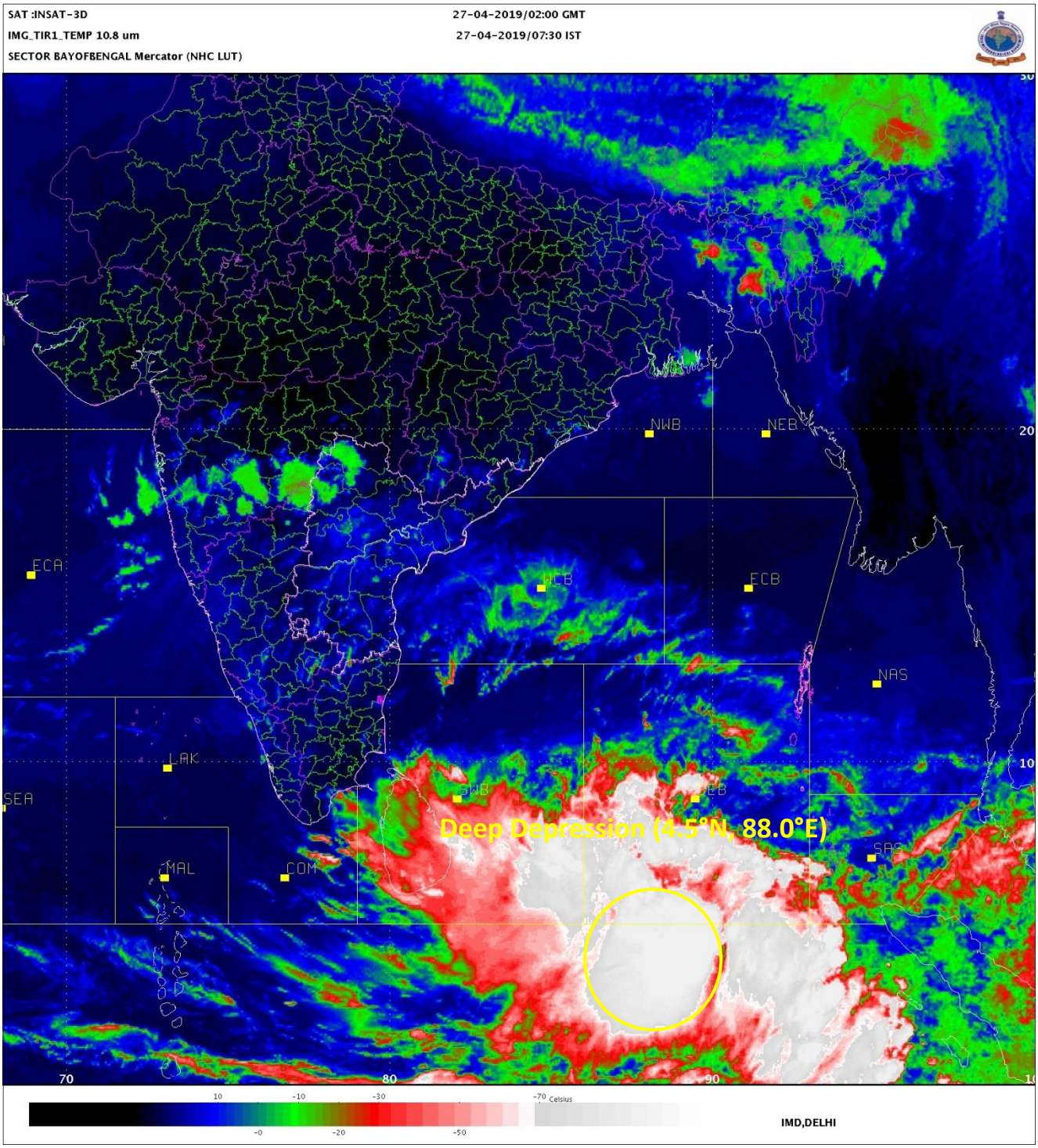
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 1130 hrs IST of 27th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

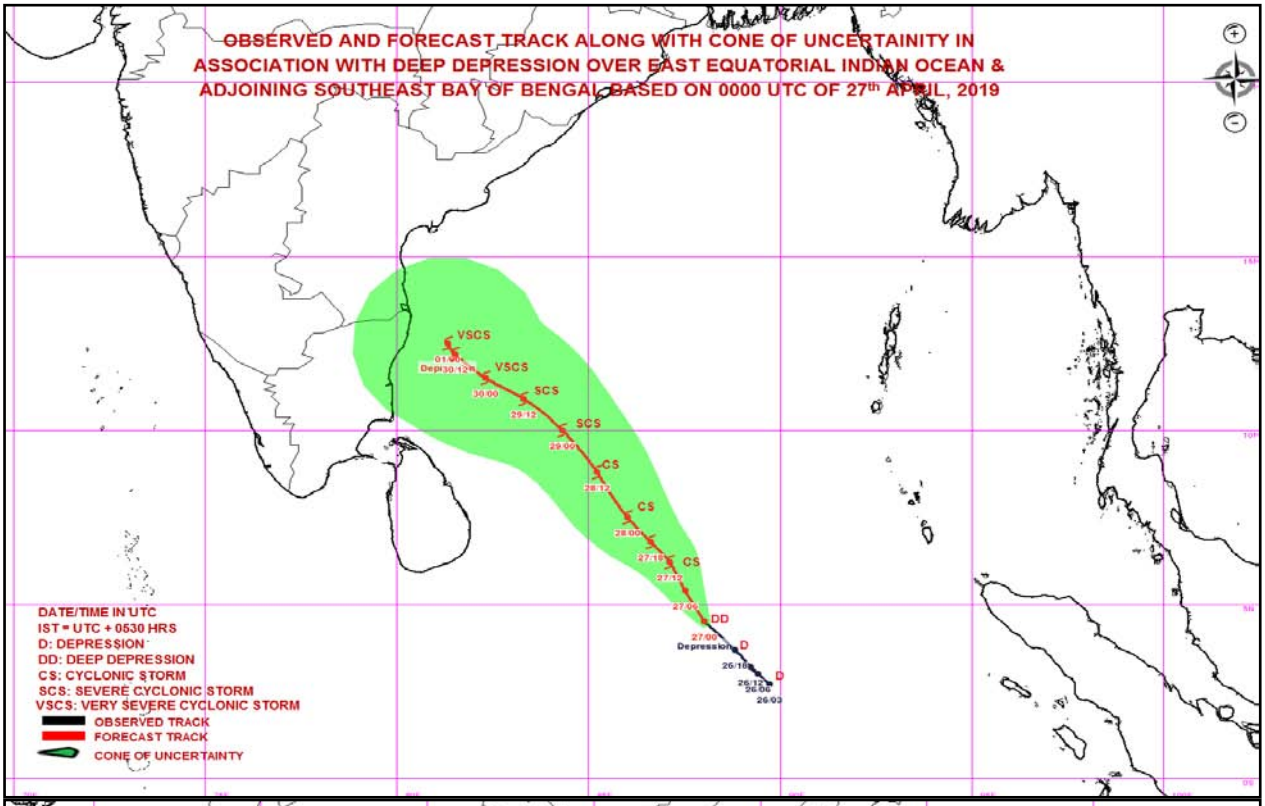
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

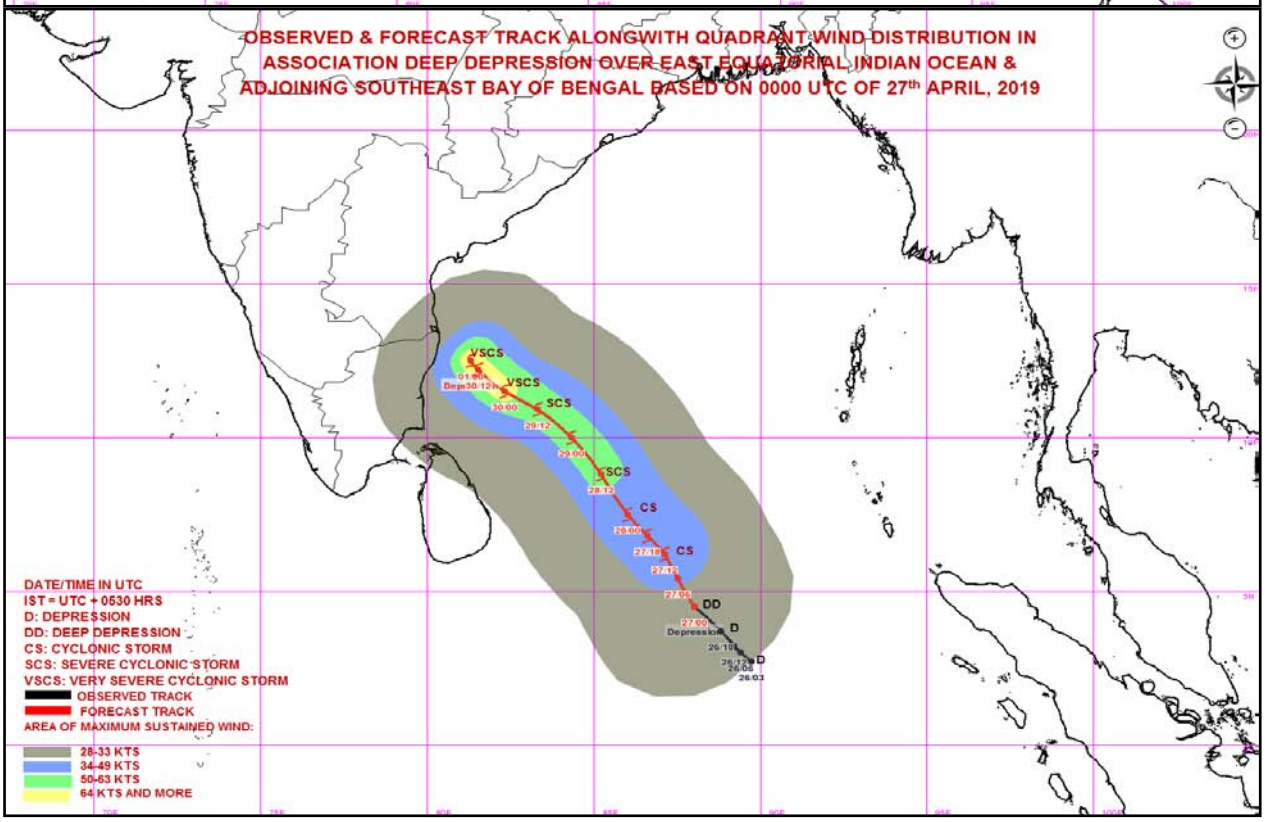
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
50-63/(92-117)	Very High seas	Total suspension of fishing operations.
64-75/(118-138)	Phenomenal seas	Total suspension of fishing operations.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 06 (BOB/02/2019)

TIME OF ISSUE: 1100 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Deep Depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal

The deep depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal moved north-northwestwards with a speed of about 18 kmph in last six hours and lay centred at 0830 hrs IST of 27th April, 2019 near latitude 4.9°N and longitude 88.0°E, about 850 km east-southeast of Trincomalee (Sri Lanka), 1180 km southeast of Chennai (Tamil Nadu) and 1460 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a Cyclonic Storm during next 06 hours and further into a Severe Cyclonic Storm during subsequent 24 hours.

It is very likely to move northwestwards off Sri Lanka coast during next 72 hours and reach near north Tamilnadu & south Andhra Pradesh coast on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/0830	4.9/88.0	55-65 gusting to 75	Deep Depression
27.04.19/1130	5.4/87.8	60-70 gusting to 80	Cyclonic Storm
27.04.19/1730	6.2/87.4	65-75 gusting to 85	Cyclonic Storm
27.04.19/2330	6.8/86.8	70-80 gusting to 90	Cyclonic Storm
28.04.19/0530	7.5/86.0	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	8.8/85.2	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/0530	10.0/84.3	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.9/83.3	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.5/82.3	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1730	12.2/81.5	125-135 gusting to 150	Very Severe Cyclonic Storm
01.05.19/0530	12.5/81.3	135-145 gusting to 160	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph prevailing over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal; is very likely to become gale wind speed reaching 60-70 kmph gusting to 80 kmph over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean from 27th noon; 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal and off Sri Lanka coast from 28th evening; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 30th morning and 135-145 kmph gusting to 160 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is rough to very rough over East Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal. It is likely to become high over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean from today, the 27th noon.
- It is very likely to become high to very high over Southwest Bay of Bengal and off Sri Lanka coast from 28th evening; very high to phenomenal over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 30th morning and over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019.

(iv) Fishermen Warning

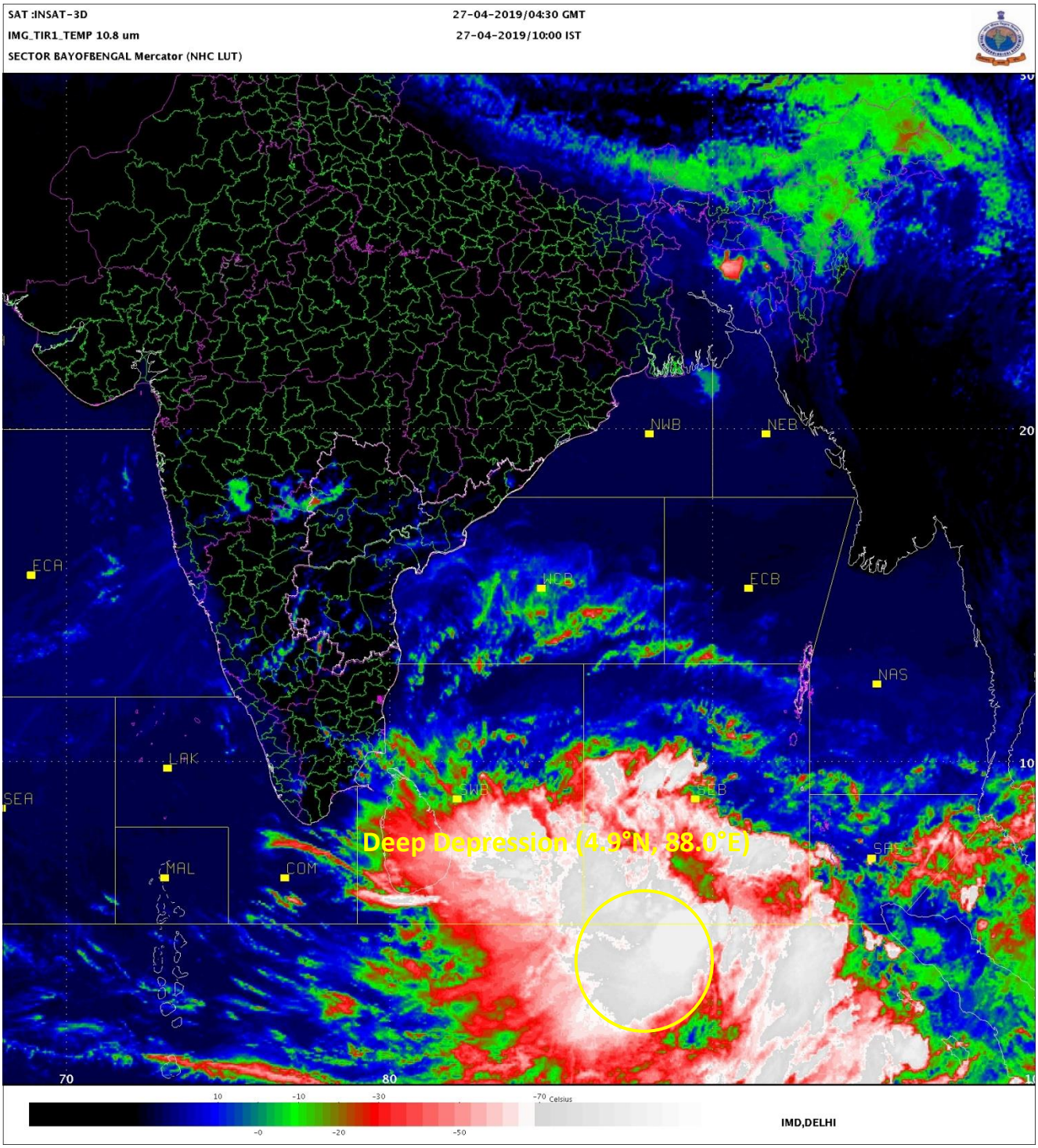
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 1430 hrs IST of 27th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

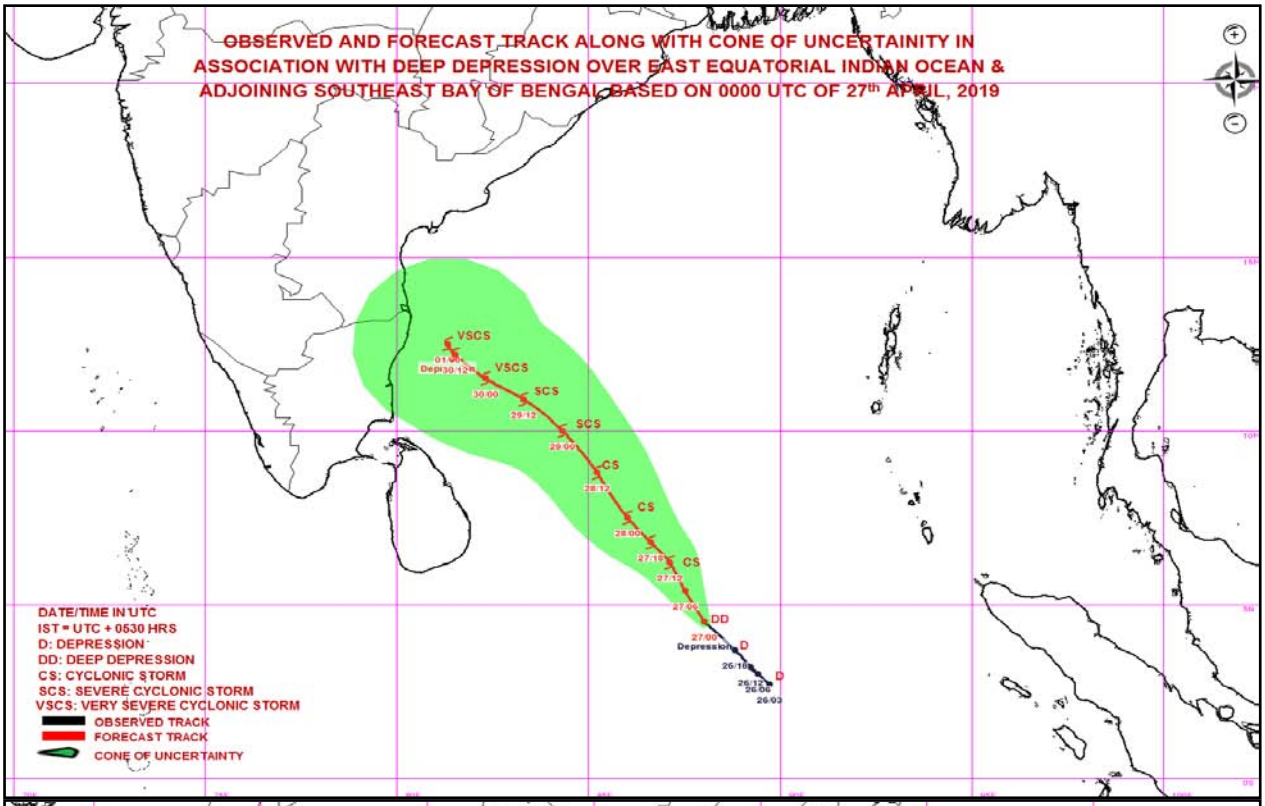
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

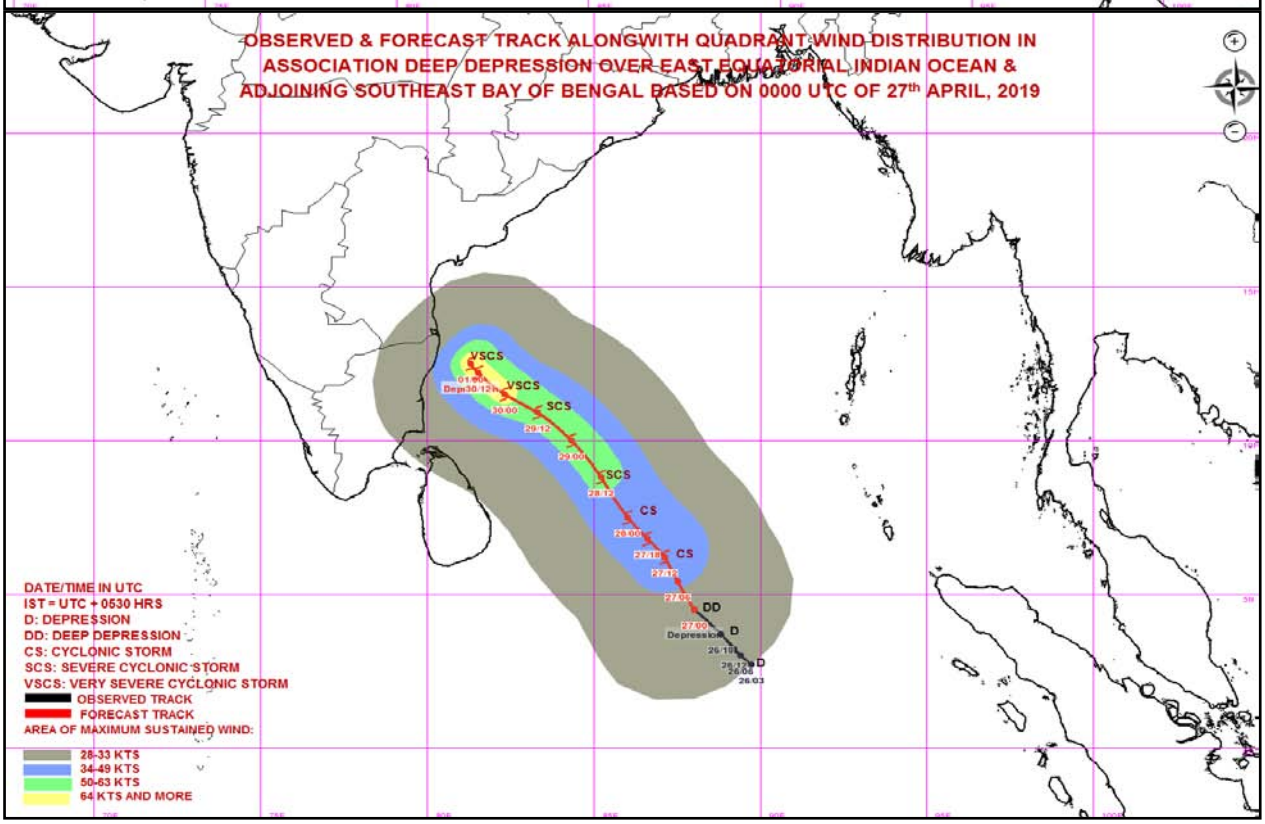
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations.
50-63/(92-117)	Very High seas	Total suspension of fishing operations.
64-75/(118-138)	Phenomenal seas	Total suspension of fishing operations.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 07 (BOB/02/2019)

TIME OF ISSUE: 1430 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean

The deep depression over East Equatorial Indian Ocean & adjoining southeast Bay of Bengal intensified into **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean and lay centred at 1130 hrs IST of 27th April, 2019 near latitude 5.2°N and longitude 88.5°E, about 880 km east-southeast of Trincomalee (Sri Lanka), 1250 km southeast of Chennai (Tamil Nadu) and 1460 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a Severe Cyclonic Storm during next 24 hours.

It is very likely to move northwestwards off Sri Lanka coast during next 72 hours and reach near north Tamilnadu & south Andhra Pradesh coasts on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/1130	5.2/88.5	60-70 gusting to 80	Cyclonic Storm
27.04.19/1730	5.9/88.2	70-80 gusting to 90	Cyclonic Storm
27.04.19/2330	6.5/87.8	80-90 gusting to 100	Cyclonic Storm
28.04.19/0530	7.1/87.3	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/1130	7.6/86.9	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/2330	8.8/86.2	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1130	10.1/85.4	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.8/84.8	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.6/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.3/83.7	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	12.9/83.4	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/2330	13.2/83.4	135-145 gusting to 160	Very Severe Cyclonic Storm
02.05.19/1130	13.7/83.8	125-135 gusting to 150	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii) Wind warning

- Gale wind speed reaching 60-70 kmph gusting to 80 kmph is prevailing over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean; is very likely to become 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal and off Sri Lanka coast from 28th morning; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal off north Tamilnadu & Puducherry coast from 29th night and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is high over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean. It is very likely to become very high over Southwest Bay of Bengal and off Sri Lanka coast from 28th morning; very high to phenomenal over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 29th night and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019.

(iv) Fishermen Warning

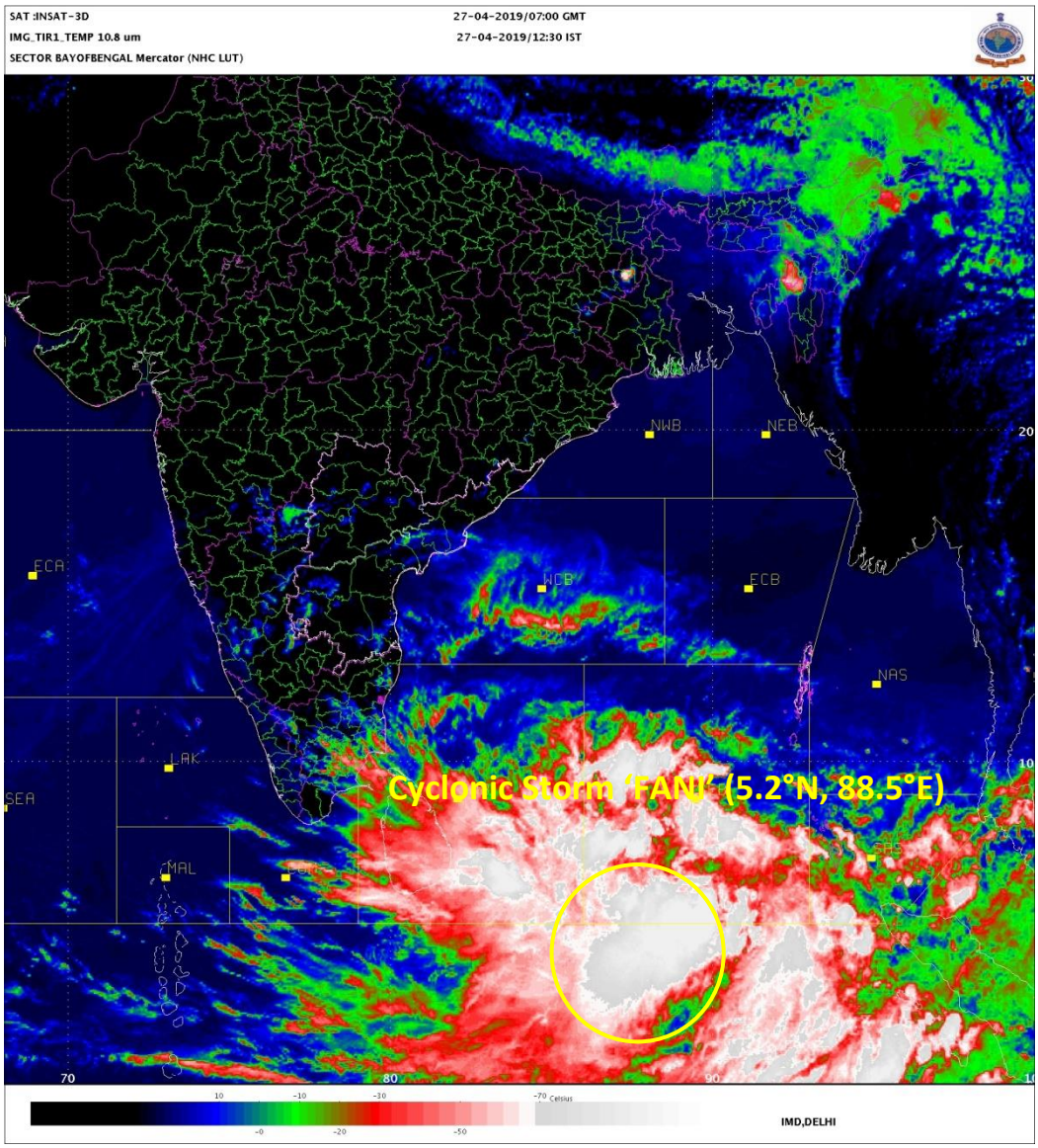
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 1730 hrs IST of 27th April, 2019.

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

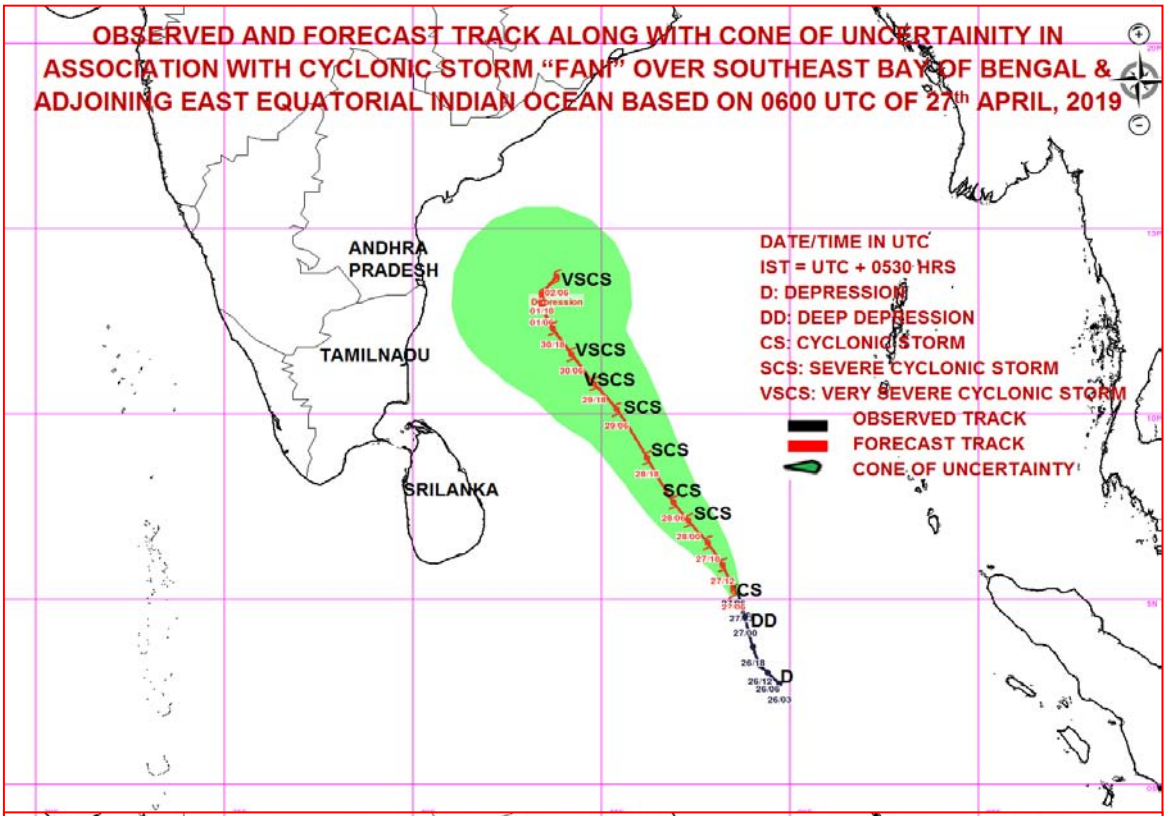
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

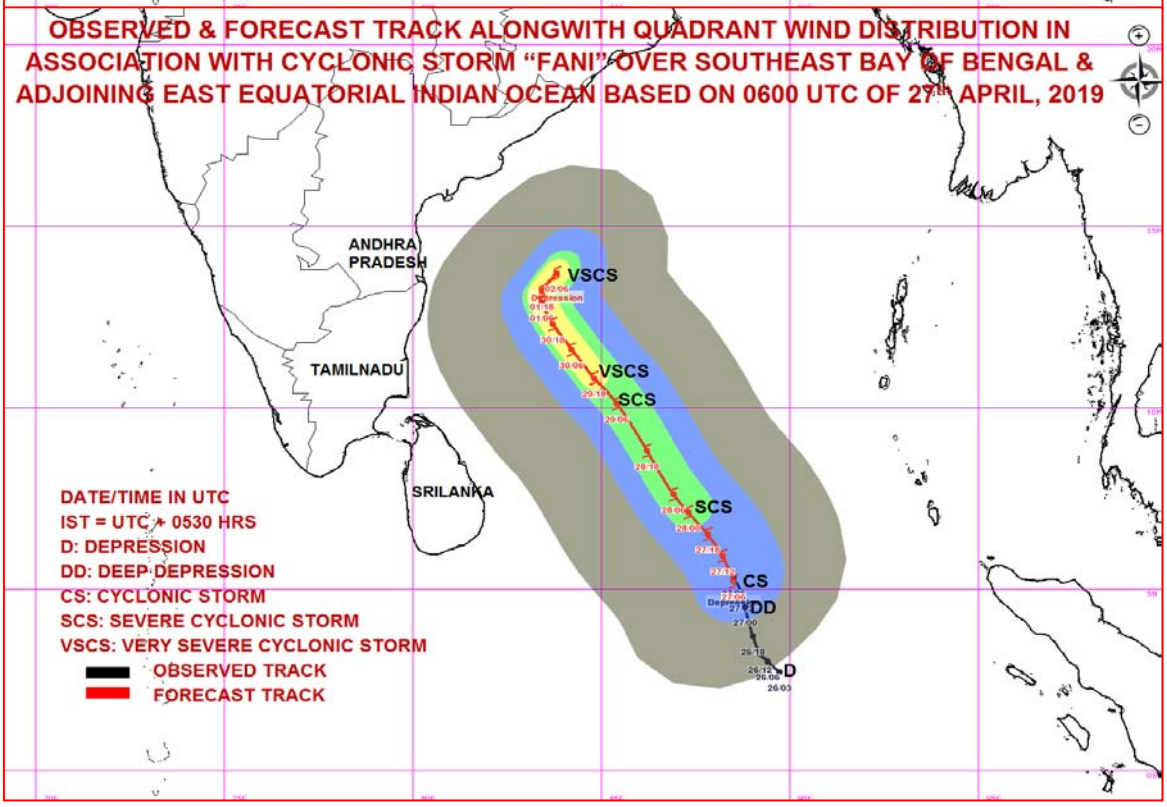
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 08 (BOB/02/2019)

TIME OF ISSUE: 1600 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean moved northwestwards and lay centred at 1430 hrs IST of 27th April, 2019 near latitude 5.4°N and longitude 88.5°E over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean, about 870 km east-southeast of Trincomalee (Sri Lanka), 1240 km southeast of Chennai (Tamil Nadu) and 1440 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a Severe Cyclonic Storm during next 24 hours.

It is very likely to move northwestwards off Sri Lanka coast during next 72 hours and reach near north Tamilnadu & south Andhra Pradesh coasts on 30th April 2019 evening.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/1430	5.4/88.5	60-70 gusting to 80	Cyclonic Storm
27.04.19/1730	5.9/88.2	70-80 gusting to 90	Cyclonic Storm
27.04.19/2330	6.5/87.8	80-90 gusting to 100	Cyclonic Storm
28.04.19/0530	7.1/87.3	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/1130	7.6/86.9	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/2330	8.8/86.2	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1130	10.1/85.4	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.8/84.8	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.6/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.3/83.7	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	12.9/83.4	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/2330	13.2/83.4	135-145 gusting to 160	Very Severe Cyclonic Storm
02.05.19/1130	13.7/83.8	125-135 gusting to 150	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii) Wind warning

- Gale wind speed reaching 60-70 kmph gusting to 80 kmph is prevailing over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean; is very likely to become 90-100 kmph gusting to 115 kmph over Southwest Bay of Bengal and off Sri Lanka coast from 28th morning; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal off north Tamilnadu & Puducherry coast from 29th night and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence over Kerala from 28th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is high over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean. It is very likely to become very high over Southwest Bay of Bengal and off Sri Lanka coast from 28th morning; very high to phenomenal over Southwest Bay of Bengal, off north Tamilnadu & Puducherry coast from 29th night and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 1st May morning.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019.

(iv) Fishermen Warning

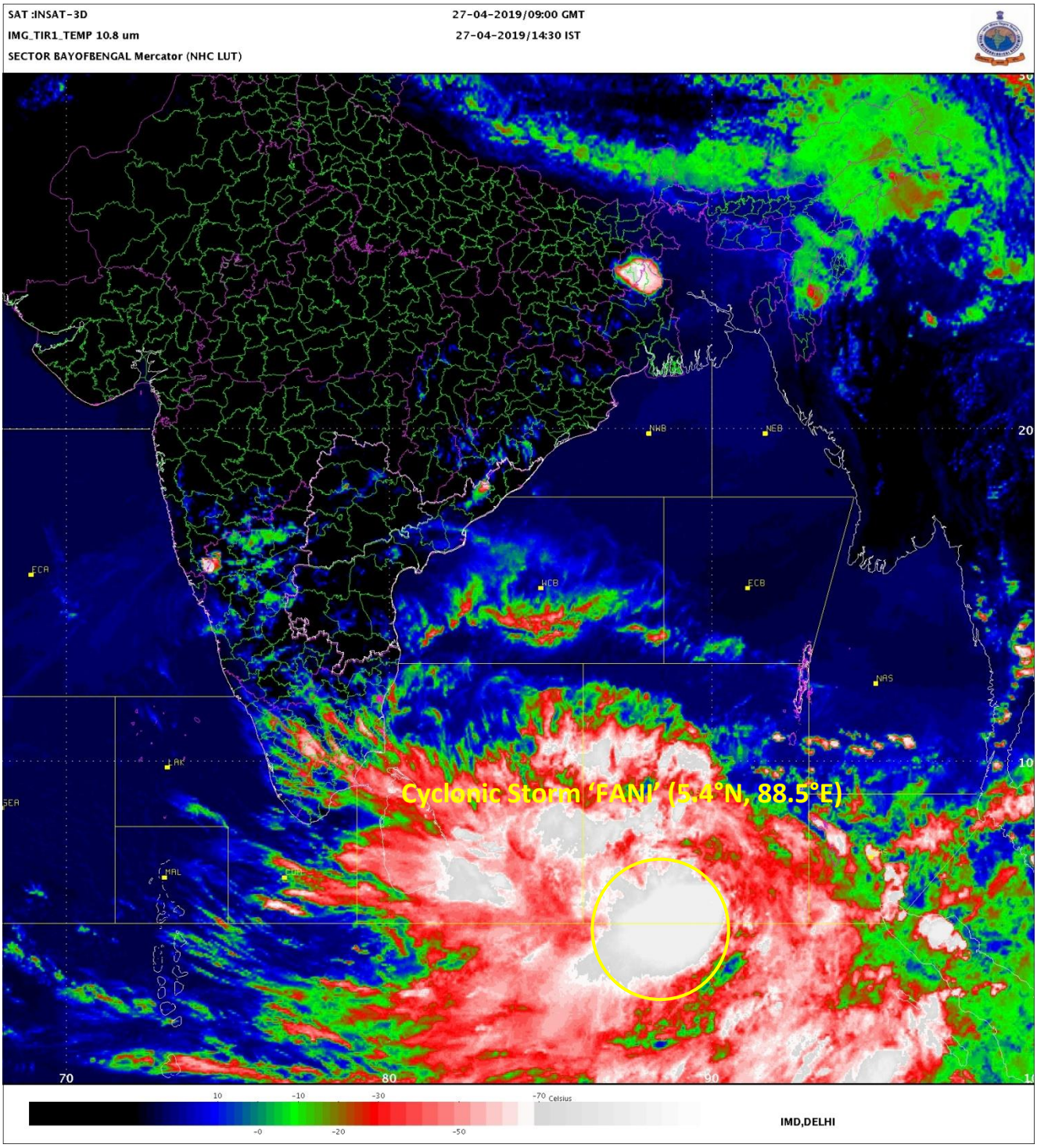
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 2030 hrs IST of 27th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

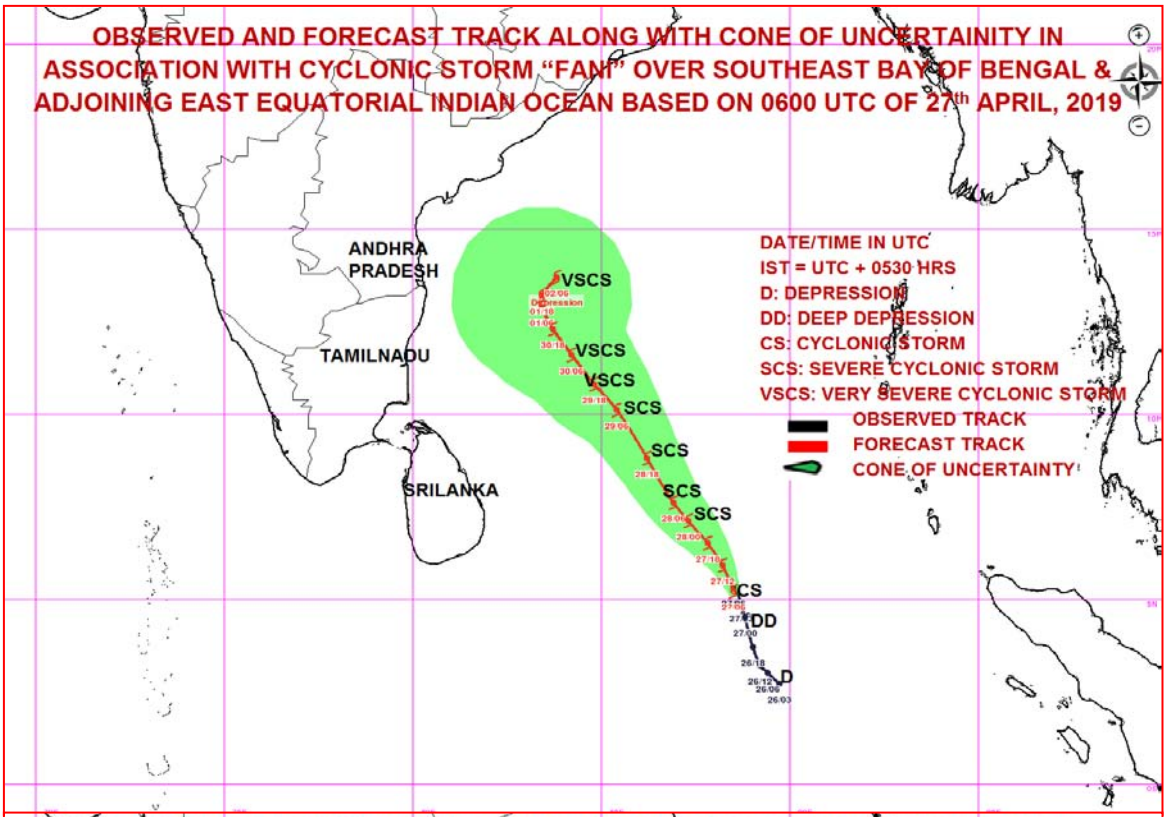
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

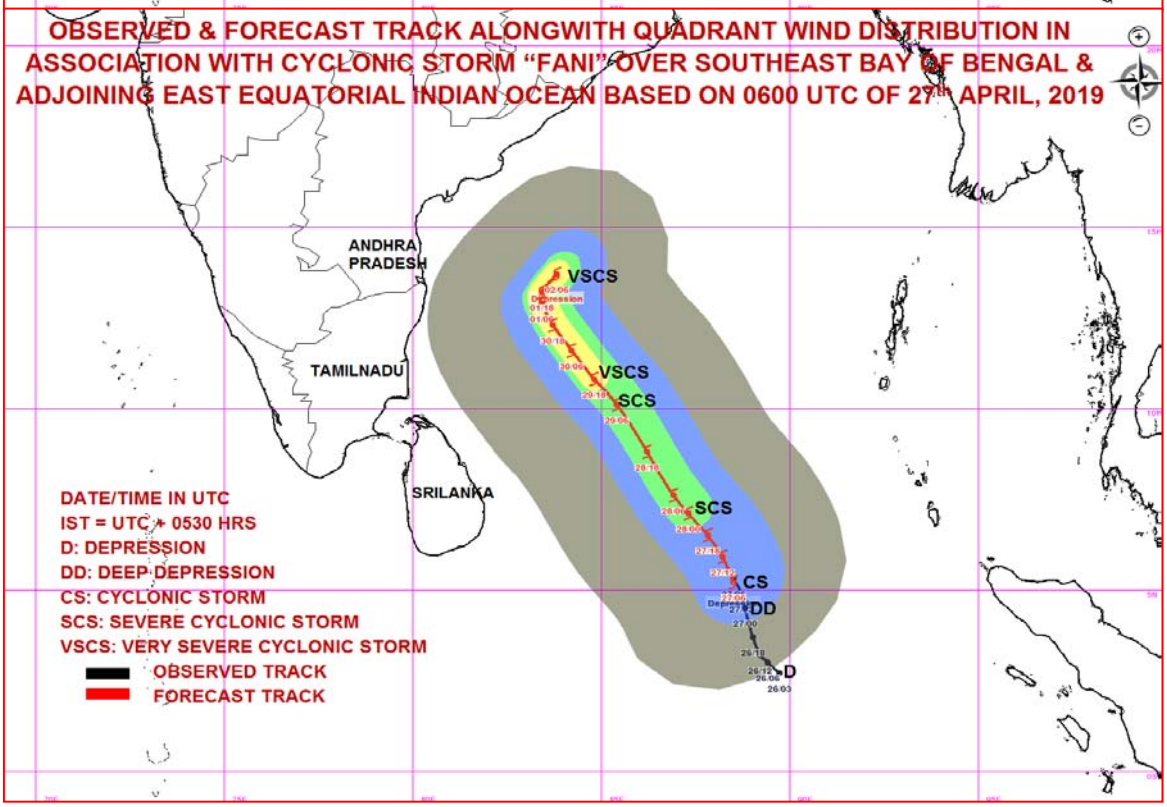
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 09 (BOB/02/2019)

TIME OF ISSUE: 2015 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean, slightly intensified further and moved northwards with a speed of about 09 kmph in last six hours and lay centred at 1730 hrs IST of 27th April, 2019 near latitude 5.9°N and longitude 88.5°E over southeast Bay of Bengal & neighbourhood, about 850 km east-southeast of Trincomalee (Sri Lanka), 1200 km southeast of Chennai (Tamil Nadu) and 1390 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 30th April and thereafter recurve northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	aximum sustained surfa wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/1730	5.9/88.5	80-90 gusting to 100	Cyclonic Storm
27.04.19/2330	6.5/88.3	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/0530	7.1/87.8	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/1130	7.6/87.1	100-110 gusting to 125	Severe Cyclonic Storm
28.04.19/1730	8.2/86.4	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/0530	9.4/85.8	120-130 gusting to 145	Very Severe Cyclonic Storm
29.04.19/1730	10.4/85.1	125-135 gusting to 150	Very Severe Cyclonic Storm
30.04.19/0530	11.2/84.5	135-145 gusting to 160	Very Severe Cyclonic Storm
30.04.19/1730	12.0/84.0	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/0530	12.6/83.8	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/1730	13.1/84.0	135-145 gusting to 160	Very Severe Cyclonic Storm
02.05.19/0530	13.5/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
02.05.19/1730	14.0/84.5	125-135 gusting to 150	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 27th night over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th morning and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night. It is likely to decrease gradually thereafter with gale wind speed reaching 125-135 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 29th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019 and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.

(iv) Fishermen Warning

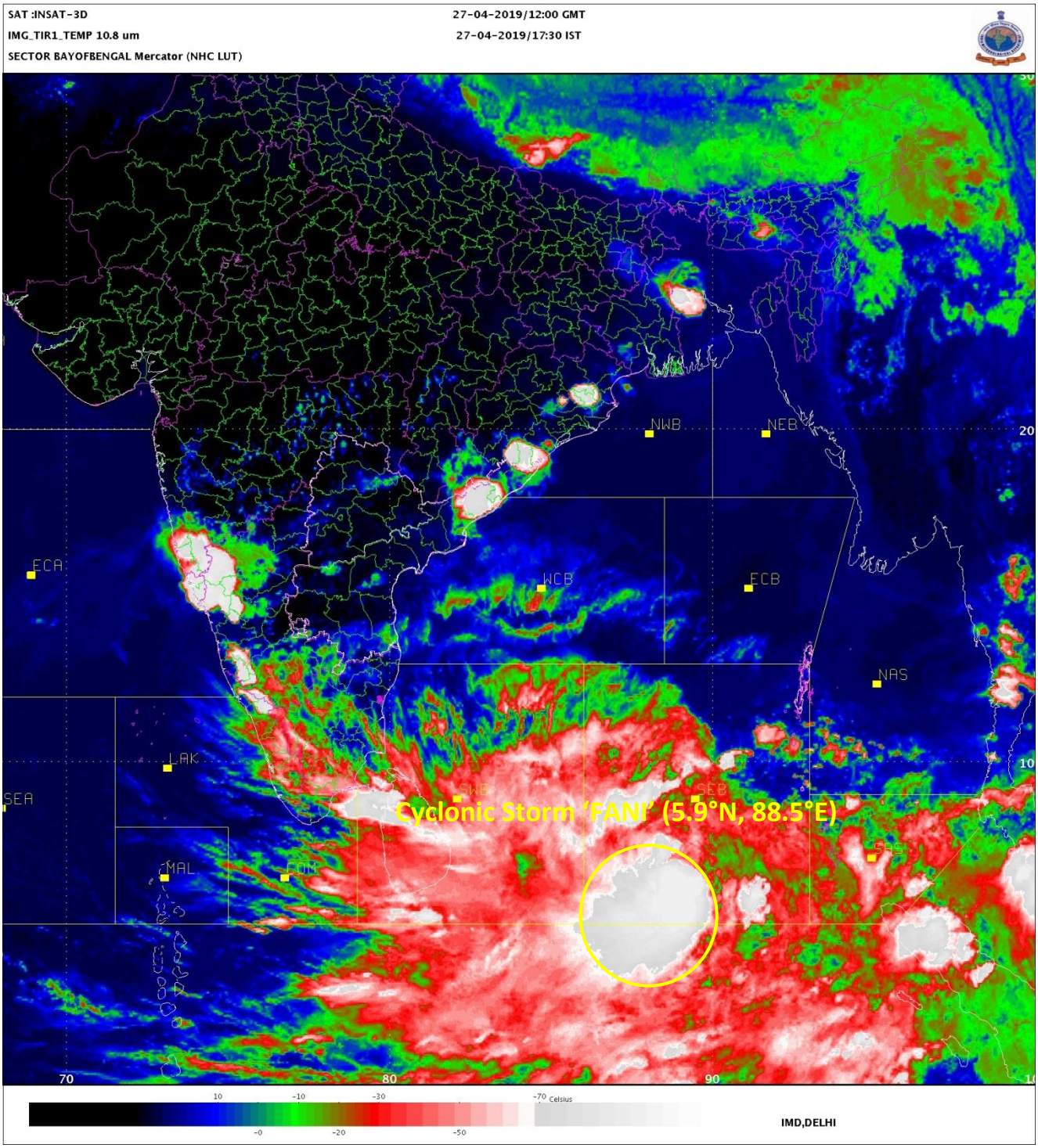
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 2330 hrs IST of 27th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

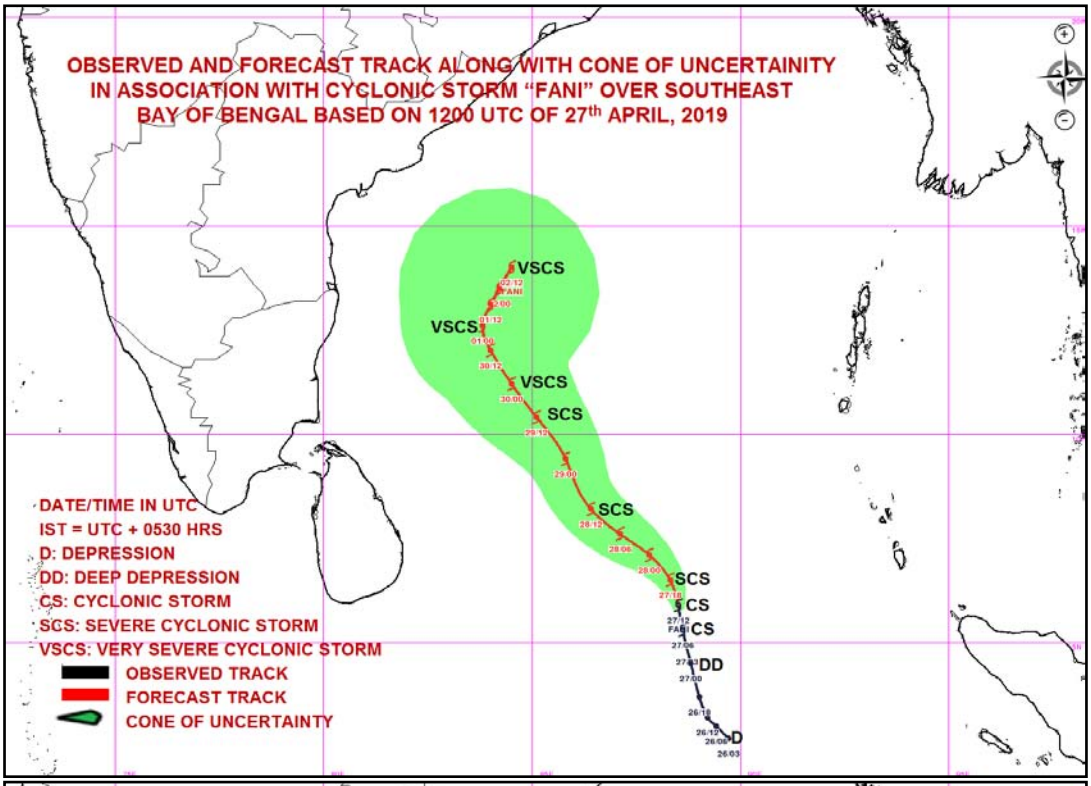
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

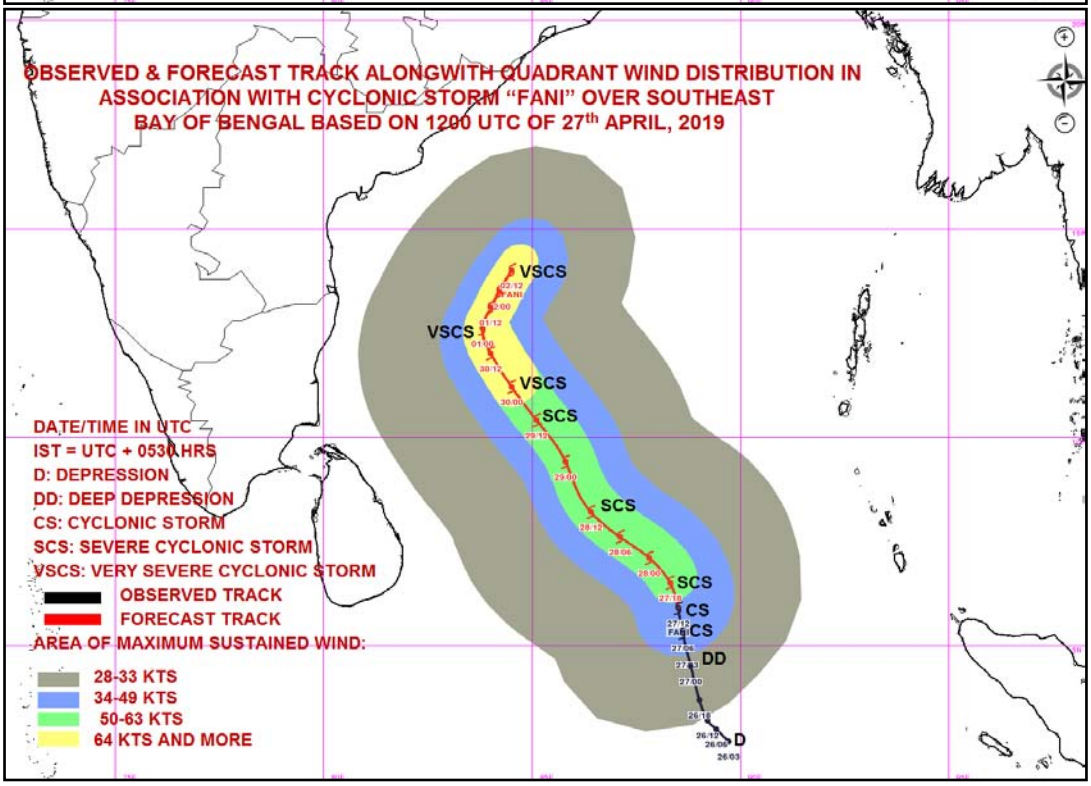
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 10 (BOB/02/2019)

TIME OF ISSUE: 2210 HOURS IST **DATED: 27.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean, slightly intensified further and moved northwards with a speed of about 16 kmph in last six hours and lay centred at 2030 hrs IST of 27th April, 2019 near latitude 6.3°N and longitude 88.5°E over southeast Bay of Bengal & neighbourhood, about 840 km east-southeast of Trincomalee (Sri Lanka), 1175 km southeast of Chennai (Tamil Nadu) and 1360 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 30th April and thereafter recurve northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	aximum sustained surfa wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/2030	6.3/88.5	80-90 gusting to 100	Cyclonic Storm
27.04.19/2330	6.5/88.3	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/0530	7.1/87.8	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/1130	7.6/87.1	100-110 gusting to 125	Severe Cyclonic Storm
28.04.19/1730	8.2/86.4	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/0530	9.4/85.8	120-130 gusting to 145	Very Severe Cyclonic Storm
29.04.19/1730	10.4/85.1	125-135 gusting to 150	Very Severe Cyclonic Storm
30.04.19/0530	11.2/84.5	135-145 gusting to 160	Very Severe Cyclonic Storm
30.04.19/1730	12.0/84.0	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/0530	12.6/83.8	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/1730	13.1/84.0	135-145 gusting to 160	Very Severe Cyclonic Storm
02.05.19/0530	13.5/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
02.05.19/1730	14.0/84.5	125-135 gusting to 150	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 27th night over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th morning and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night. It is likely to decrease gradually thereafter with gale wind speed reaching 125-135 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 29th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019 and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.

(iv) Fishermen Warning

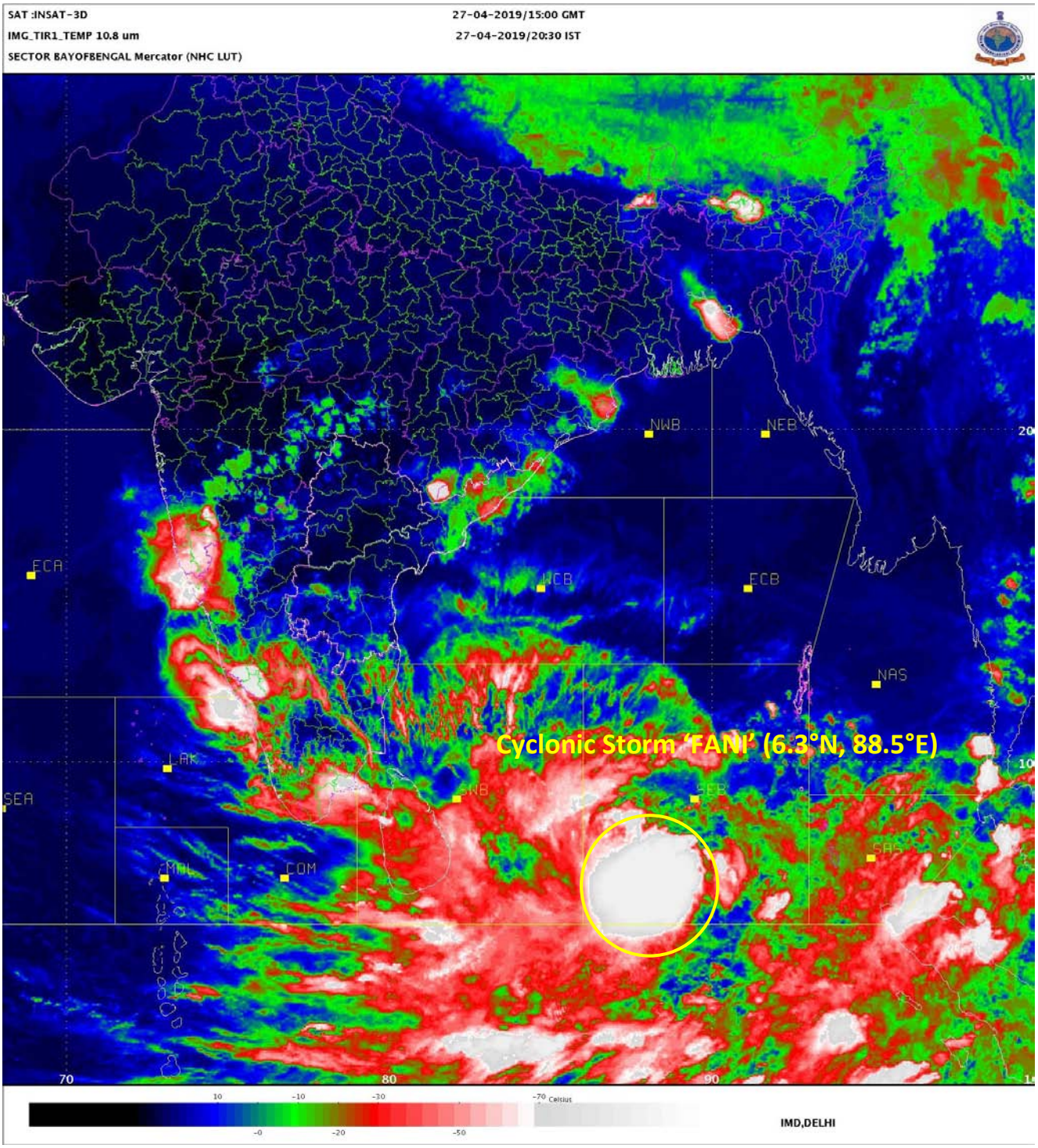
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean on 27th & 28th; over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 0230 hrs IST of 28th April, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

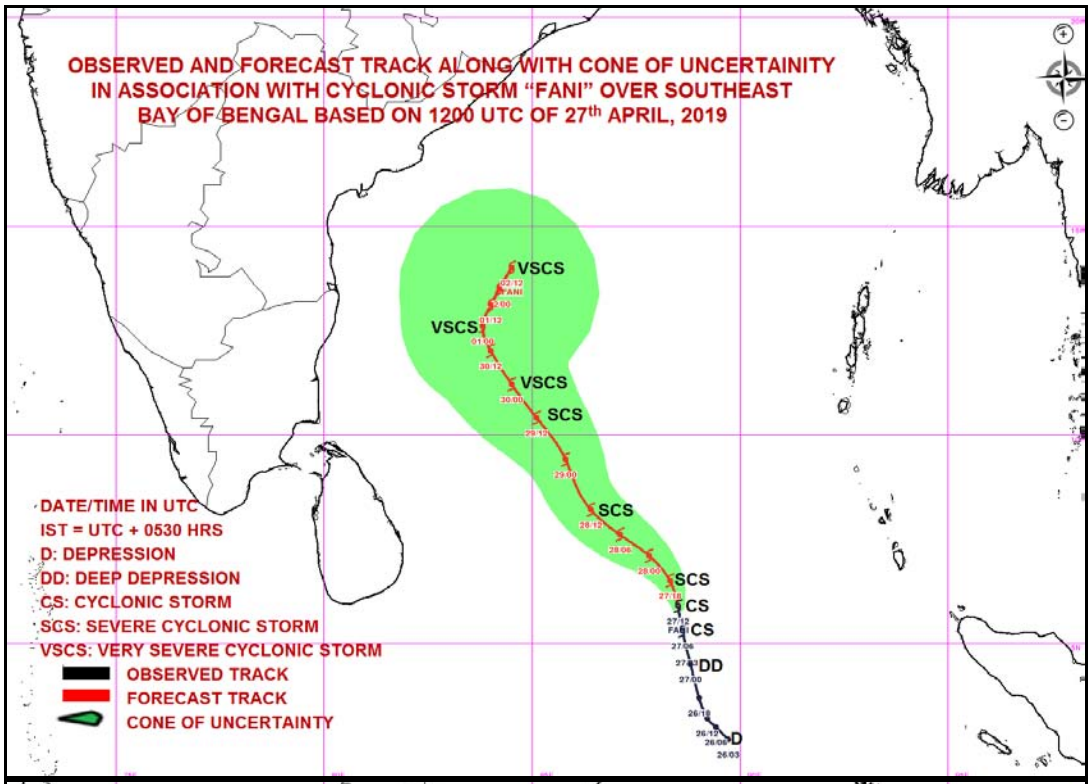
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

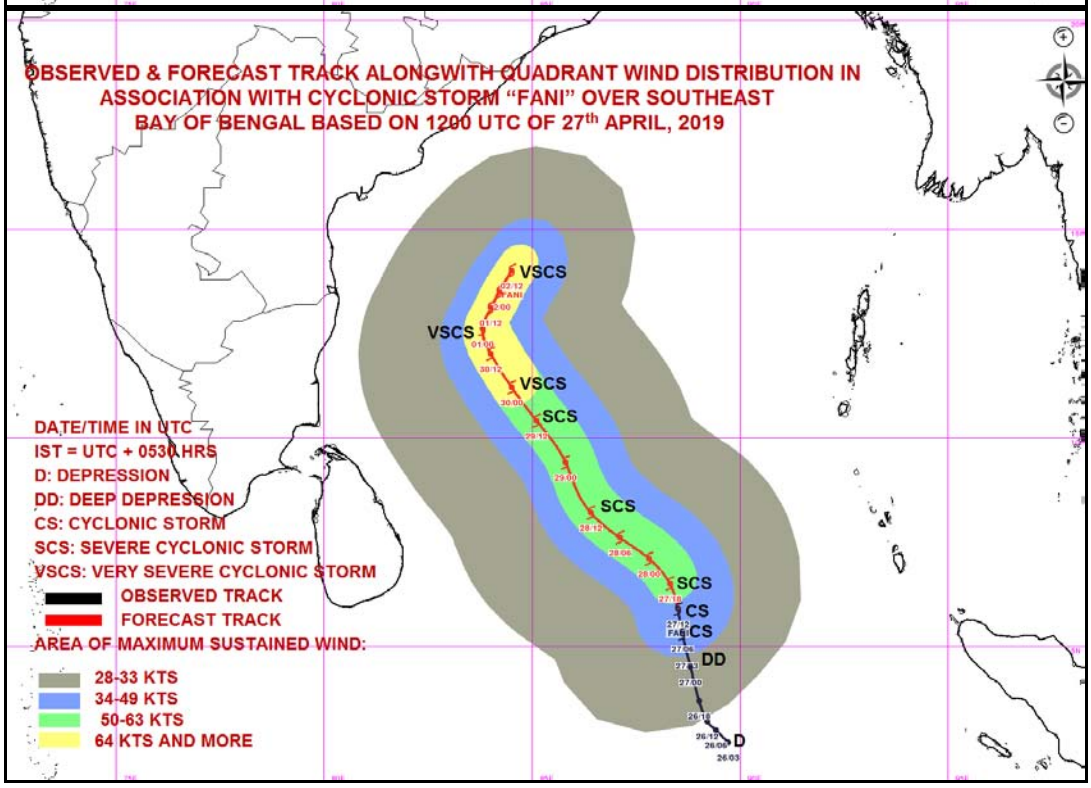
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 11 (BOB/02/2019)

TIME OF ISSUE: 0200 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (23421105, 23421219)
PIB MOES (FAX NO. 23389042)
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D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)
DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
CHIEF SECRETARY, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean moved north-northwestwards with a speed of about 15 kmph in last six hours and lay centred at 2330 hrs IST of 27th April, 2019 near latitude 6.6°N and longitude 88.0°E over southeast Bay of Bengal & neighbourhood, about 775 km east-southeast of Trincomalee (Sri Lanka), 1110 km southeast of Chennai (Tamil Nadu) and 1300 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 30th April and thereafter recurve northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
27.04.19/2330	6.6/88.0	80-90 gusting to 100	Cyclonic Storm
28.04.19/0530	7.1/87.8	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/1130	7.6/87.1	100-110 gusting to 125	Severe Cyclonic Storm
28.04.19/1730	8.2/86.4	110-120 gusting to 135	Severe Cyclonic Storm
28.04.19/2330	8.8/86.1	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/1130	9.9/85.5	120-130 gusting to 145	Very Severe Cyclonic Storm
29.04.19/2330	10.8/84.8	125-135 gusting to 150	Very Severe Cyclonic Storm
30.04.19/1130	11.6/84.3	135-145 gusting to 160	Very Severe Cyclonic Storm
30.04.19/2330	12.3/83.9	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/1130	12.8/83.9	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/2330	13.3/84.1	145-155 gusting to 170	Very Severe Cyclonic Storm
02.05.19/1130	13.7/84.3	145-155 gusting to 170	Very Severe Cyclonic Storm
02.05.19/2330	14.3/84.7	145-155 gusting to 170	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 28th morning over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th morning and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night. It is likely to decrease gradually thereafter with gale wind speed reaching 125-135 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 29th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019 and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.

(iv) Fishermen Warning

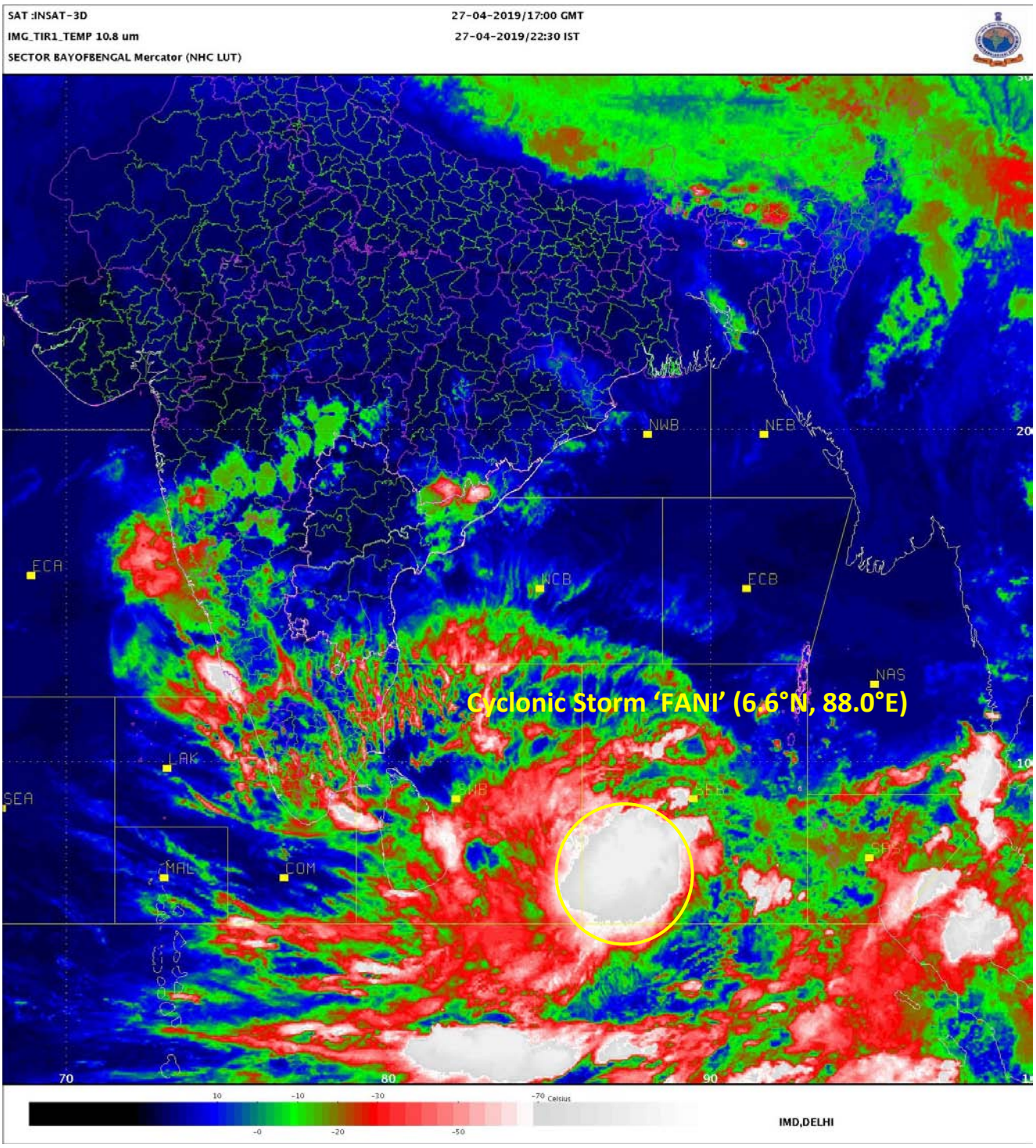
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 0530 hrs IST of 28th April, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

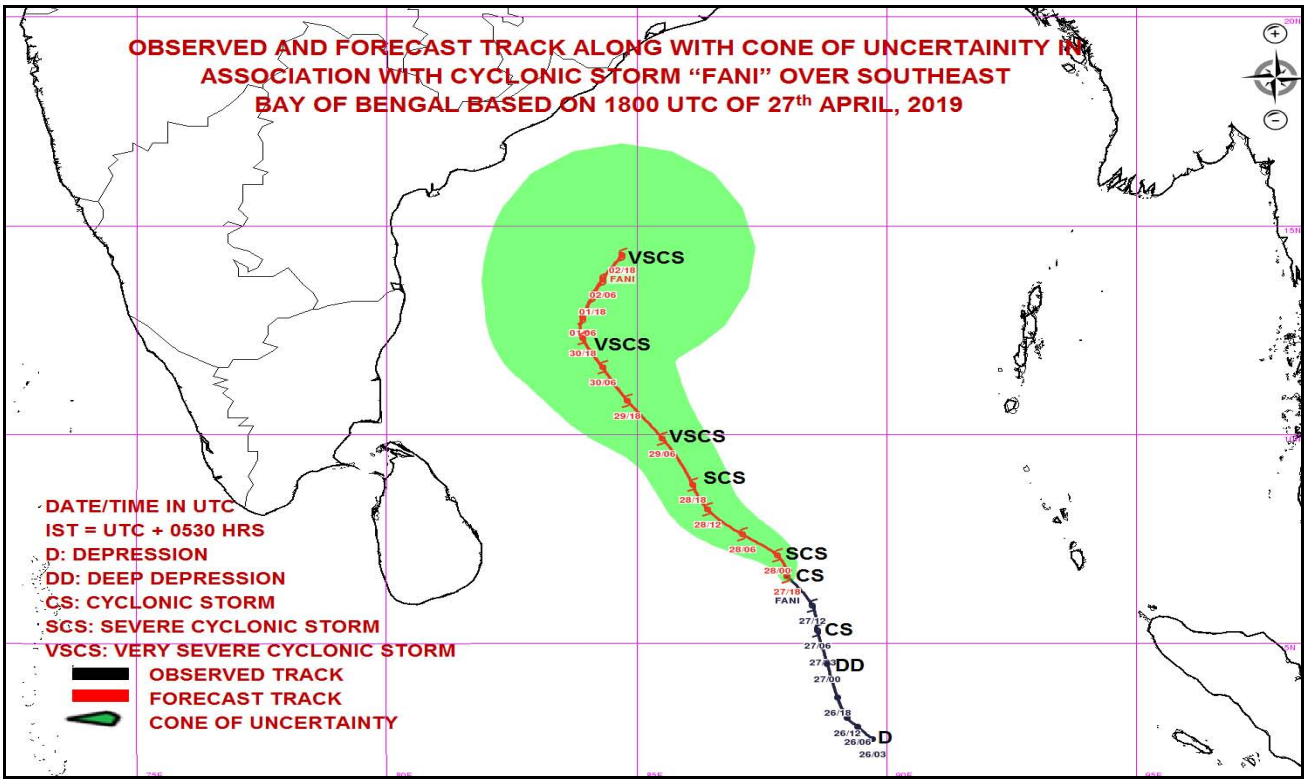
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

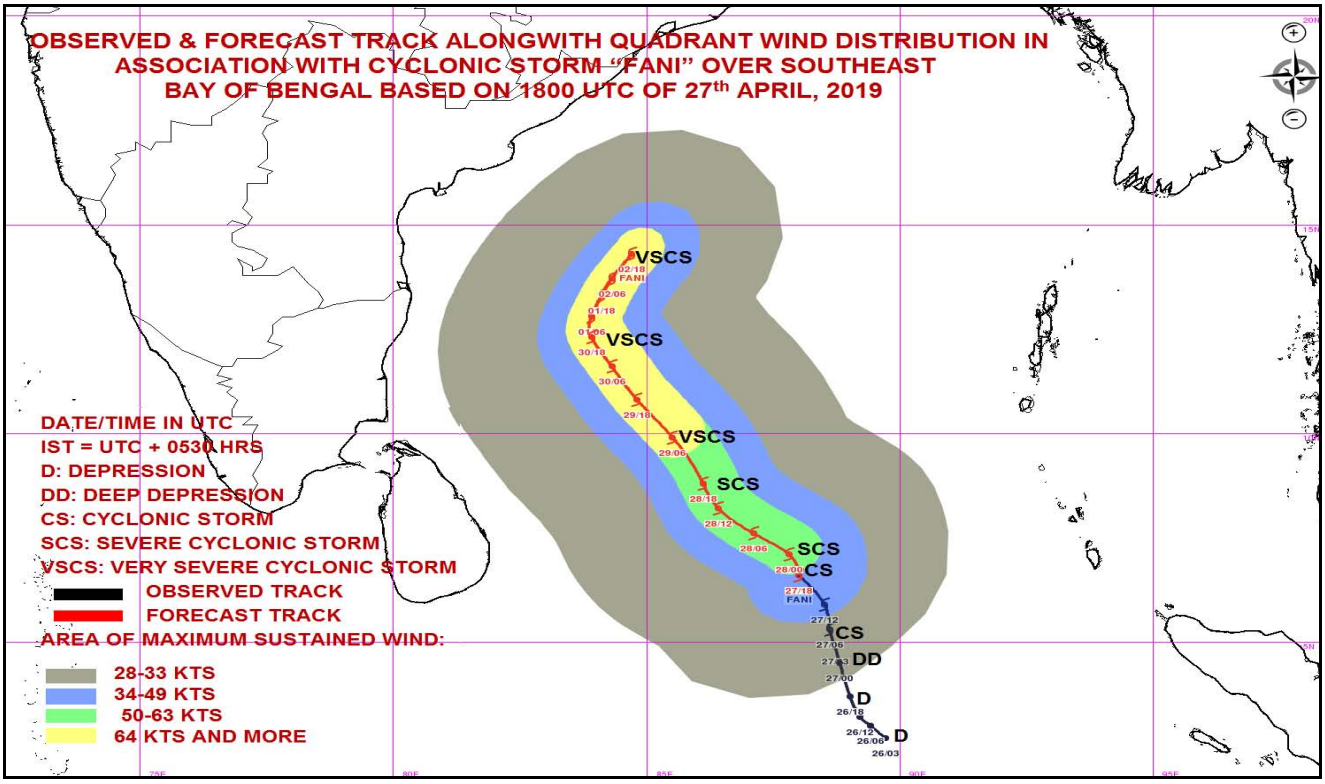
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 12 (BOB/02/2019)

TIME OF ISSUE: 0430 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & adjoining East Equatorial Indian Ocean moved north-northwestwards with a speed of about 15 kmph in last six hours and lay centred at 0230 hrs IST of 28th April, 2019 near latitude 6.9°N and longitude 87.9°E over southeast Bay of Bengal & neighbourhood, about 750 km east-southeast of Trincomalee (Sri Lanka), 1080 km southeast of Chennai (Tamil Nadu) and 1265 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 30th April and thereafter recurve northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/0230	6.9/87.9	80-90 gusting to 100	Cyclonic Storm
28.04.19/0530	7.1/87.8	95-105 gusting to 120	Severe Cyclonic Storm
28.04.19/1130	7.6/87.1	100-110 gusting to 125	Severe Cyclonic Storm
28.04.19/1730	8.2/86.4	110-120 gusting to 135	Severe Cyclonic Storm
28.04.19/2330	8.8/86.1	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/1130	9.9/85.5	120-130 gusting to 145	Very Severe Cyclonic Storm
29.04.19/2330	10.8/84.8	125-135 gusting to 150	Very Severe Cyclonic Storm
30.04.19/1130	11.6/84.3	135-145 gusting to 160	Very Severe Cyclonic Storm
30.04.19/2330	12.3/83.9	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/1130	12.8/83.9	145-155 gusting to 170	Very Severe Cyclonic Storm
01.05.19/2330	13.3/84.1	145-155 gusting to 170	Very Severe Cyclonic Storm
02.05.19/1130	13.7/84.3	145-155 gusting to 170	Very Severe Cyclonic Storm
02.05.19/2330	14.3/84.7	145-155 gusting to 170	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 30th April & 1st May, 2019.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 28th morning over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th morning and 145-155 kmph gusting to 170 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night. It is likely to decrease gradually thereafter with gale wind speed reaching 125-135 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 29th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019 and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.

(iv) Fishermen Warning

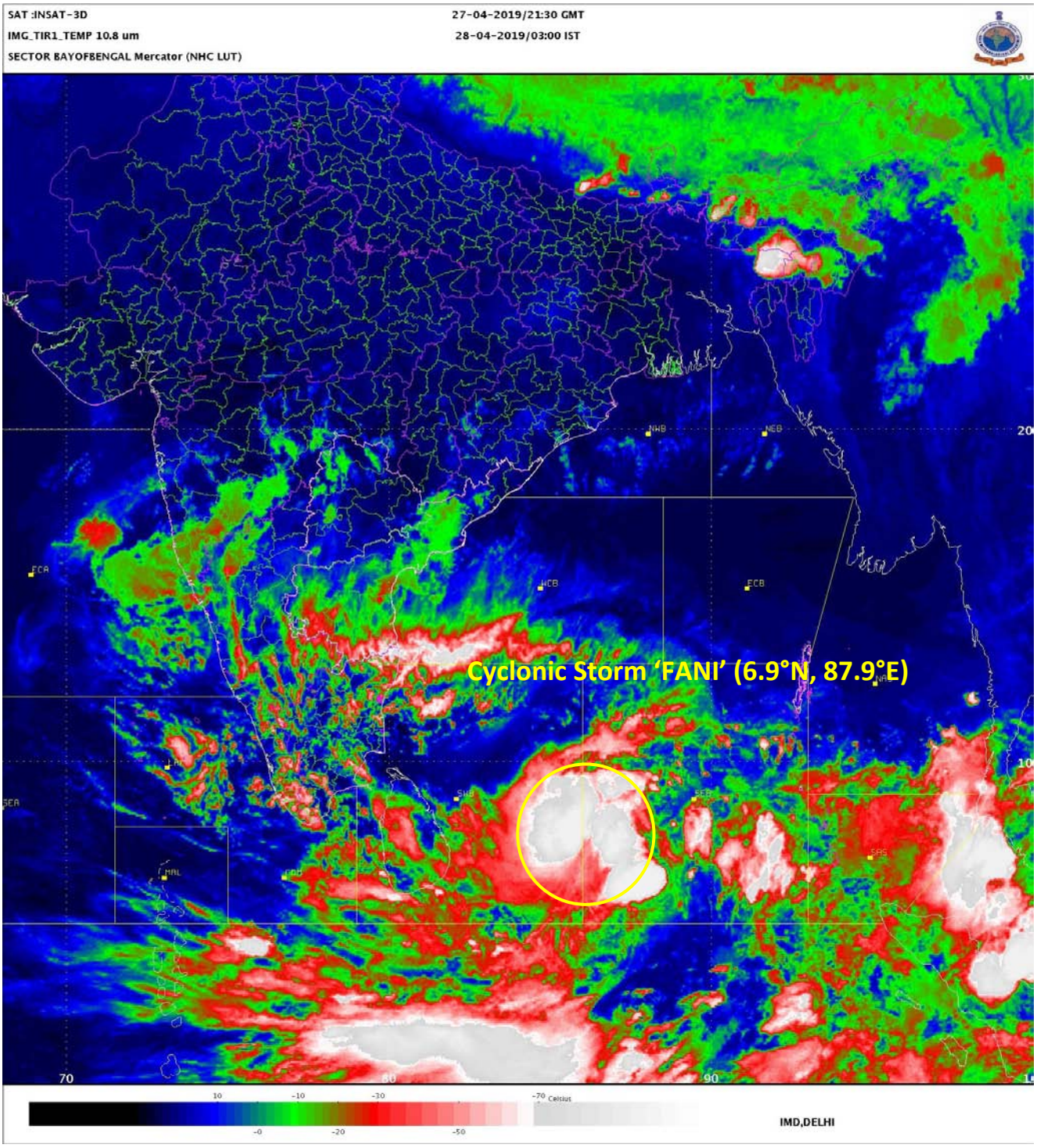
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 0830 hrs IST of 28th April, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

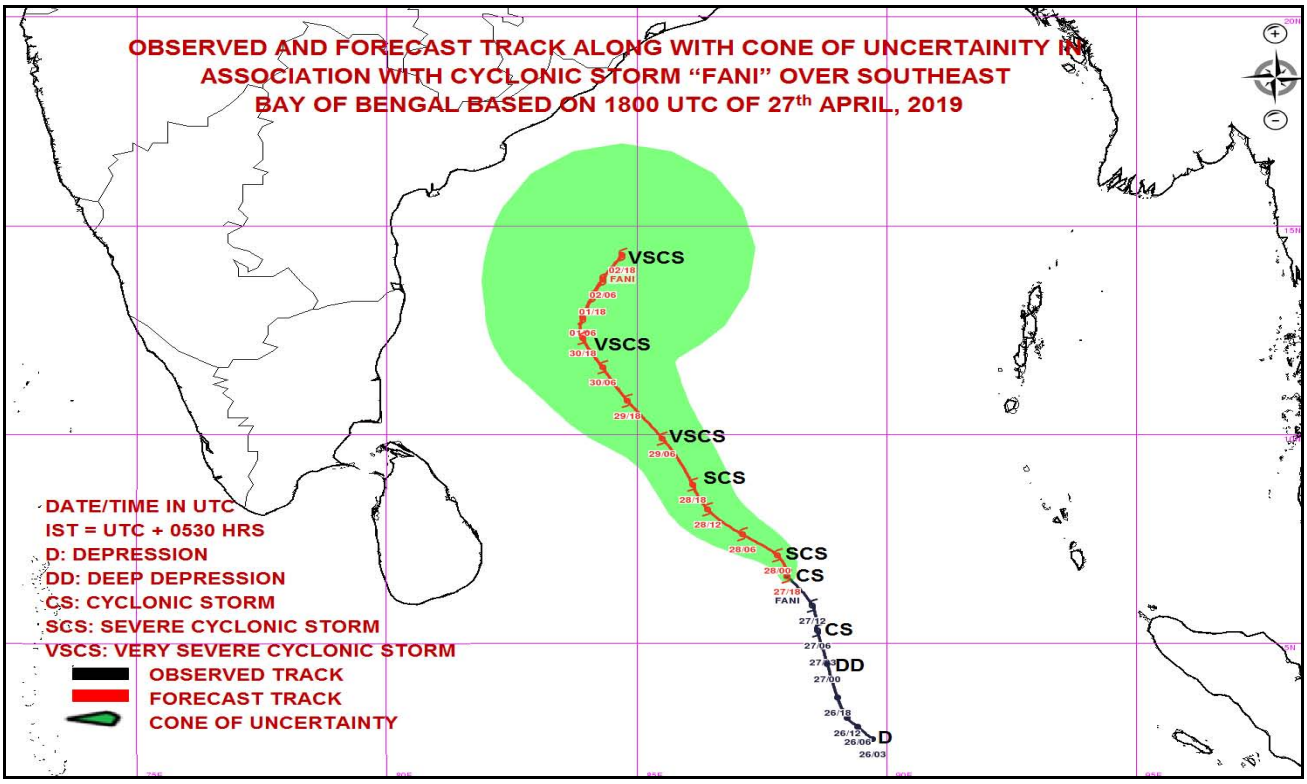
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

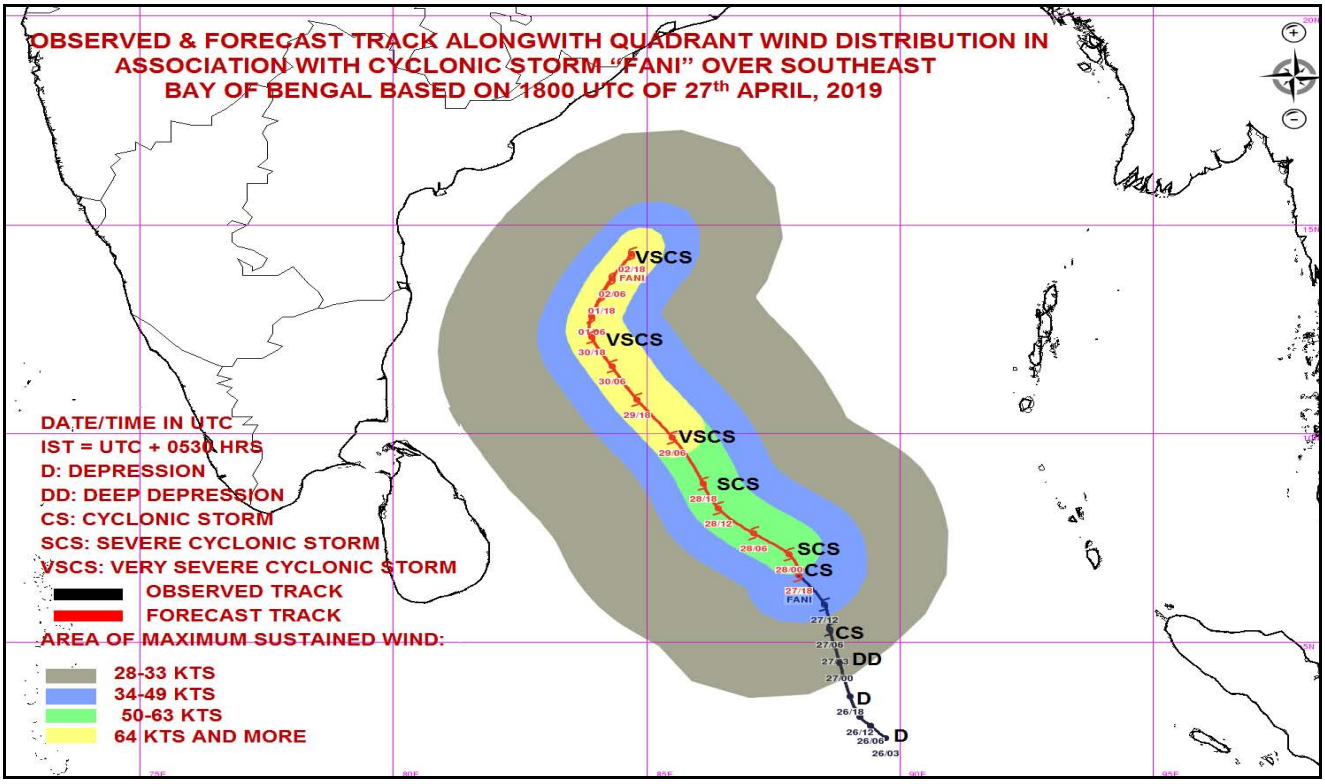
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 13 (BOB/02/2019)

TIME OF ISSUE: 0830 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved north-northwestwards with a speed of about 13 kmph in last six hours and lay centred at 0530 hrs IST of 28th April, 2019 near latitude 7.3°N and longitude 87.9°E over southeast Bay of Bengal & neighbourhood, about 745 km east-southeast of Trincomalee (Sri Lanka), 1050 km southeast of Chennai (Tamil Nadu) and 1230 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May and thereafter recurve northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position Lat. ^{0}N/ long. ^{0}E	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/0530	7.3/87.9	80-90 gusting to 100	Cyclonic Storm
28.04.19/1130	7.6/87.6	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	8.6/86.9	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/2330	9.1/86.6	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/0530	9.6/86.3	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.6/85.6	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.4/84.8	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1730	12.1/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
01.05.19/0530	12.7/83.8	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1730	13.4/83.4	150-160 gusting to 175	Very Severe Cyclonic Storm
02.05.19/0530	14.1/83.5	150-160 gusting to 175	Very Severe Cyclonic Storm
02.05.19/1730	14.8/83.7	140-150 gusting to 165	Very Severe Cyclonic Storm
03.05.19/0530	15.4/84.0	130-140 gusting to 155	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & coastal Andhra Pradesh on 29th & 30th April, 2019.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 28th evening over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 155-165 kmph gusting to 175 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to decrease gradually thereafter with gale wind speed reaching 130-140 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 29th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th night.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019 and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.

(iv) Fishermen Warning

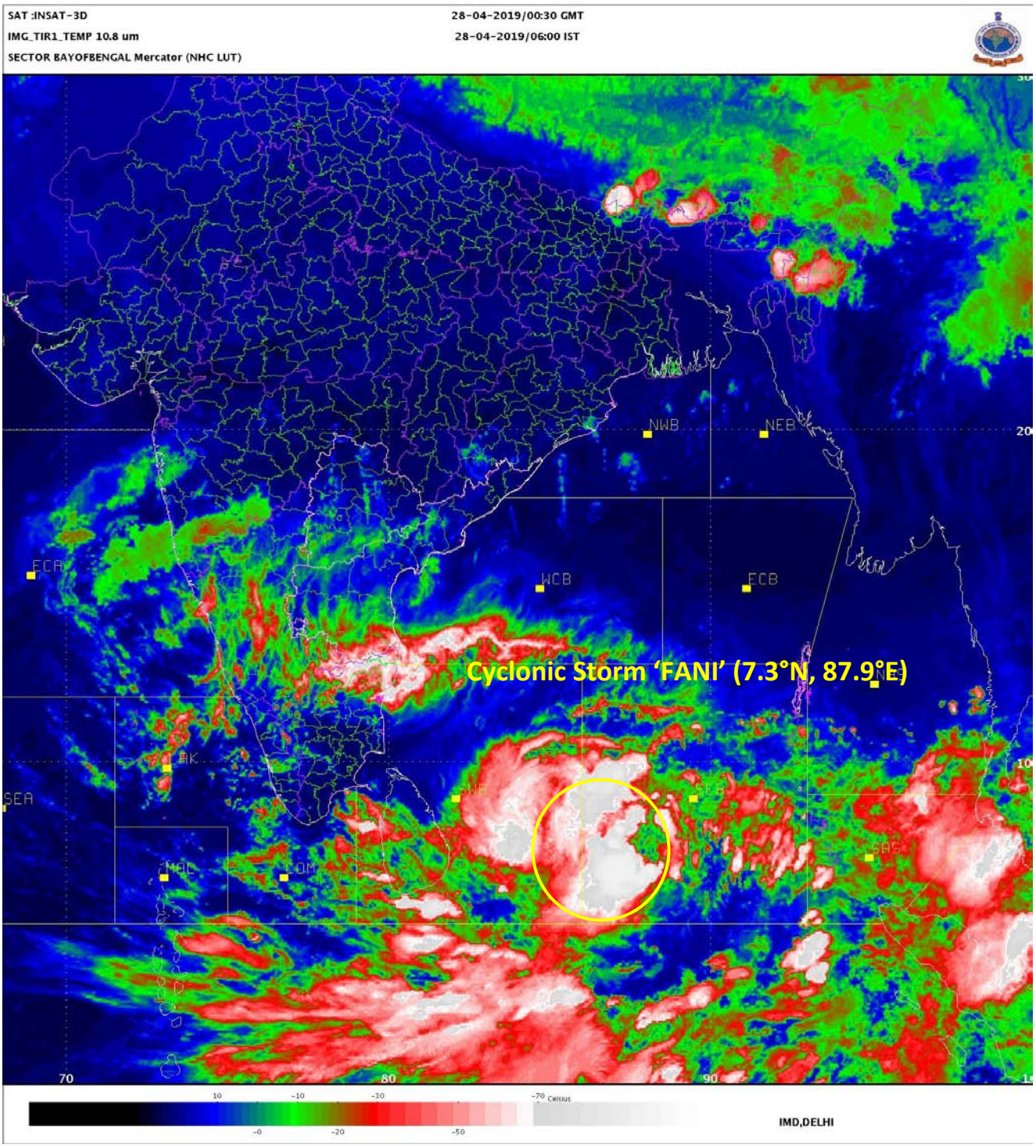
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May and westcentral Bay of Bengal off Andhra Pradesh Coast on 2nd May.
- Those, who are out in deep sea areas are advised return to the coast by 28th April, 2019.

The next bulletin will be issued at 1130 hrs IST of 28th April, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

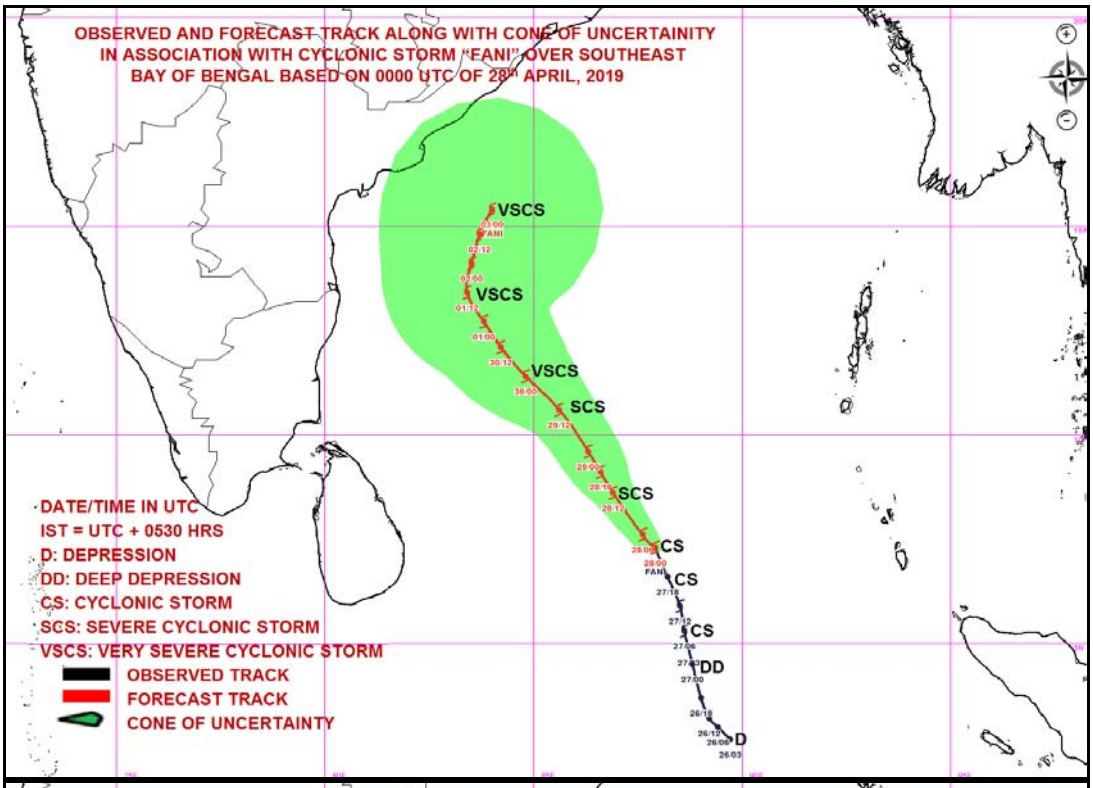
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

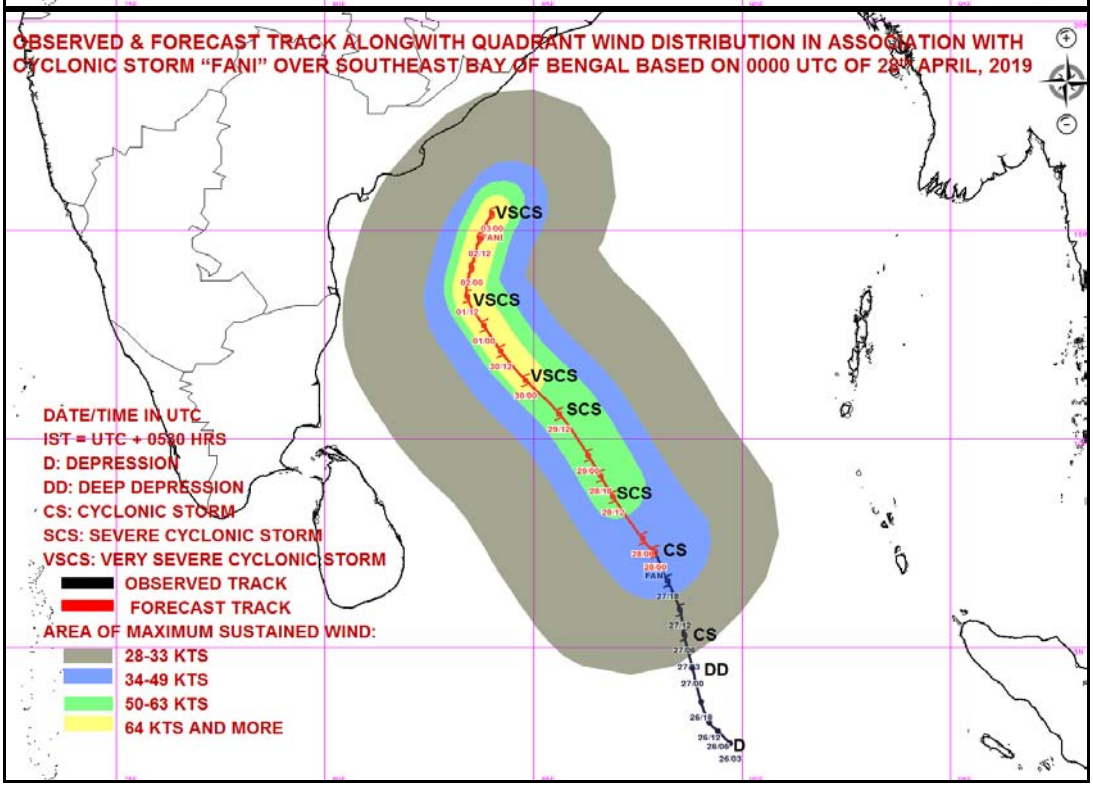
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 14 (BOB/02/2019)

TIME OF ISSUE: 1200 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwards with a speed of about 07 kmph in last six hours and lay centred at 0830 hrs IST of 28th April, 2019 near latitude 7.3°N and longitude 87.9°E over southeast Bay of Bengal & neighbourhood, about 745 km east-southeast of Trincomalee (Sri Lanka), 1050 km southeast of Chennai (Tamil Nadu) and 1230 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/0830	7.3/87.9	80-90 gusting to 100	Cyclonic Storm
28.04.19/1130	7.6/87.6	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	8.6/86.9	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/2330	9.1/86.6	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/0530	9.6/86.3	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.6/85.6	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.4/84.8	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1730	12.1/84.2	130-140 gusting to 155	Very Severe Cyclonic Storm
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01.05.19/1730	13.4/83.4	150-160 gusting to 175	Very Severe Cyclonic Storm
02.05.19/0530	14.1/83.5	150-160 gusting to 175	Very Severe Cyclonic Storm
02.05.19/1730	14.8/83.7	140-150 gusting to 165	Very Severe Cyclonic Storm
03.05.19/0530	15.4/84.0	130-140 gusting to 155	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to become 90-100 kmph gusting to 115 kmph from 28th evening over the same area; 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 150-160 kmph gusting to 175 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to become 130-140 kmph gusting to 150 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high to phenomenal over Southwest Bay of Bengal from 30th morning and phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts on 30th and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

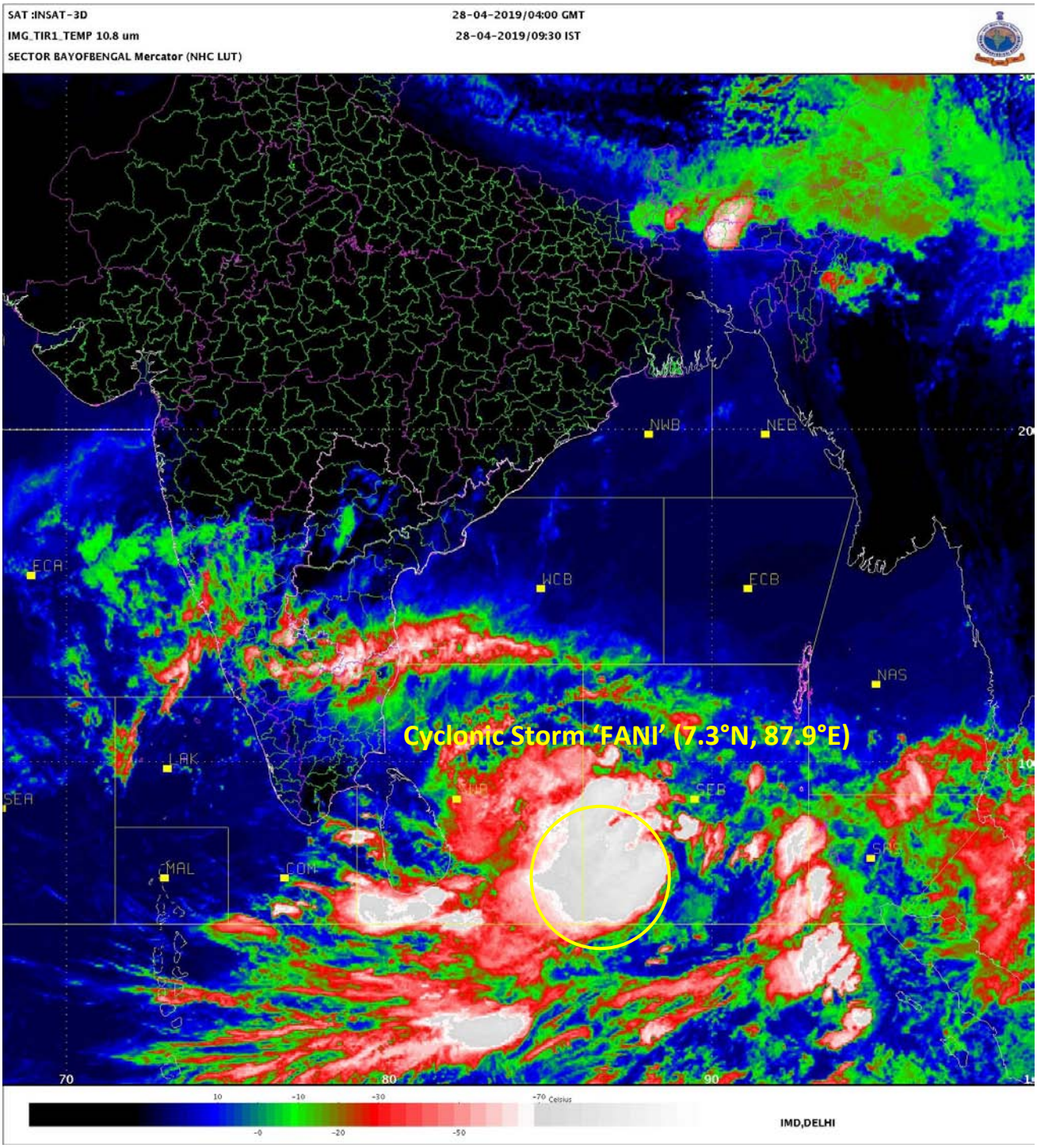
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 1430 hrs IST of 28th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

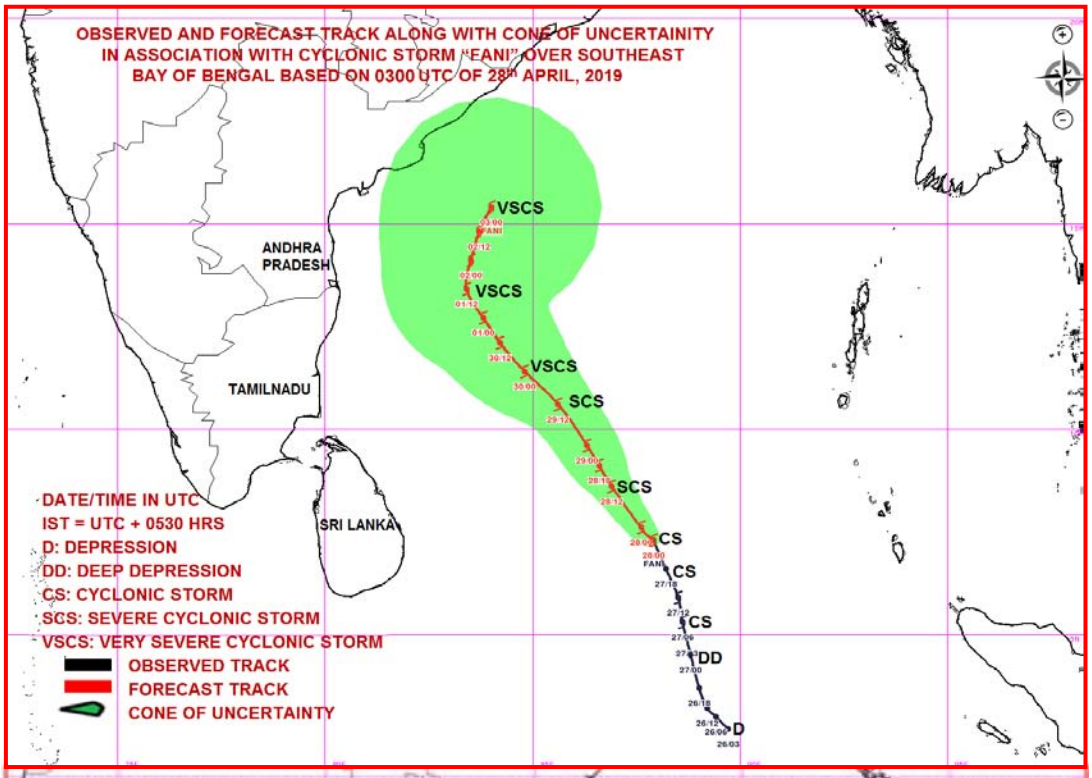
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

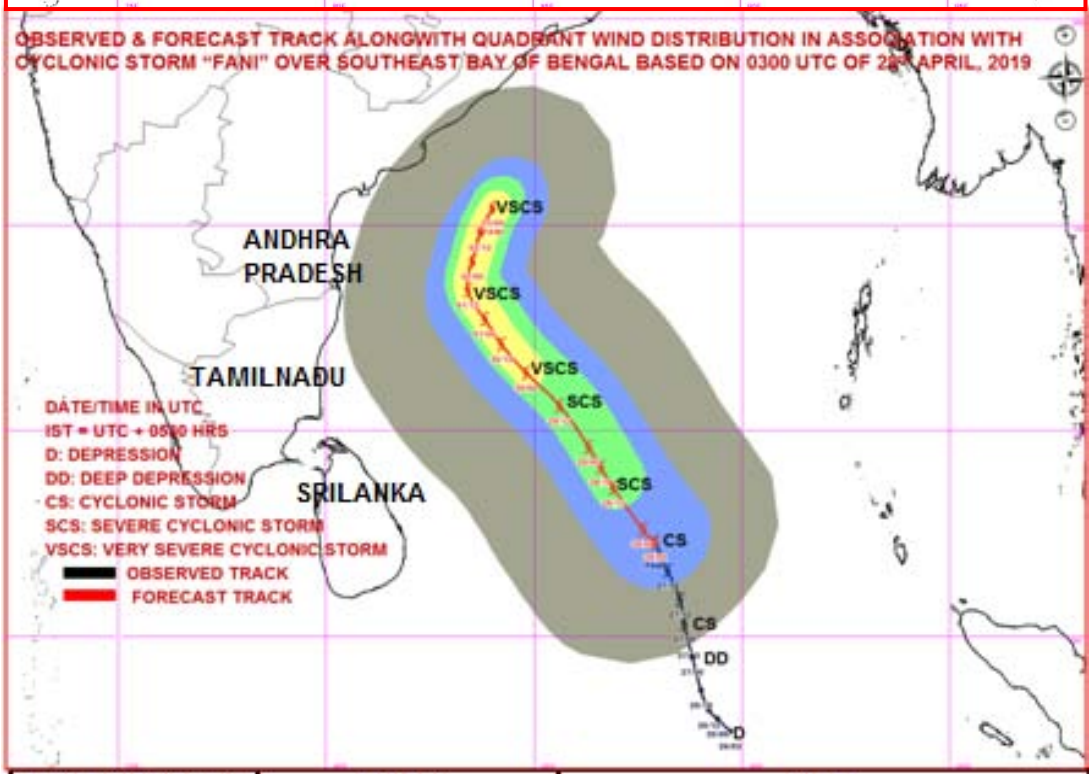
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 15 (BOB/02/2019)

TIME OF ISSUE: 1400 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwestwards with a speed of about 03 kmph in last six hours and lay centred at 1130 hrs IST of 28th April, 2019 near latitude 7.4°N and longitude 87.8°E over southeast Bay of Bengal & neighbourhood, about 730 km east-southeast of Trincomalee (Sri Lanka), 1040 km southeast of Chennai (Tamil Nadu) and 1210 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/1130	7.4/87.8	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	7.9/87.4	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/2330	8.4/86.9	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/0530	8.9/86.5	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1130	9.5/86.1	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.6/85.4	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.5/84.5	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.2/83.8	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	12.8/83.4	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/2330	13.4/83.1	160-170 gusting to 185	Extremely Severe Cyclonic Storm
02.05.19/1130	14.1/83.2	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/2330	15.2/83.6	160-170 gusting to 185	Extremely Severe Cyclonic Storm
03.05.19/1130	16.4/84.1	150-160 gusting to 175	Very Severe Cyclonic Storm

Warnings:

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.

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th night and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May night. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high from today, the 28th evening over the same area. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 29th night and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

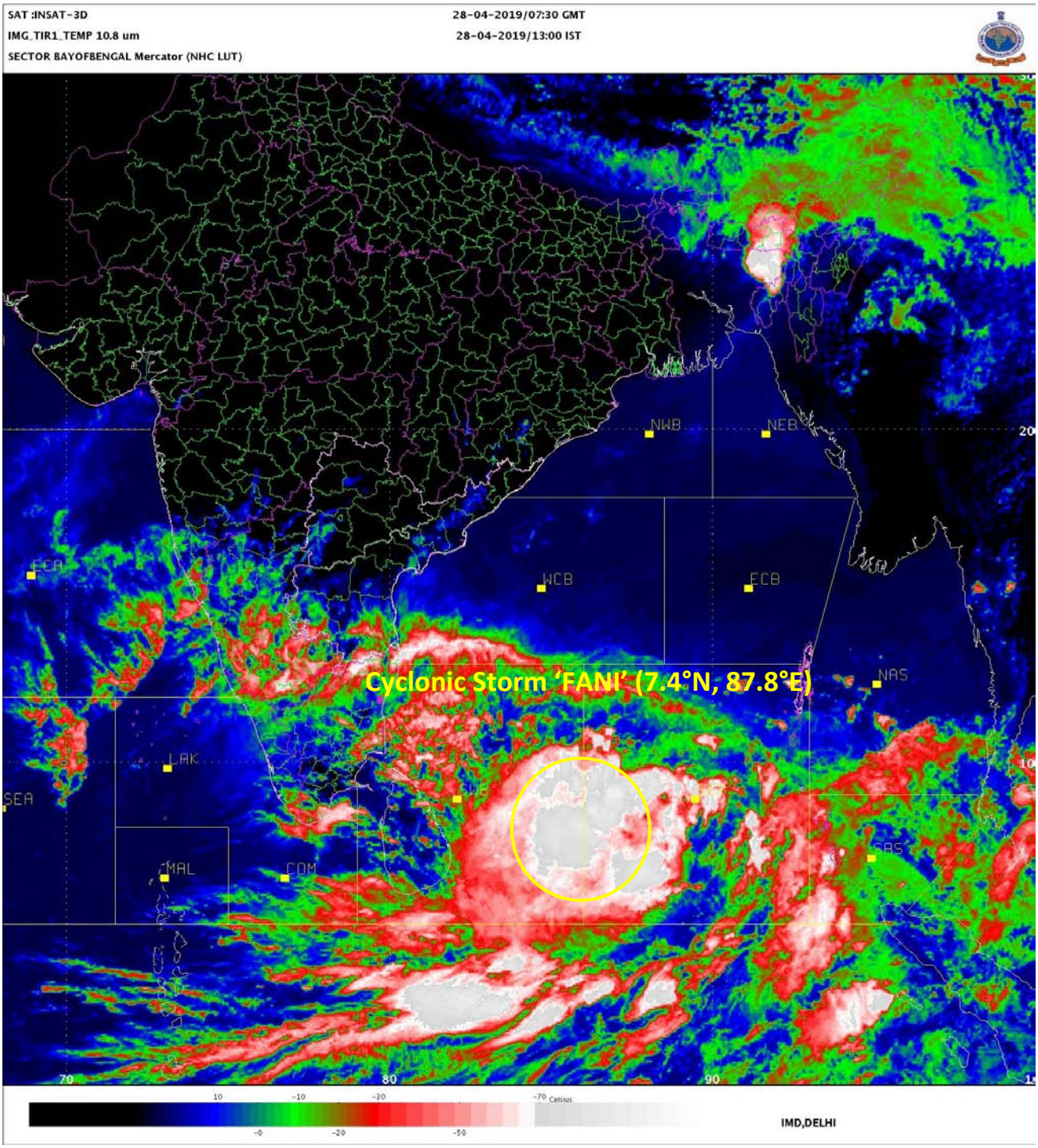
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 1730 hrs IST of 28th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

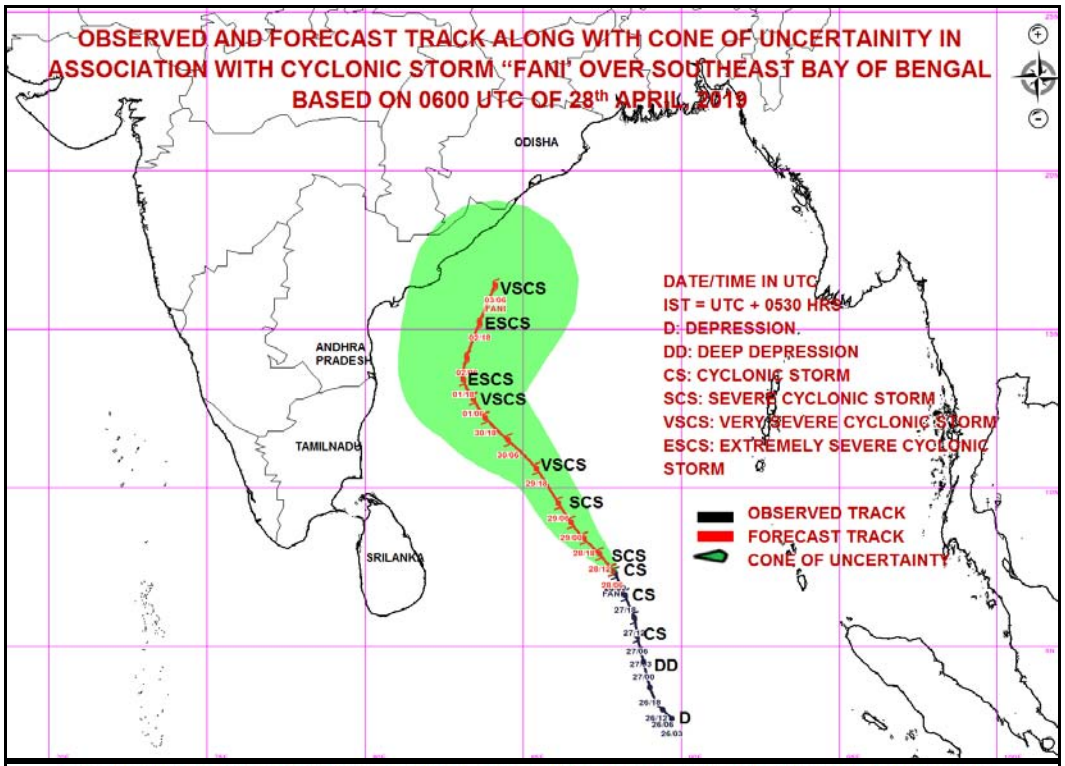
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

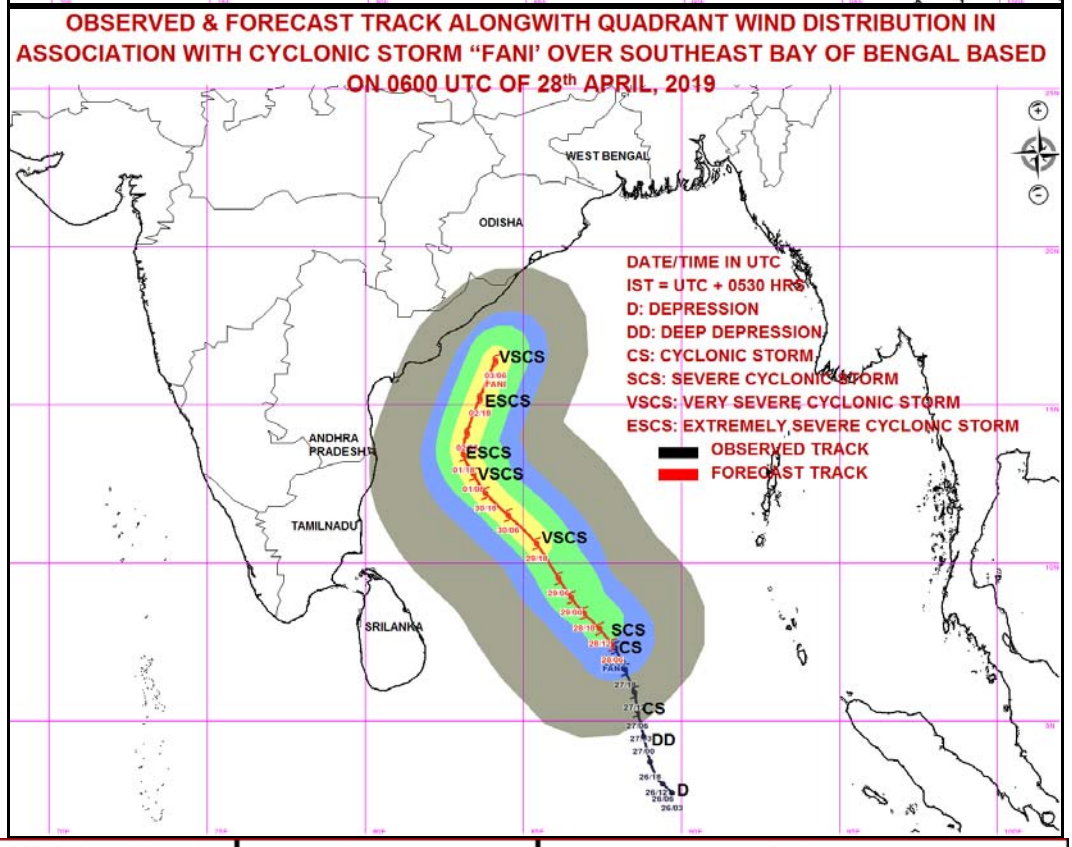
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 16 (BOB/02/2019)

TIME OF ISSUE: 1630 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwestwards with a speed of about 10 kmph in last six hours and lay centred at 1430 hrs IST of 28th April, 2019 near latitude 7.7°N and longitude 87.5°E over southeast Bay of Bengal & neighbourhood, about 690 km east-southeast of Trincomalee (Sri Lanka), 990 km southeast of Chennai (Tamil Nadu) and 1170 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 06 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/1430	7.7/87.5	80-90 gusting to 100	Cyclonic Storm
28.04.19/1730	7.9/87.4	90-100 gusting to 115	Severe Cyclonic Storm
28.04.19/2330	8.4/86.9	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/0530	8.9/86.5	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1130	9.5/86.1	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.6/85.4	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.5/84.5	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.2/83.8	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	12.8/83.4	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/2330	13.4/83.1	160-170 gusting to 185	Extremely Severe Cyclonic Storm
02.05.19/1130	14.1/83.2	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/2330	15.2/83.6	160-170 gusting to 185	Extremely Severe Cyclonic Storm
03.05.19/1130	16.4/84.1	150-160 gusting to 175	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 29th night and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May night. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high from today, the 28th evening over the same area. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 29th night and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

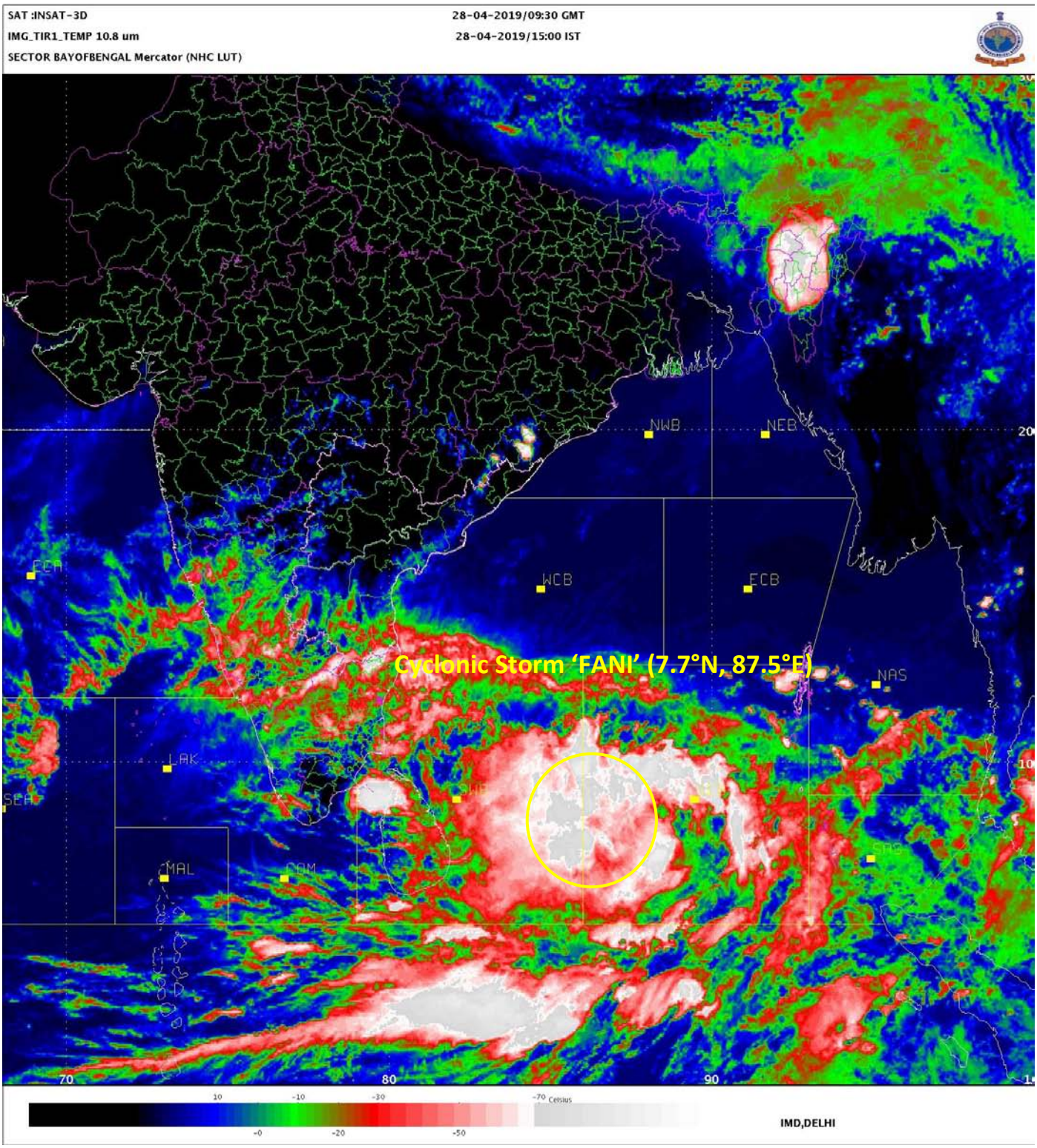
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 2030 hrs IST of 28th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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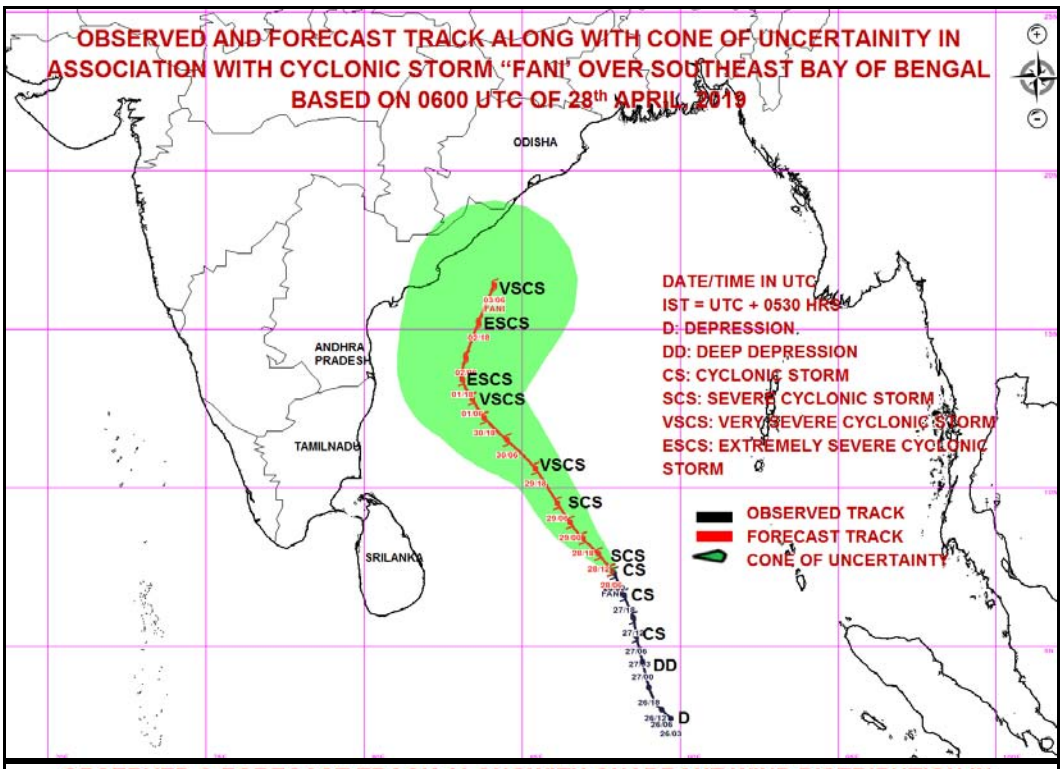

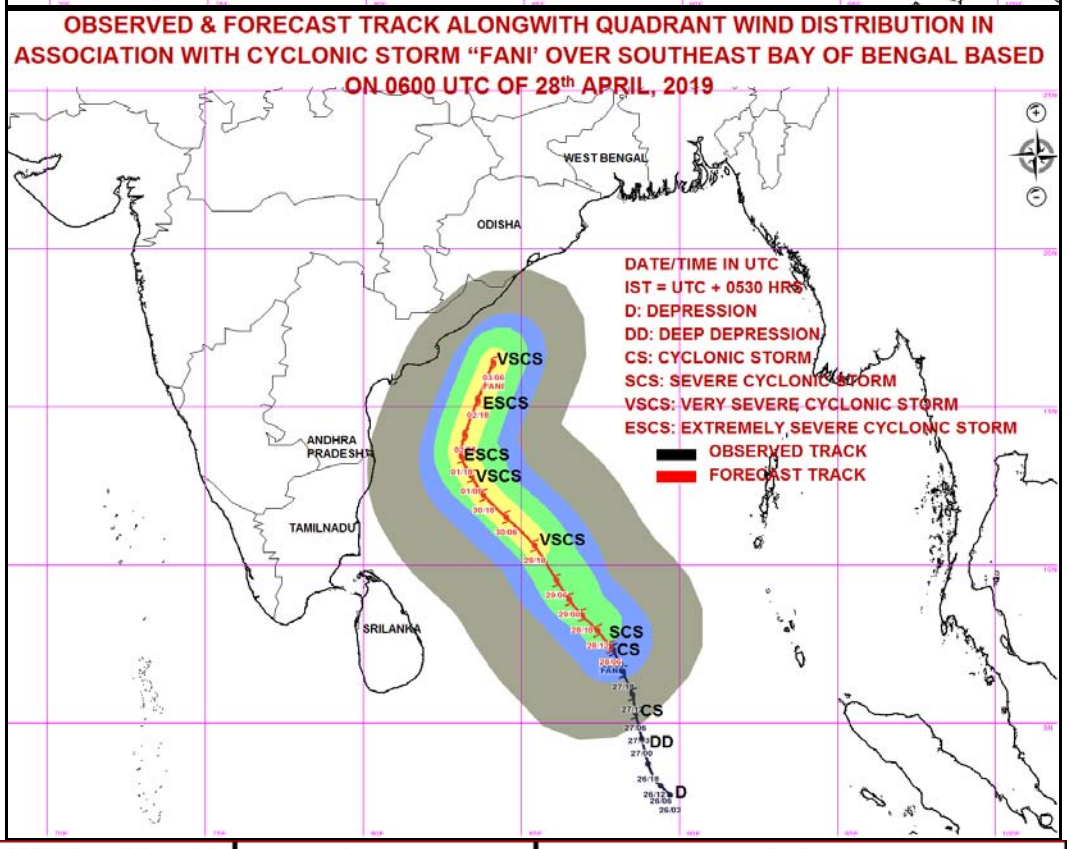

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 17 (BOB/02/2019)

TIME OF ISSUE: 2030 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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)
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PIB MOES (FAX NO. 23389042)
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D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)
DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
CHIEF SECRETARY, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
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CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwestwards with a speed of about 21 kmph in last six hours and lay centred at 1730 hrs IST of 28th April, 2019 near latitude 8.2°N and longitude 87.0°E over southeast Bay of Bengal & neighbourhood, about 630 km east of Trincomalee (Sri Lanka), 910 km southeast of Chennai (Tamil Nadu) and 1090 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
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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.

Warnings:

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- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
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- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

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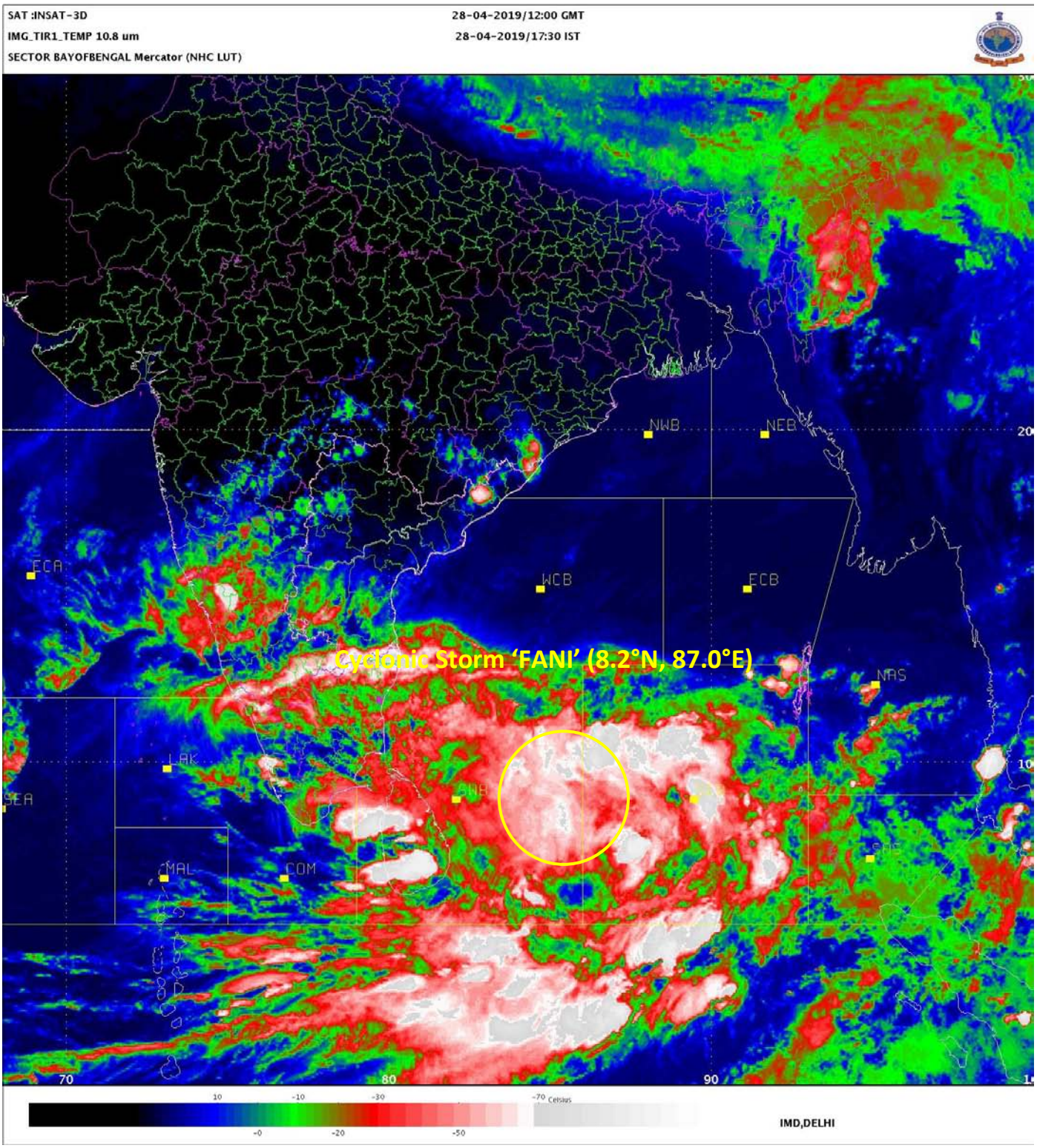
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 2330 hrs IST of 28th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

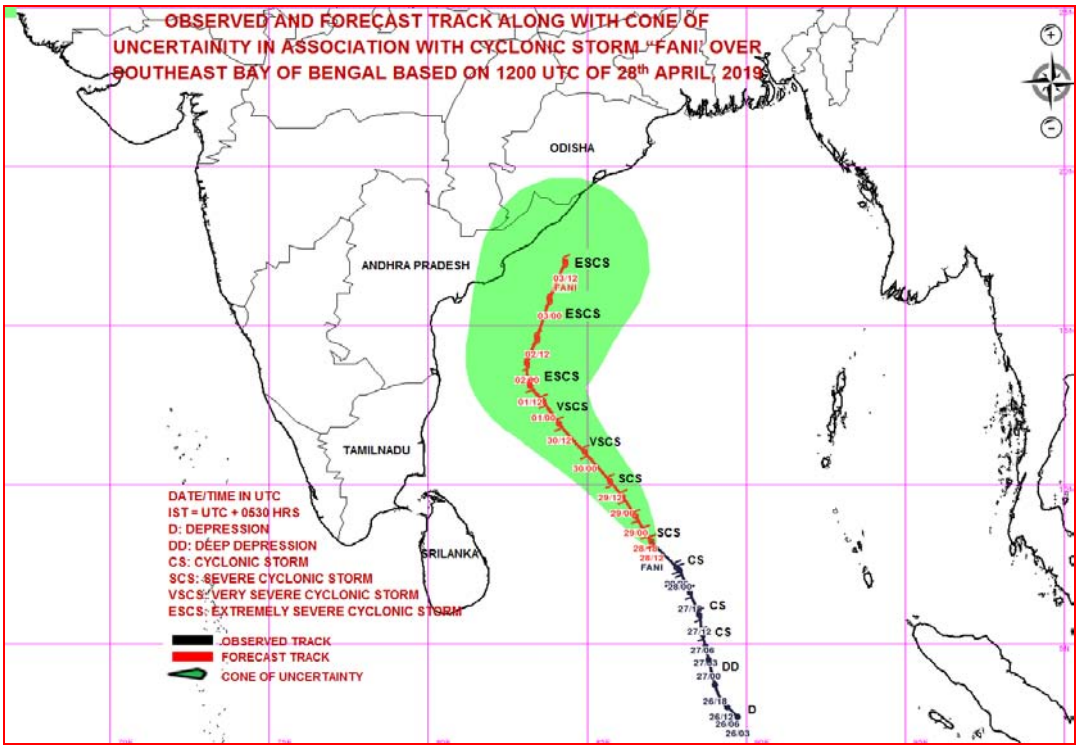
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

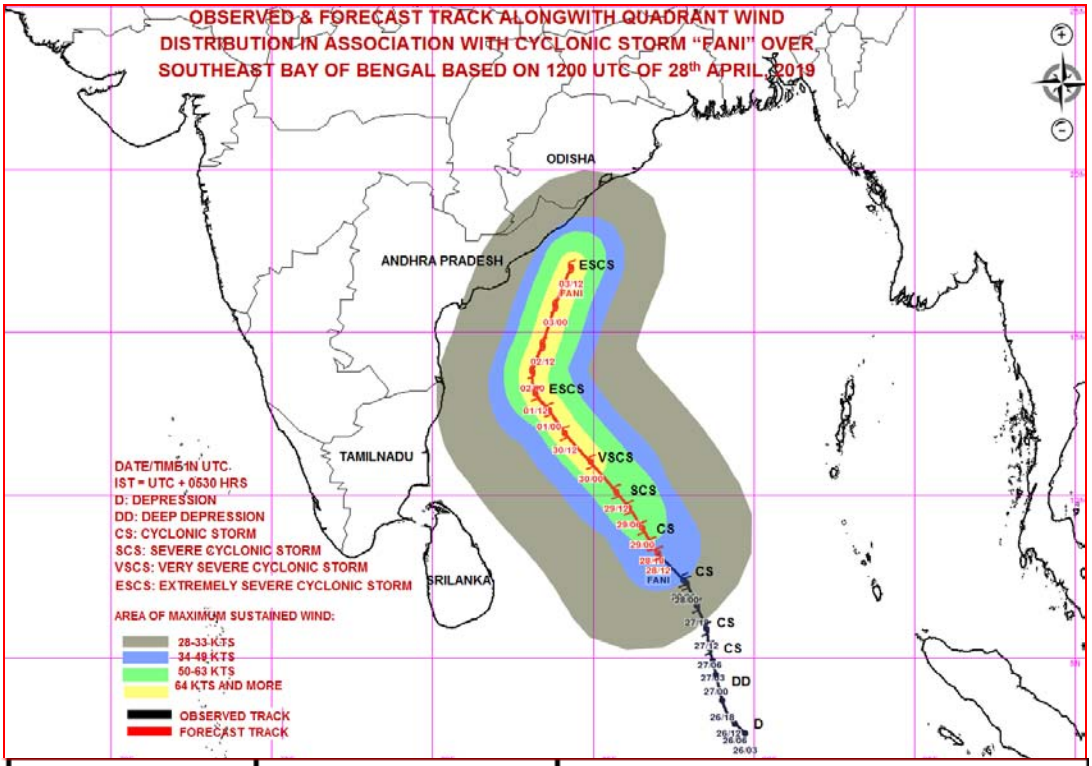
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 18 (BOB/02/2019)

TIME OF ISSUE: 2245 HOURS IST **DATED: 28.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwestwards with a speed of about 16 kmph in last six hours and lay centred at 2030 hrs IST of 28th April, 2019 near latitude 8.3°N and longitude 86.9°E over southeast Bay of Bengal & neighbourhood, about 620 km east of Trincomalee (Sri Lanka), 900 km southeast of Chennai (Tamil Nadu) and 1070 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/2030	8.3/86.9	80-90 gusting to 100	Cyclonic Storm
28.04.19/2330	8.5/86.8	85-95 gusting to 105	Cyclonic Storm
29.04.19/0530	9.0/86.5	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/1130	9.6/86.1	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.1/85.7	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.0/84.9	120-130 gusting to 145	Severe Cyclonic Storm
30.04.19/1730	11.9/84.1	130-140 gusting to 155	Very Severe Cyclonic Storm
01.05.19/0530	12.6/83.6	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/1730	13.1/83.3	160-170 gusting to 185	Extremely Severe Cyclonic Storm
02.05.19/0530	13.8/83.3	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/1730	14.6/83.4	160-170 gusting to 185	Extremely Severe Cyclonic Storm
03.05.19/0530	15.8/83.8	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/1730	17.0/84.3	150-160 gusting to 175	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 28th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 29th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th morning along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 28th evening and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 29th & 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is very likely to become very high from today, the 28th evening over the same area. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th evening and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

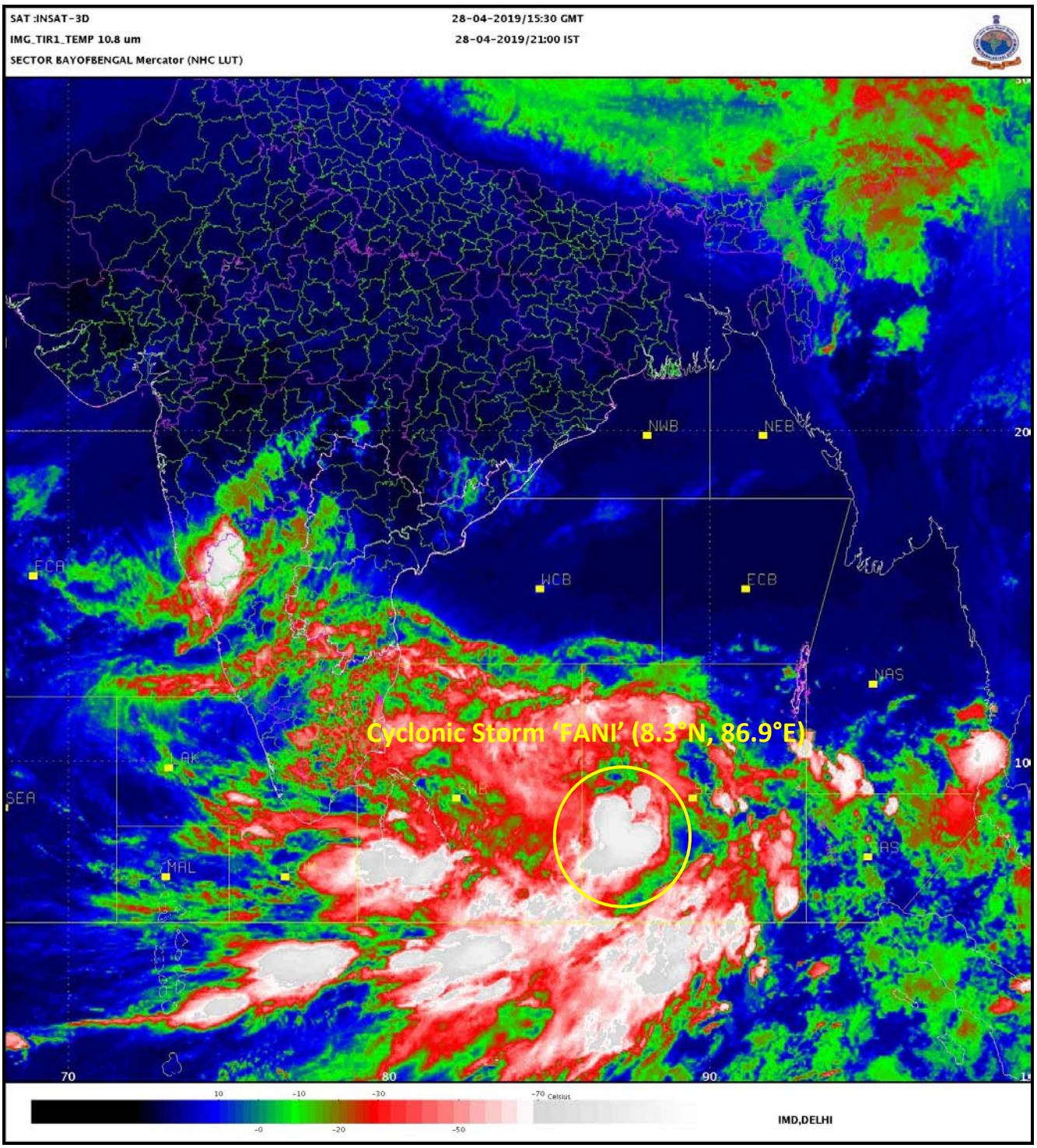
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 28th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 0230 hrs IST of 29th April, 2019.

(D.R. Pattanaik)
Scientist-E, RSMC, New Delhi

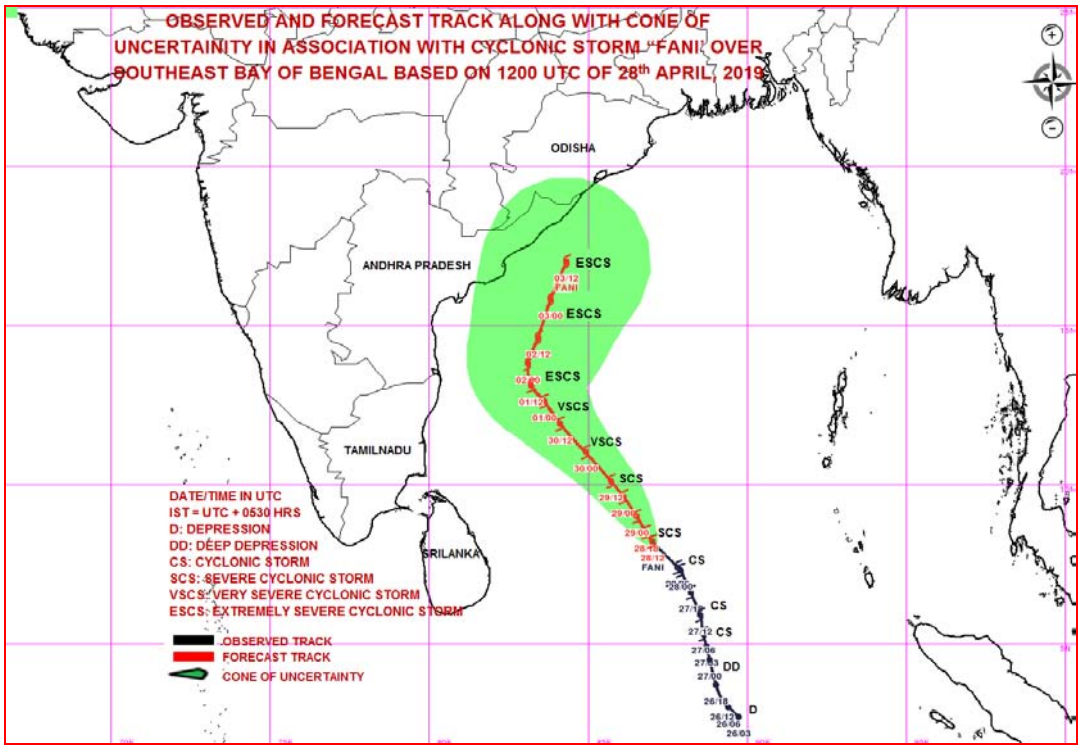
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

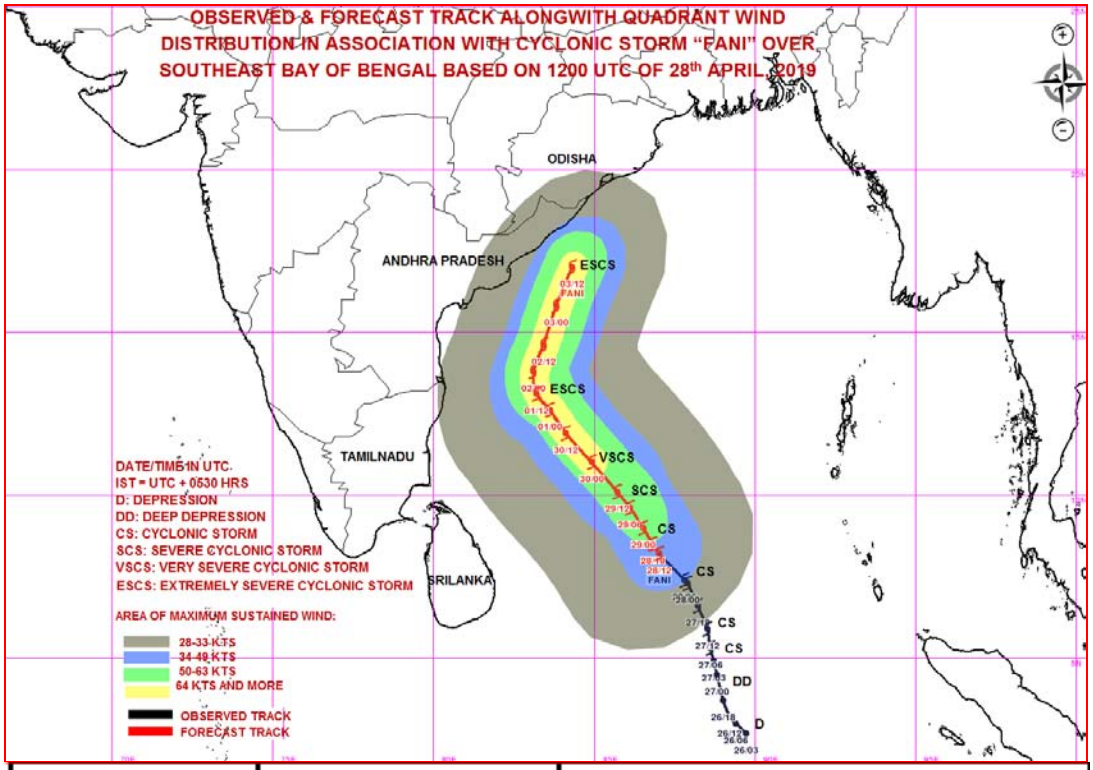
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 19 (BOB/02/2019)

TIME OF ISSUE: 0200 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved north-northwestwards with a speed of about 04 kmph in last six hours and lay centred at 2330 hrs IST of 28th April, 2019 near latitude 8.4°N and longitude 86.9°E over southeast Bay of Bengal & neighbourhood, about 620 km east of Trincomalee (Sri Lanka), 890 km southeast of Chennai (Tamil Nadu) and 1060 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
28.04.19/2330	8.4/86.9	85-95 gusting to 105	Cyclonic Storm
29.04.19/0530	9.0/86.5	90-100 gusting to 115	Severe Cyclonic Storm
29.04.19/1130	9.6/86.1	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.1/85.7	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.5/85.3	115-125 gusting to 140	Severe Cyclonic Storm
30.04.19/1130	11.5/84.5	125-135 gusting to 150	Very Severe Cyclonic Storm
30.04.19/2330	12.3/83.9	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	12.8/83.5	155-165 gusting to 180	Very Severe Cyclonic Storm
01.05.19/2330	13.5/83.3	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/1130	14.2/83.4	165-175 gusting to 190	Extremely Severe Cyclonic Storm
02.05.19/2330	15.2/83.6	155-165 gusting to 180	Very Severe Cyclonic Storm
03.05.19/1130	16.4/84.1	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	17.6/84.6	140-150 gusting to 165	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 29th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 29th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th evening and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

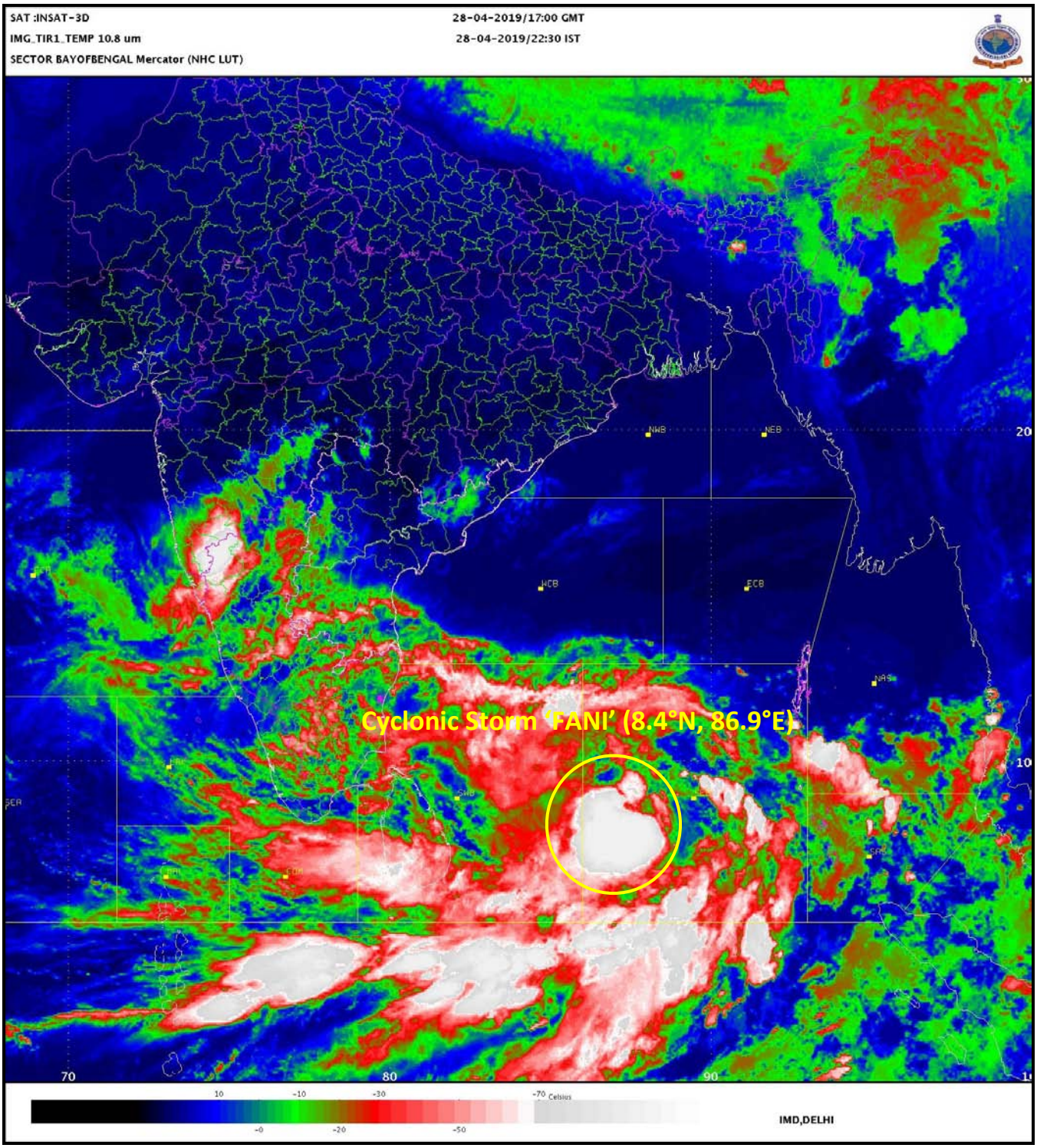
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 29th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 0530 hrs IST of 29th April, 2019.

(D.R. Pattanaik)
Scientist-E, RSMC, New Delhi

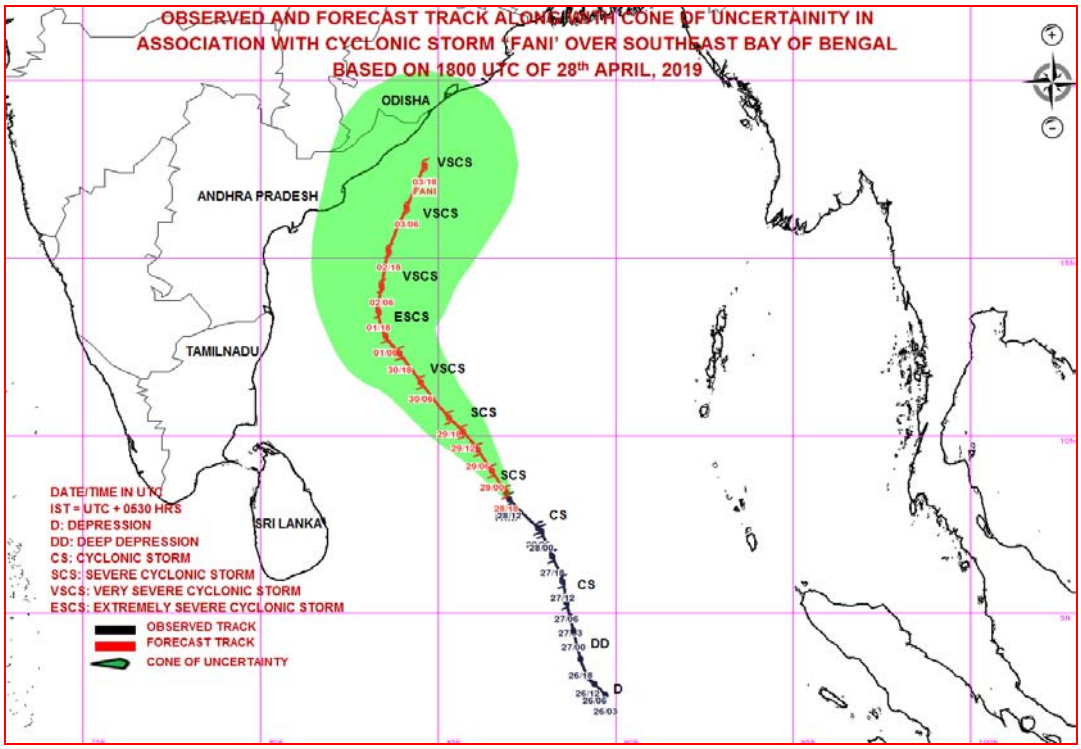
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

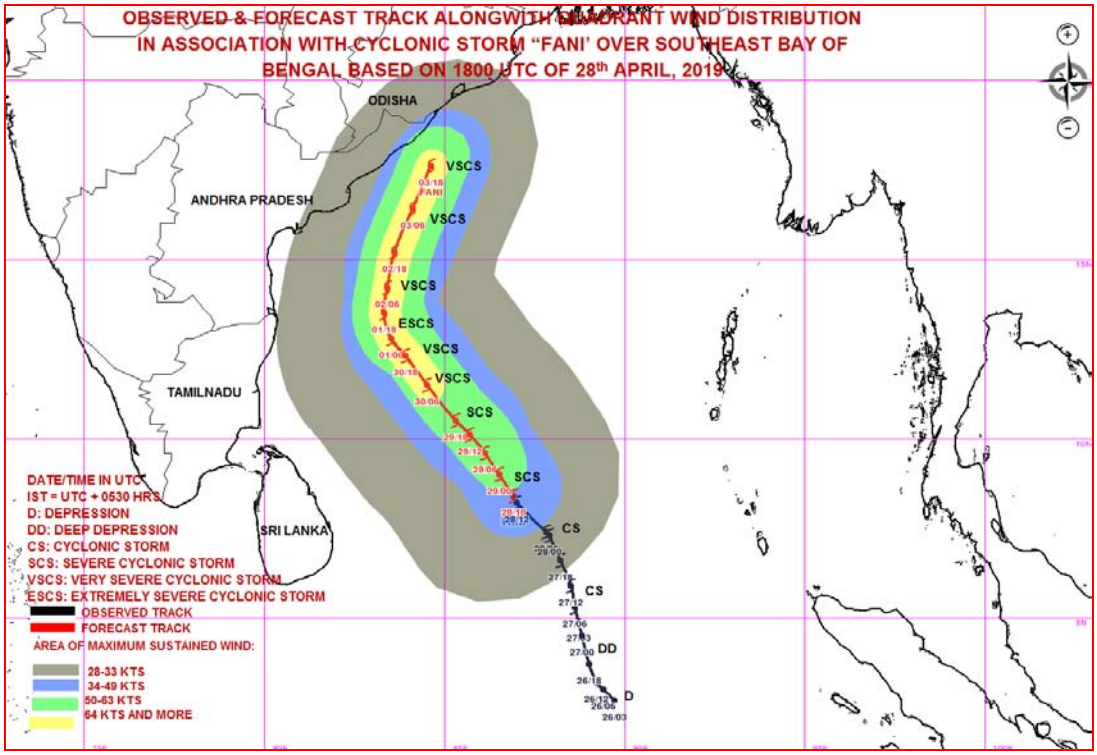
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 20 (BOB/02/2019)

TIME OF ISSUE: 0540 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwards with a speed of about 04 kmph in last six hours and lay centred at 0230 hrs IST of 29th April, 2019 near latitude 8.5°N and longitude 86.9°E over southeast Bay of Bengal & neighbourhood, about 620 km east of Trincomalee (Sri Lanka), 880 km southeast of Chennai (Tamil Nadu) and 1050 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 06 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/0230	8.5/86.9	85-95 gusting to 105	Cyclonic Storm
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29.04.19/1130	9.6/86.1	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/1730	10.1/85.7	110-120 gusting to 135	Severe Cyclonic Storm
29.04.19/2330	10.5/85.3	115-125 gusting to 140	Severe Cyclonic Storm
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01.05.19/2330	13.5/83.3	170-180 gusting to 195	Extremely Severe Cyclonic Storm
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02.05.19/2330	15.2/83.6	155-165 gusting to 180	Very Severe Cyclonic Storm
03.05.19/1130	16.4/84.1	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	17.6/84.6	140-150 gusting to 165	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening. It is likely to become 150-160 kmph gusting to 175 kmph over westcentral Bay of Bengal off Andhra Pradesh Coast on 3rd May 2019.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar from 29th morning, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Kerala coast from 29th morning and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th evening and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

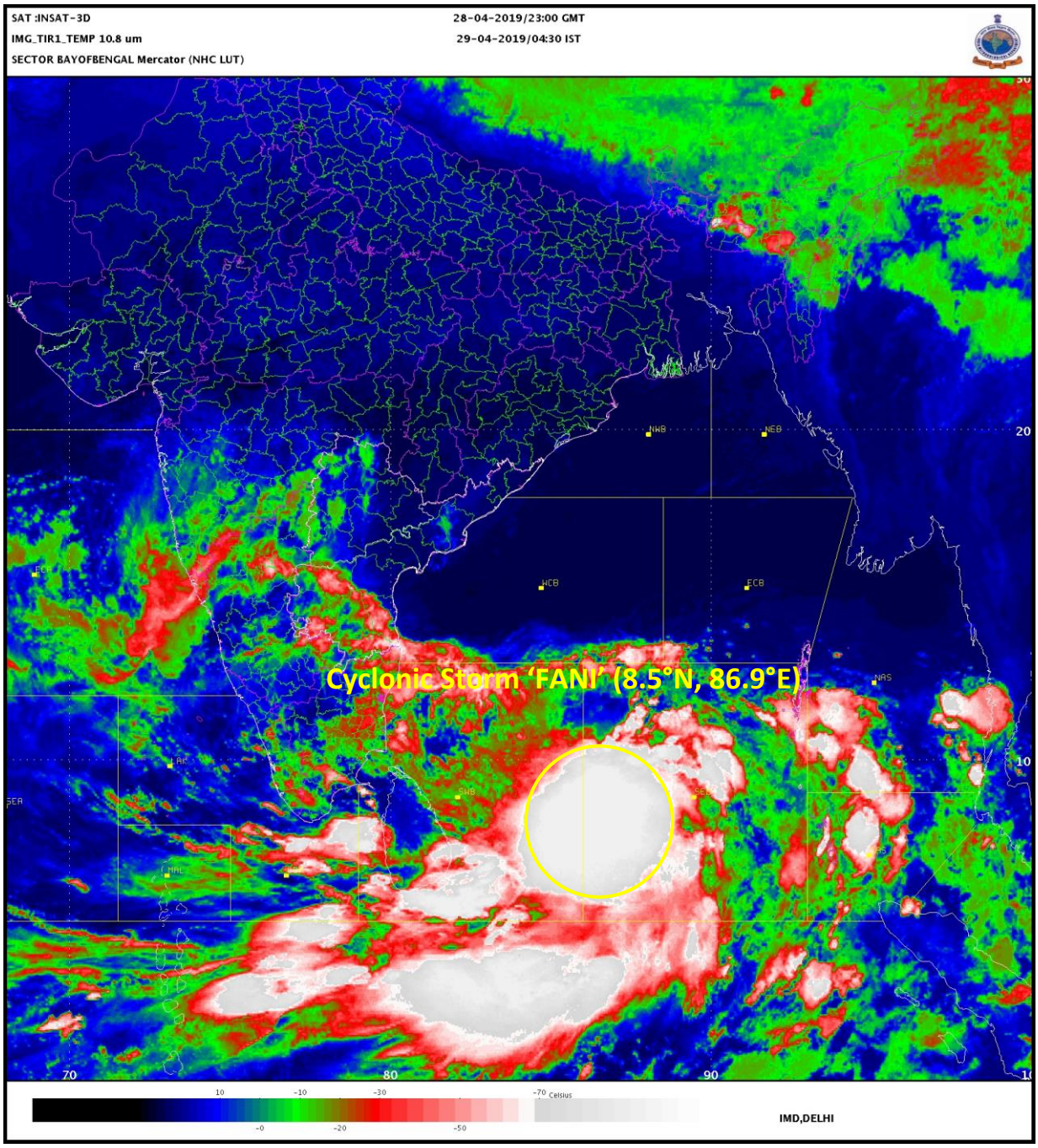
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, over Southwest Bay of Bengal and off Sri Lanka coast on 29th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, along & off westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 0830 hrs IST of 29th April, 2019.

(D.R. Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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

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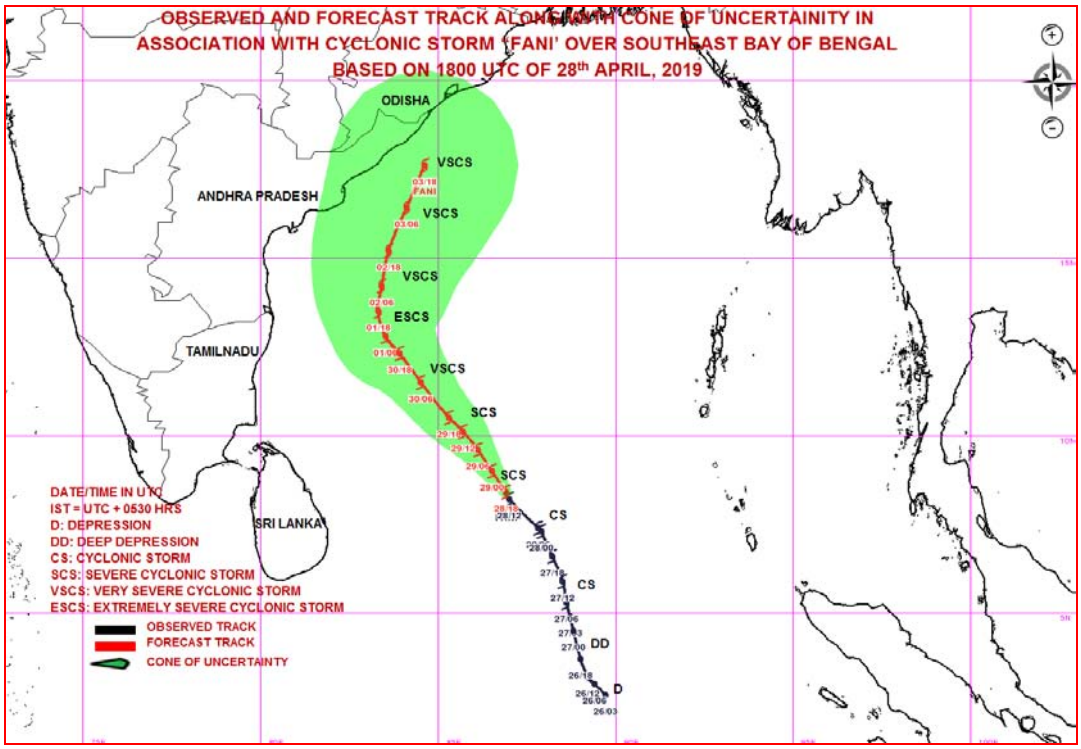
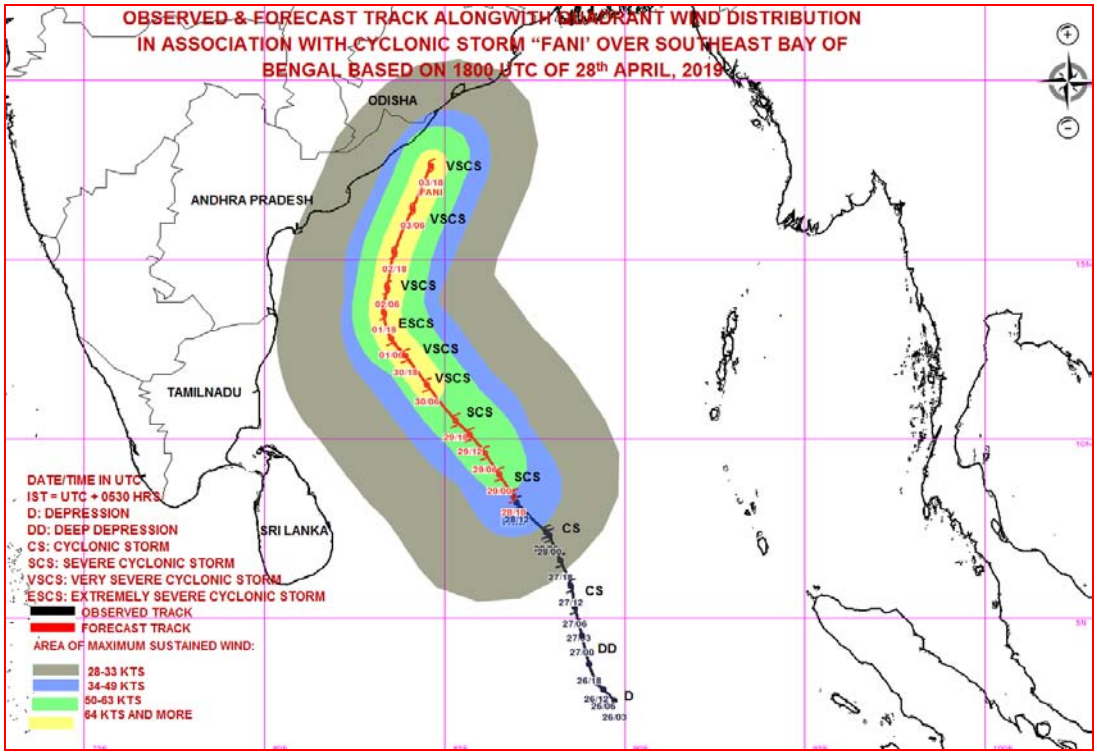




MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 21 (BOB/02/2019)

TIME OF ISSUE: 0820 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved northwards with a speed of about 04 kmph in last six hours and lay centred at 0530 hrs IST of 29th April, 2019 near latitude 8.6°N and longitude 86.9°E over southeast Bay of Bengal & neighbourhood, about 620 km east of Trincomalee (Sri Lanka), 880 km southeast of Chennai (Tamil Nadu) and 1050 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 12 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards gradually.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/0530	8.6/86.9	80-90 gusting to 100	Cyclonic Storm
29.04.19/1130	9.3/86.6	90-100 gusting to 115	Cyclonic Storm
29.04.19/1730	10.0/86.3	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/2330	10.5/86.0	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.0/85.6	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1730	11.9/84.8	130-140 gusting to 155	Very Severe Cyclonic Storm
01.05.19/0530	12.5/84.0	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/1730	13.1/83.7	160-170 gusting to 185	Very Severe Cyclonic Storm
02.05.19/0530	13.7/83.8	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/1730	14.5/84.0	170-180 gusting to 195	Extremely Severe Cyclonic Storm
03.05.19/0530	15.5/84.3	165-175 gusting to 190	Extremely Severe Cyclonic Storm
03.05.19/1730	16.5/84.7	160-170 gusting to 185	Extremely Severe Cyclonic Storm
04.05.19/0530	17.5/85.1	155-165 gusting to 180	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at isolated places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy rainfall over coastal Odisha from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely to commence along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar on 29th, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely along & off Kerala coast on 29th and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts from 29th April to 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

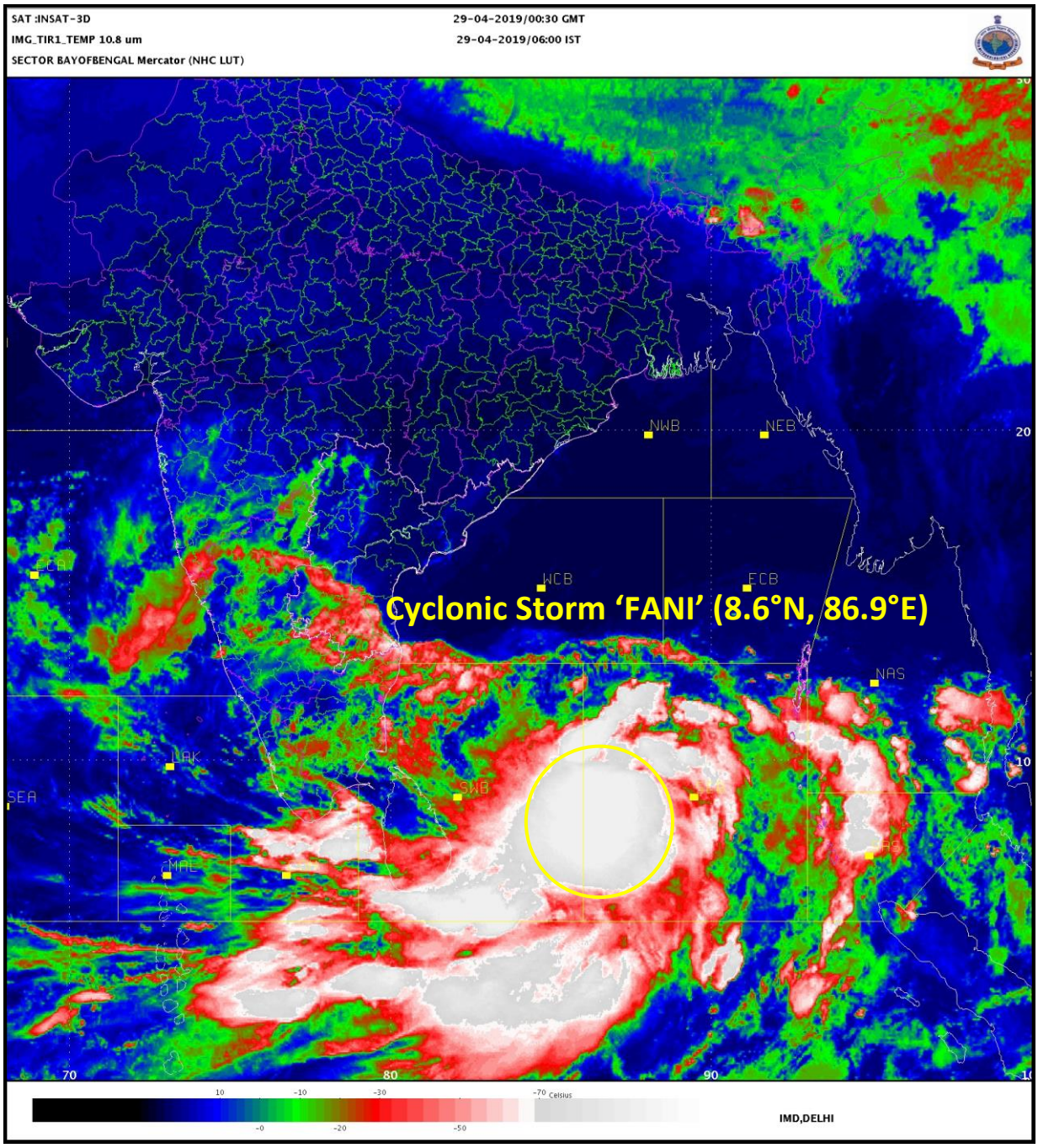
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on 29th; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts from 29th April to 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 1130 hrs IST of 29th April, 2019.

(D.R. Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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

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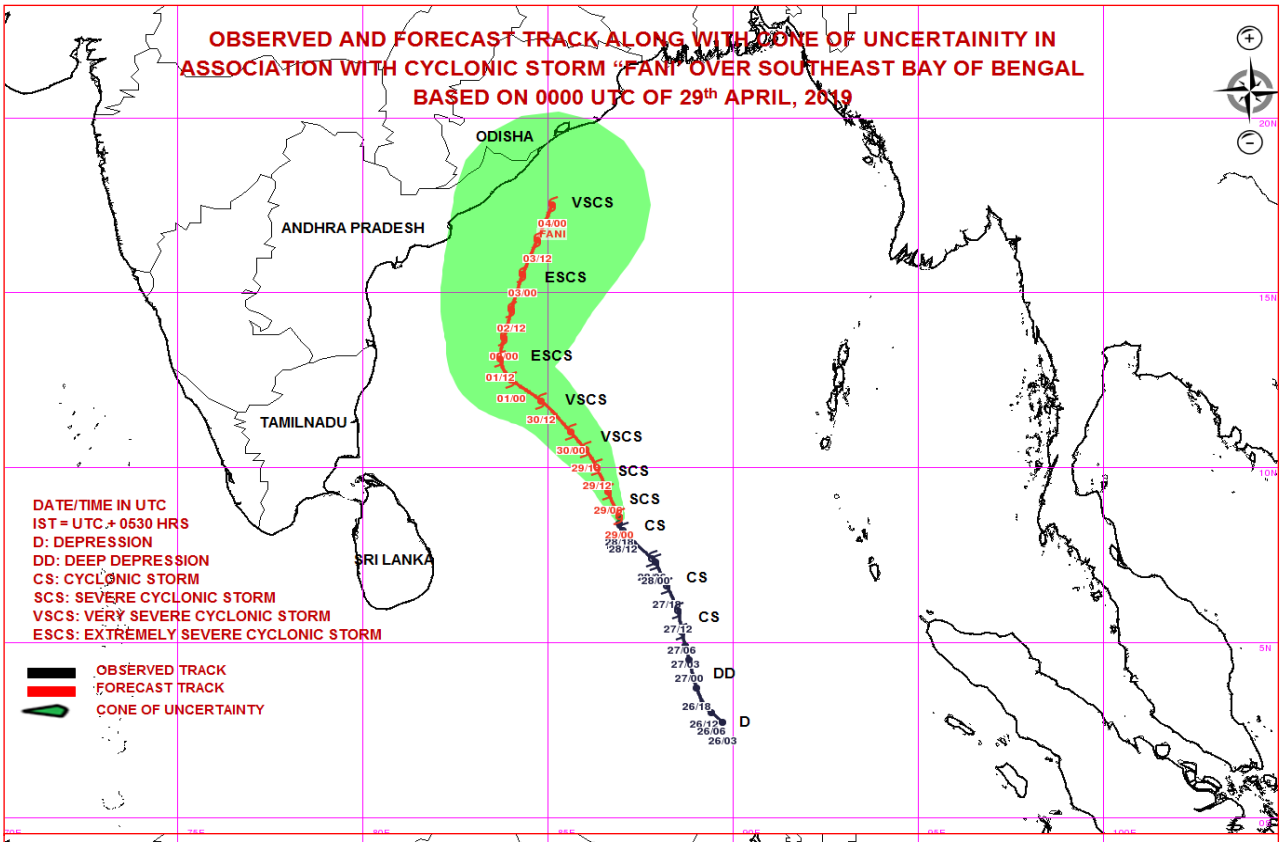

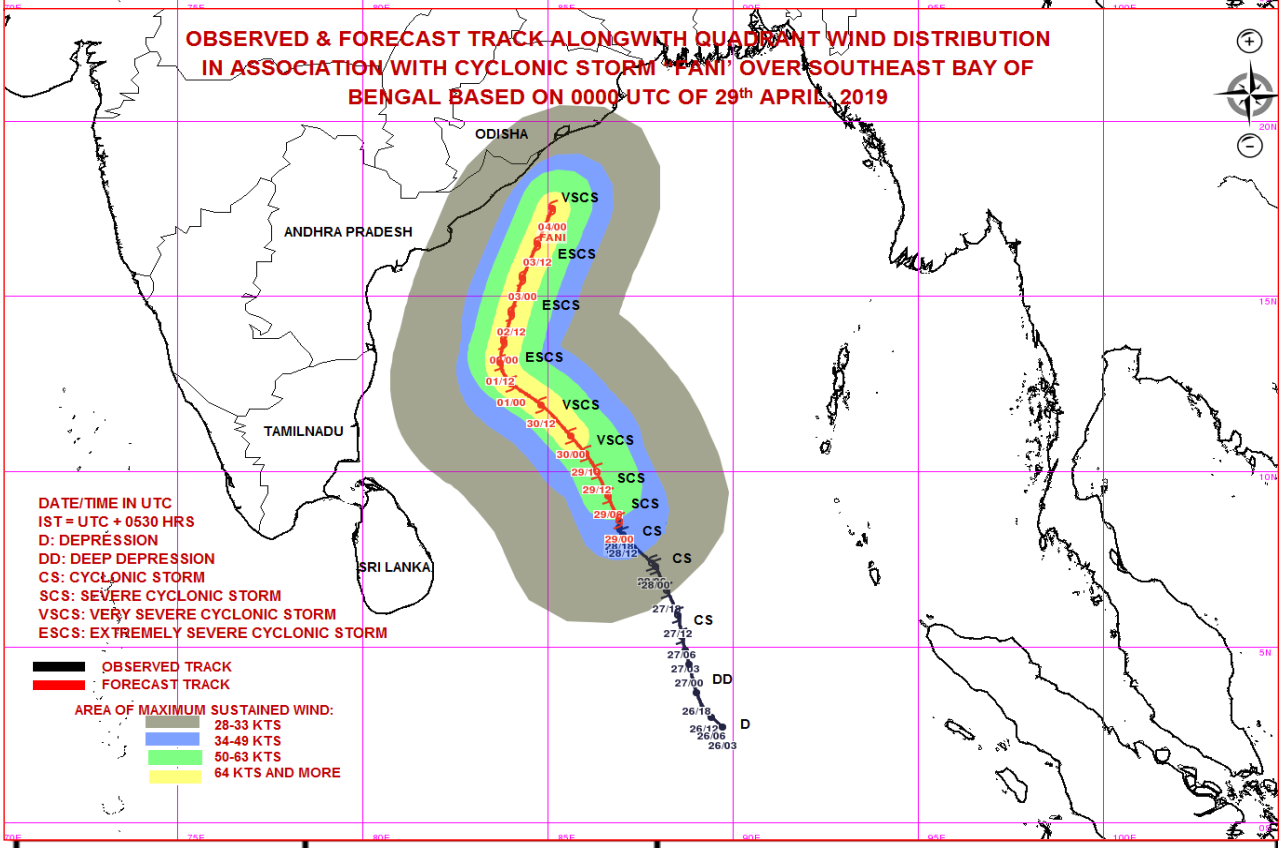

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
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India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 22 (BOB/02/2019)

TIME OF ISSUE: 1120 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood

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Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
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03.05.19/1730	16.5/84.7	160-170 gusting to 185	Extremely Severe Cyclonic Storm
04.05.19/0530	17.5/85.1	155-165 gusting to 180	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at a few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy to very heavy rainfall at isolated placs over coastal Odisha & adjoining districts of north coastal Andhra Pradesh from 3rd May. Light to moderate rainfall at many places with heavy falls at isolated places also very likely to commence over coastal districts of West Bengal from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar on today the 29thApril, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast on today the 29thApril and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

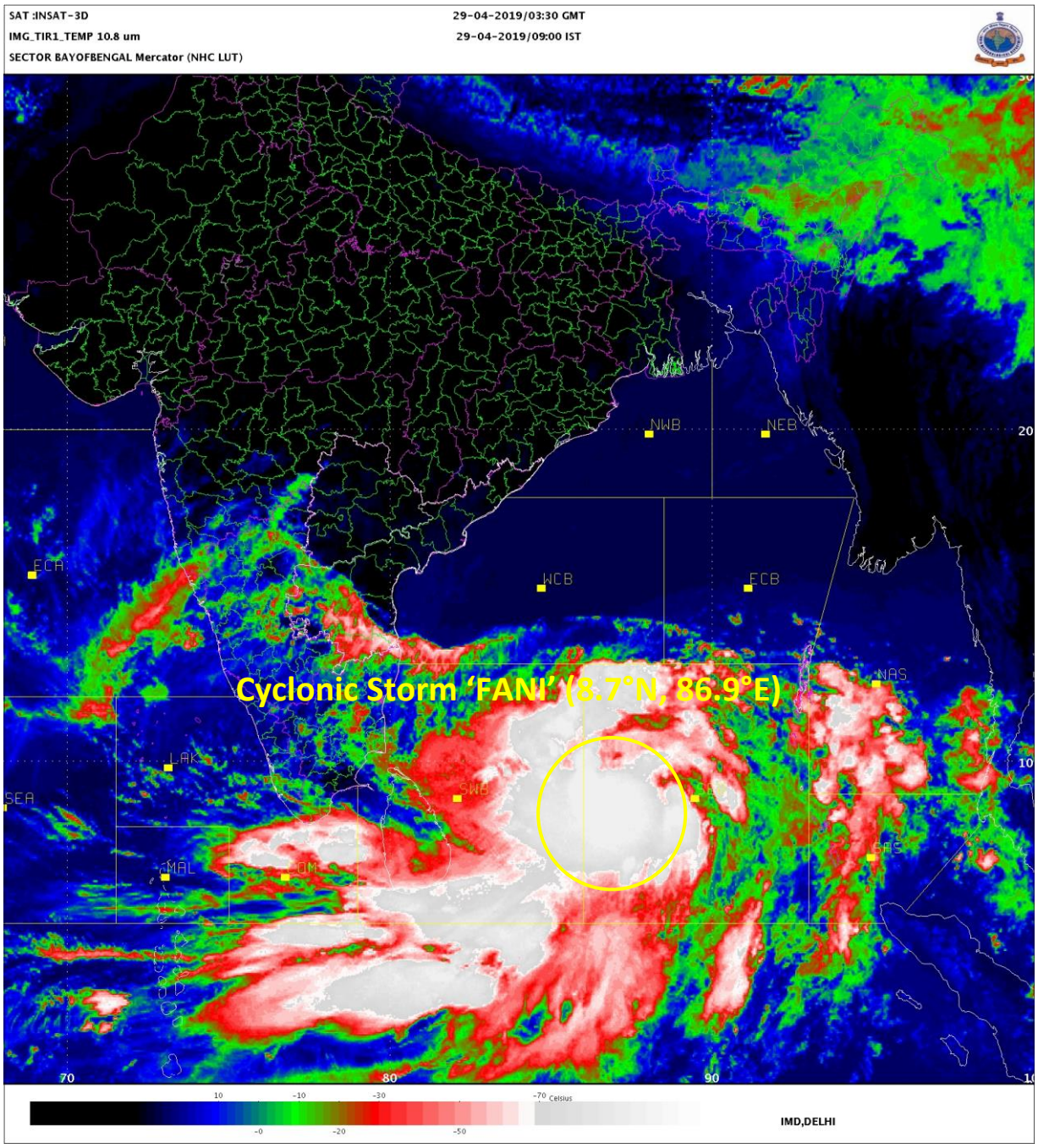
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on today the 29th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha coast from 2 May onwards.
- Those, who are out in deep sea above areas are advised return to the coasts.

The next bulletin will be issued at 1430 hrs IST of 29th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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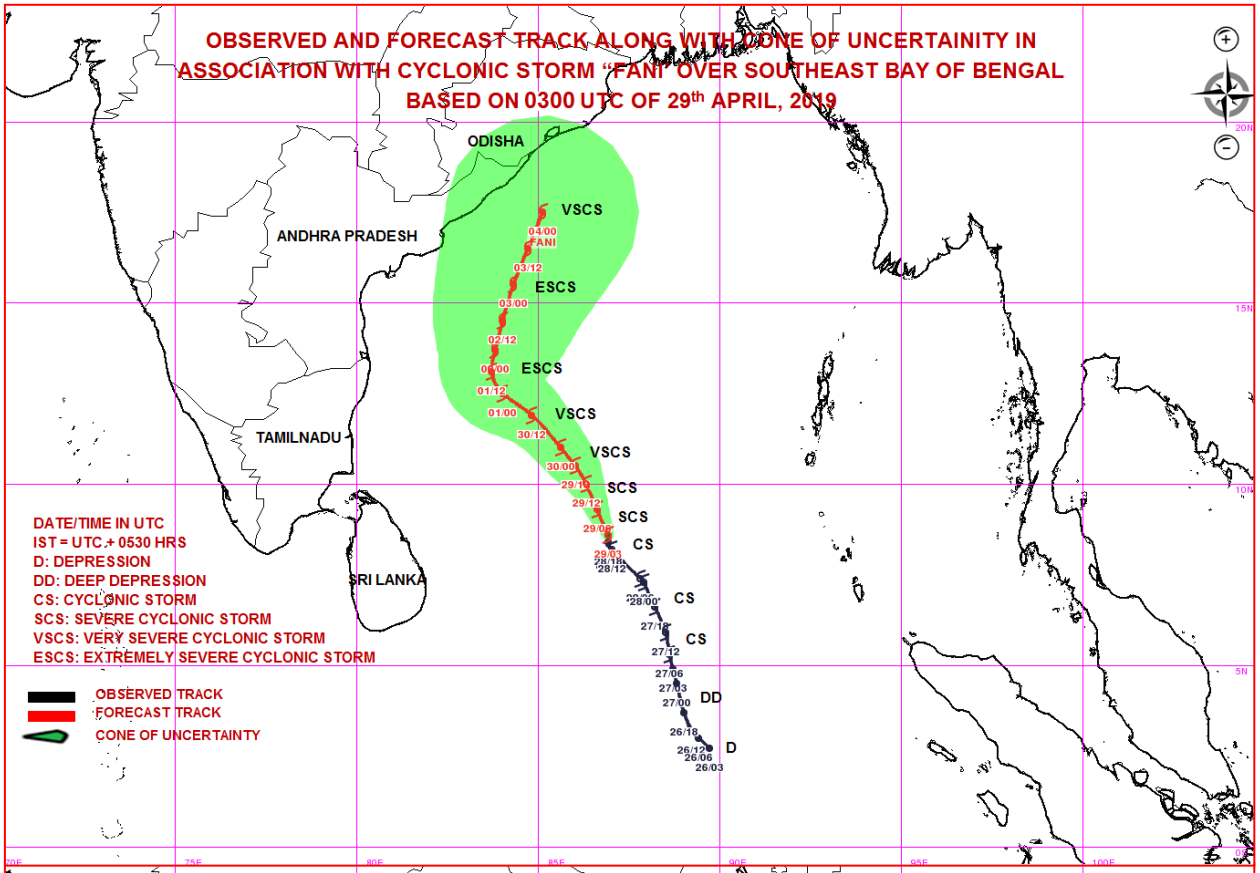

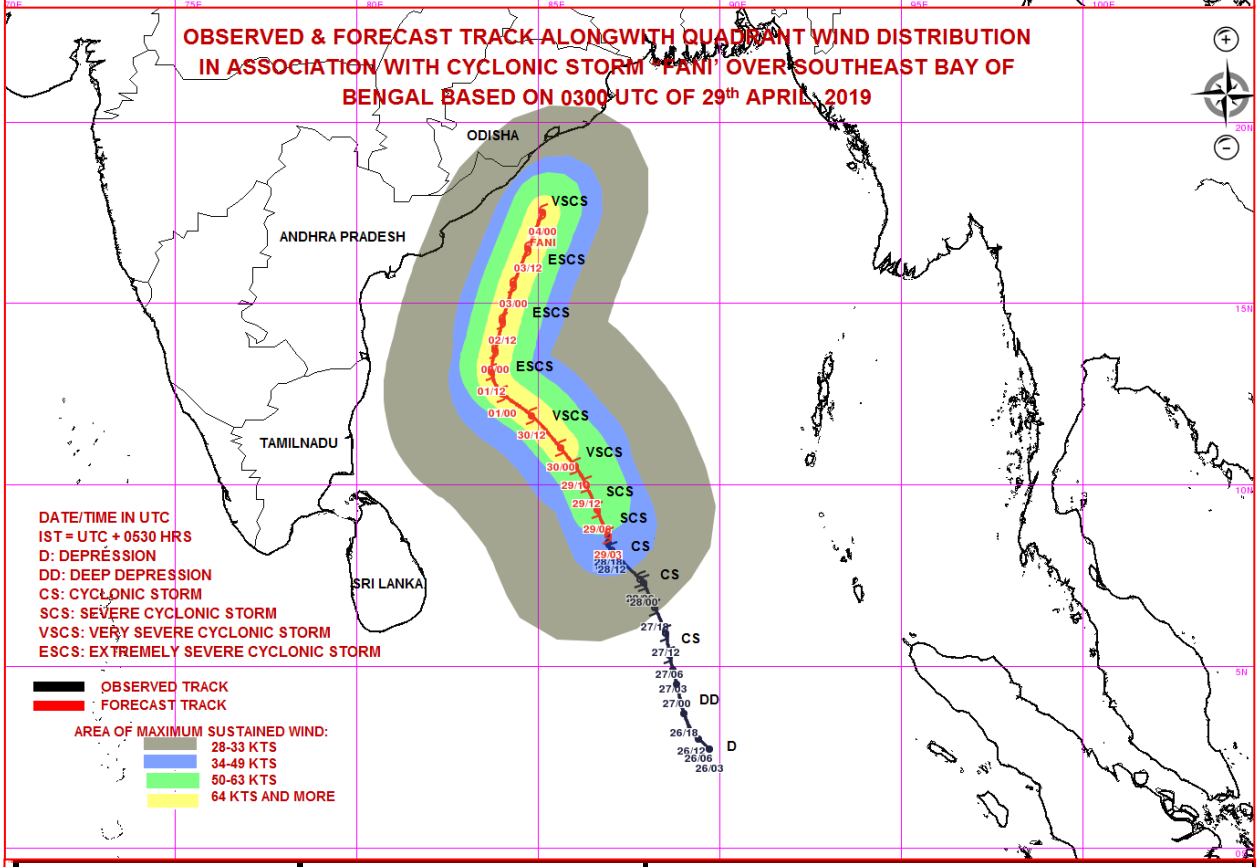

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 23 (BOB/02/2019)

TIME OF ISSUE: 1430 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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)
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PIB MOES (FAX NO. 23389042)
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D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)
DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
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CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood: Cyclone Watch for Odisha Coast

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved further northwards with a speed of about 11 kmph in last six hours and lay centred at 1130 hrs IST of 29th April, 2019 near latitude 9.2°N and longitude 86.9°E over southeast Bay of Bengal & neighbourhood, about 620 km east-northeast of Trincomalee (Sri Lanka), 840 km east-southeast of Chennai (Tamil Nadu) and 990 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 06 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/1130	9.2/86.9	85-95 gusting to 110	Cyclonic Storm
29.04.19/1730	10.0/86.8	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/2330	10.6/86.5	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.2/86.2	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.7/85.7	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.6/84.6	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	13.2/84.0	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/2330	13.8/83.8	160-170 gusting to 185	Very Severe Cyclonic Storm
02.05.19/1130	14.7/83.9	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/2330	16.1/84.1	170-180 gusting to 195	Extremely Severe Cyclonic Storm
03.05.19/1130	17.2/84.5	165-175 gusting to 190	Extremely Severe Cyclonic Storm
03.05.19/2330	18.3/85.0	160-170 gusting to 185	Extremely Severe Cyclonic Storm
04.05.19/1130	19.4/85.8	155-165 gusting to 180	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at a few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy to very heavy rainfall at isolated places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh from 3rd May. Light to moderate rainfall at many places with heavy falls at isolated places also very likely to commence over coastal districts of West Bengal from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar on today the 29thApril, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast on today the 29thApril and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

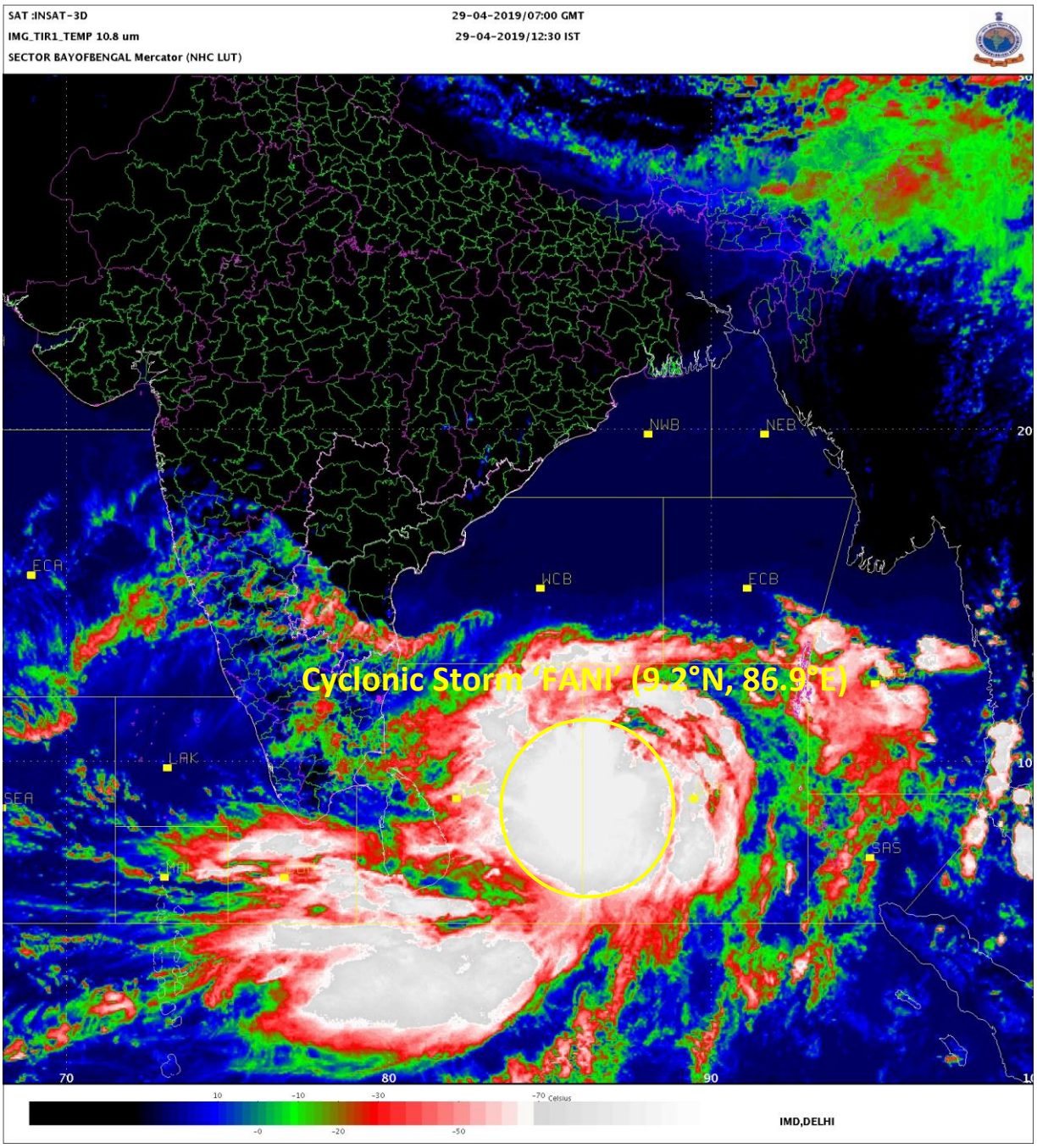
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on today the 29th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 1730 hrs IST of 29th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

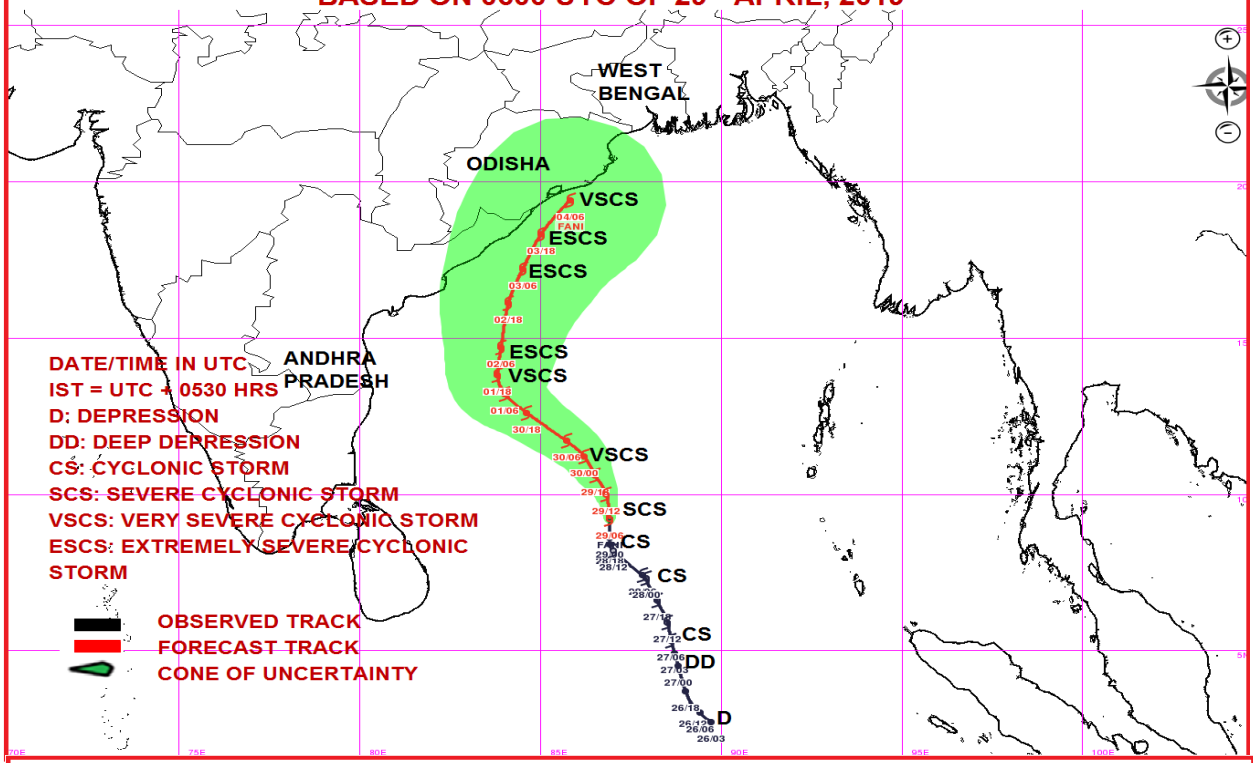
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



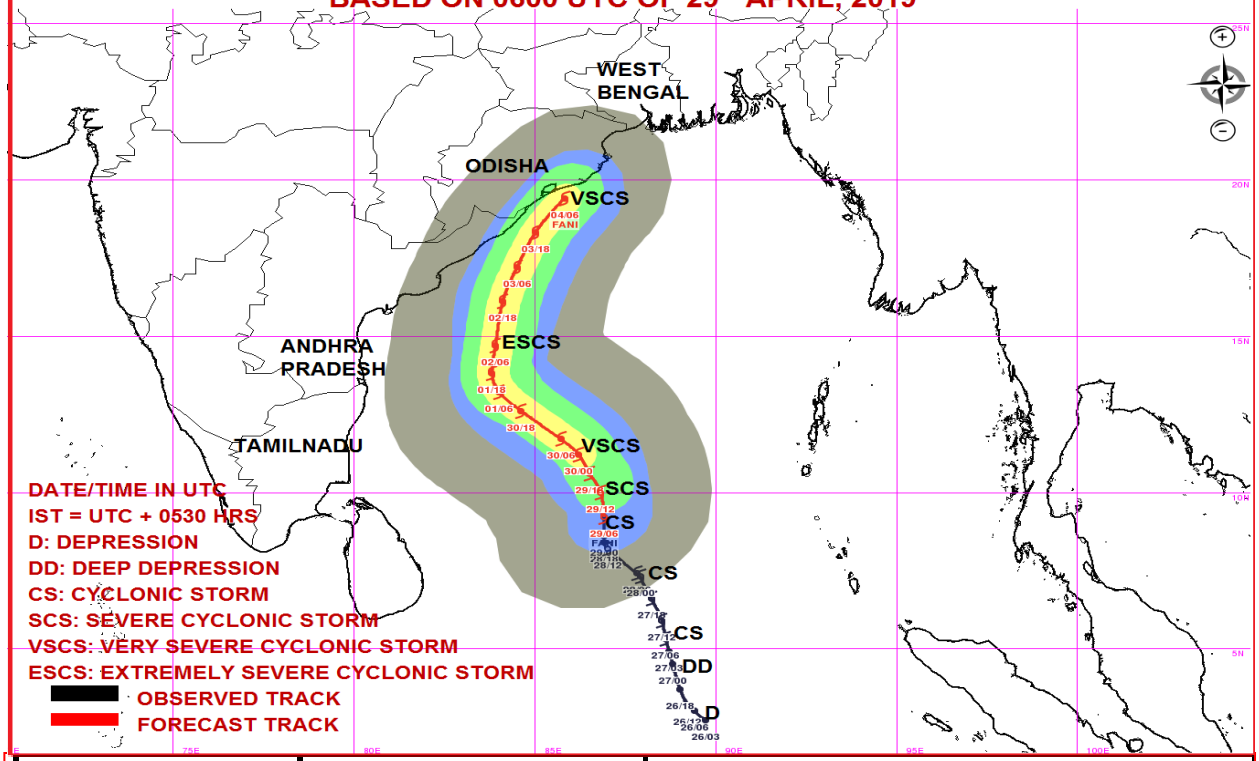
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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

OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINITY IN ASSOCIATION WITH CYCLONIC STORM "FANI' OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 29th APRIL, 2019



OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM "FANI' OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 29th APRIL, 2019



MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 24 (BOB/02/2019)

TIME OF ISSUE: 1700 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' over southeast Bay of Bengal & neighbourhood: Cyclone Watch for Odisha Coast

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over southeast Bay of Bengal & neighbourhood moved north-northwestwards with a speed of about 18 kmph in last six hours and lay centred at 1430 hrs IST of 29th April, 2019 near latitude 9.7°N and longitude 86.8°E over southeast Bay of Bengal & neighbourhood, about 620 km east-northeast of Trincomalee (Sri Lanka), 810 km east-southeast of Chennai (Tamil Nadu) and 950 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Severe Cyclonic Storm** during next 06 hours and into a **Very Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/1430	9.7/86.8	85-95 gusting to 110	Cyclonic Storm
29.04.19/1730	10.0/86.8	95-105 gusting to 120	Severe Cyclonic Storm
29.04.19/2330	10.6/86.5	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.2/86.2	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	11.7/85.7	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/2330	12.6/84.6	140-150 gusting to 165	Very Severe Cyclonic Storm
01.05.19/1130	13.2/84.0	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/2330	13.8/83.8	160-170 gusting to 185	Very Severe Cyclonic Storm
02.05.19/1130	14.7/83.9	170-180 gusting to 195	Extremely Severe Cyclonic Storm
02.05.19/2330	16.1/84.1	170-180 gusting to 195	Extremely Severe Cyclonic Storm
03.05.19/1130	17.2/84.5	165-175 gusting to 190	Extremely Severe Cyclonic Storm
03.05.19/2330	18.3/85.0	160-170 gusting to 185	Extremely Severe Cyclonic Storm
04.05.19/1130	19.4/85.8	155-165 gusting to 180	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at a few places over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase in intensity with heavy to very heavy rainfall at isolated places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh from 3rd May. Light to moderate rainfall at many places with heavy falls at isolated places also very likely to commence over coastal districts of West Bengal from 3rd May.

(ii)Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is prevailing over Southeast Bay of Bengal & neighbourhood. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest Bay of Bengal from 30th morning and 160-170 kmph gusting to 185 kmph over southwest & adjoining westcentral Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar on today the 29thApril, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning. It is very likely to become squally wind speed reaching 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast on today the 29thApril and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become 50-60 kmph gusting to 70 kmph from 3rd May onwards over the same area.

(iii) Sea condition

- The sea condition is very high over Southeast Bay of Bengal & neighbourhood. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal off Andhra Pradesh Coast during 1-3 May 2019.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha Coast from 2nd May onwards.

(iv) Fishermen Warning

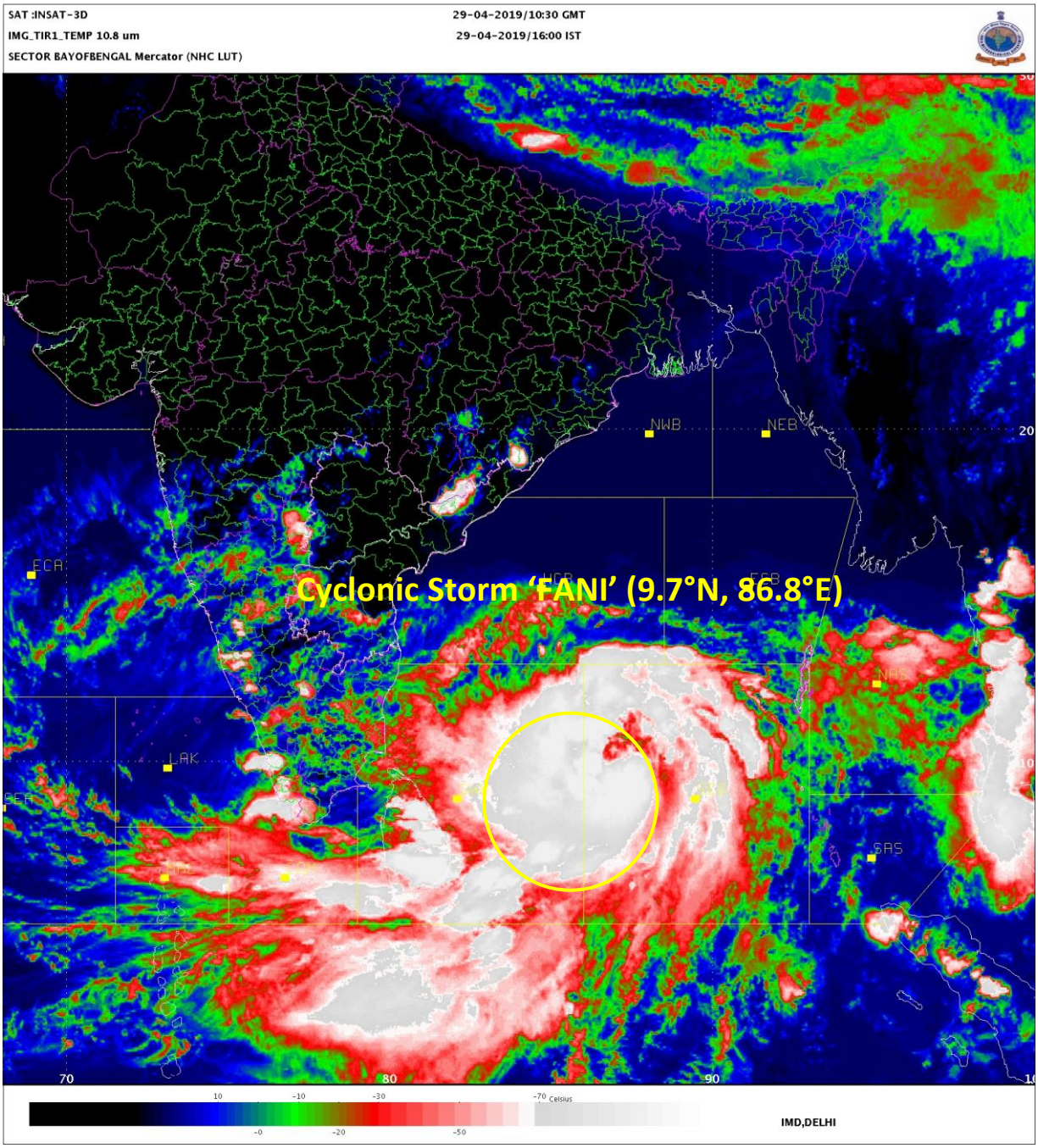
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on today the 29th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 2030 hrs IST of 29th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

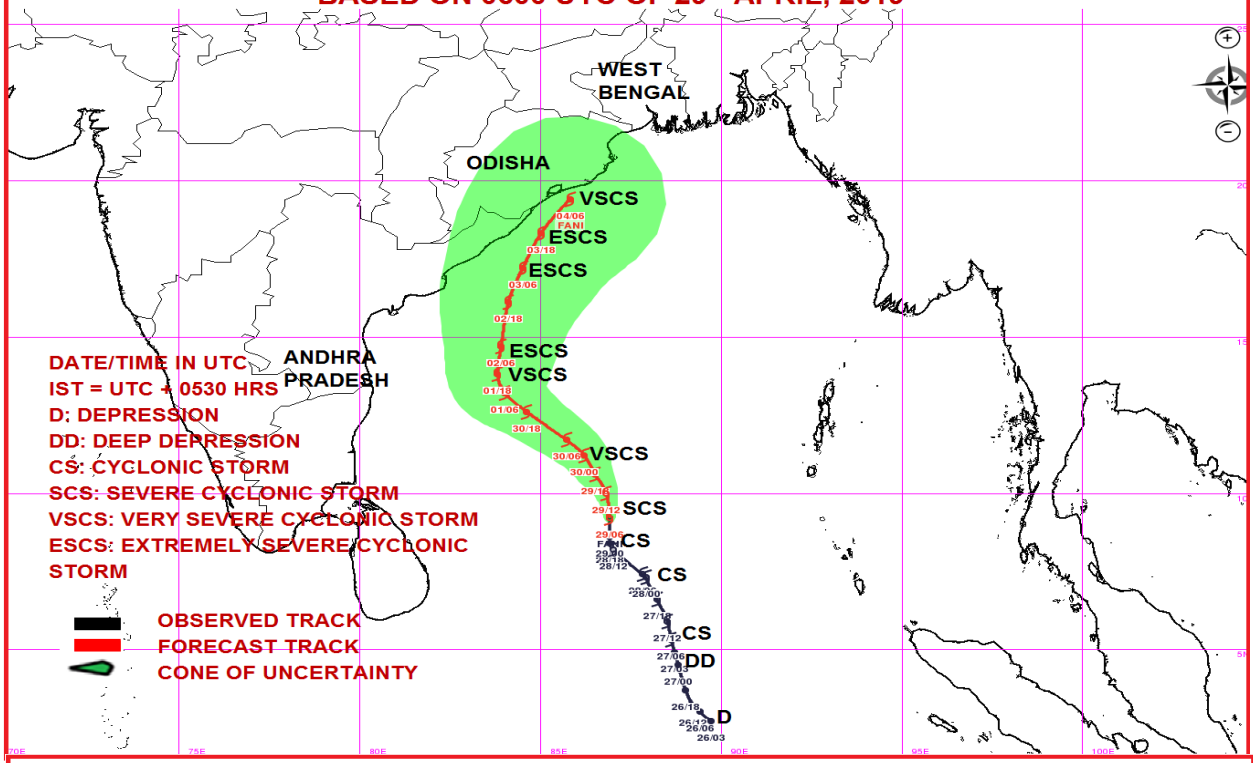
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



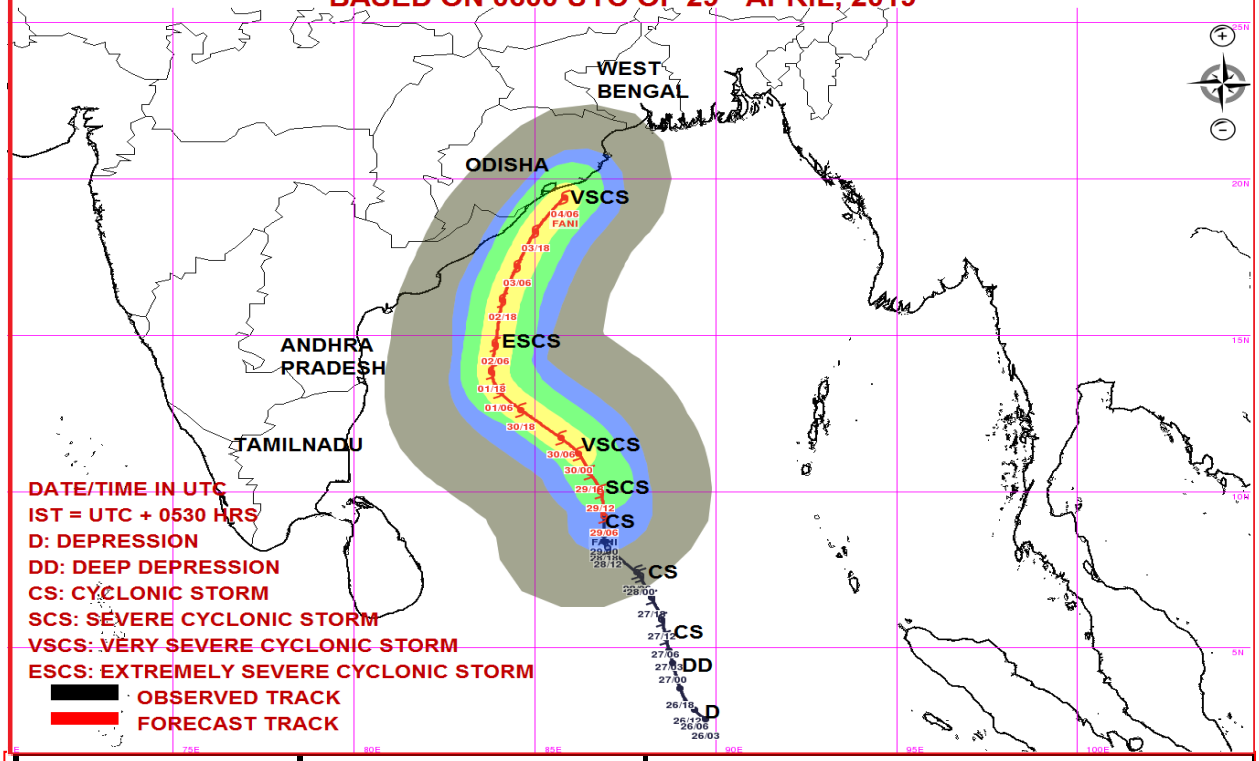
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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

OBSERVED AND FORECAST TRACK ALONG WITH CONE OF UNCERTAINITY IN ASSOCIATION WITH CYCLONIC STORM "FANI' OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 29th APRIL, 2019



OBSERVED & FORECAST TRACK ALONGWITH QUADRANT WIND DISTRIBUTION IN ASSOCIATION WITH CYCLONIC STORM "FANI' OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 29th APRIL, 2019



MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 25 (BOB/02/2019)

TIME OF ISSUE: 2100 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Cyclonic Storm 'FANI' intensified into Severe Cyclonic Storm over Southeast & adjoining Southwest Bay of Bengal : Cyclone Watch for Odisha Coast

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast Bay of Bengal & neighbourhood moved north-northwestwards with a speed of about 16 kmph in last six hours, intensified into a **Severe Cyclonic Storm** and lay centred at 1730 hrs IST of 29th April, 2019 near latitude 10.1°N and longitude 86.7°E over Southeast & adjoining Southwest Bay of Bengal, about 620 km east-northeast of Trincomalee (Sri Lanka), 770 km east-southeast of Chennai (Tamil Nadu) and 900 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Very Severe Cyclonic Storm** during next 24 hours and into an **Extremely Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/1730	10.1/86.7	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/2330	10.6/86.5	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.2/86.2	120-130 gusting to 145	Severe Cyclonic Storm
30.04.19/1130	11.7/85.7	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/1730	12.2/85.1	135-145 gusting to 160	Very Severe Cyclonic Storm
01.05.19/0530	12.9/84.3	150-160 gusting to 180	Very Severe Cyclonic Storm
01.05.19/1730	13.5/83.6	160-170 gusting to 190	Extremely Severe Cyclonic Storm
02.05.19/0530	14.3/83.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/1730	15.4/83.6	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/0530	16.7/84.0	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	18.2/84.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
04.05.19/0530	19.8/86.0	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/1730	21.0/87.3	150-160 gusting to 185	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 29th & 30th April, 2019. Light to moderate rainfall at a few places very likely over north coastal Tamil Nadu & south coastal Andhra Pradesh on 29th & 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places with heavy to very heavy rainfall at a few places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh on 3rd & 4th May. Light to moderate rainfall at most places with heavy falls at isolated places also very likely over coastal districts of West Bengal on 3rd & 4th May.

(ii)Wind warning

- Gale wind speed reaching 100-110 kmph gusting to 125 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest & adjoining Southeast Bay of Bengal from 30th morning and 160-170 kmph gusting to 190 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar on 29thApril, becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning & 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts for subsequent 24 hours.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast on today the 29thApril and becoming squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become gale wind, speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and would increase gradually thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd to 3rd May. It would become gale wind, speed reaching 60-70 kmph gusting to 85 kmph, from 4th May morning and would increase gradually thereafter.

(iii) Sea condition

- The sea condition is very high over Southeast & adjoining Southwest Bay of Bengal. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Fishermen Warning

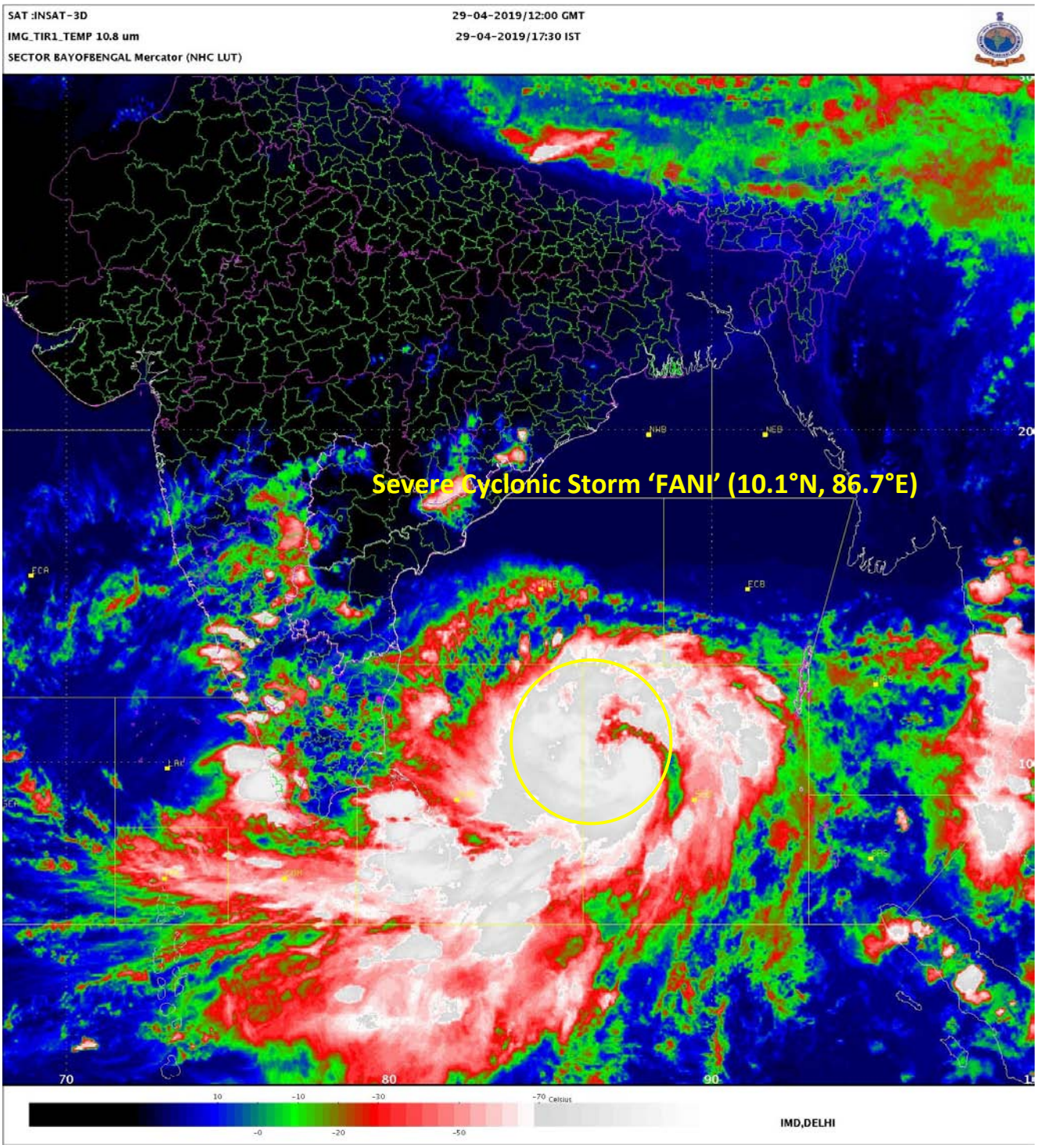
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on today the 29th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 2330 hrs IST of 29th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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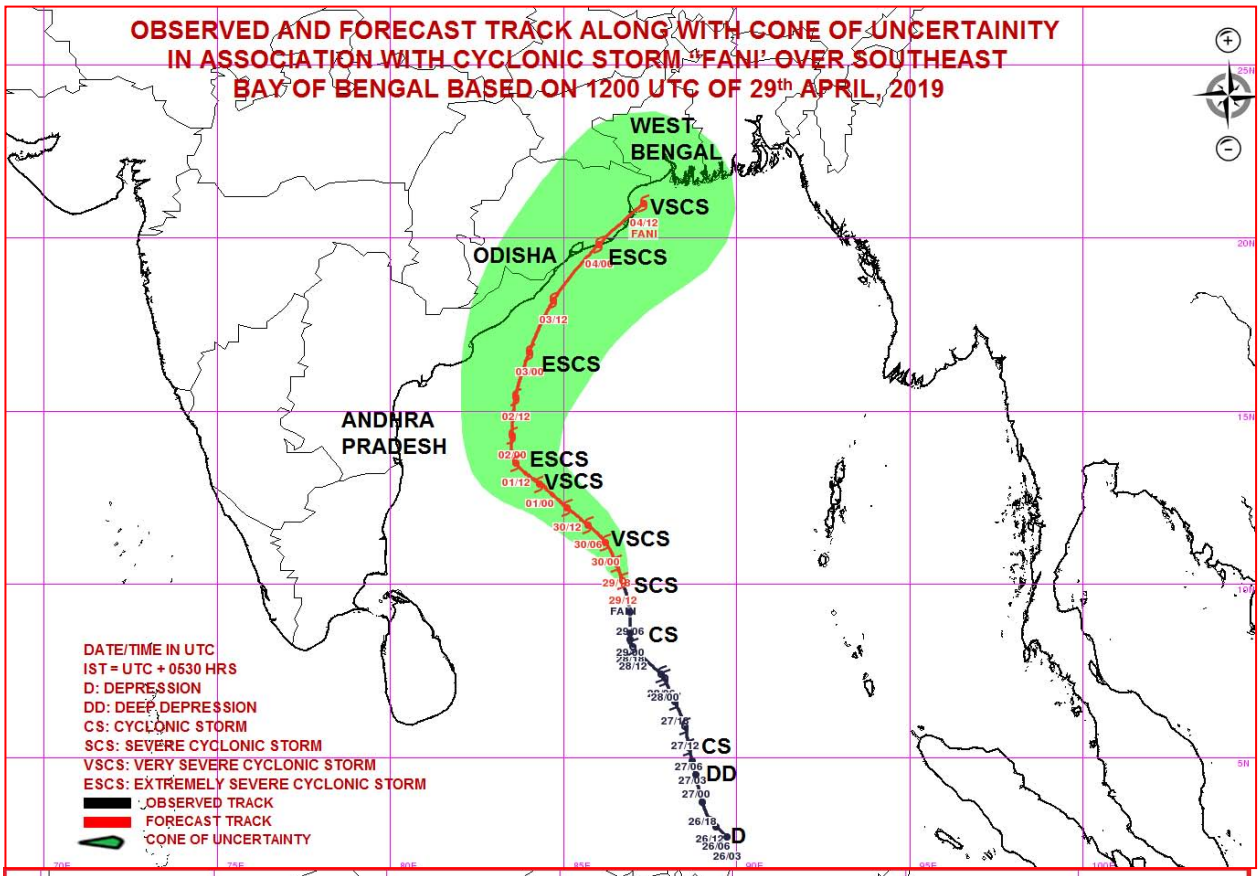
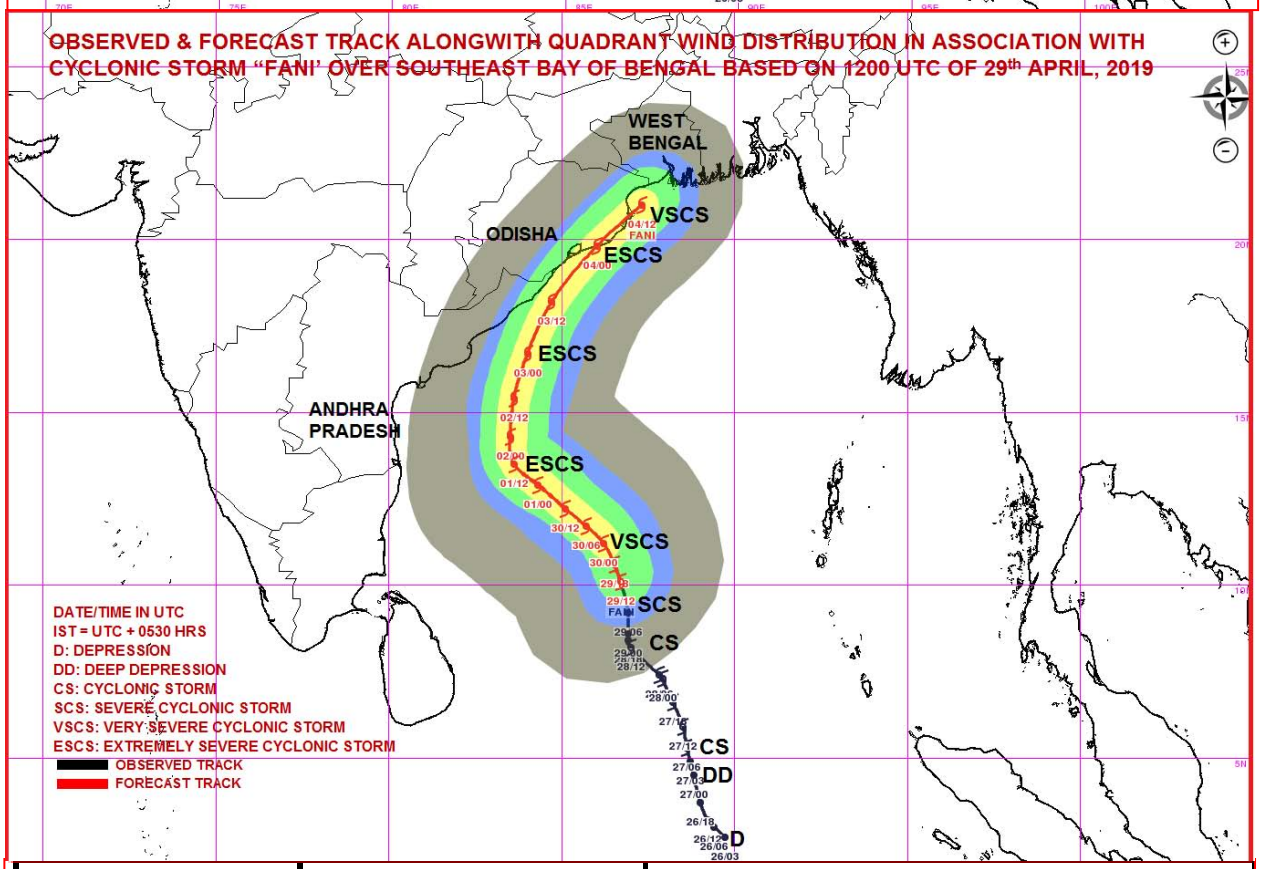




MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 26 (BOB/02/2019)

TIME OF ISSUE: 2230 HOURS IST **DATED: 29.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Severe Cyclonic Storm over Southeast & adjoining Southwest Bay of Bengal: Cyclone Watch for Odisha Coast

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved nearly northwards with a speed of about 13 kmph in last six hours and lay centred at 2030 hrs IST of 29th April, 2019 near latitude 10.4°N and longitude 86.7°E over Southeast & adjoining Southwest Bay of Bengal, about 630 km east-northeast of Trincomalee (Sri Lanka), 760 km east-southeast of Chennai (Tamil Nadu) and 880 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Very Severe Cyclonic Storm** during next 24 hours and into an **Extremely Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/2030	10.4/86.7	100-110 gusting to 125	Severe Cyclonic Storm
29.04.19/2330	10.6/86.5	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.2/86.2	120-130 gusting to 145	Severe Cyclonic Storm
30.04.19/1130	11.7/85.7	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/1730	12.2/85.1	135-145 gusting to 160	Very Severe Cyclonic Storm
01.05.19/0530	12.9/84.3	150-160 gusting to 180	Very Severe Cyclonic Storm
01.05.19/1730	13.5/83.6	160-170 gusting to 190	Extremely Severe Cyclonic Storm
02.05.19/0530	14.3/83.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/1730	15.4/83.6	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/0530	16.7/84.0	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	18.2/84.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
04.05.19/0530	19.8/86.0	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/1730	21.0/87.3	150-160 gusting to 185	Very Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 30th April, 2019. Light to moderate rainfall at a few places very likely over north coastal Tamil Nadu & south coastal Andhra Pradesh on 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places with heavy to very heavy rainfall at a few places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh on 3rd & 4th May. Light to moderate rainfall at most places with heavy falls at isolated places also very likely over coastal districts of West Bengal on 3rd & 4th May.

(ii) Wind warning

- Gale wind speed reaching 100-110 kmph gusting to 125 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest & adjoining Southeast Bay of Bengal from 30th morning and 160-170 kmph gusting to 190 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning & 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts for subsequent 24 hours.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph on 30th May.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become gale wind, speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and would increase gradually thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd to 3rd May. It would become gale wind, speed reaching 60-70 kmph gusting to 85 kmph, from 4th May morning and would increase gradually thereafter.

(iii) Sea condition

- The sea condition is very high over Southeast & adjoining Southwest Bay of Bengal. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Fishermen Warning

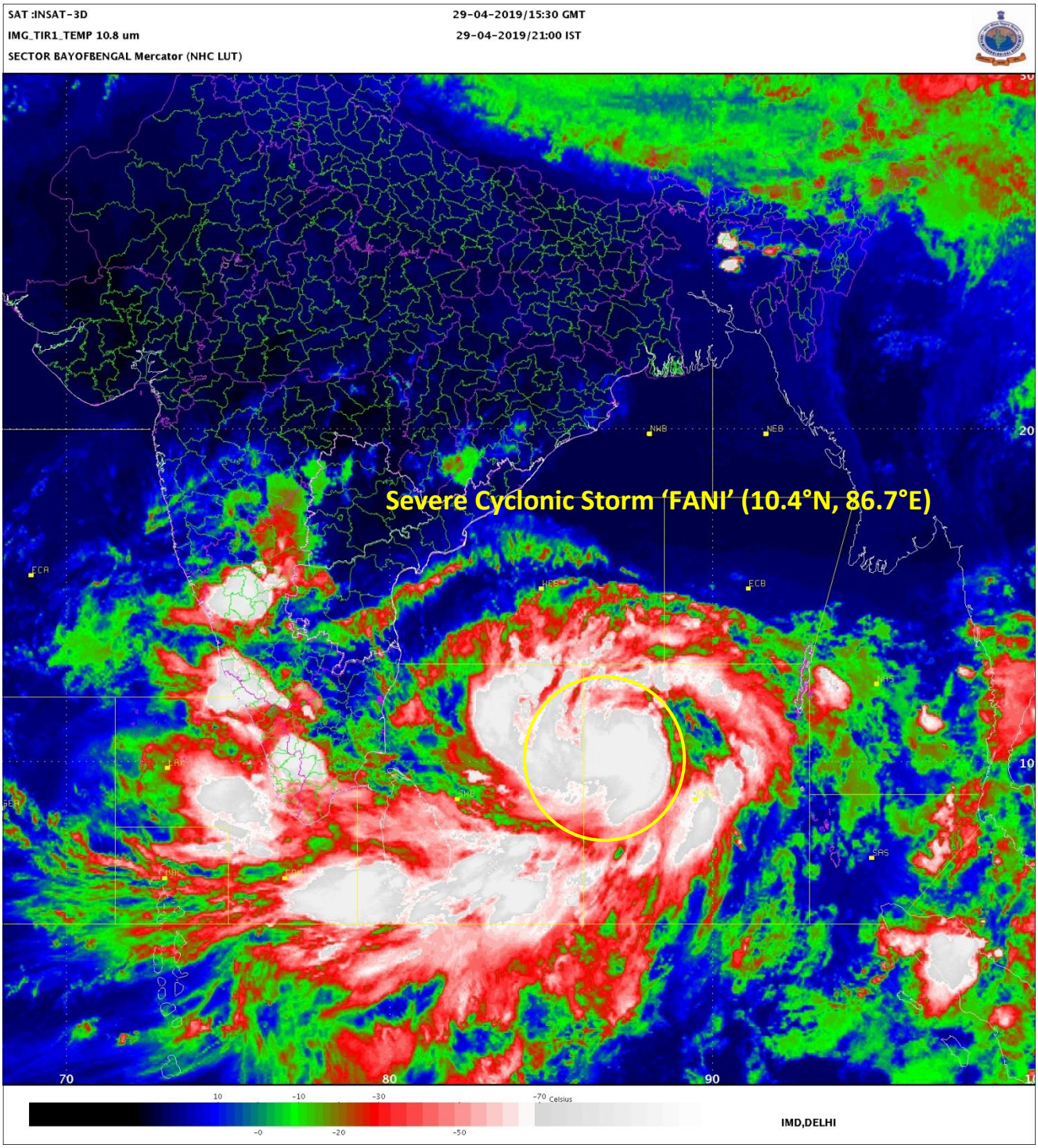
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 0230 hrs IST of 30th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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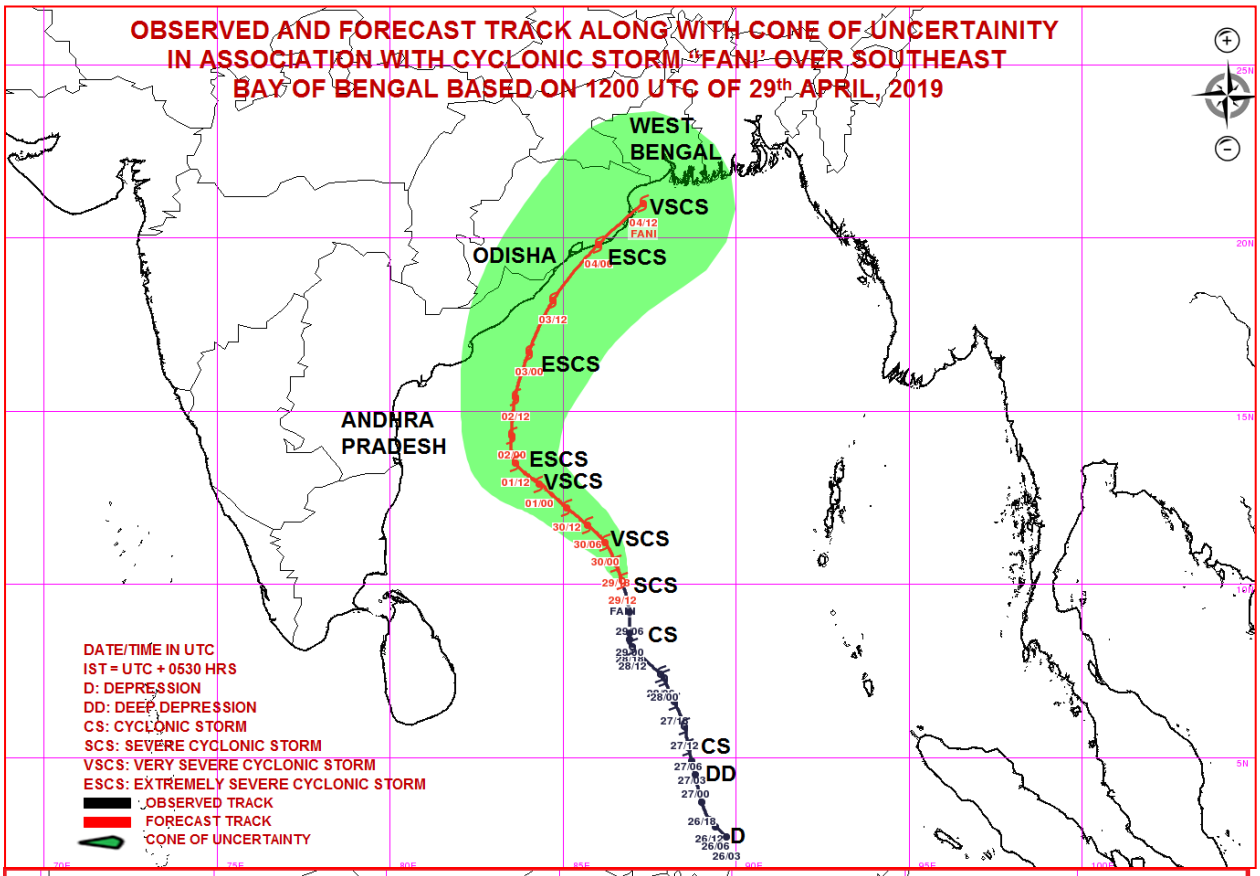

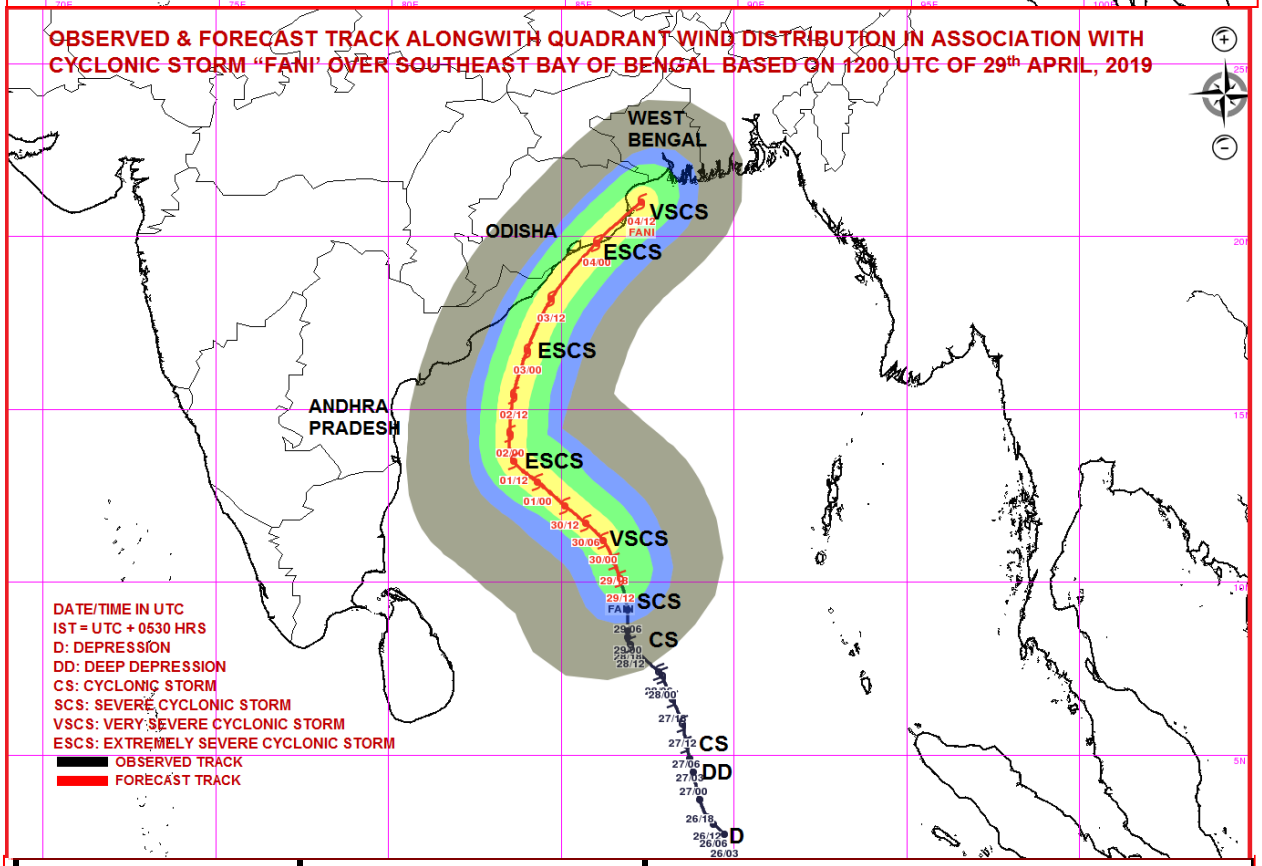

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 27 (BOB/02/2019)

TIME OF ISSUE: 0130 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (23421105, 23421219)
PIB MOES (FAX NO. 23389042)
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D.G. NATIONAL DISASTER RESPONSE FORCE (NDRF) (FAX NO. 26105912, 2436 3260)
DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
CHIEF SECRETARY, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
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CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Severe Cyclonic Storm over Southeast & adjoining Southwest Bay of Bengal: Cyclone Watch for Odisha Coast

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved nearly northwards with a speed of about 13 kmph in last six hours and lay centred at 2330 hrs IST of 29th April, 2019 near latitude 10.8°N and longitude 86.6°E over Southeast & adjoining Southwest Bay of Bengal, about 640 km east-northeast of Trincomalee (Sri Lanka), 730 km east-southeast of Chennai (Tamil Nadu) and 840 km south-southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Very Severe Cyclonic Storm** during next 12 hours and into an **Extremely Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
29.04.19/2330	10.8/86.6	110-120 gusting to 135	Severe Cyclonic Storm
30.04.19/0530	11.3/86.3	120-130 gusting to 145	Severe Cyclonic Storm
30.04.19/1130	11.8/85.7	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/1730	12.2/85.1	135-145 gusting to 160	Very Severe Cyclonic Storm
30.05.19/2330	12.7/84.5	150-160 gusting to 180	Very Severe Cyclonic Storm
01.05.19/1130	13.2/83.9	150-160 gusting to 180	Very Severe Cyclonic Storm
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03.05.19/2330	19.3/85.5	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/1130	20.5/86.4	150-160 gusting to 185	Very Severe Cyclonic Storm
04.05.19/2330	21.5/87.0	125-135 gusting to 150	Severe Cyclonic Storm

Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
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- Gale wind speed reaching 100-110 kmph gusting to 125 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest & adjoining Southeast Bay of Bengal from 30th morning and 160-170 kmph gusting to 190 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
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- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 0530 hrs IST of 30th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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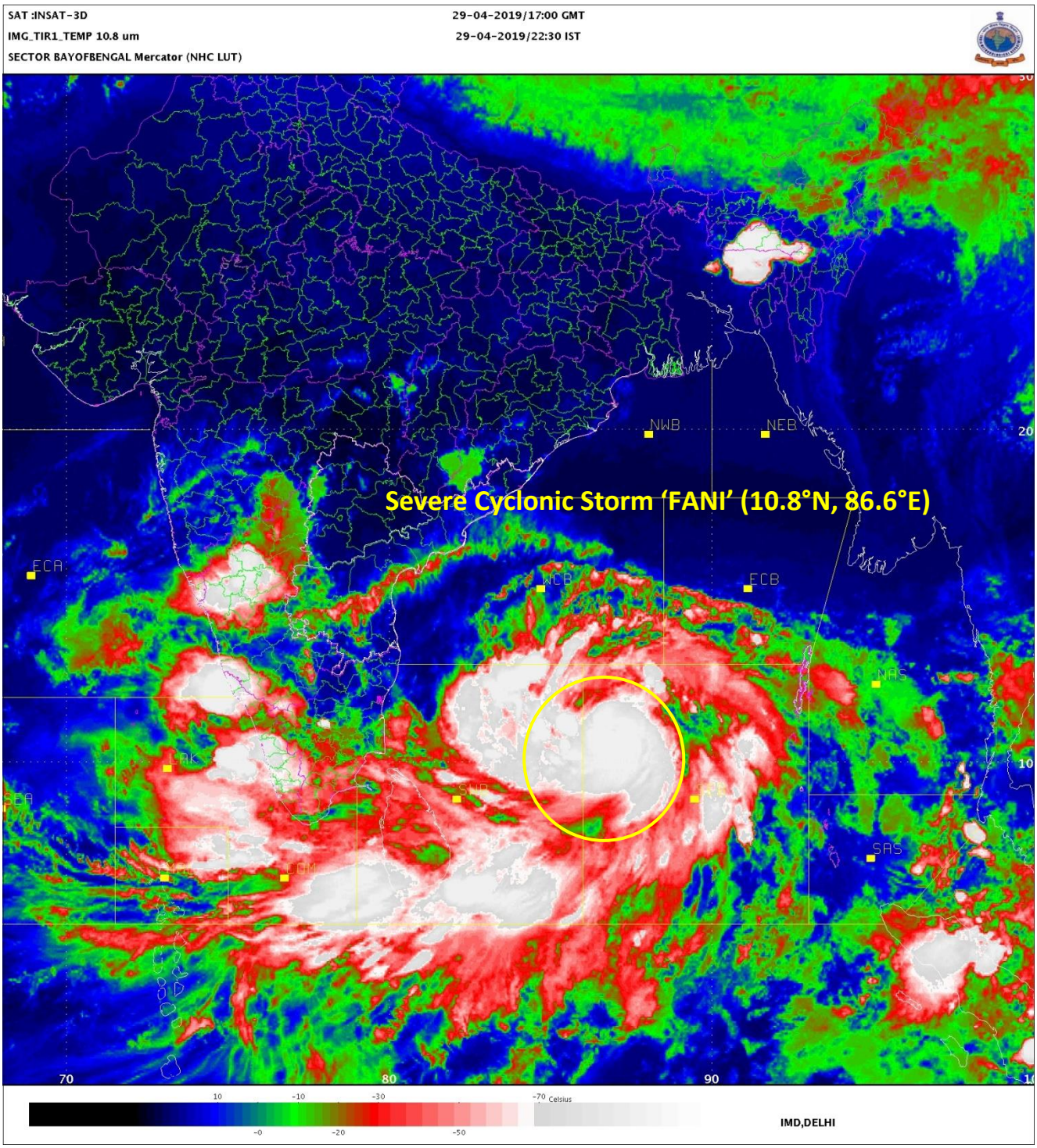

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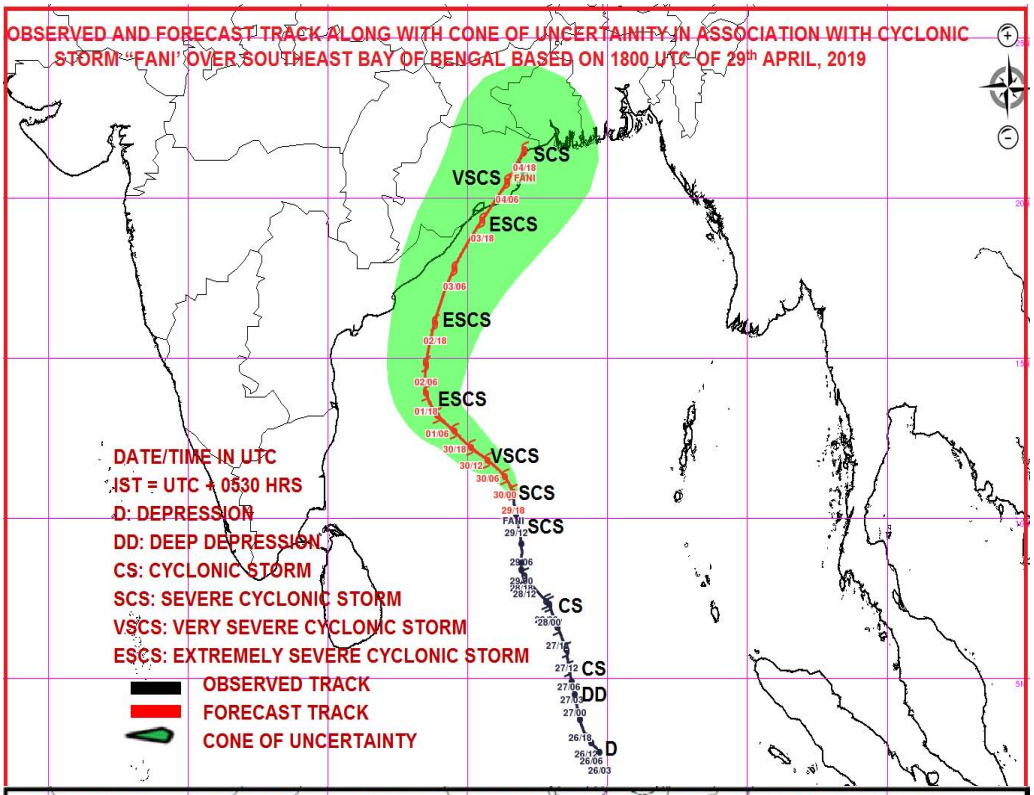

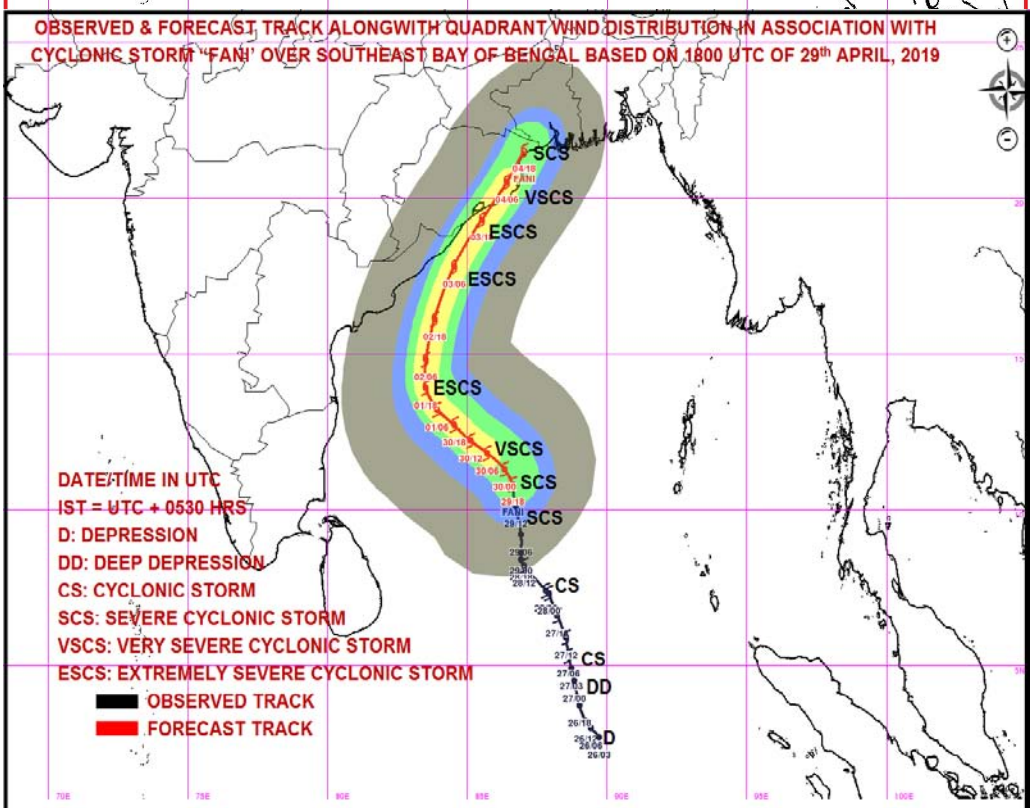

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
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India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 28 (BOB/02/2019)

TIME OF ISSUE: 0330 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 23093750)
CONTROL ROOM NDMA (FAX.NO. 26701729)
CABINET SECRETARIAT (FAX.NO.23012284, 23018638)
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Sub: Severe Cyclonic Storm over Southeast & adjoining Southwest Bay of Bengal: Cyclone Watch for Odisha Coast

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved nearly northwestwards with a speed of about 13 kmph in last six hours and lay centred at 0230 hrs IST of 30th April, 2019 near latitude 11.1°N and longitude 86.5°E over Southeast & adjoining Southwest Bay of Bengal, about 640 km east-northeast of Trincomalee (Sri Lanka), 710 km east-southeast of Chennai (Tamil Nadu) and 810 km southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify into a **Very Severe Cyclonic Storm** during next 12 hours and into an **Extremely Severe Cyclonic Storm** during subsequent 24 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

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02.05.19/1130	14.8/83.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/2330	16.1/83.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1130	17.8/84.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	19.3/85.5	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/1130	20.5/86.4	150-160 gusting to 185	Very Severe Cyclonic Storm
04.05.19/2330	21.5/87.0	125-135 gusting to 150	Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala on 30th April, 2019. Light to moderate rainfall at a few places very likely over north coastal Tamil Nadu & south coastal Andhra Pradesh on 30th April, 2019.
- Light to moderate rainfall at few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places with heavy to very heavy rainfall at a few places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh on 3rd & 4th May. Light to moderate rainfall at most places with heavy falls at isolated places also very likely over coastal districts of West Bengal on 3rd & 4th May.

(ii) Wind warning

- Gale wind speed reaching 100-110 kmph gusting to 125 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 120-130 kmph gusting to 145 kmph over Southwest & adjoining Southeast Bay of Bengal from 30th morning and 160-170 kmph gusting to 190 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning & 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts for subsequent 24 hours.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th April morning.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and likely to become gale wind, speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and would increase gradually thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd to 3rd May. It would become gale wind, speed reaching 60-70 kmph gusting to 85 kmph, from 4th May morning and would increase gradually thereafter.

(iii) Sea condition

- The sea condition is very high over Southeast & adjoining Southwest Bay of Bengal. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 30th morning and over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Fishermen Warning

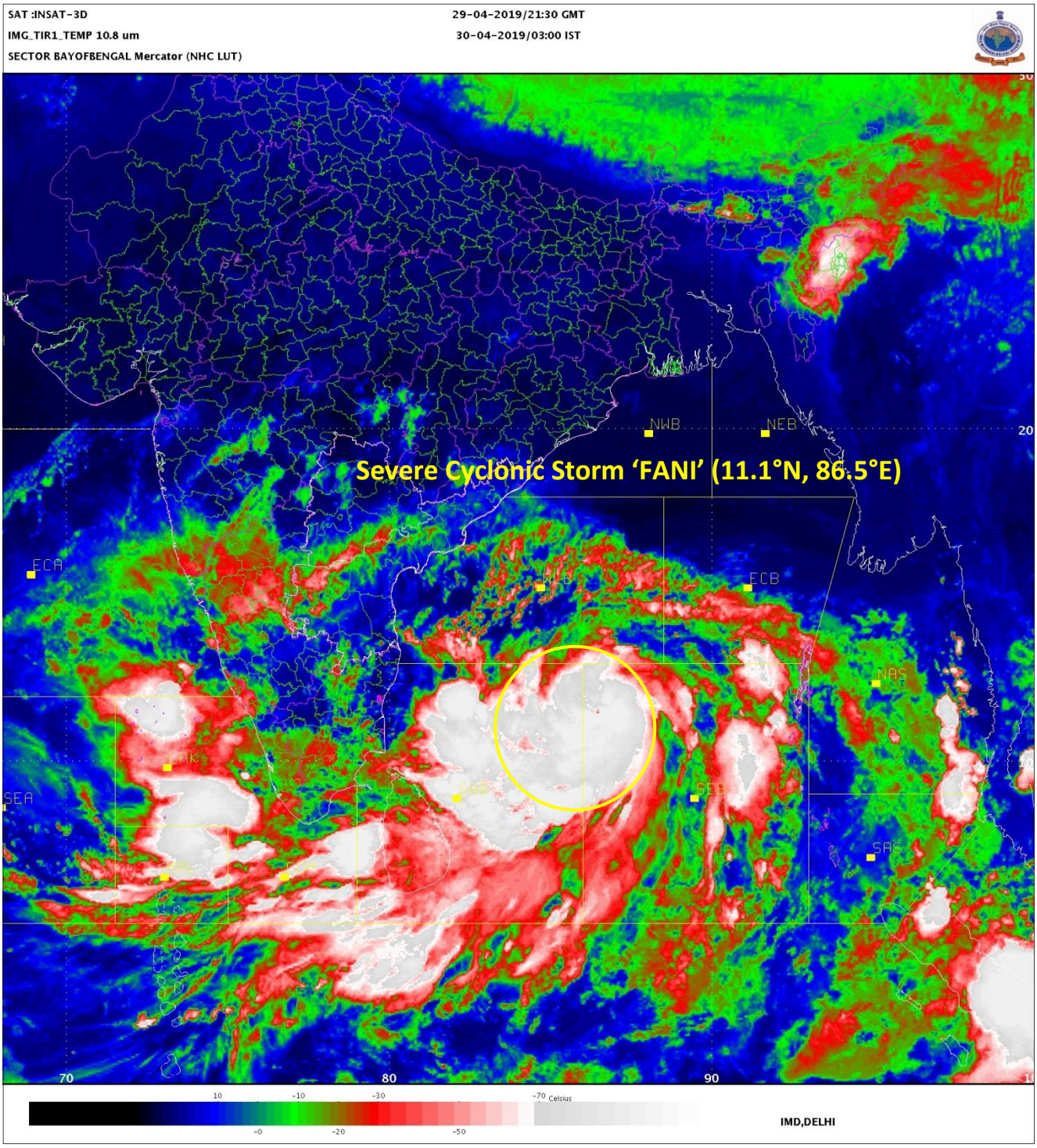
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining west]central Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 0830 hrs IST of 30th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

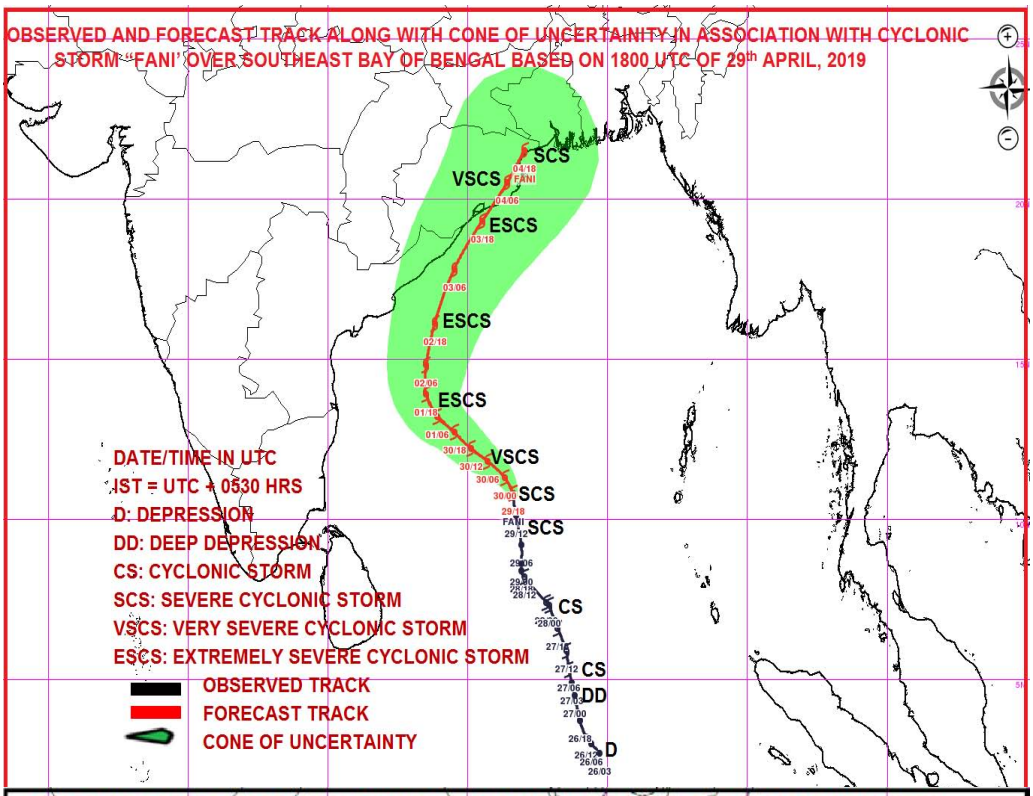
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

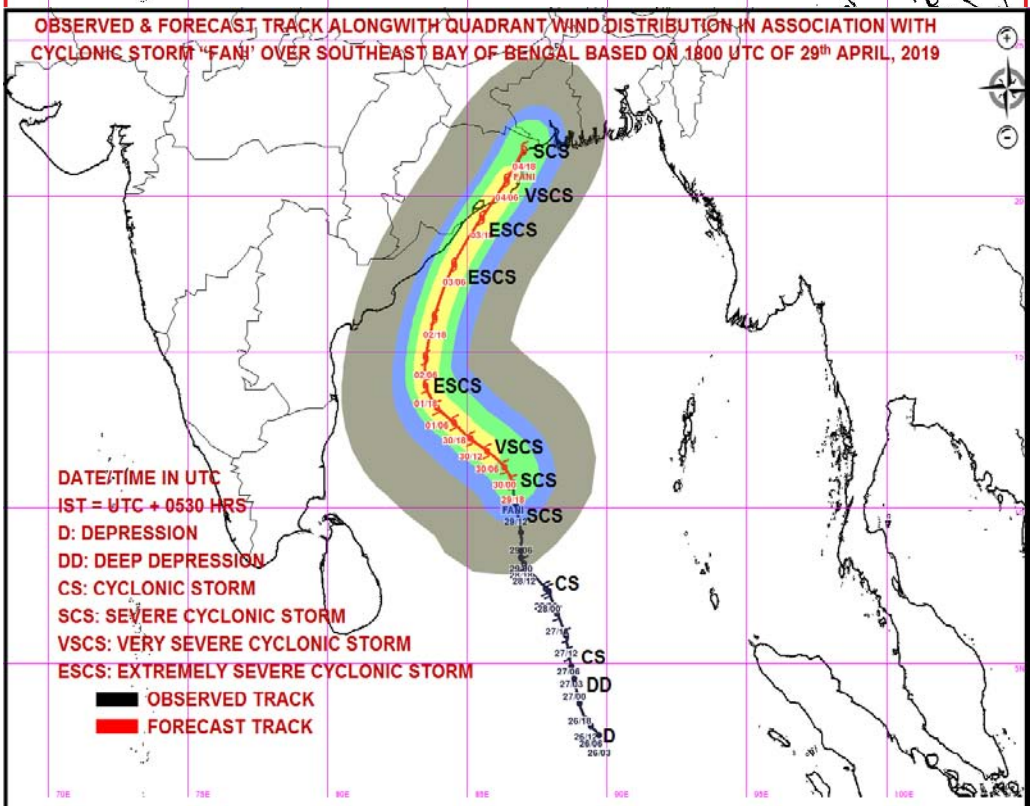
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 29 (BOB/02/2019)

TIME OF ISSUE: 0830 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Severe Cyclonic Storm "FANI" intensified into a Very Severe Cyclonic Storm over Southeast & adjoining Southwest Bay of Bengal: Cyclone Watch for Odisha Coast

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved north-northwestwards with a speed of about 16 kmph in last six hours, intensified into a **Very Severe Cyclonic Storm** and lay centred at 0530 hrs IST of 30th April, 2019 near latitude 11.7°N and longitude 86.5°E over Southeast & adjoining Southwest Bay of Bengal, about 670 km east-northeast of Trincomalee (Sri Lanka), 690 km east-southeast of Chennai (Tamil Nadu) and 760 km southeast of Machilipatnam (Andhra Pradesh). It is very likely to intensify further into an **Extremely Severe Cyclonic Storm** during next 36 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards towards Odisha Coast.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/0530	11.7/86.5	120-130 gusting to 145	Very Severe Cyclonic Storm
30.04.19/1130	12.5/85.9	130-140 gusting to 155	Very Severe Cyclonic Storm
30.04.19/1730	13.1/85.3	140-150 gusting to 165	Very Severe Cyclonic Storm
30.04.19/2330	13.5/84.7	150-160 gusting to 175	Very Severe Cyclonic Storm
01.05.19/0530	13.8/84.3	160-170 gusting to 185	Very Severe Cyclonic Storm
01.05.19/1730	14.4/84.0	165-175 gusting to 190	Extremely Severe Cyclonic Storm
02.05.19/0530	15.4/84.0	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/1730	16.7/84.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/0530	18.0/84.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	19.2/85.4	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/0530	20.3/86.3	140-150 gusting to 165	Very Severe Cyclonic Storm
04.05.19/1730	21.4/87.3	125-135 gusting to 150	Severe Cyclonic Storm
05.05.19/0530	22.5/88.4	90-100 gusting to 110	Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala during next 24 hours. Light to moderate rainfall at a few places very likely over north coastal Tamil Nadu & south coastal Andhra Pradesh during next 24 hours.
- Light to moderate rainfall at a few places very likely over north coastal Andhra Pradesh & south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places with heavy to very heavy rainfall at a few places over coastal Odisha & adjoining districts of north coastal Andhra Pradesh on 3rd & 4th May. Light to moderate rainfall at most places with heavy falls at isolated places also very likely over coastal districts of West Bengal on 3rd & 4th May.

(ii) Wind warning

- Gale wind speed reaching 100-110 kmph gusting to 125 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 120-130 kmph gusting to 150 kmph over Southwest & adjoining Southeast Bay of Bengal from today morning and 160-170 kmph gusting to 190 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from 01st May evening.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area and Gulf of Mannar is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph from 30th morning & 50-60 kmph gusting to 70 kmph from 30th evening along north Tamilnadu, Puducherry and south Andhra Pradesh Coasts for subsequent 24 hours.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Kerala coast is very likely to become squally wind speed reaching 40-50 kmph gusting to 60 kmph from today morning.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind, speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and would increase gradually for subsequent 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind, speed reaching 60-70 kmph gusting to 85 kmph, from 3rd May evening and would increase gradually during subsequent 24 hours.

(iii) Sea condition

- The sea condition is very high over Southeast & adjoining Southwest Bay of Bengal. It is likely to become phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from today morning and over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Fishermen Warning

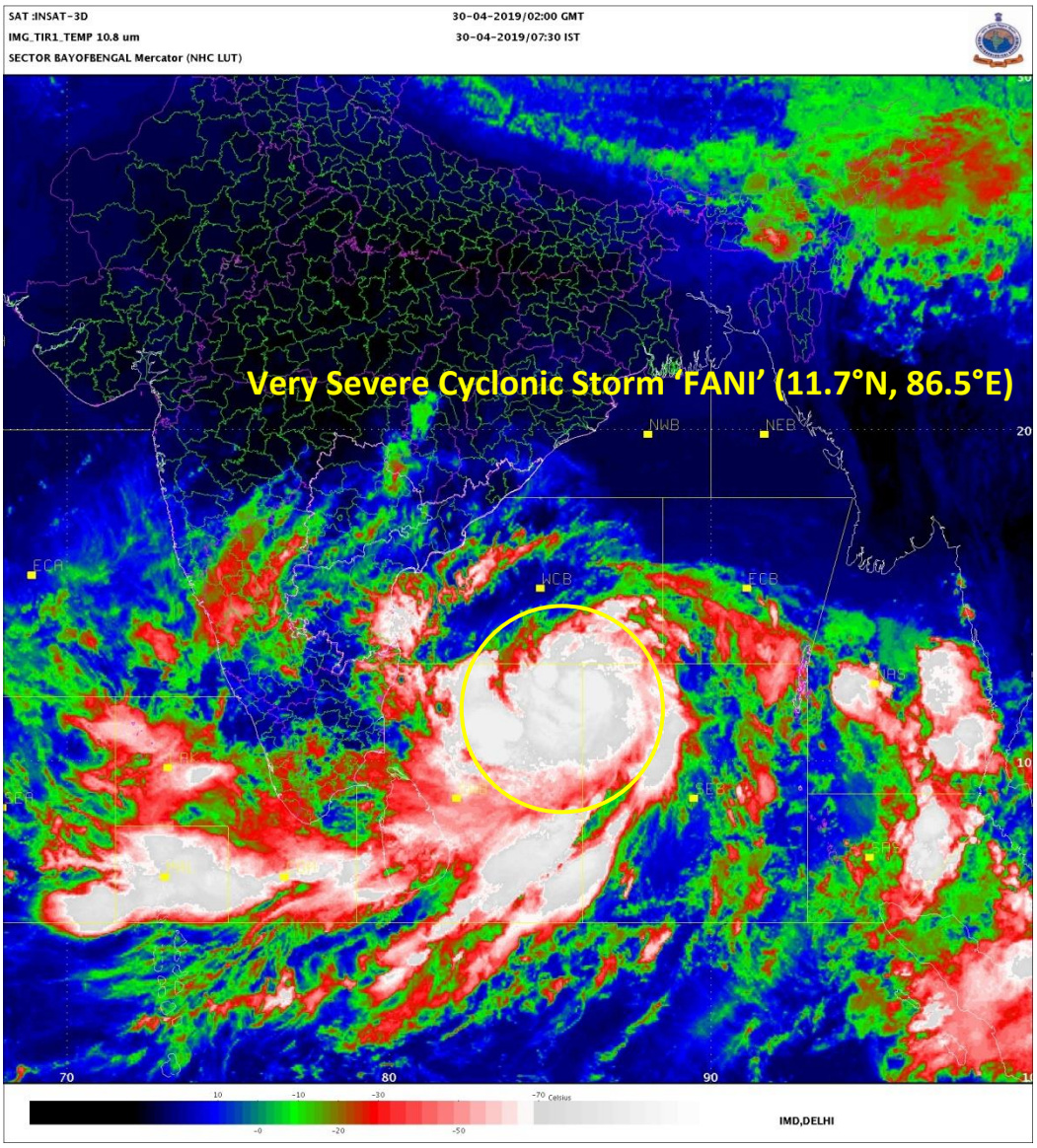
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 1130 hrs IST of 30th April, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

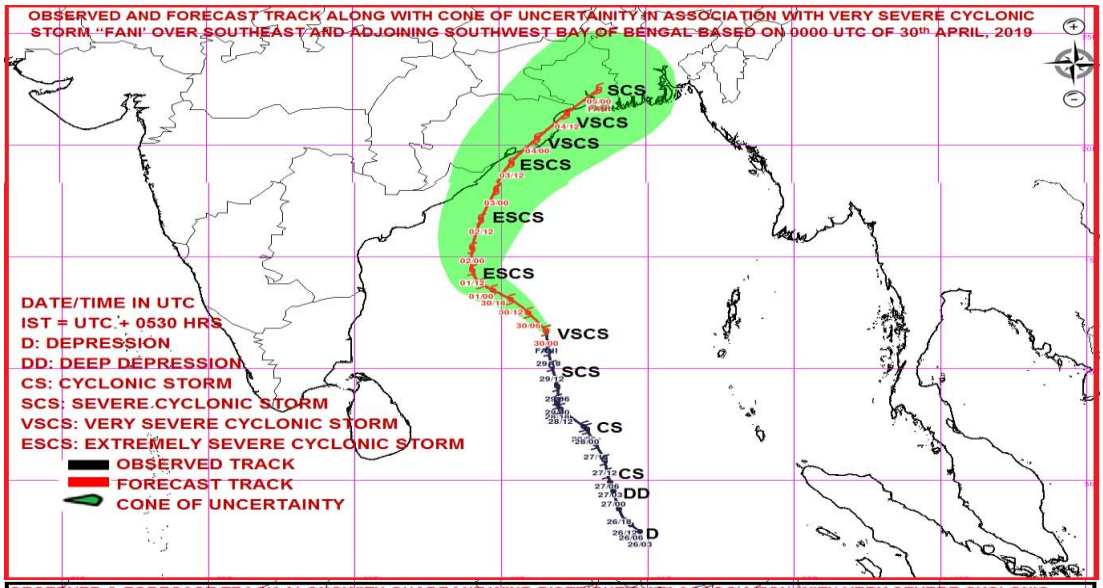
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

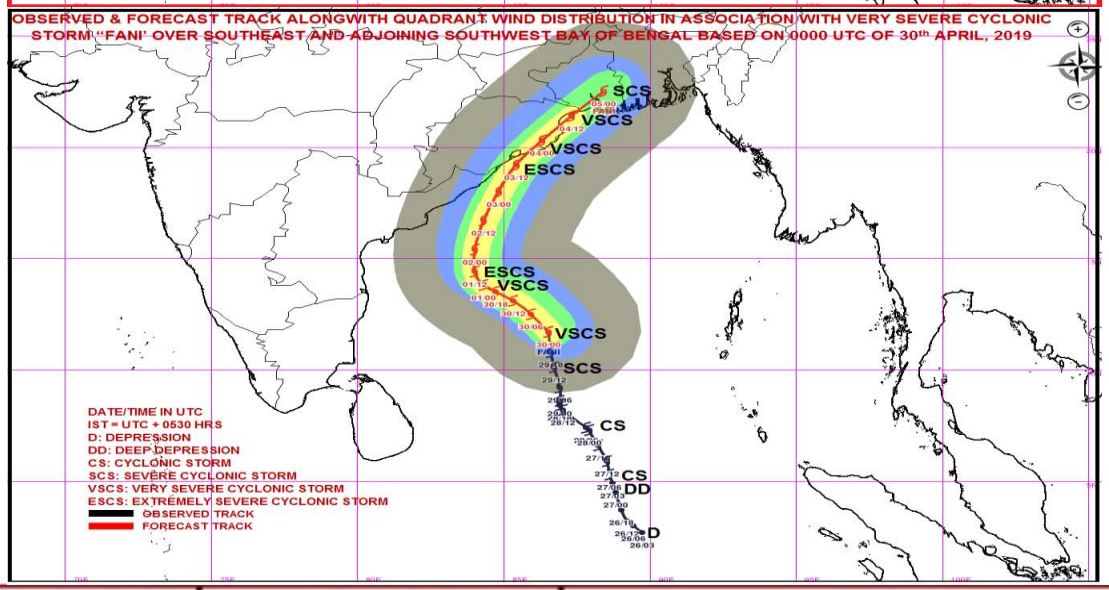
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 30 (BOB/02/2019)

TIME OF ISSUE: 1200 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

Sub: Very Severe Cyclonic Storm "FANI" over Southeast & adjoining Southwest Bay of Bengal: Cyclone Watch for Odisha and West Bengal Coast

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved north-northwestwards with a speed of about 23 kmph in last six hours and lay centred at 0830 hrs IST of 30th April, 2019 near latitude 12.3°N and longitude 86.2°E over Southeast & adjoining Southwest Bay of Bengal, about 830 km nearly south of Puri (Odisha) and 670 km south-southeast of Vishakhapatnam (Andhra Pradesh) and about 680 km northeast of Trincomalee (Sri Lanka). It is very likely to intensify further into an **Extremely Severe Cyclonic Storm** during next 12 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards and reach Odisha Coast by 3rd May afternoon with maximum sustained wind of speed 170-180 gusting to 200 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/0830	12.3/86.2	135-145 gusting to 160	Very Severe Cyclonic Storm
30.04.19/1130	12.5/85.9	145-155 gusting to 170	Very Severe Cyclonic Storm
30.04.19/1730	13.1/85.3	160-170 gusting to 185	Very Severe Cyclonic Storm
30.04.19/2330	13.5/84.7	165-175 gusting to 195	Extremely Severe Cyclonic Storm
01.05.19/0530	13.8/84.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/1730	14.4/84.0	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/0530	15.4/84.0	170-180 gusting to 200	Extremely Severe Cyclonic Storm
02.05.19/1730	16.7/84.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/0530	18.0/84.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	19.2/85.4	160-170 gusting to 190	Extremely Severe Cyclonic Storm
04.05.19/0530	20.3/86.3	140-150 gusting to 165	Very Severe Cyclonic Storm
04.05.19/1730	21.4/87.3	125-135 gusting to 150	Severe Cyclonic Storm
05.05.19/0530	22.5/88.4	90-100 gusting to 110	Severe Cyclonic Storm

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.

Warnings:

(i) Heavy rainfall warning

- Light to moderate rainfall at many places with heavy falls at isolated places very likely over Kerala during next 24 hours. Light to moderate rainfall at a few places very likely over north coastal Tamil Nadu & south coastal Andhra Pradesh during next 24 hours.
- Light to moderate rainfall at many places with heavy to very heavy rainfall very likely over north coastal Andhra Pradesh on 2nd May and light to moderate rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- Light to moderate rainfall at many places with heavy to very heavy rainfall very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places with heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and with heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 135-145 kmph gusting to 160 kmph is prevailing over Southeast & adjoining Southwest Bay of Bengal. It is very likely to increase gradually becoming 165-175 kmph gusting to 195 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 30th night onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area, Gulf of Mannar and Kerala on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind, speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 170-180 gusting 200 kmph over Odisha Coast and 90-100 gusting to 115 kmph over adjoining districts of north Andhra Pradesh by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over southwest & adjoining westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts from today morning and is very likely to become phenomenal over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be rough to very rough along & off Puducherry, Tamilnadu and south Andhra Pradesh Coasts till 1st May 2019, along & off north Andhra Pradesh Coasts on 1-3 May and along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Fishermen Warning

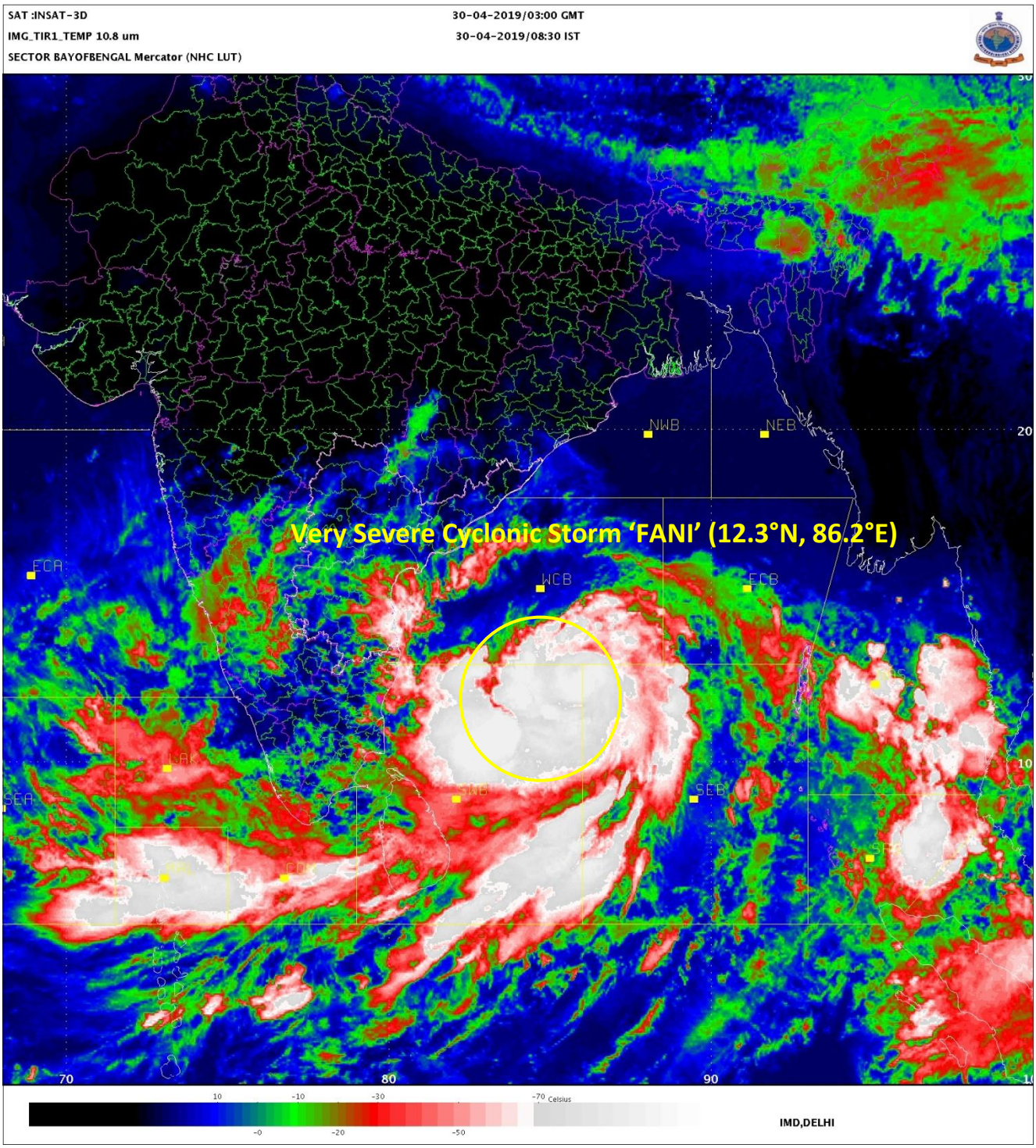
- The fishermen are advised not to venture into deep sea areas of Southeast Bay of Bengal & adjoining Equatorial Indian Ocean, Southwest Bay of Bengal and off Sri Lanka coast on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Sri Lanka, Puducherry, Tamilnadu & south Andhra Pradesh coasts till 1st May, westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2 May onwards.
- Those, who are out in deep sea above areas are advised to return to the coasts.

The next bulletin will be issued at 1430 hrs IST of 30th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

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.



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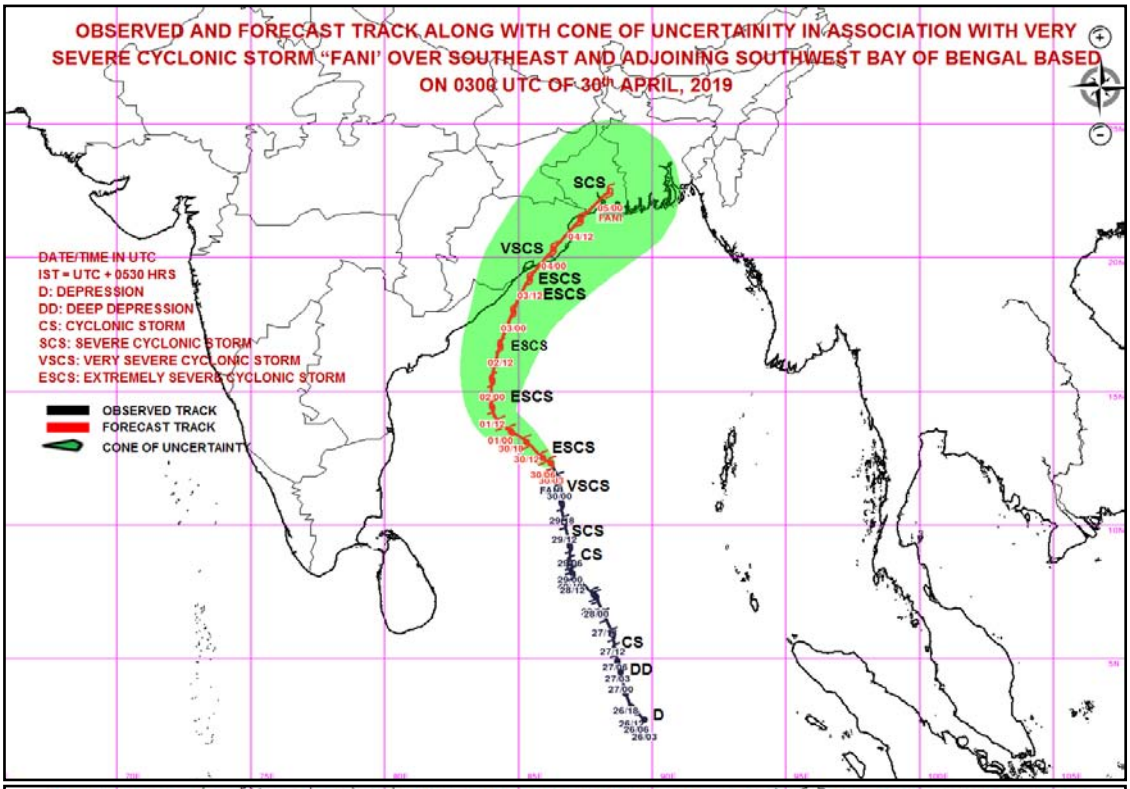
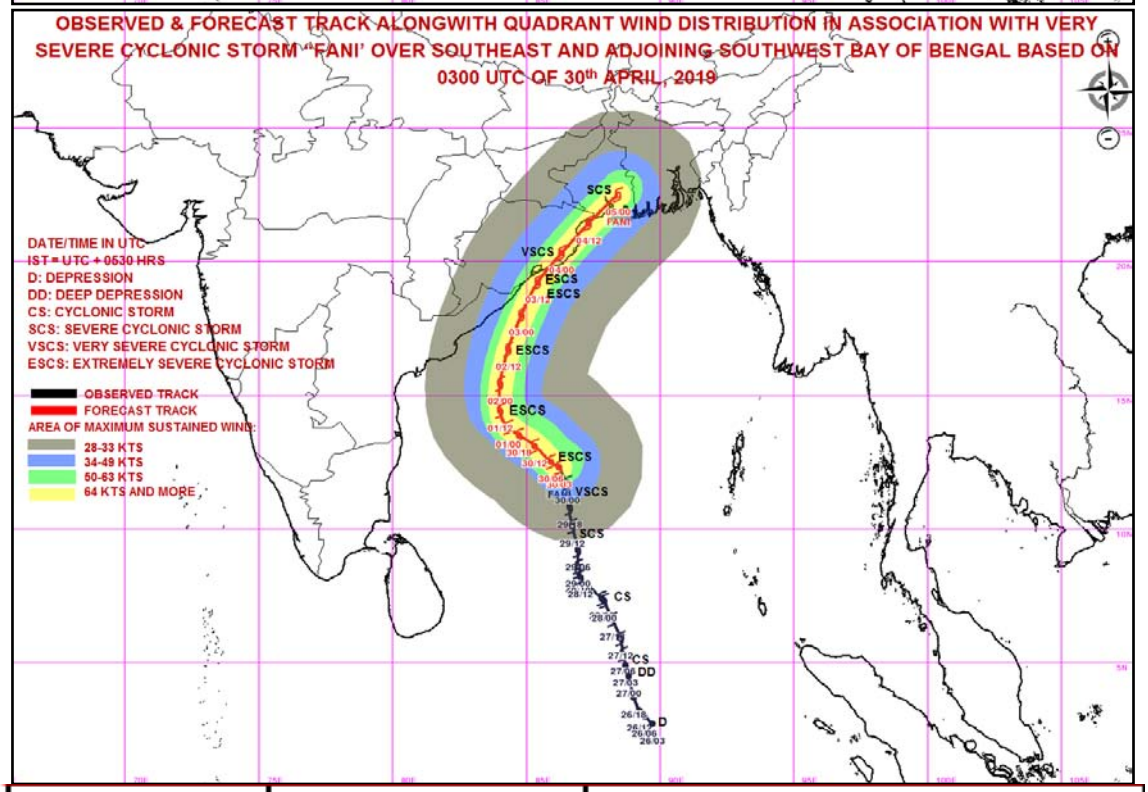
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 31 (BOB/02/2019)

TIME OF ISSUE: 1520 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Very Severe Cyclonic Storm "FANI" over Southwest Bay & adjoining Southeast of Bengal: Cyclone Alert for Odisha, West Bengal & Srikakulam and Vijayanagaram Districts of Andhra Pradesh Coasts: Yellow Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southeast & adjoining Southwest Bay of Bengal moved northwestwards with a speed of about 22 kmph in last six hours and lay centred at 1130 hrs IST of 30th April, 2019 over Southwest Bay & adjoining Southeast of Bengal near latitude 12.6°N and longitude 85.7°E, about 800 km south of Puri (Odisha) and 620 km south-southeast of Vishakhapatnam (Andhra Pradesh) and about 660 km north-northeast of Trincomalee (Sri Lanka). It is very likely to intensify further into an **Extremely Severe Cyclonic Storm** during next 12 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/1130	12.6/85.7	145-155 gusting to 170	Very Severe Cyclonic Storm
30.04.19/1730	13.1/85.3	160-170 gusting to 185	Very Severe Cyclonic Storm
30.04.19/2330	13.5/84.7	165-175 gusting to 195	Extremely Severe Cyclonic Storm
01.05.19/0530	13.8/84.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/1130	14.4/84.0	175-185 gusting to 205	Extremely Severe Cyclonic Storm
01.05.19/2330	15.4/84.0	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/1130	16.7/84.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/2330	18.0/84.7	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.2/85.3	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/2330	20.3/86.2	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/1130	21.4/87.3	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/2330	22.5/88.4	90-100 gusting to 110	Severe Cyclonic Storm
05.05.19/1130	23.5/89.6	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 145-155 kmph gusting to 170 kmph is prevailing over Southwest Bay & adjoining Southeast of Bengal. It is very likely to increase gradually becoming 175-185 kmph gusting to 205 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May morning onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area, Gulf of Mannar and Kerala on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 1-3 May and high to phenomenal along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019

and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) **(a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.**

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam and Vijayanagaram districts of Andhra Pradesh

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

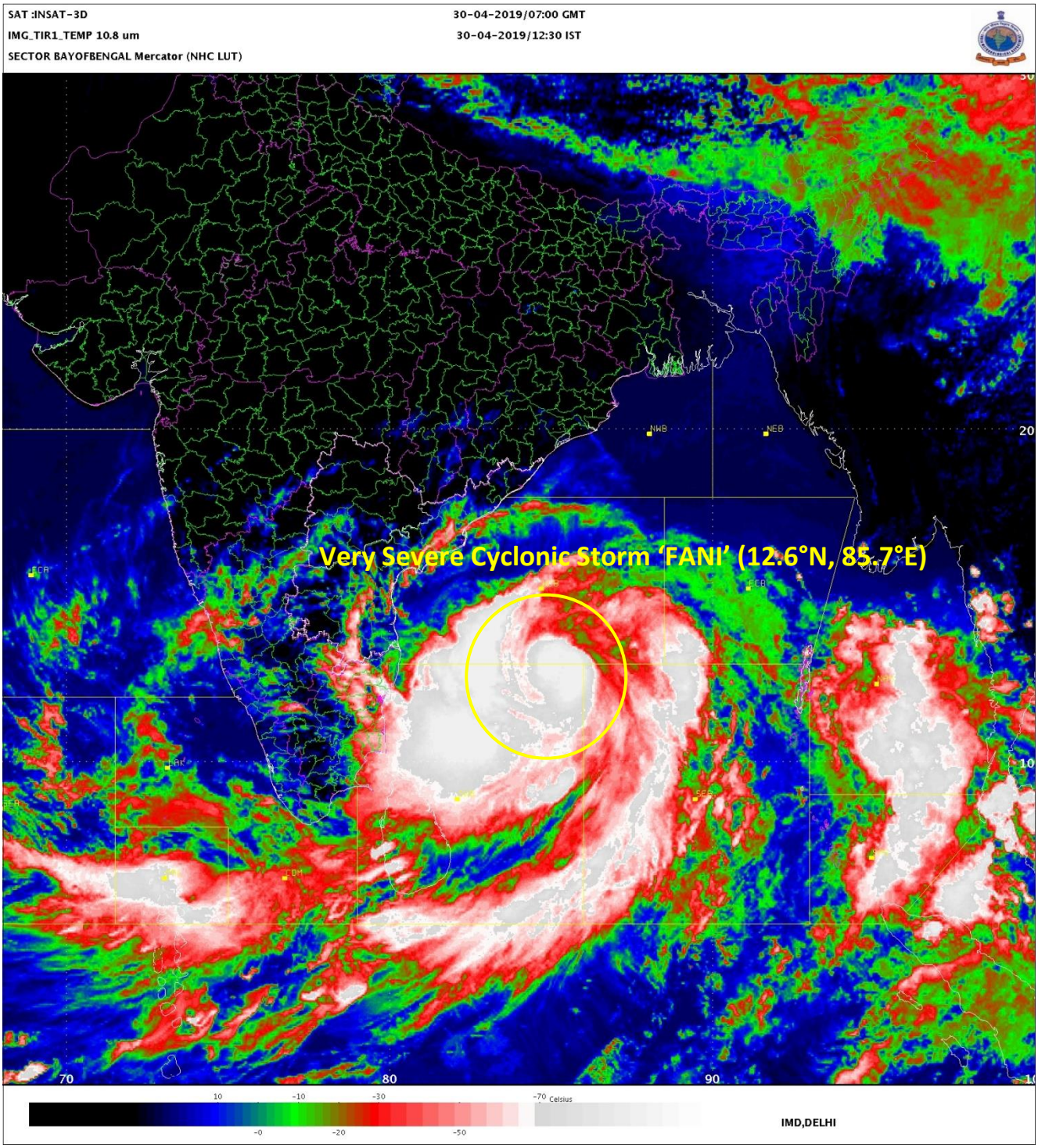
(i) Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic.(iv) People in affected areas to remain indoors.(v) Movement in motor boats and small ships not advisable.

The next bulletin will be issued at 1730 hrs IST of 30th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

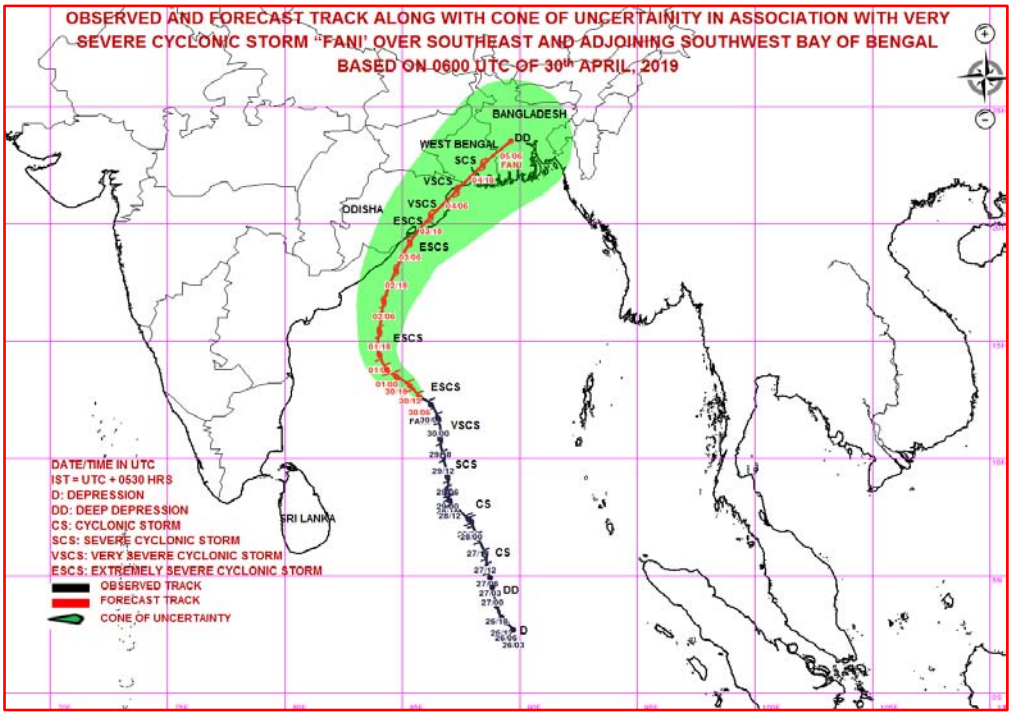
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

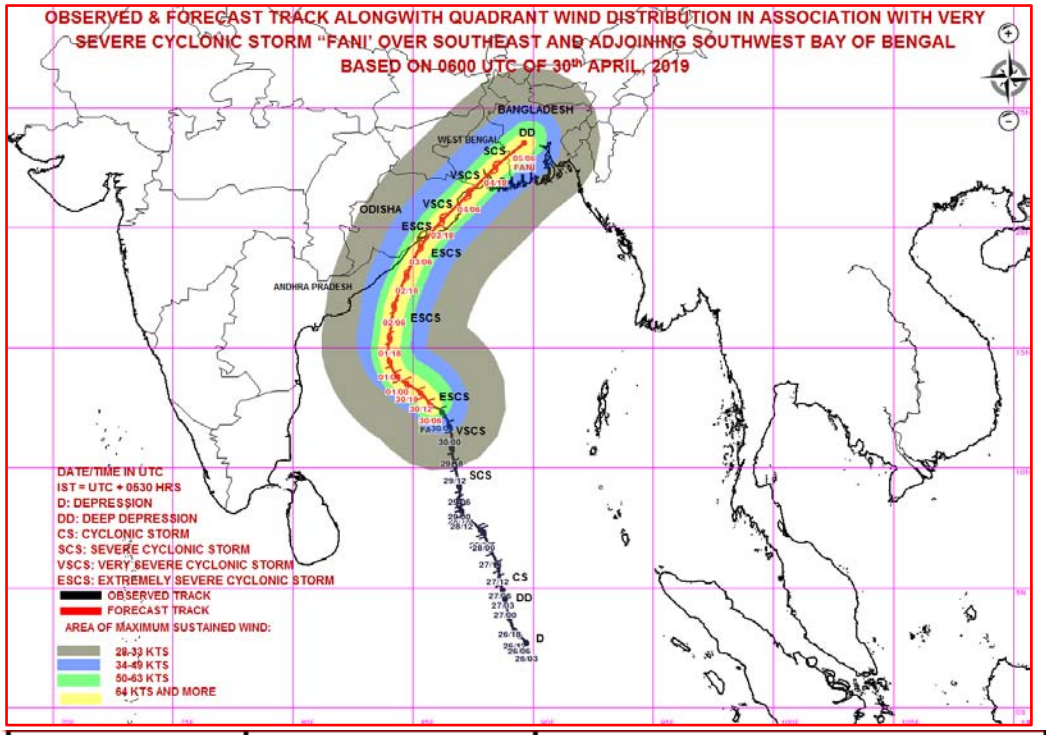
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 32 (BOB/02/2019)

TIME OF ISSUE: 1700 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Very Severe Cyclonic Storm "FANI" over Southwest and adjoining westcentral & Southeast Bay of Bengal: Cyclone Alert for Odisha, West Bengal & Srikakulam and Vijayanagaram Districts of Andhra Pradesh Coasts: Yellow Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southwest & adjoining Southeast Bay of Bengal moved northwestwards with a speed of about 21 kmph in last six hours and lay centred at 1430 hrs IST of 30th April, 2019 over Southwest and adjoining westcentral & Southeast Bay of Bengal near latitude 13.0°N and longitude 85.3°E, about 760 km south-southwest of Puri (Odisha) and 560 km south-southeast of Vishakhapatnam (Andhra Pradesh) and about 660 km north-northeast of Trincomalee (Sri Lanka). It is very likely to intensify further into an **Extremely Severe Cyclonic Storm** during next 06 hours. **It is very likely to move northwestwards till 01st May evening and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/1430	13.0/85.3	155-165 gusting to 180	Very Severe Cyclonic Storm
30.04.19/1730	13.2/85.0	165-175 gusting to 195	Extremely Severe Cyclonic Storm
30.04.19/2330	13.5/84.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/0530	13.8/84.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/1130	14.4/84.0	175-185 gusting to 205	Extremely Severe Cyclonic Storm
01.05.19/2330	15.4/84.0	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/1130	16.7/84.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/2330	18.0/84.7	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.2/85.3	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/2330	20.3/86.2	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/1130	21.4/87.3	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/2330	22.5/88.4	90-100 gusting to 110	Severe Cyclonic Storm
05.05.19/1130	23.5/89.6	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 155-165 kmph gusting to 180 kmph is prevailing over Southwest and adjoining westcentral & Southeast Bay of Bengal. It is very likely to increase gradually becoming 175-185 kmph gusting to 205 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May morning onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu & Puducherry coast, Comorin area, Gulf of Mannar and Kerala on 30th.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 1-3 May and high to phenomenal along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal on 30th April; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019

and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) **(a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.**

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected..

Action Suggested:

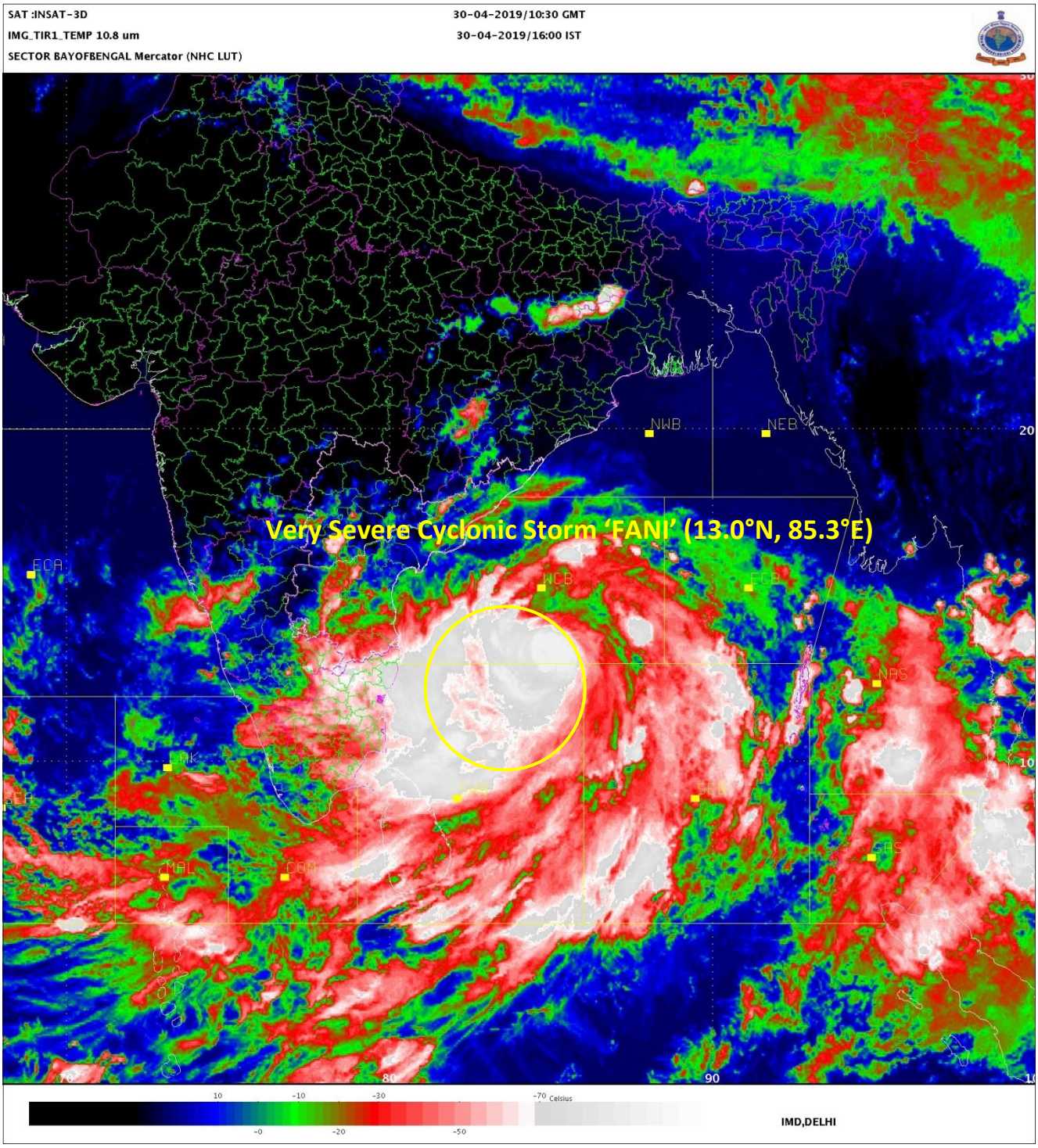
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 2030 hrs IST of 30th April, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

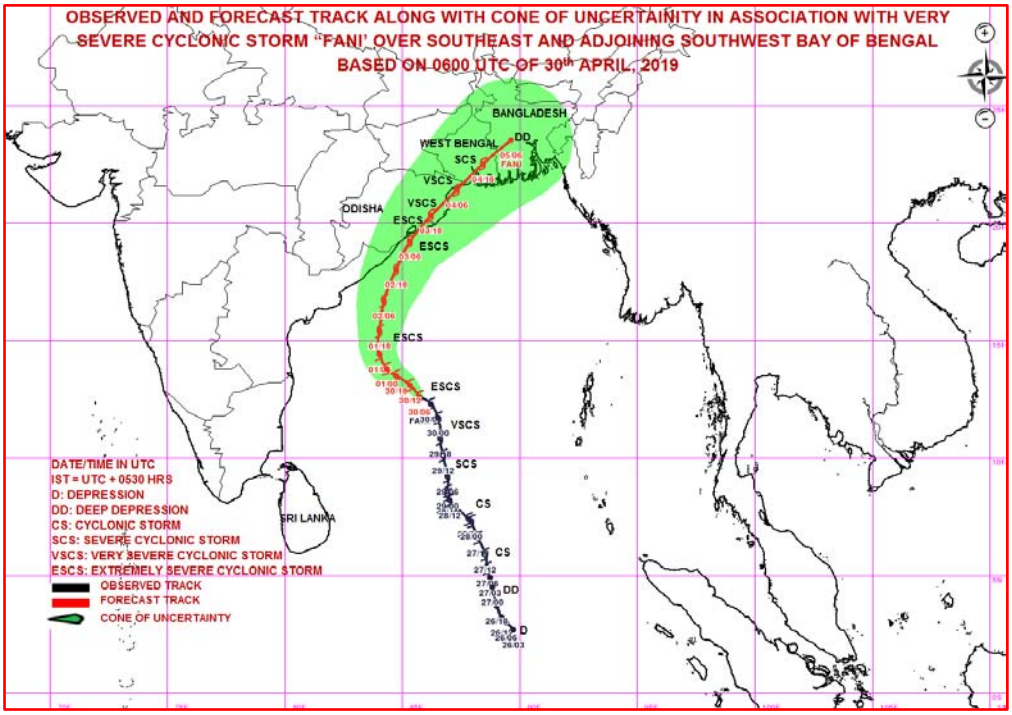
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

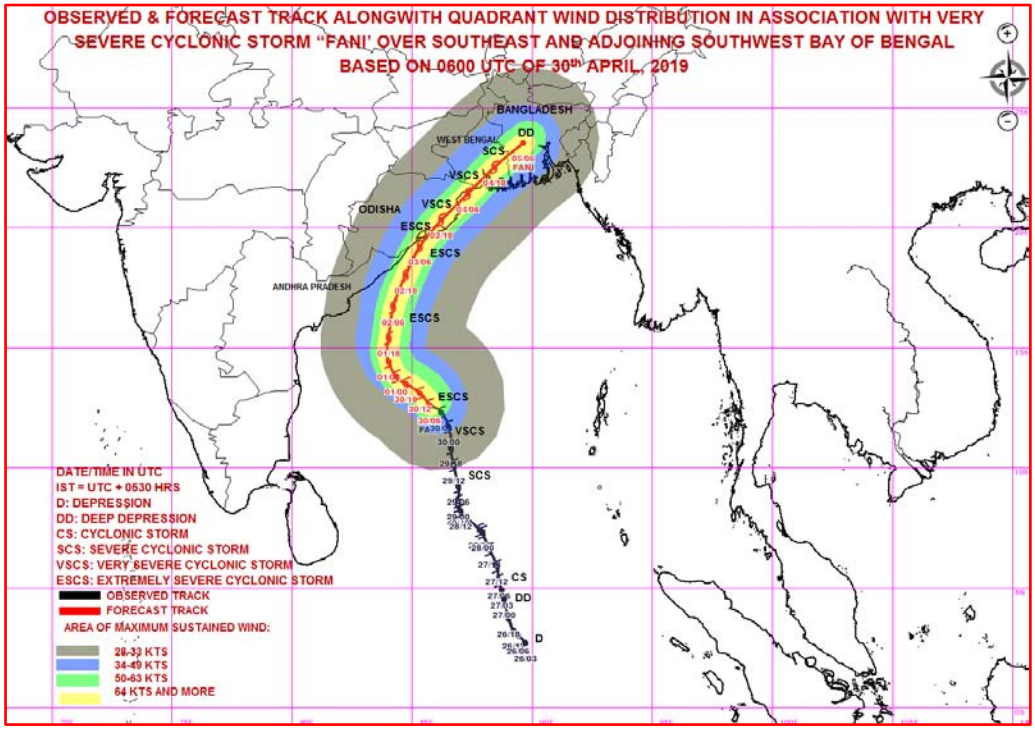
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 33 (BOB/02/2019)

TIME OF ISSUE: 2030 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Very Severe Cyclonic Storm "FANI" intensified into Extremely Severe Cyclonic Storm over Southwest and adjoining westcentral & Southeast Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southwest and adjoining westcentral & Southeast Bay of Bengal, moved west-northwestwards with a speed of about 22 kmph in last six hours, intensified into an **Extremely Severe Cyclonic Storm** and lay centred at 1730 hrs IST of 30th April, 2019 over Southwest and adjoining westcentral & Southeast Bay of Bengal near latitude 13.3°N and longitude 84.7°E, about 730 km south-southwest of Puri (Odisha) and 510 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to move northwestwards till 01st May noon and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/1730	13.3/84.7	165-175 gusting to 195	Extremely Severe Cyclonic Storm
30.04.19/2330	13.6/84.2	165-175 gusting to 185	Extremely Severe Cyclonic Storm
01.05.19/0530	13.9/83.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/1130	14.5/83.6	175-185 gusting to 205	Extremely Severe Cyclonic Storm
01.05.19/1730	15.0/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	16.1/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
03.05.19/0530	18.7/84.9	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.9	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	21.0/86.9	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/1730	22.0/88.2	90-100 gusting to 110	Severe Cyclonic Storm
05.05.19/0530	23.1/89.7	50-60 gusting to 70	Deep Depression

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 165-175 kmph gusting to 195 kmph is prevailing over Southwest and adjoining westcentral & Southeast Bay of Bengal. It is very likely to increase gradually becoming 180-190 kmph gusting to 210 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May evening onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 1-3 May and high to phenomenal along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May 2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

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.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected..

Action Suggested:

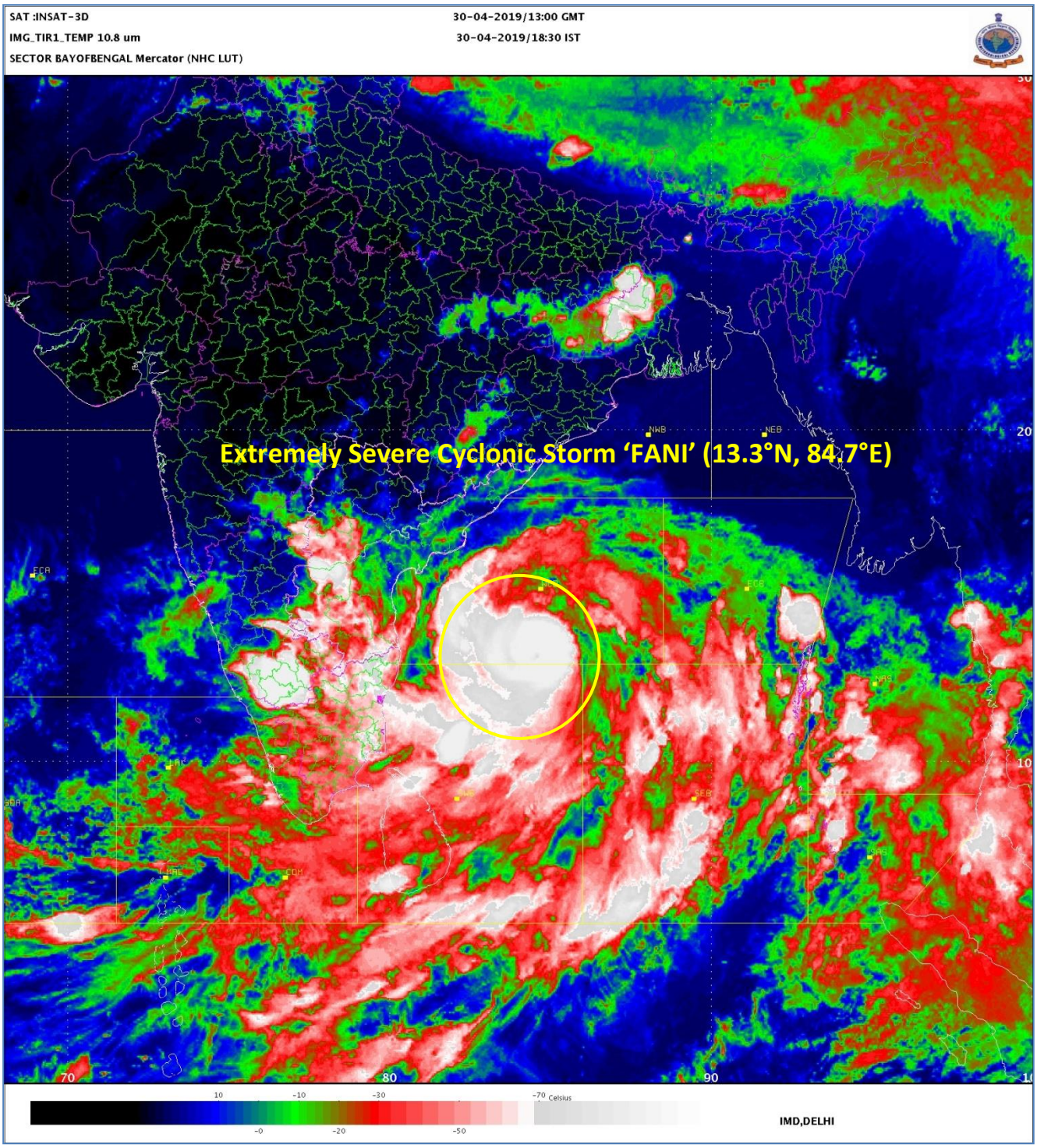
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 2330 hrs IST of 30th April, 2019.

(Sunitha devi)
Scientist-E, RSMC, New Delhi

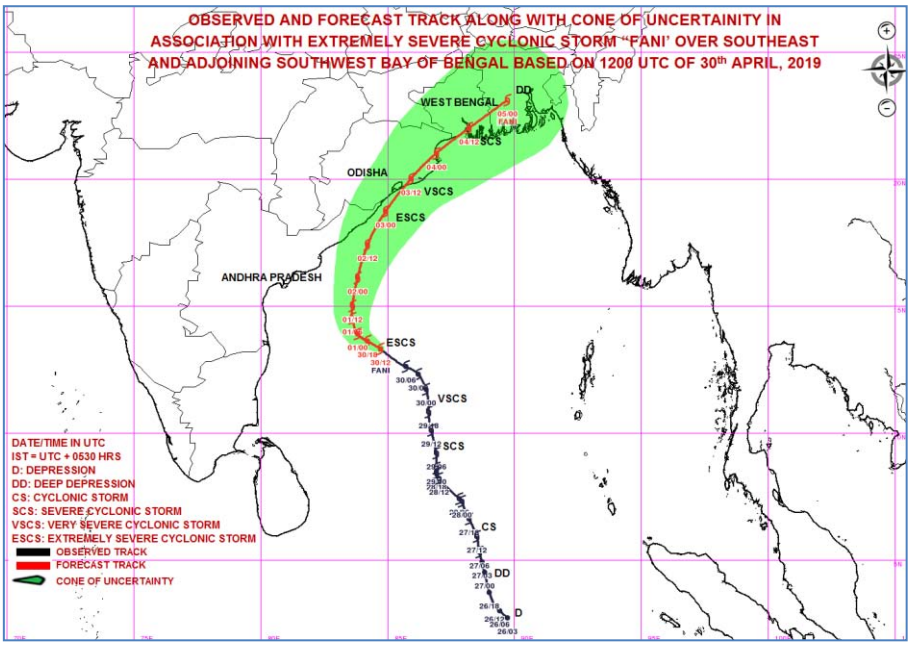
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

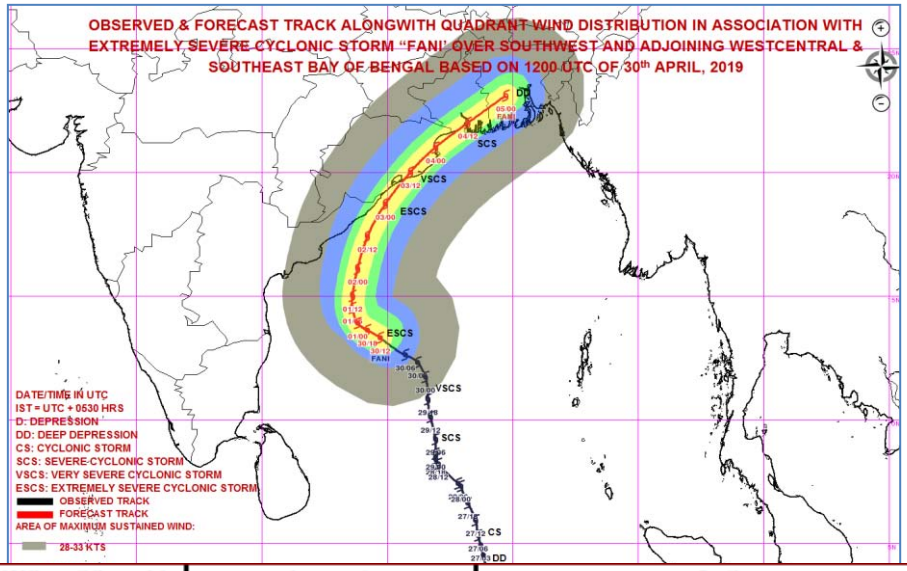
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 34 (BOB/02/2019)

TIME OF ISSUE: 2230 HOURS IST **DATED: 30.04.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral and adjoining southwest Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Southwest and adjoining westcentral & Southeast Bay of Bengal, moved west-northwestwards with a speed of about 16 kmph in last six hours and lay centred at 2030 hrs IST of 30th April, 2019 over Westcentral and adjoining southwest Bay of Bengal near latitude 13.4°N and longitude 84.5°E, about 720 km south-southwest of Puri (Odisha) and 490 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to intensify further and move northwestwards till 01st May noon and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/2030	13.4/84.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
30.04.19/2330	13.6/84.2	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/0530	13.9/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1130	14.5/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	15.0/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	16.1/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
03.05.19/0530	18.7/84.9	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.9	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	21.0/86.9	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/1730	22.0/88.2	90-100 gusting to 110	Severe Cyclonic Storm
05.05.19/0530	23.1/89.7	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 170-180 kmph gusting to 200 kmph is prevailing over westcentral and adjoining southwest Bay of Bengal. It is very likely to increase gradually becoming 180-190 kmph gusting to 210 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May evening onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 1-3 May 2019 and over Northwest Bay of Bengal during 2-4 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 1-3 May and high to phenomenal along & off Odisha and West Bengal Coasts during 2-4 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May

2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) **(a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.**

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected..

Action Suggested:

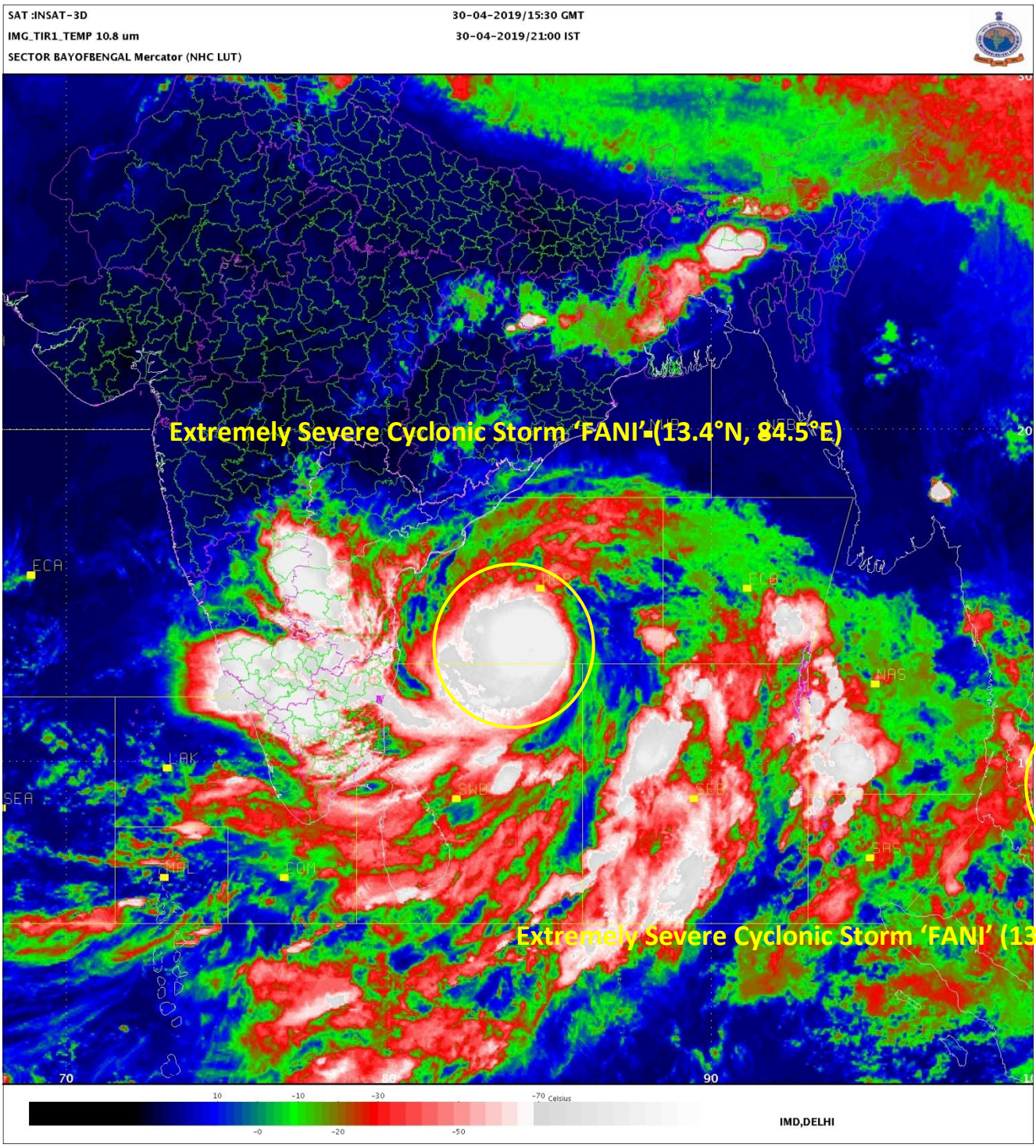
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 0230 hrs IST of 1st May, 2019.

(V.R. Durai)
Scientist-E, RSMC, New Delhi

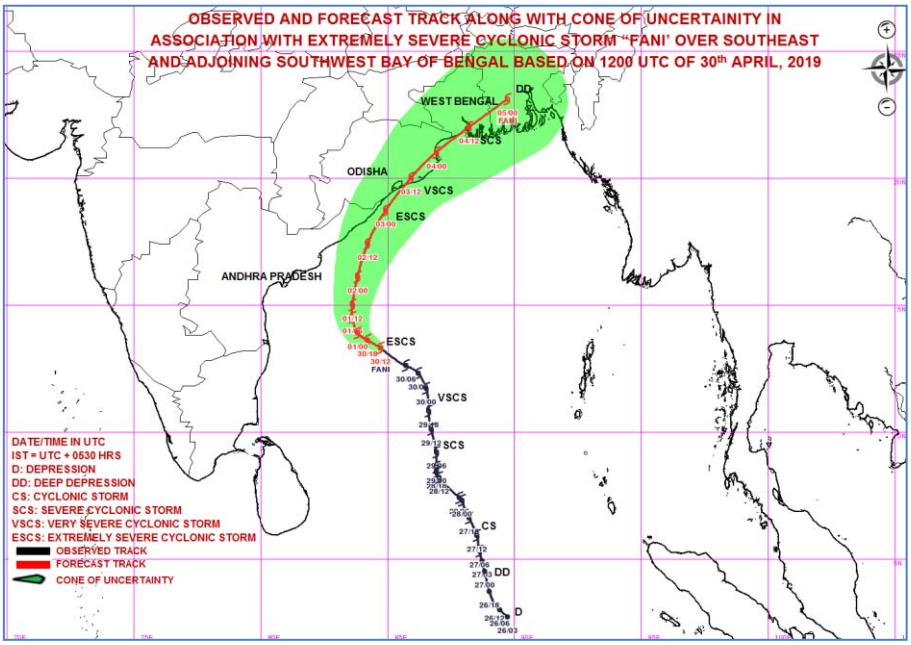
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

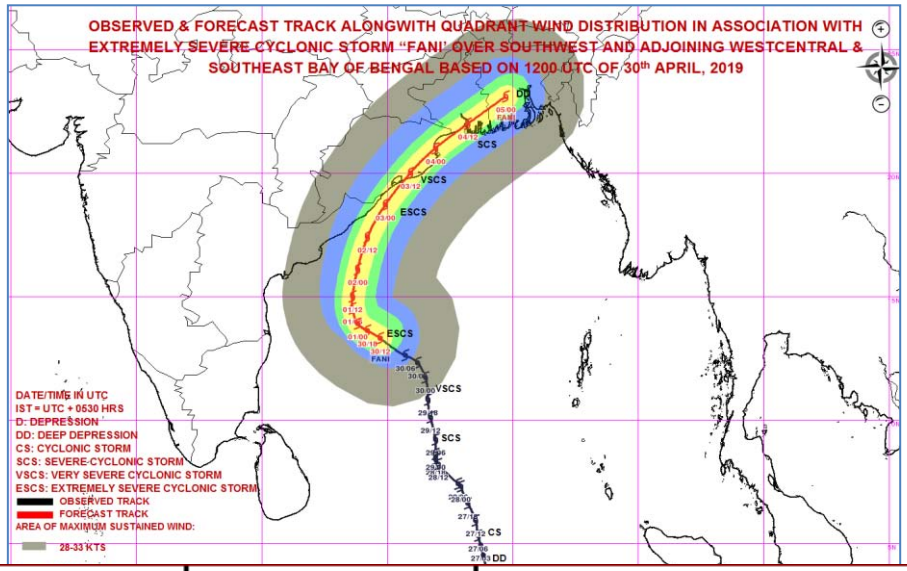
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 35 (BOB/02/2019)

TIME OF ISSUE: 0145 HOURS IST **DATED: 01.05.2019**

FROM: INDIA METEOROLOGICAL DEPARTMENT (FAX NO. 24643965/24699216/24623220)

TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS (FAX.NO. 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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral and adjoining southwest Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral & adjoining Southwest Bay of Bengal, moved west-northwestwards with a speed of about 07 kmph in last six hours and lay centred at 2330 hrs IST of 30th April, 2019 over Westcentral and adjoining Southwest Bay of Bengal near latitude 13.5°N and longitude 84.4°E, about 710 km south-southwest of Puri (Odisha) and 480 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to intensify further and move northwestwards till 01st May noon and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.04.19/2330	13.5/84.4	170-180 gusting to 200	Extremely Severe Cyclonic Storm
01.05.19/0530	13.9/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1130	14.5/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	15.0/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.6/83.7	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.7/84.0	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/2330	18.1/84.5	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.0/85.1	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/2330	21.0/86.5	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/1130	22.6/88.4	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/2330	23.8/90.1	70-80 gusting to 90	Cyclonic Storm
05.05.19/1130	24.0/90.5	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 170-180 kmph gusting to 200 kmph is prevailing over westcentral and adjoining southwest Bay of Bengal. It is very likely to increase gradually becoming 180-190 kmph gusting to 210 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May evening onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting to 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May

2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) **(a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.**

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected..

Action Suggested:

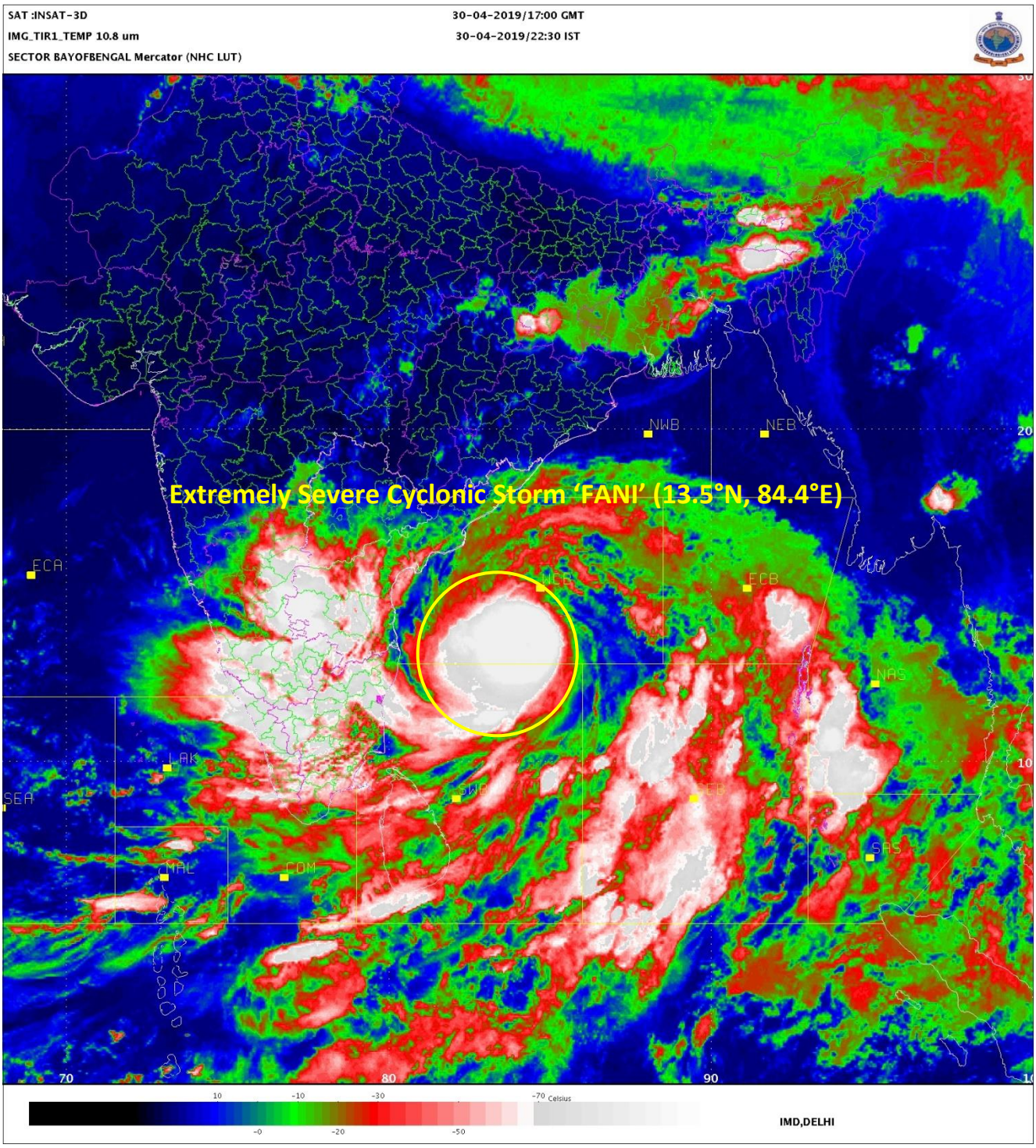
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 0530 hrs IST of 01st May, 2019.

(V.R. Durai)
Scientist-E, RSMC, New Delhi

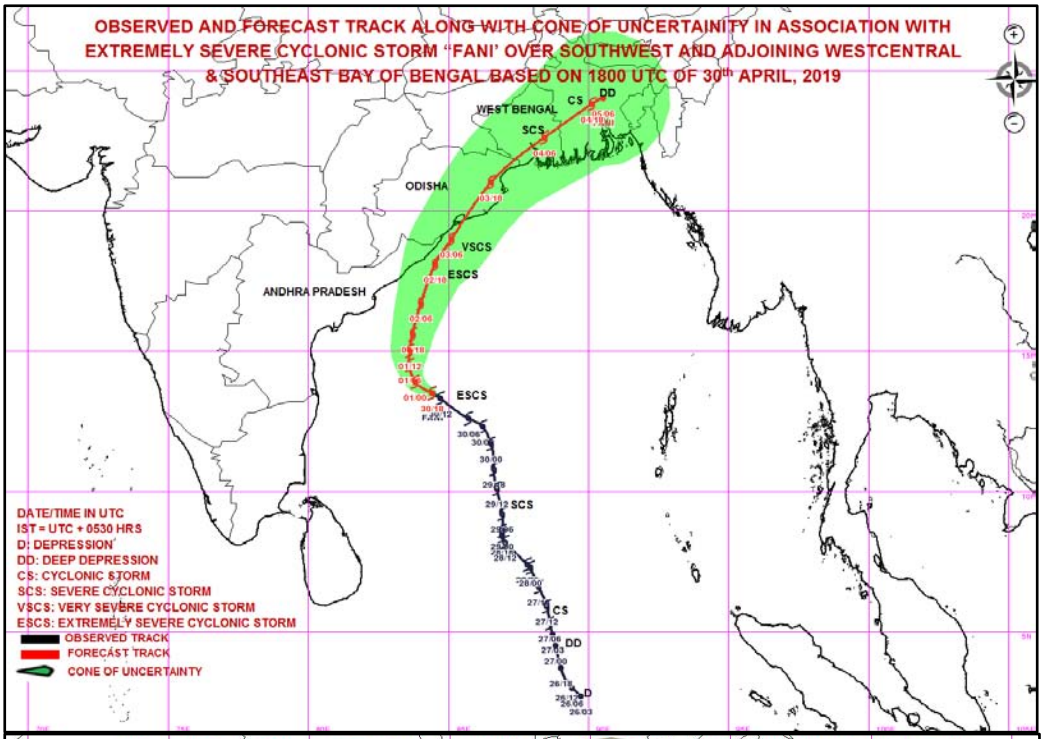
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

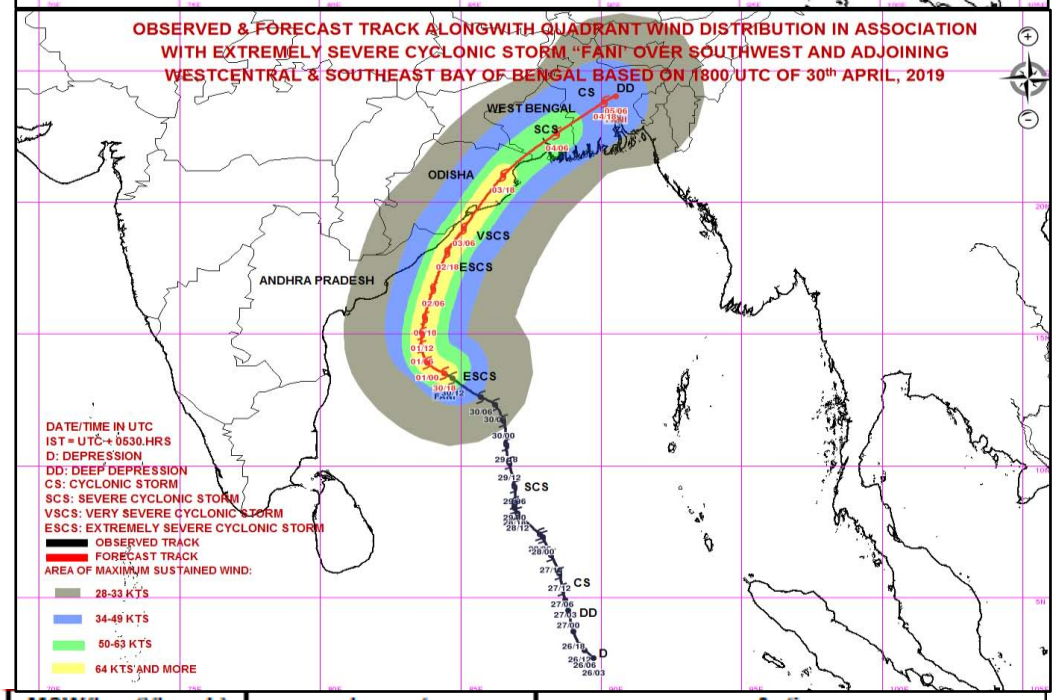
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 36 (BOB/02/2019)

TIME OF ISSUE: 0530 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral and adjoining southwest Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral & adjoining Southwest Bay of Bengal, moved west-northwestwards with a speed of about 07 kmph in last six hours and lay centred at 0230 hrs IST of 01st May, 2019 over Westcentral and adjoining Southwest Bay of Bengal near latitude 13.6°N and longitude 84.2°E, about 710 km south-southwest of Puri (Odisha) and 460 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to intensify further and move northwestwards till 01st May noon and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/0230	13.6/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/0530	13.9/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1130	14.5/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	15.0/83.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.6/83.7	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.7/84.0	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/2330	18.1/84.5	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.0/85.1	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/2330	21.0/86.5	125-135 gusting to 150	Very Severe Cyclonic Storm
04.05.19/1130	22.6/88.4	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/2330	23.8/90.1	70-80 gusting to 90	Cyclonic Storm
05.05.19/1130	24.0/90.5	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & its adjoining districts of interior Odisha on 3rd and over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May.

(ii) Wind warning

- Gale wind speed reaching 170-180 kmph gusting to 200 kmph is prevailing over westcentral and adjoining southwest Bay of Bengal. It is very likely to increase gradually becoming 180-190 kmph gusting to 210 kmph over Westcentral & adjoining Southwest Bay of Bengal off north Tamilnadu, Puducherry and south Andhra Pradesh Coast from 1st May evening onwards.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting to 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) by 3rd May evening.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(iii) Sea condition

- The sea condition is phenomenal over Southwest Bay and adjoining Southeast & westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts. It is very likely to be phenomenal over westcentral Bay of Bengal during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iv) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(v) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May

2019 and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.

- Those, who are out in deep sea above areas are advised to return to the coasts.

(vi) **(a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.**

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected..

Action Suggested:

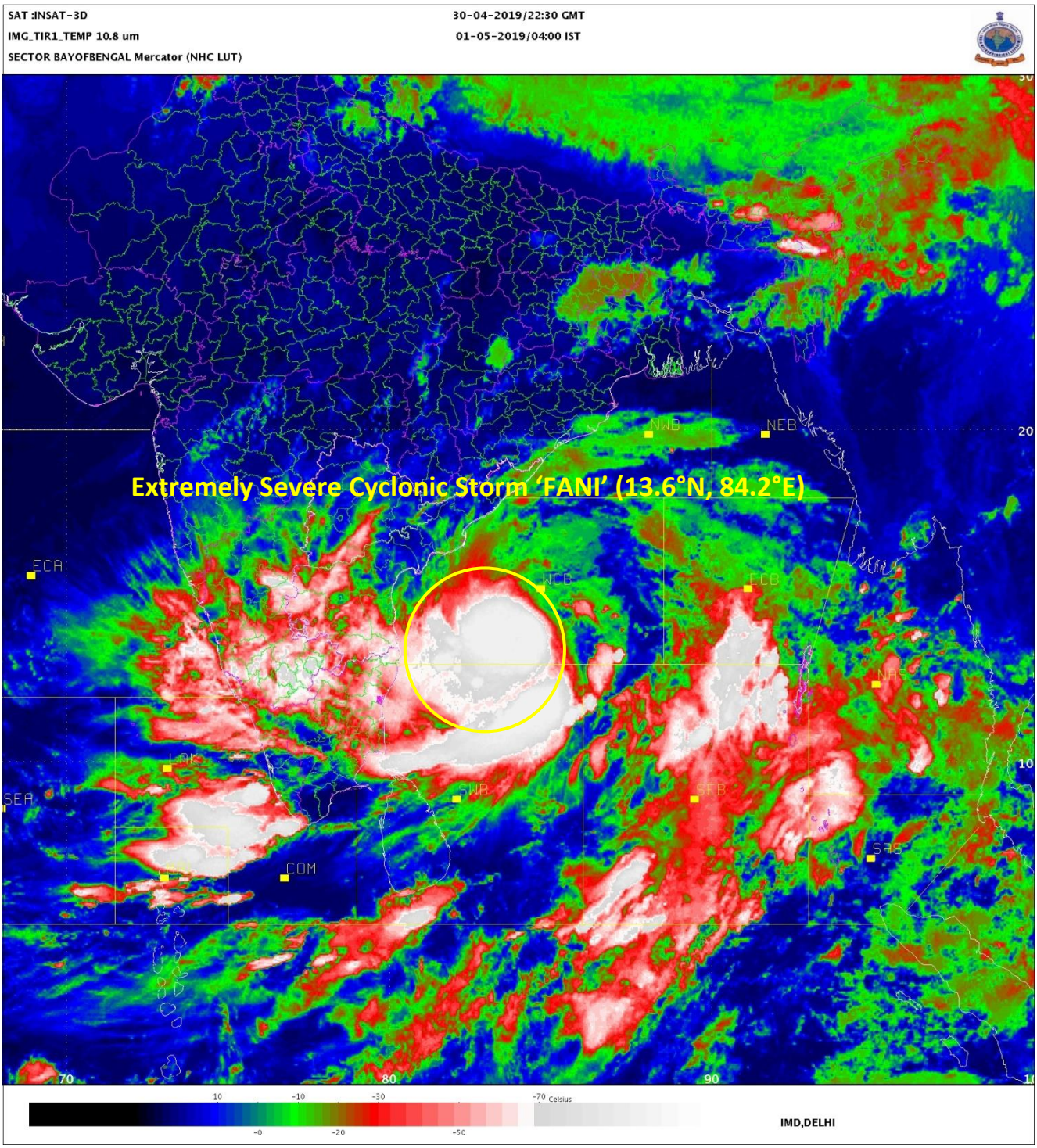
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 0830 hrs IST of 01st May, 2019.

(V.R. Durai)
Scientist-E, RSMC, New Delhi

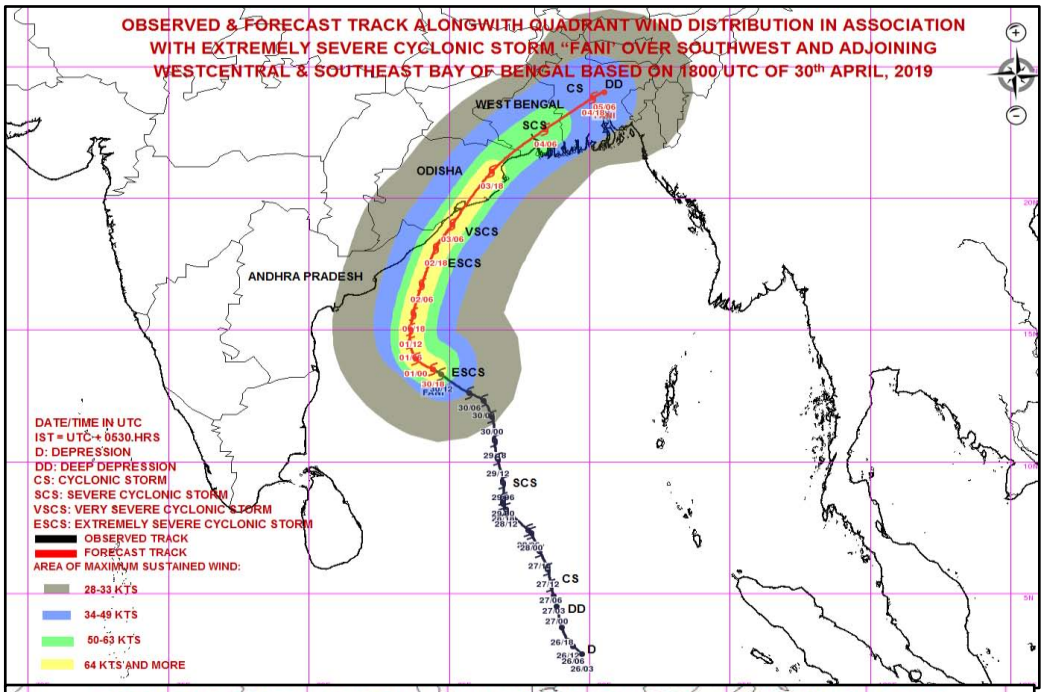
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

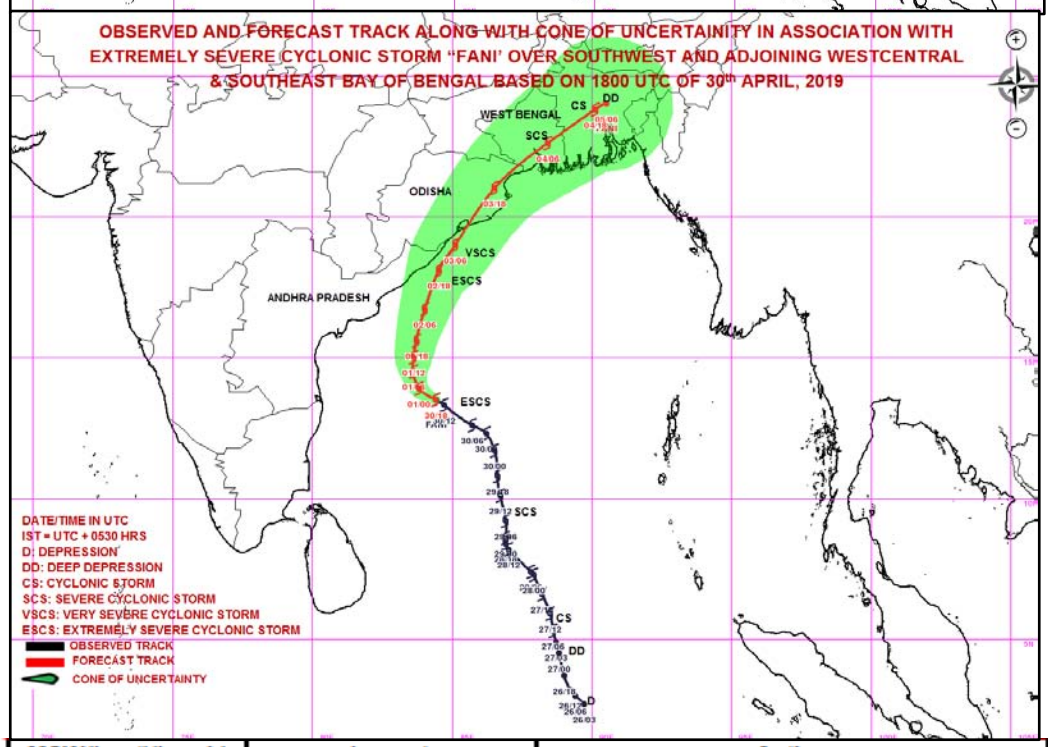
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 37 (BOB/02/2019)

TIME OF ISSUE: 0900 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral and adjoining southwest Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral & adjoining Southwest Bay of Bengal, moved northwestwards with a speed of about 10 kmph in last six hours and lay centred at 0530 hrs IST of 01st May, 2019 over Westcentral and adjoining Southwest Bay of Bengal near latitude 13.9°N and longitude 84.0°E, about 680 km south-southwest of Puri (Odisha) and 430 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to move northwestwards during next 12 hours and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, to the south of Puri around 3rd May afternoon with maximum sustained wind of speed 175-185 kmph gusting to 205 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/0530	13.9/84.0	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1130	14.4/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	14.9/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.4/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	16.1/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	18.5/84.8	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.8	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	22.1/87.4	120-130 gusting to 145	Severe Cyclonic Storm
04.05.19/1730	23.7/89.1	80-90 gusting to 100	Cyclonic Storm
05.05.19/0530	25.6/91.2	45-55 gusting to 65	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Rainfall at many places with heavy to very heavy rainfall at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and rainfall at most places with heavy to very heavy rainfall at a few places on 3rd May over same area.
- **Odisha:** Rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & interior Odisha on 3rd and rainfall at many places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal and heavy at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Rainfall at most places with isolated heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th and 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is prevailing over westcentral and adjoining southwest Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coast during next 24 hours and 150-160 kmph gusting to 170 kmph is prevailing over westcentral Bay of Bengal from 2nd May for subsequent 24 hours and significant decrease thereafter.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 175-185 kmph gusting to 205 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) by 3rd May evening for subsequent 12 hours and significant decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May morning.

(ii)Sea condition

- The sea condition is phenomenal over westcentral and adjoining Southwest Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected.

Action Suggested:

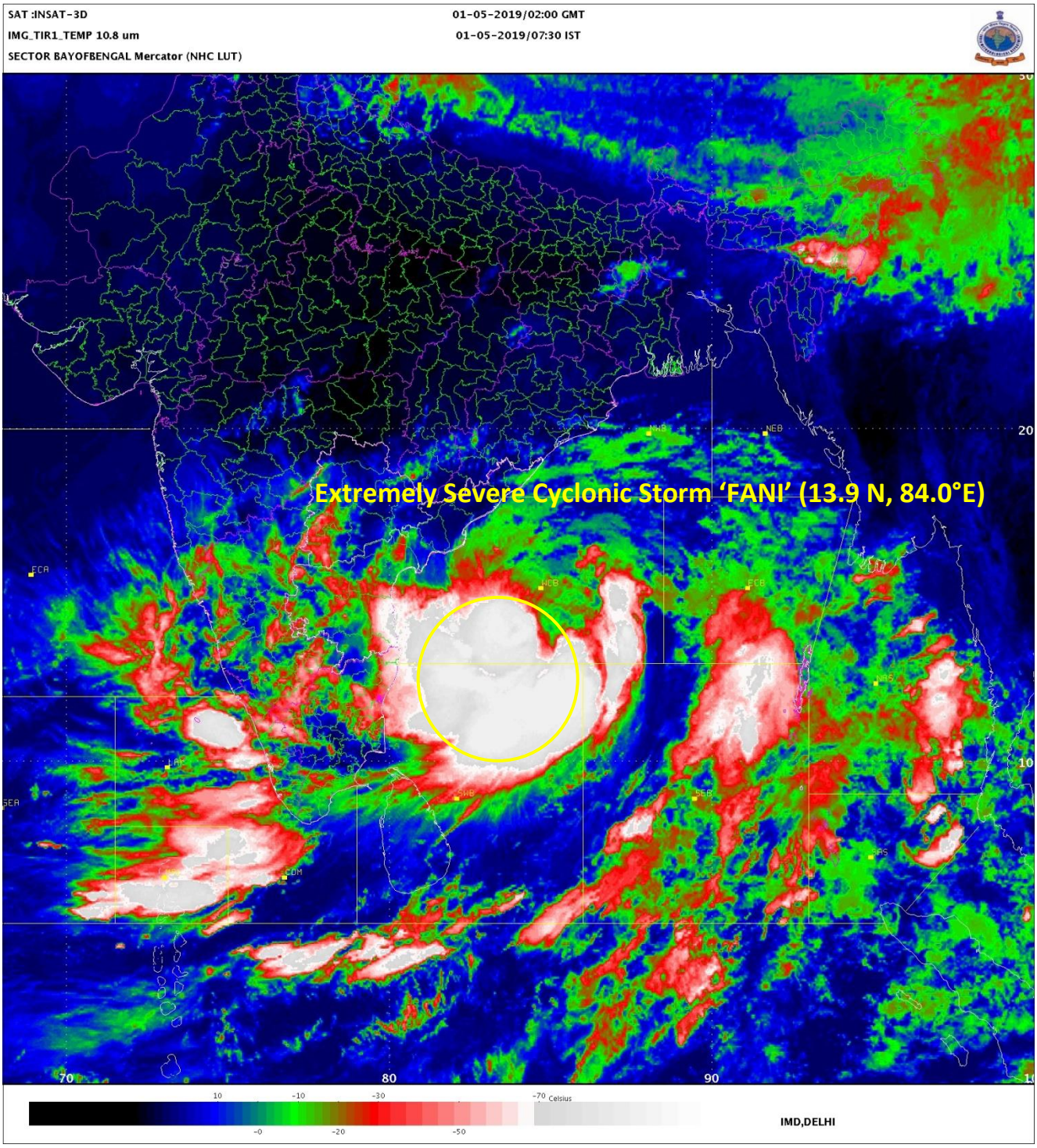
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 1130 hrs IST of 01st May, 2019.

(V.R. Durai)
Scientist-E, RSMC, New Delhi

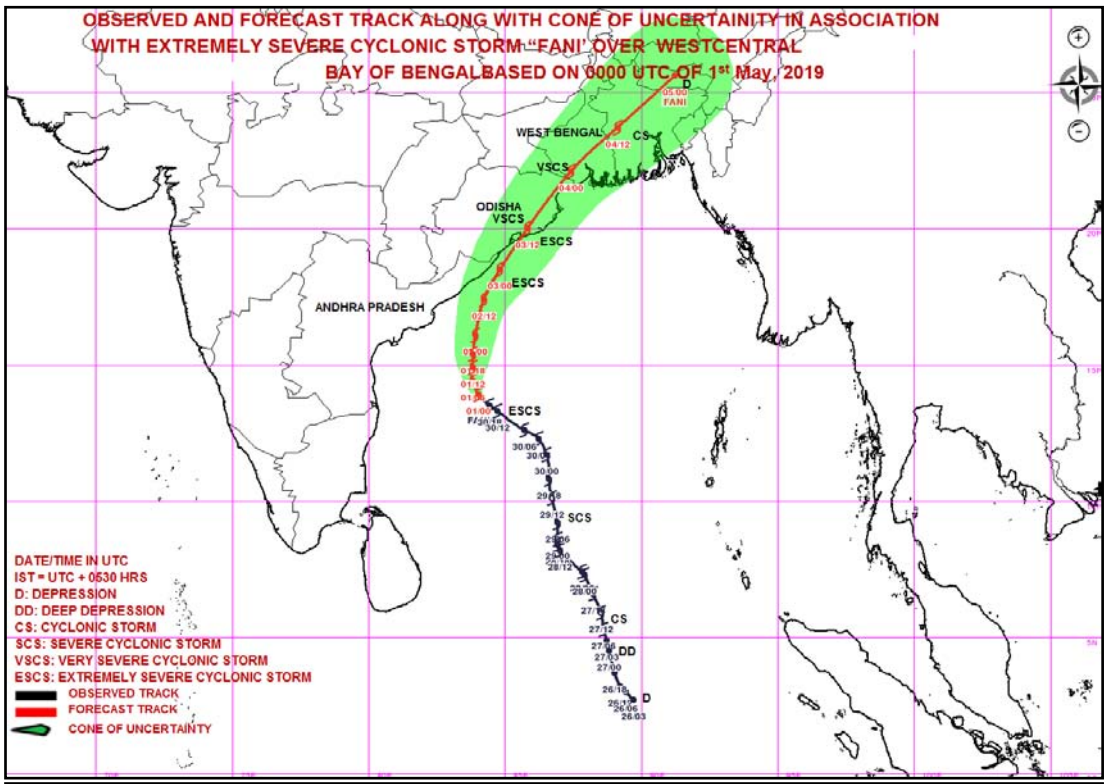
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

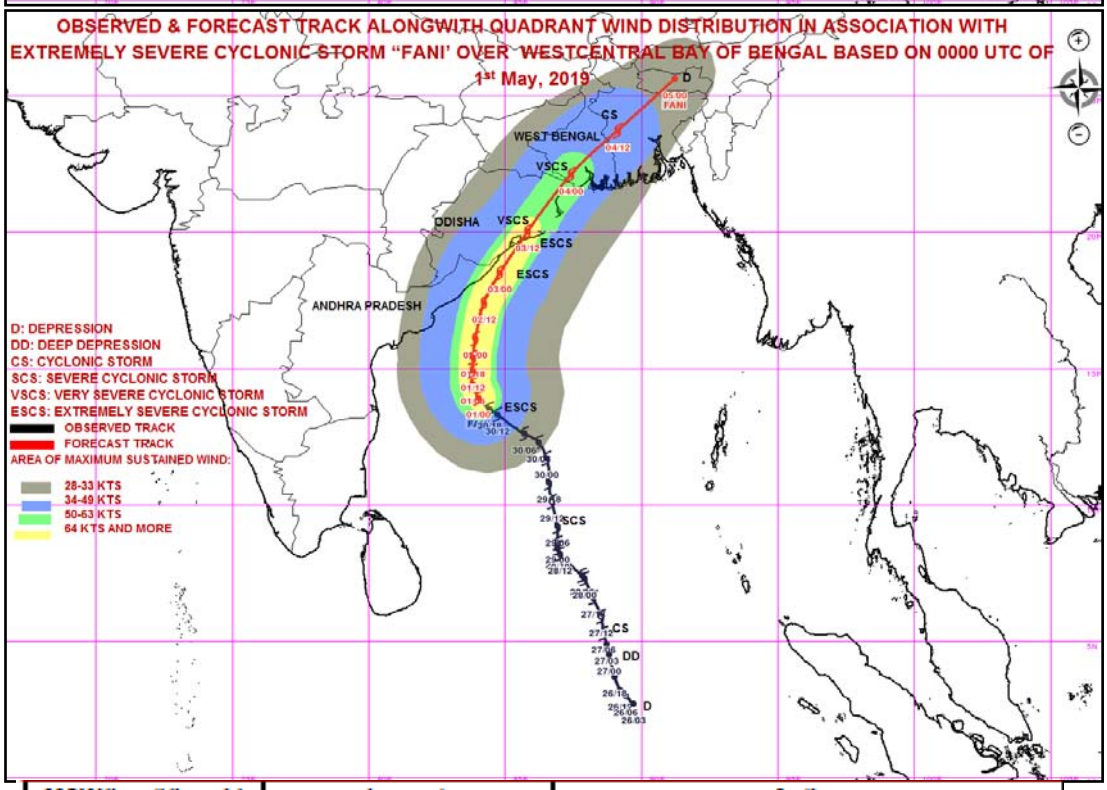
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 38 (BOB/02/2019)

TIME OF ISSUE: 1200 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral & adjoining Southwest Bay of Bengal, moved northwestwards with a speed of about 14 kmph in last six hours and lay centred at 0830 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 14.1°N and longitude 83.9°E, about 660 km south-southwest of Puri (Odisha) and 400 km south-southeast of Vishakhapatnam (Andhra Pradesh). **It is very likely to move northwestwards during next 12 hours and thereafter recurve north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind of speed 170-180 kmph gusting to 200 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/0830	14.1/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1130	14.4/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	14.9/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.4/83.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	16.1/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	18.5/84.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.8	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	22.1/87.4	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/1730	23.7/89.1	70-80 gusting to 90	Cyclonic Storm
05.05.19/0530	25.6/91.2	45-55 gusting to 65	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Rainfall at most places with heavy to very heavy rainfall and **extremely heavy falls (>20 cm)** at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May over same area.
- **Odisha:** Rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with rainfall at most places and heavy to very heavy rainfall at a few places with **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & interior Odisha on 3rd and rainfall at many places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal and heavy at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Rainfall at most places with isolated heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th and 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is prevailing over westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coast during next 24 hours and decrease thereafter.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May morning and become 170-180 kmph gusting to 200 kmph over Odisha Coast and 90-100 kmph gusting to 115 kmph over adjoining districts of north Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) by 3rd May for subsequent 12 hours and significant decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

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.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places.(iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected.

Action Suggested:

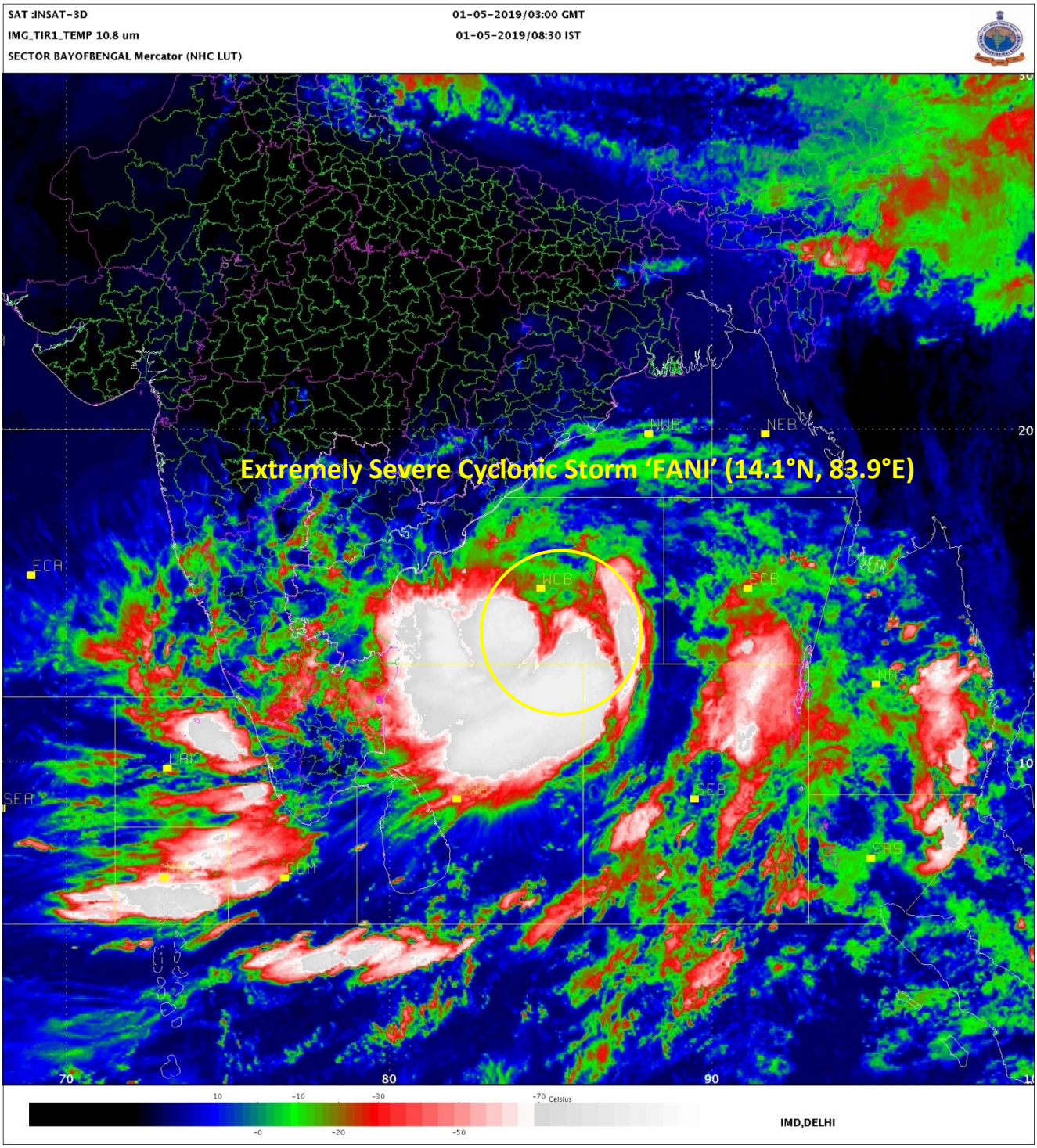
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 1430 hrs IST of 01st May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

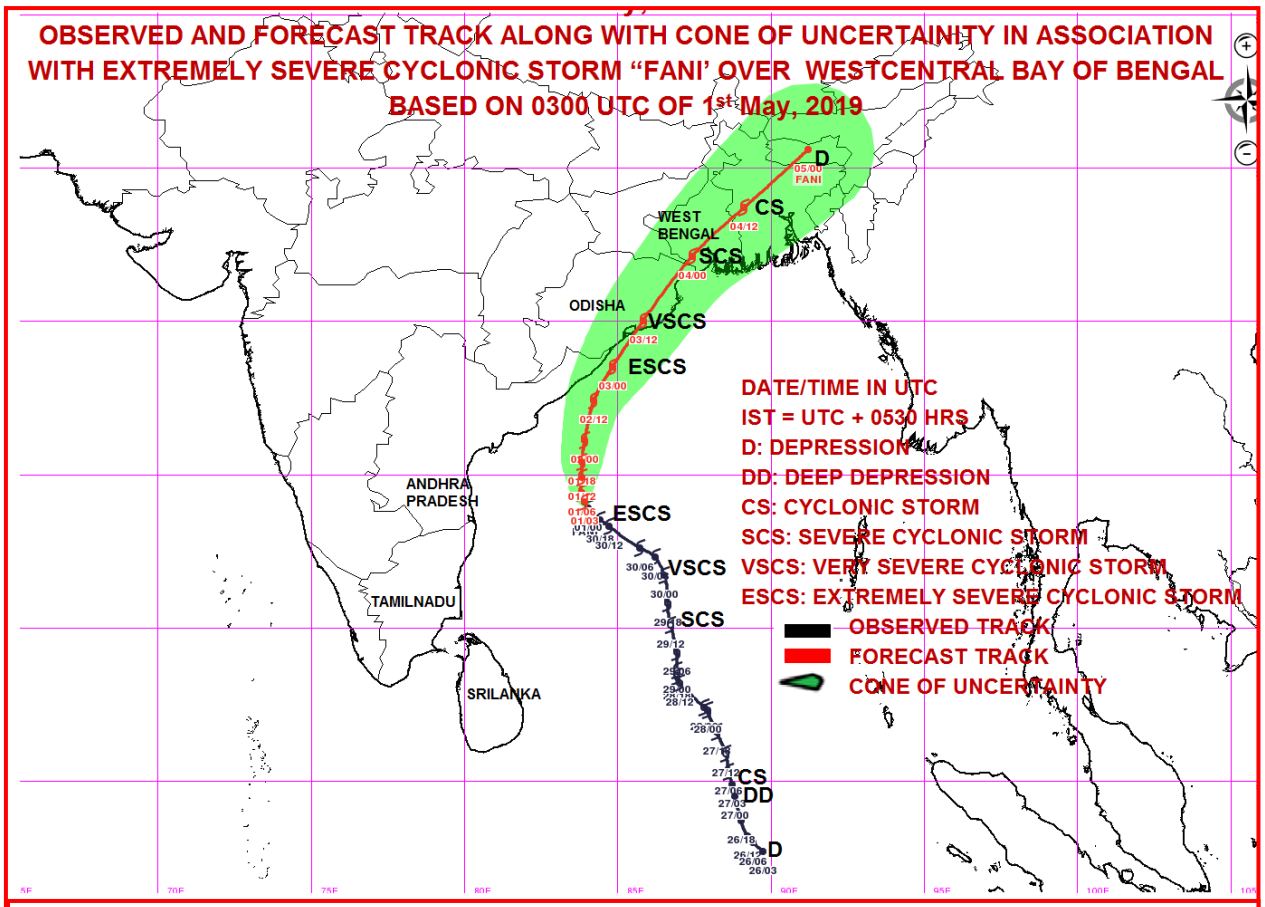
Copy to: CRS, Pune/ ACWC Kolkata/ Chennai/ CWC Bhubaneswar/CWC Visakhapatnam

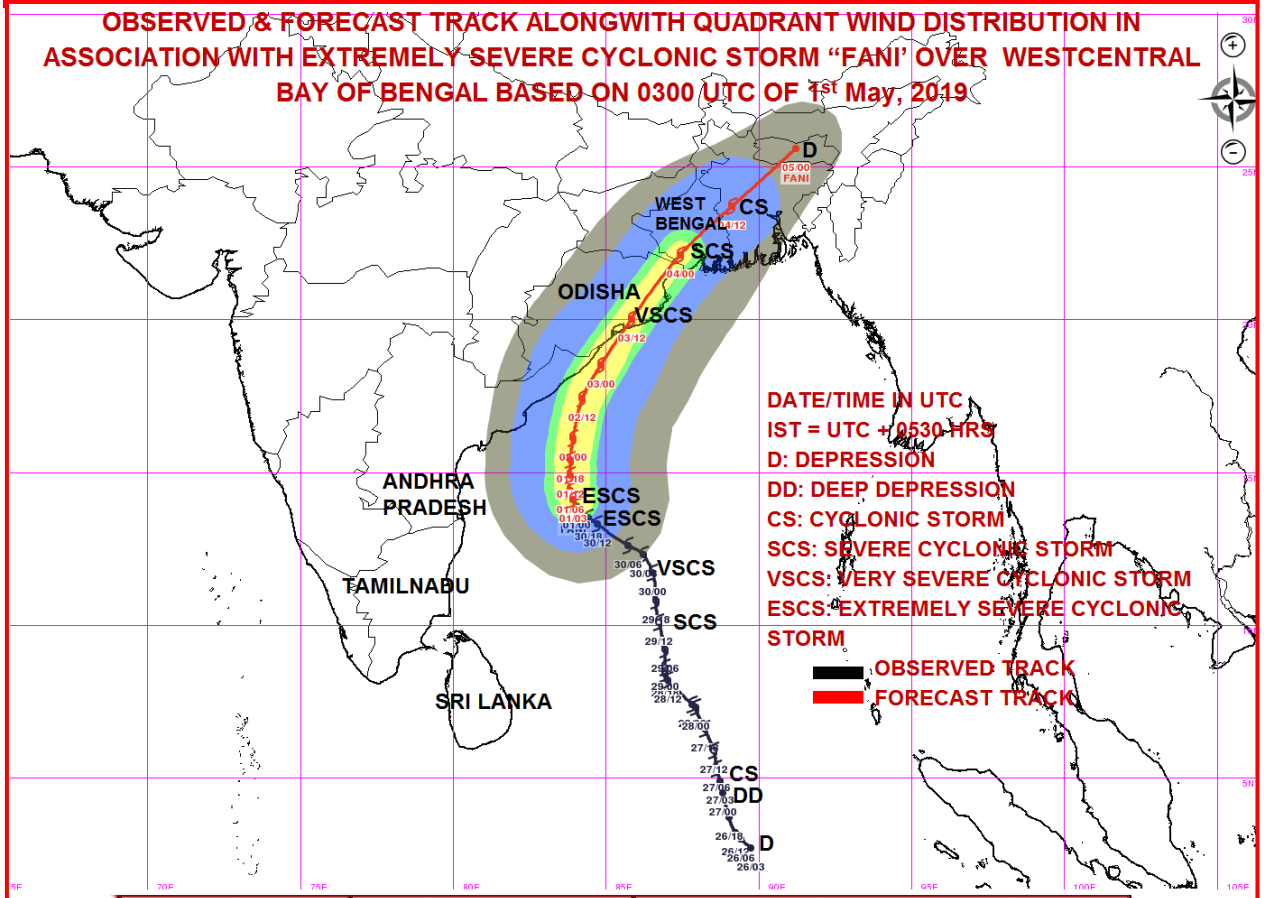
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 39 (BOB/02/2019)

TIME OF ISSUE: 1430 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved slowly north-northwestwards with a speed of about 06 kmph in last six hours and lay centred at 1130 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 14.2°N and longitude 83.9°E, about 650 km south-southwest of Puri (Odisha), 390 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 840 km south-southwest of Digha (West Bengal). **It is very likely to move nearly northwards during next 06 hours and north-northeastwards thereafter and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/1130	14.2/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	14.7/83.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.3/84.0	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	15.9/84.1	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/2330	17.7/84.6	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1130	19.2/85.3	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	20.9/86.4	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	22.9/87.9	80-90 gusting to 100	Cyclonic Storm
04.05.19/2330	24.8/89.9	50-60 gusting to 70	Deep Depression
05.05.19/1130	26.8/91.9	25-35 gusting to 45	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May over same area.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at many places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal and heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Rainfall at most places with isolated heavy to very falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th and 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 36 hours and decrease thereafter.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night and become 170-180 kmph gusting to 200 kmph along & off south Odisha Coast & adjoining districts of north Andhra Pradesh (Srikakulam District) and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected.

Action Suggested:

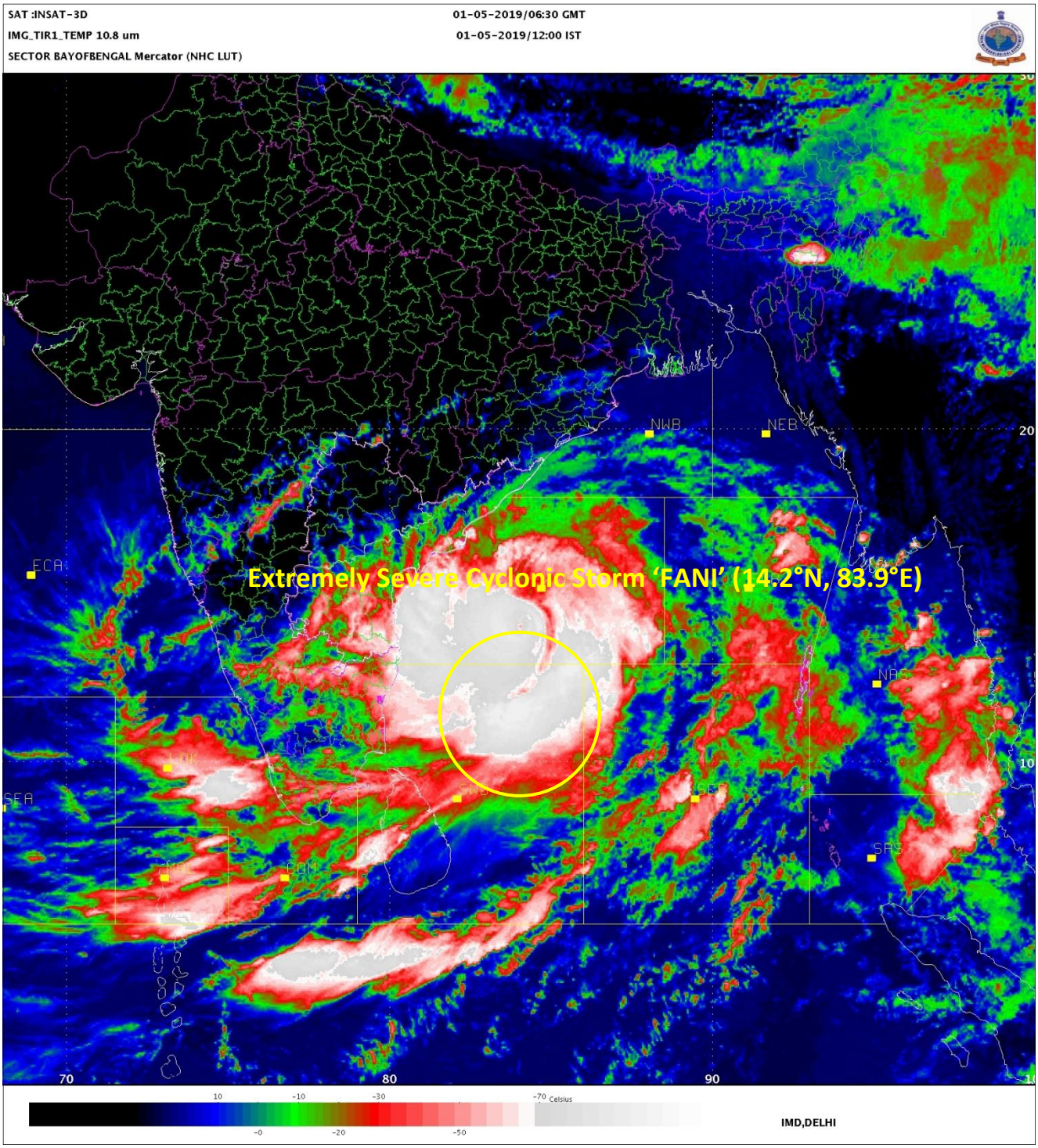
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 1730 hrs IST of 01st May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

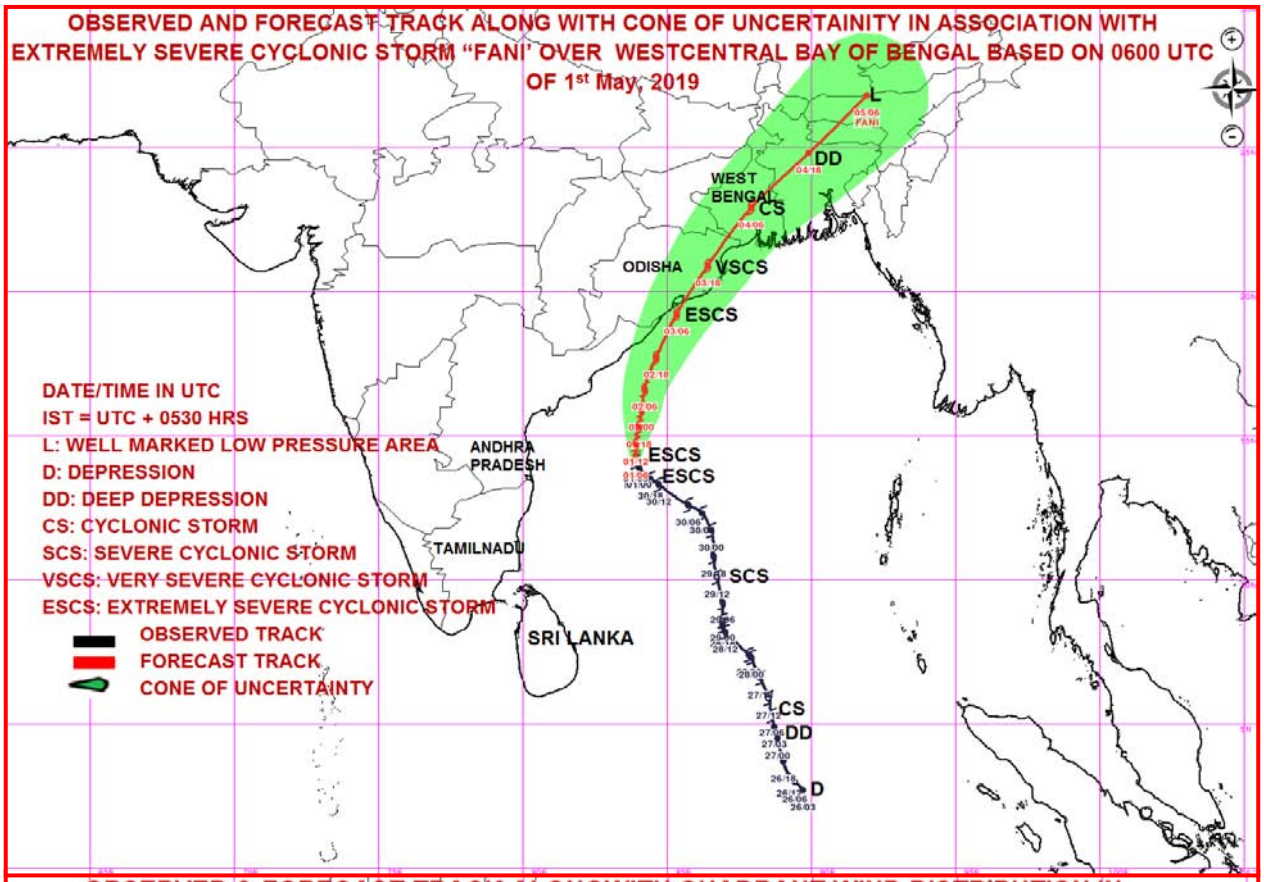
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

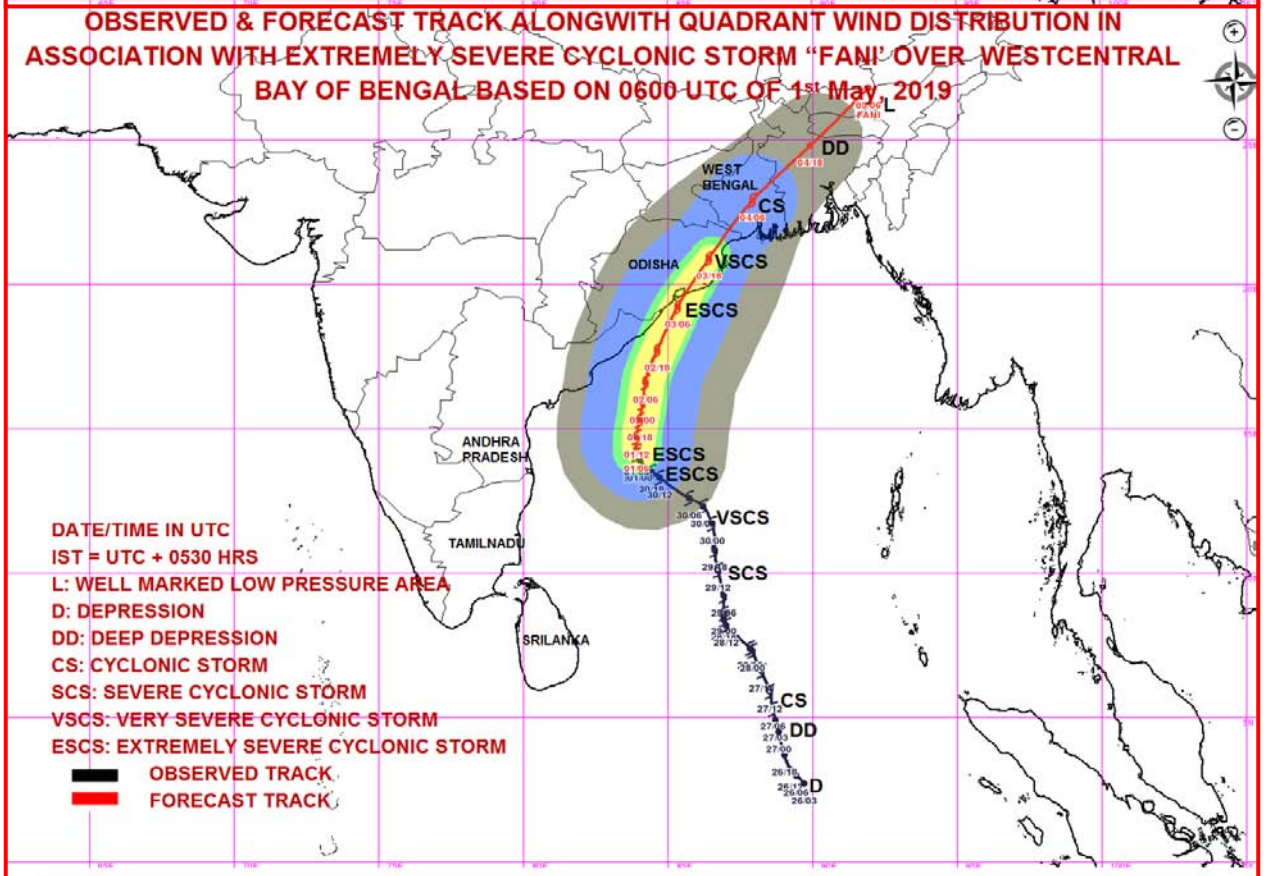
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 40 (BOB/02/2019)

TIME OF ISSUE: 1730 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Alert for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Yellow Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved north-northeastwards with a speed of about 06 kmph in last six hours and lay centred at 1430 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 14.5°N and longitude 84.1°E, about 610 km south-southwest of Puri (Odisha), 360 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 800 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic dis turbance
01.05.19/1430	14.5/84.1	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/1730	14.7/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.3/84.3	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	15.9/84.5	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.7	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/2330	17.7/85.1	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1130	19.2/85.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	20.9/86.5	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	22.9/87.9	80-90 gusting to 100	Cyclonic Storm
04.05.19/2330	24.8/89.9	50-60 gusting to 70	Deep Depression
05.05.19/1130	26.8/91.9	25-35 gusting to 45	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May over same area.
- **Odisha:** Light to moderate rainfall at many places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at many places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and heavy to very heavy rainfall at a few places with **extremely heavy falls** at isolated places over Gangetic West Bengal and heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very rainfall very likely over Arunachal Pradesh and Assam & Meghalaya on 4th and 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 36 hours and decrease thereafter.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph very likely along & off Tamilnadu coast, Comorin area, Gulf of Mannar and Kerala during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May and very likely to become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night and become 170-180 kmph gusting to 200 kmph along & off south Odisha Coast & adjoining districts of north Andhra Pradesh (Srikakulam District) and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Tamilnadu, Puducherry and south Andhra Pradesh Coasts during 01-03 May 2019 and over Northwest Bay of Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high along & off north Andhra Pradesh Coasts during 01-03 May and high to phenomenal along & off Odisha and West Bengal Coasts during 02-04 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal during next 12 hours; Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts till 1st May; westcentral Bay of Bengal, along & off north Andhra Pradesh Coast during 1-3 May and northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts from 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected.

Action Suggested:

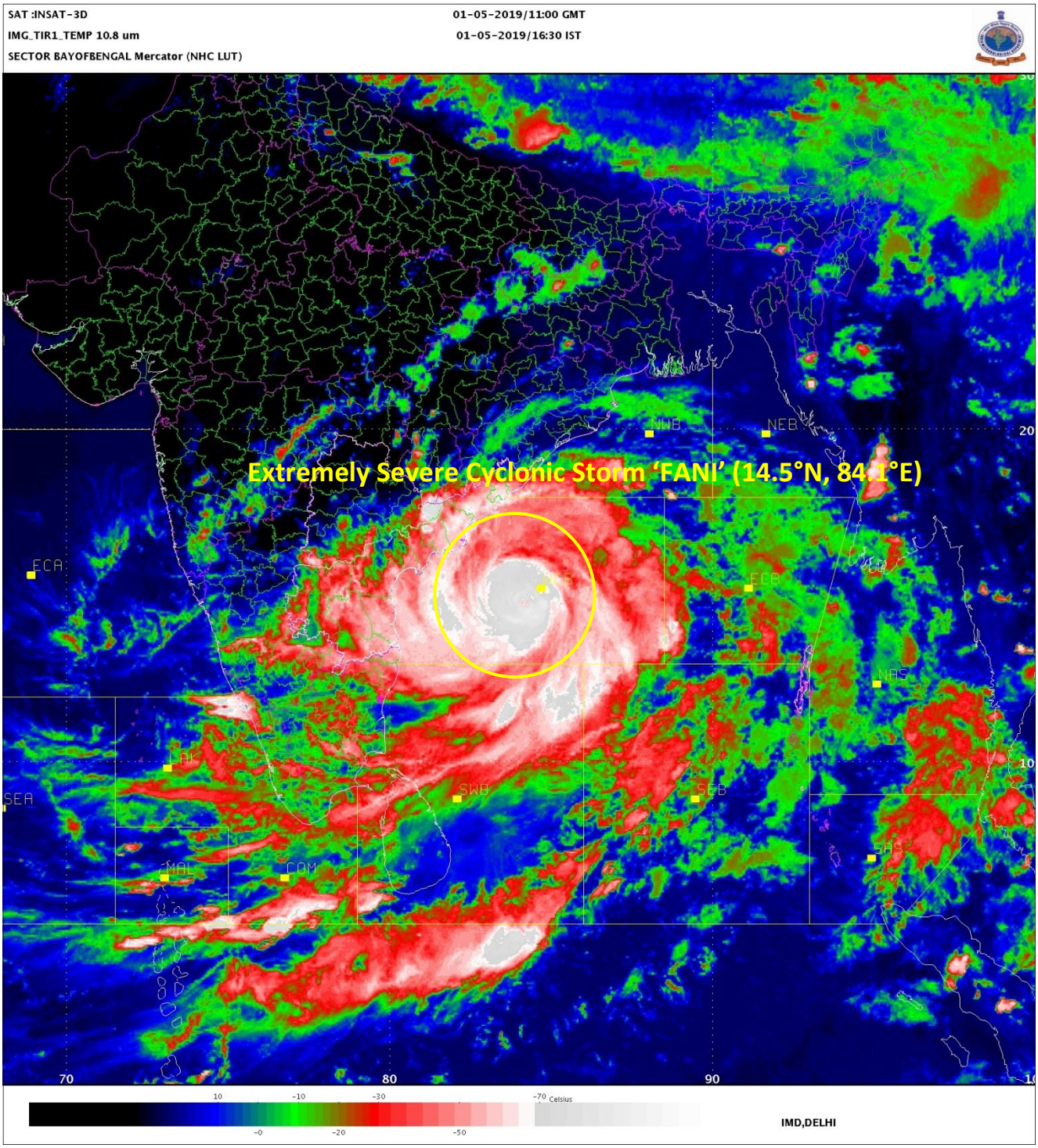
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 2030 hrs IST of 01st May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

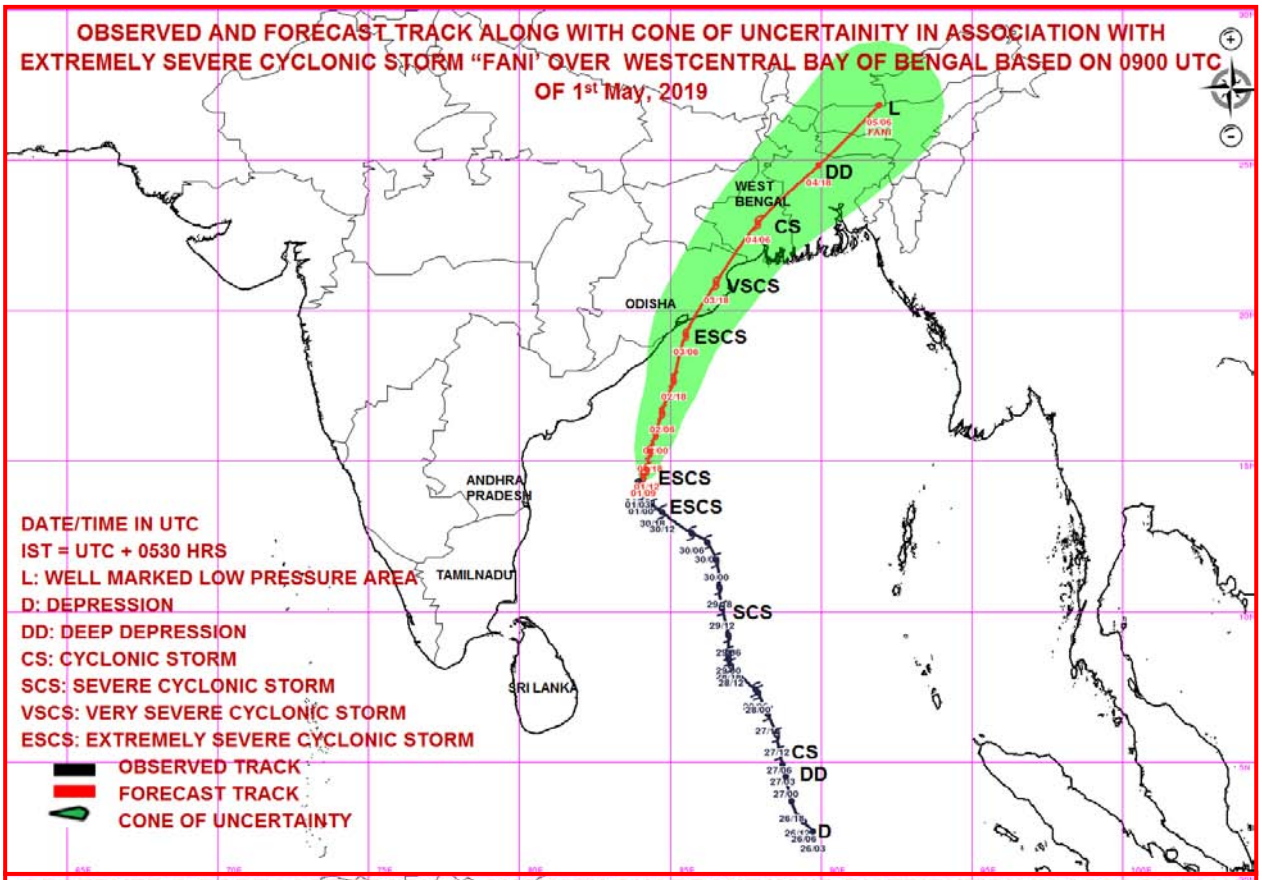
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

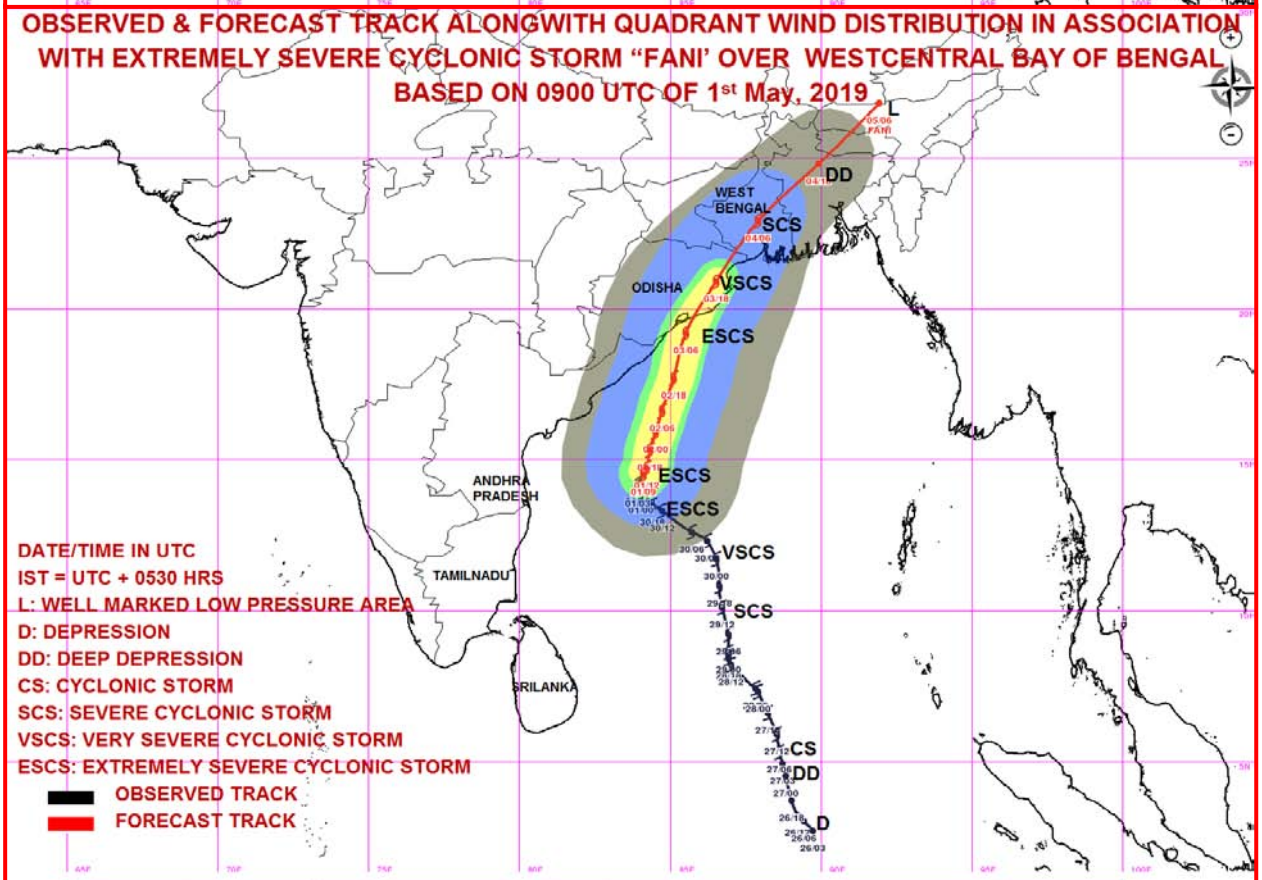
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 41 (BOB/02/2019)

TIME OF ISSUE: 2030 HOURS IST **DATED: 01.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved north-northeastwards with a speed of about 13 kmph in last six hours and lay centred at 1730 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 14.9°N and longitude 84.1°E, about 570 km south-southwest of Puri (Odisha), 320 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 760 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic dis turbance
01.05.19/1730	14.9/84.1	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.3/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	15.9/84.4	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.6	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.9	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	18.4/85.2	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.9	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	21.9/87.2	100-110 gusting to 120	Severe Cyclonic Storm
04.05.19/1730	23.8/88.9	65-75 gusting to 85	Cyclonic Storm
05.05.19/0530	25.8/90.9	40-50 gusting to 60	Depression

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very rainfall very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May morning and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts during 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected.

Action Suggested:

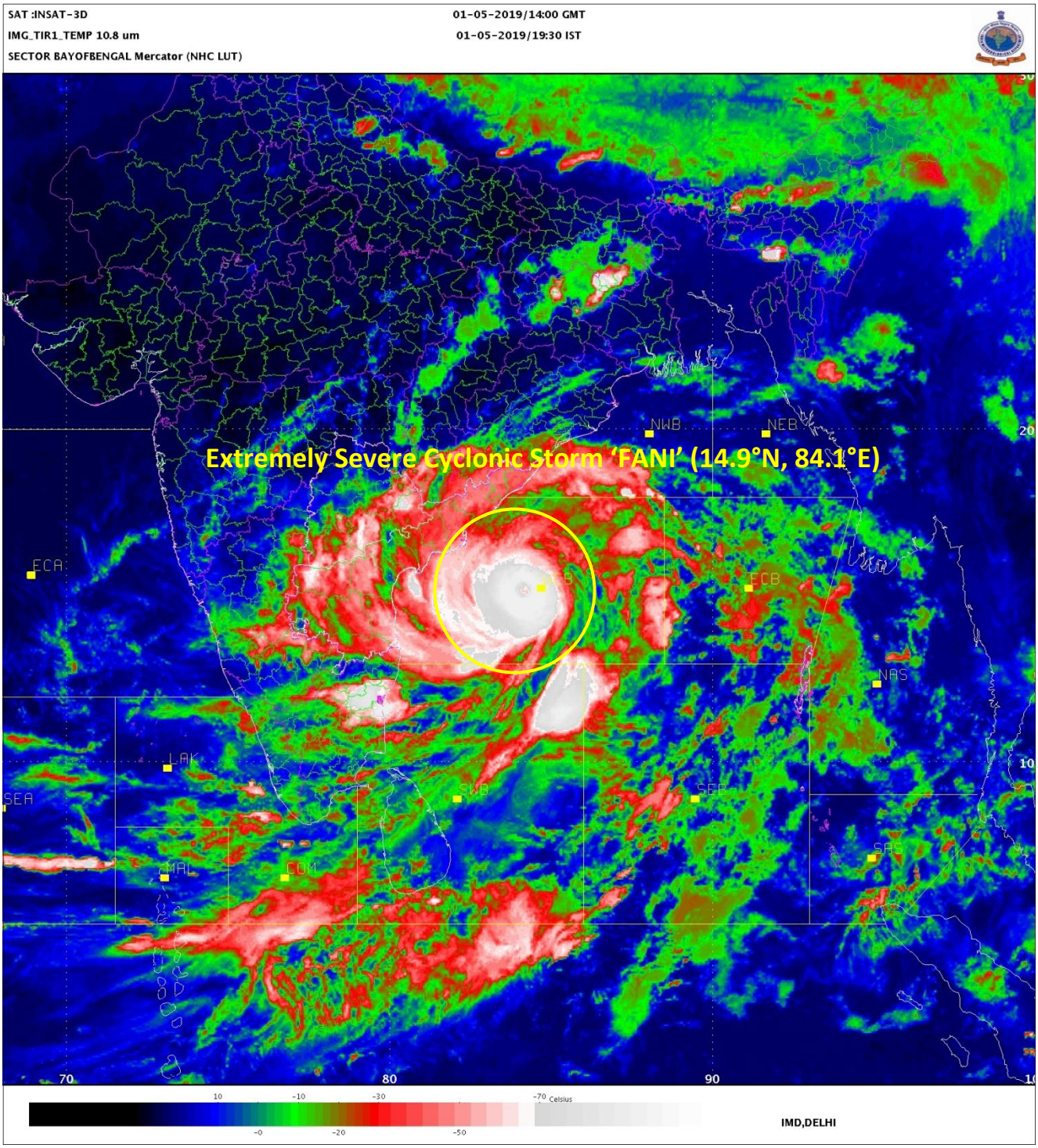
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 2330 hrs IST of 01st May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

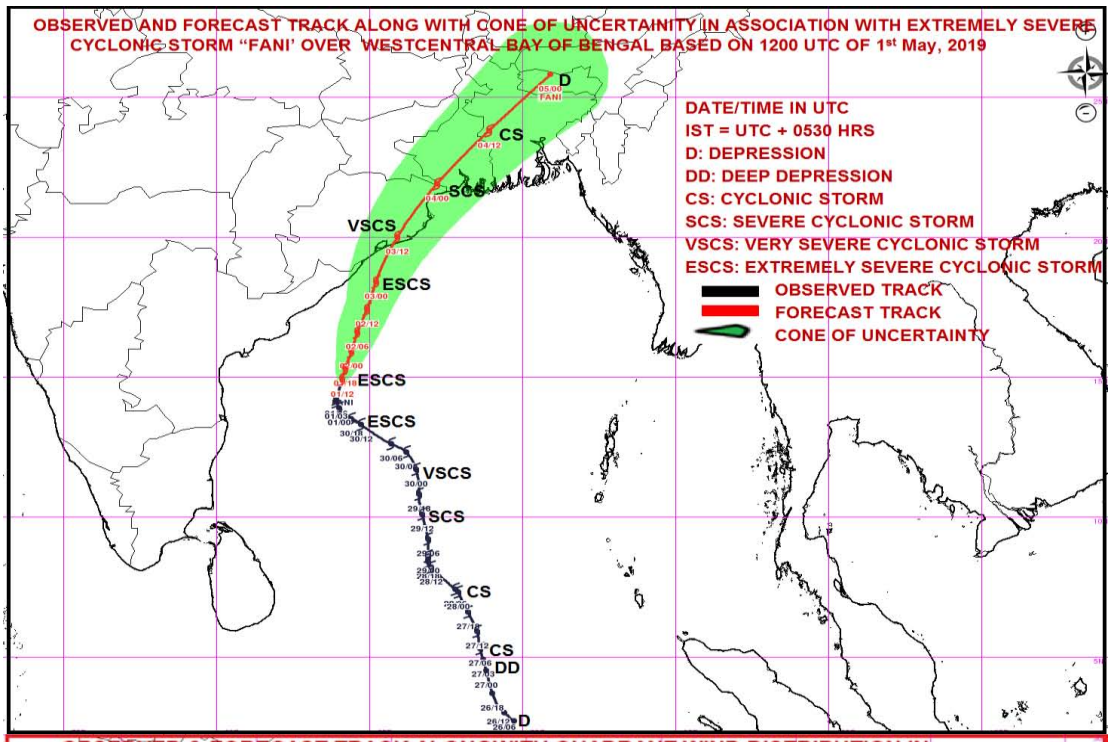
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

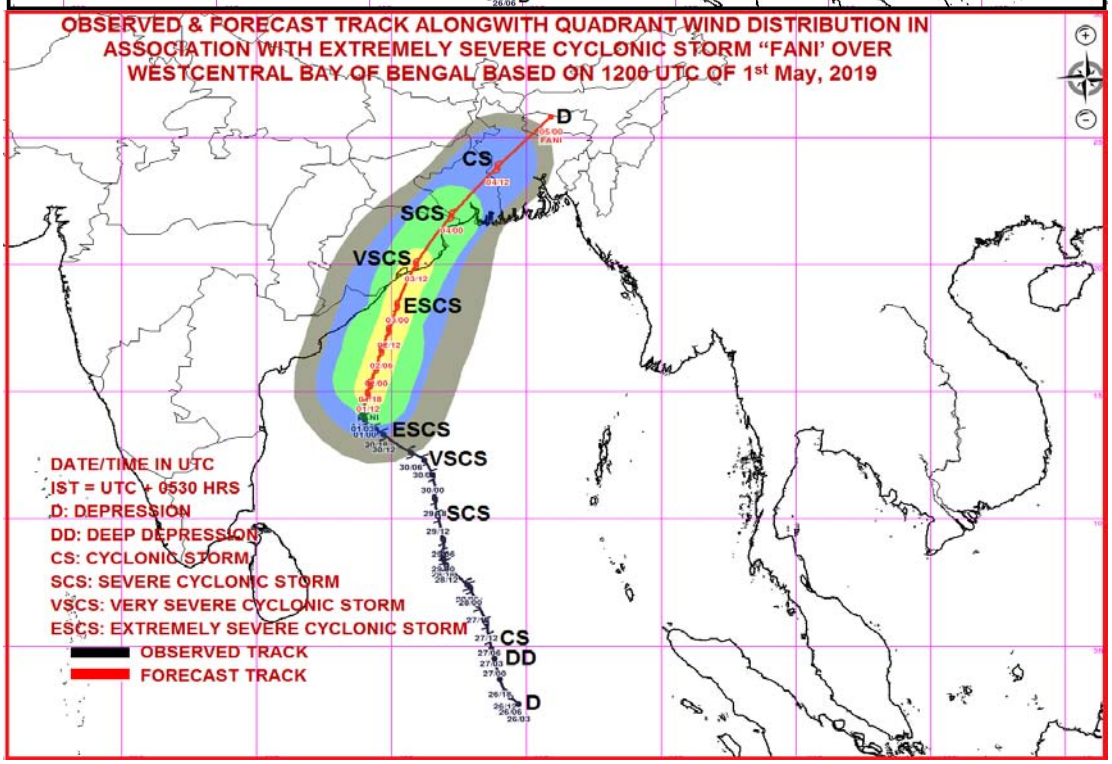
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 42 (BOB/02/2019)

TIME OF ISSUE: 2300 HOURS IST **DATED: 01.05.2019**

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)
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SECRETARY, MOES, (FAX NO. 24629777)
H.Q. (INTEGRATED DEFENCE STAFF AND CDS) (FAX NO. 23005137/23005147)
DIRECTOR GENERAL, DOORDARSHAN (23385843)
DIRECTOR GENERAL, AIR (23421105, 23421219)
PIB MOES (FAX NO. 23389042)
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DIRECTOR, PUNCTUALITY, INDIAN RAILWAYS (FAX NO. 23388503)
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CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved northwards with a speed of about 11 kmph in last six hours and lay centred at 2030 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 15.1°N and longitude 84.1°E, about 550 km south-southwest of Puri (Odisha), 300 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 740 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/2030	15.1/84.1	180-190 gusting to 210	Extremely Severe Cyclonic Storm
01.05.19/2330	15.3/84.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	15.9/84.4	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.6	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.9	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	18.4/85.2	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.0/85.9	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	21.9/87.2	100-110 gusting to 120	Severe Cyclonic Storm
04.05.19/1730	23.8/88.9	65-75 gusting to 85	Cyclonic Storm
05.05.19/0530	25.8/90.9	40-50 gusting to 60	Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places very likely over north coastal Andhra Pradesh (Srikakulam, Visakhapatnam and Vijayanagaram Districts) on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very rainfall very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over west central Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May morning and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts during 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

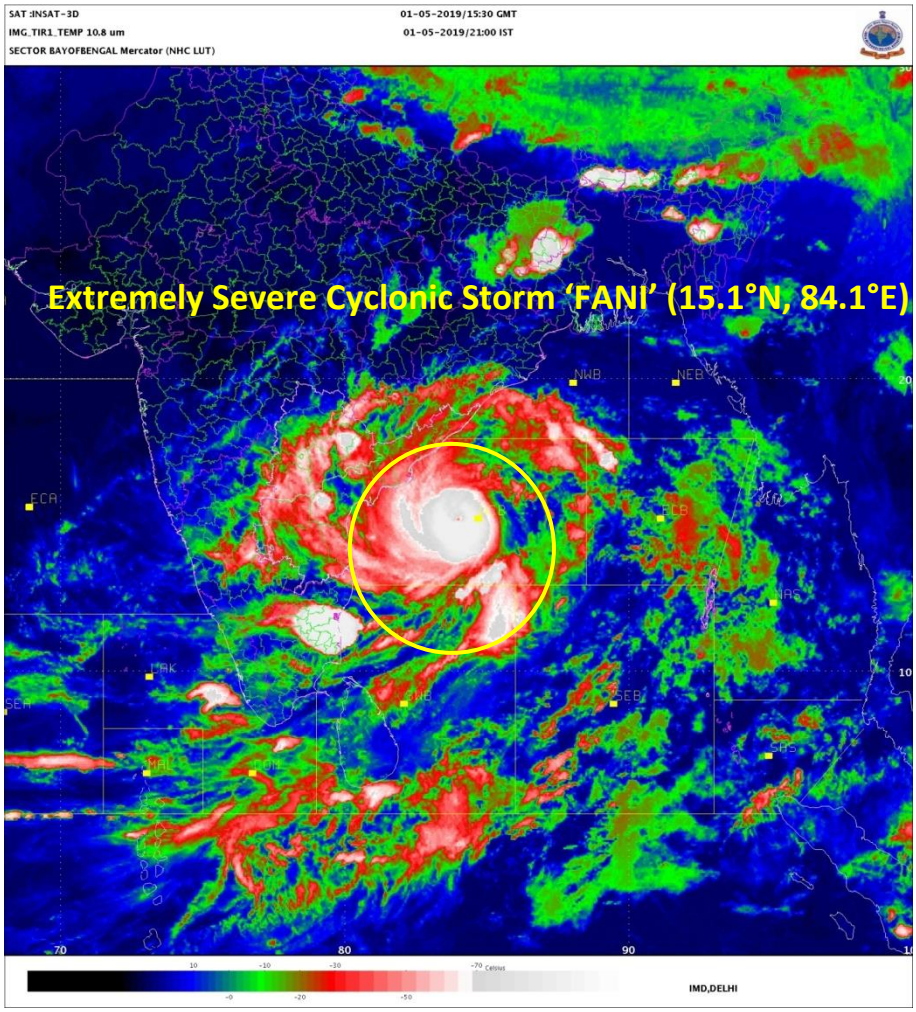
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 0230 hrs IST of 02nd May, 2019.

(D.R Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

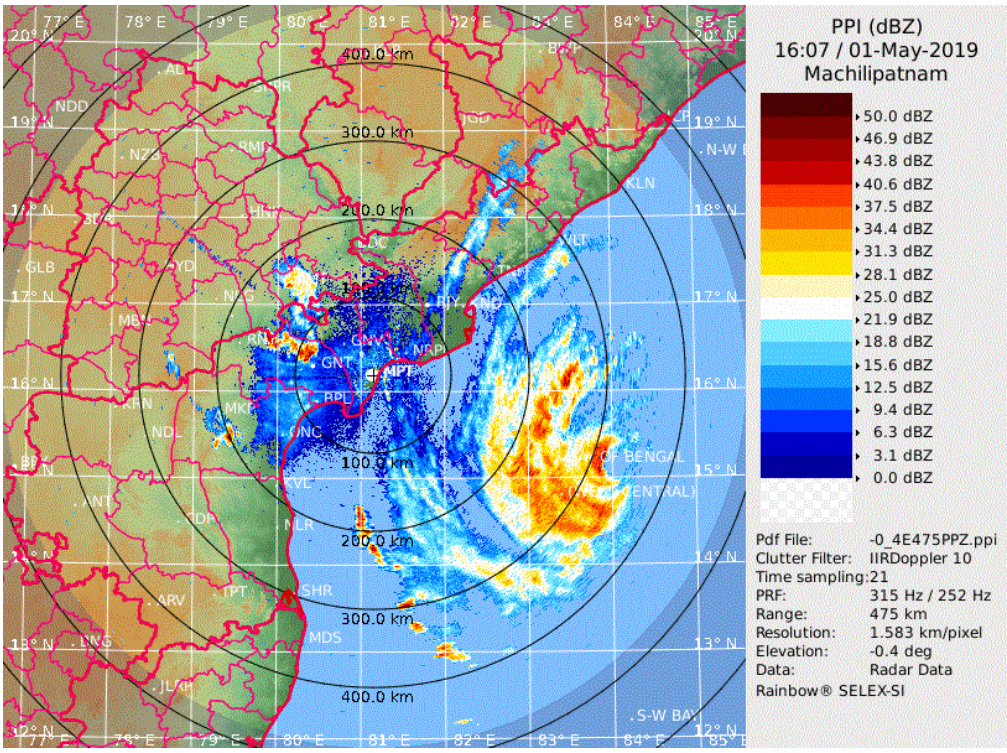
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

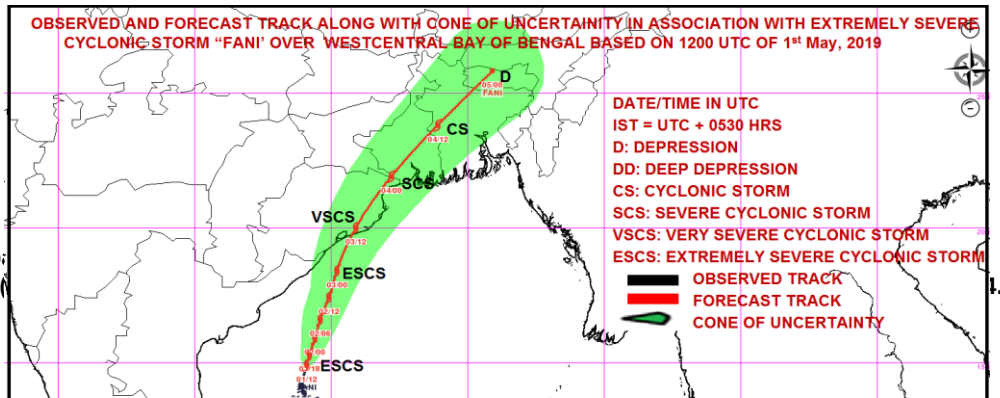


Plan Position Indicator (Z)

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.





Sp

Rainfall amount (

1.5 or more.

MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 43 (BOB/02/2019)

TIME OF ISSUE: 0145 HOURS IST **DATED: 02.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved northwards with a speed of about 05 kmph in last six hours and lay centred at 2330 hrs IST of 01st May, 2019 over Westcentral Bay of Bengal near latitude 15.2°N and longitude 84.1°E, about 540 km south-southwest of Puri (Odisha), 290 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 730 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.05.19/2330	15.2/84.1	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/0530	15.8/84.3	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.6	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.9	175-185 gusting to 205	Extremely Severe Cyclonic Storm
02.05.19/2330	18.2/85.1	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.2/85.5	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	20.9/86.5	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	22.8/88.0	100-110 gusting to 120	Severe Cyclonic Storm
04.05.19/2330	24.8/89.4	65-75 gusting to 85	Cyclonic Storm
05.05.19/1130	26.3/90.8	40-50 gusting to 60	Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram Districts and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam districts on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very rainfall very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over west central Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May morning and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts during 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

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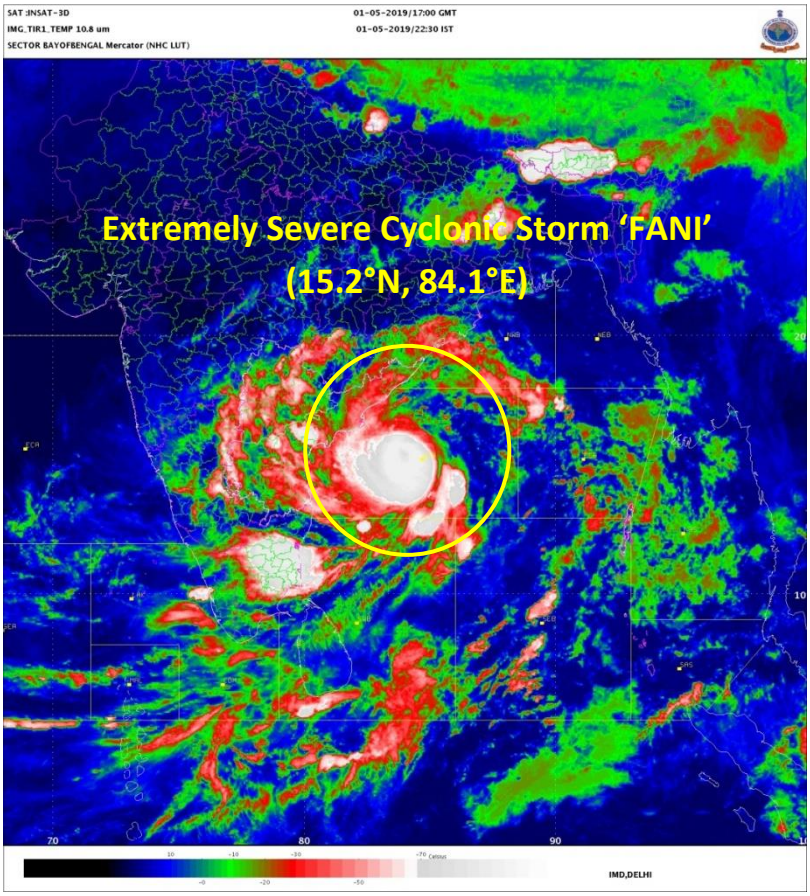
The next bulletin will be issued at 0530 hrs IST of 02nd May, 2019.

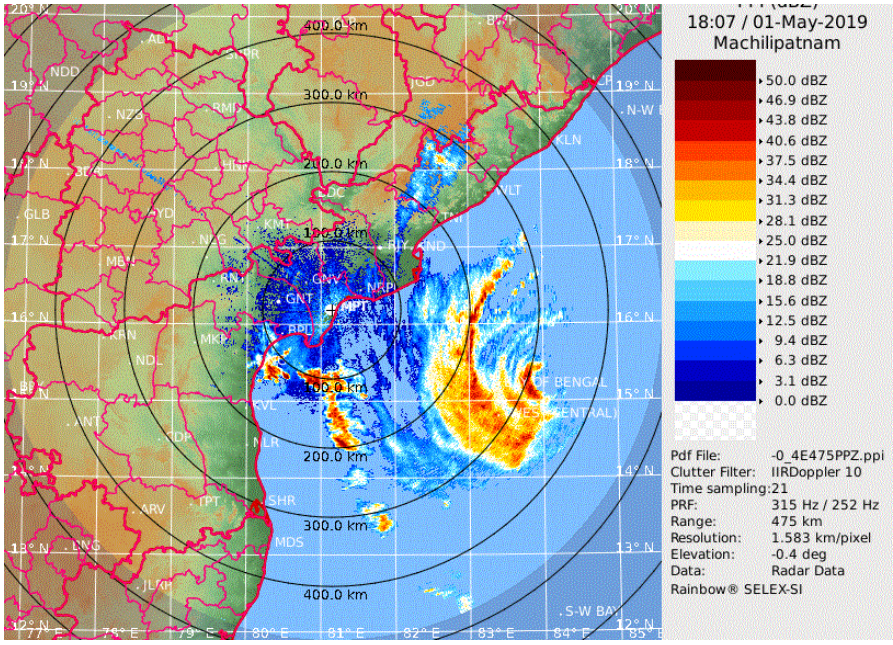
(D.R Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

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.



Plan Position Indicator (Z)



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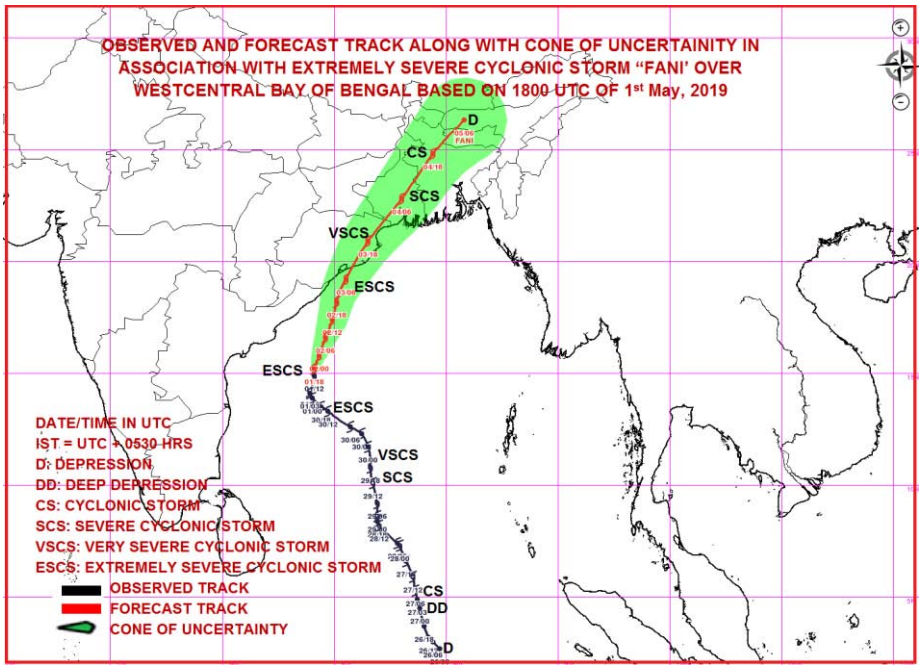

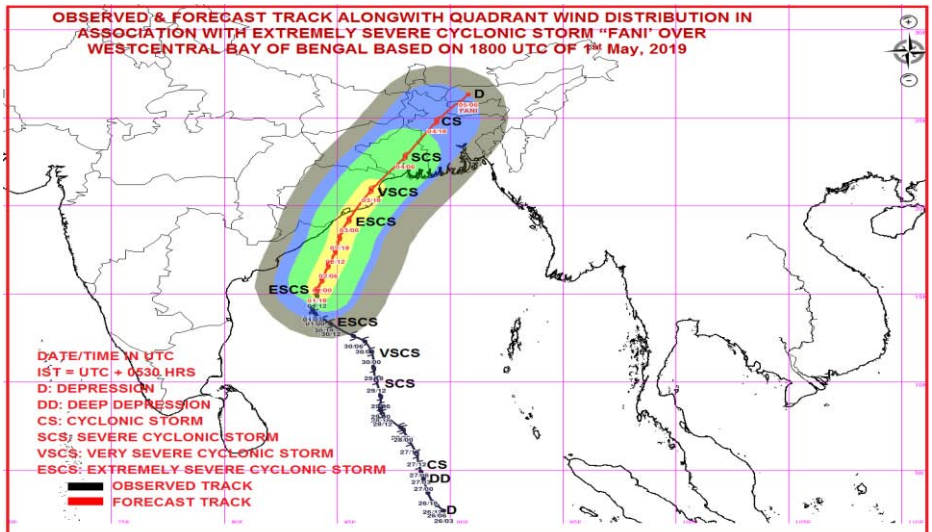

MSW(knot)/kmph)	Impact	Action
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India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 44 (BOB/02/2019)

TIME OF ISSUE: 0530 HOURS IST **DATED: 02.05.2019**

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 (23421105, 23421219)
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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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved north-northeastwards with a speed of about 07 kmph in last six hours and lay centred at 0230 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 15.5°N and longitude 84.2°E, about 510 km south-southwest of Puri (Odisha), 260 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 700 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
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Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
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Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram Districts and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam districts on 2nd May and with heavy to very heavy rainfall at isolated places on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over south coastal Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd and with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very rainfall very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over west central Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to commence along & off north Andhra Pradesh & Odisha Coasts from 2nd May morning and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May noon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast on 2nd May. It would become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal during 02-04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts during 2-4 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

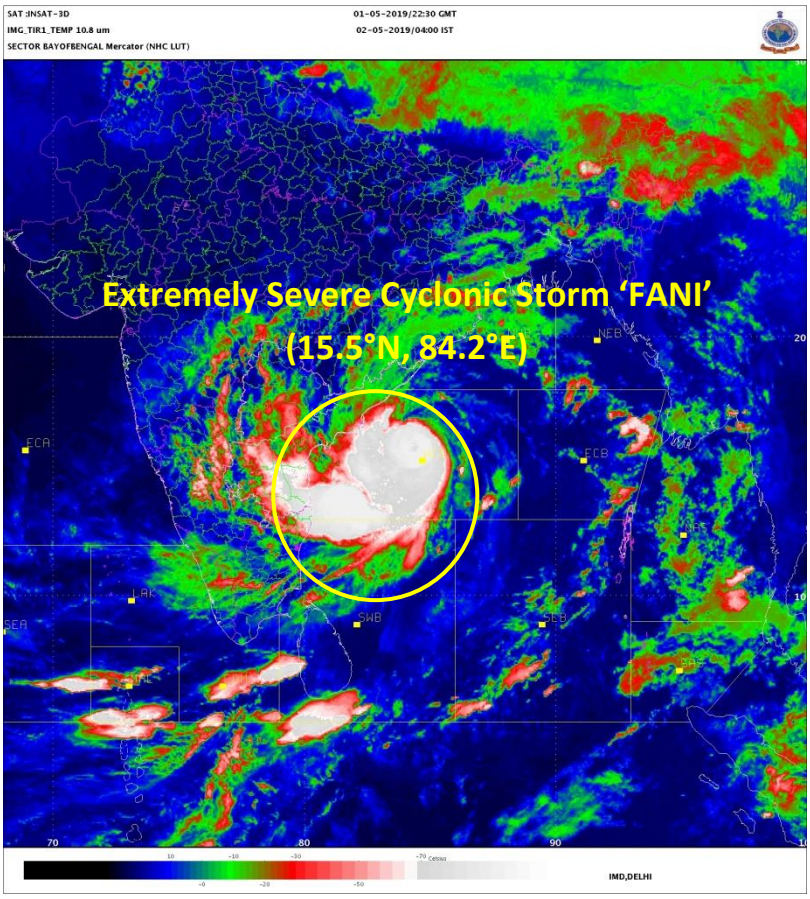
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 0830 hrs IST of 02nd May, 2019.

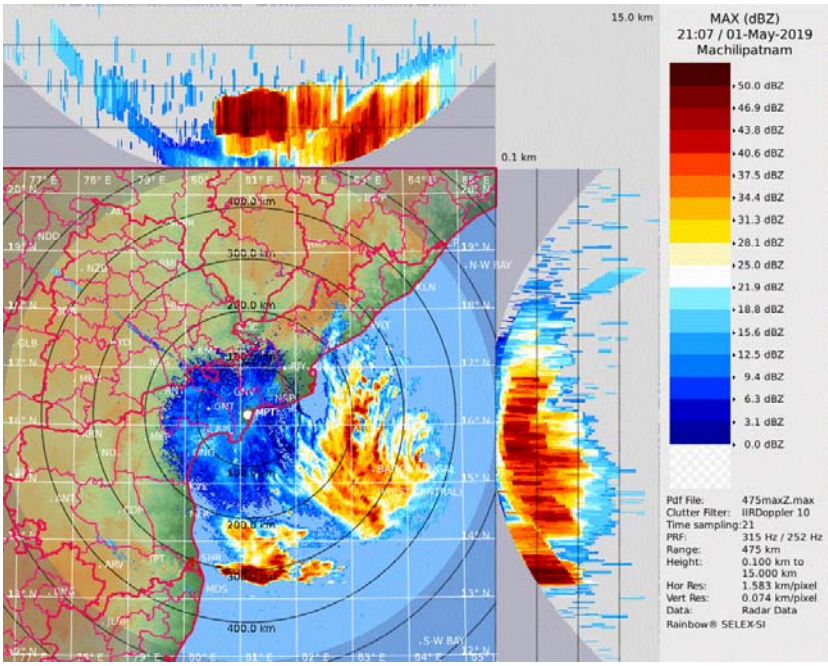
(D.R Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

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.

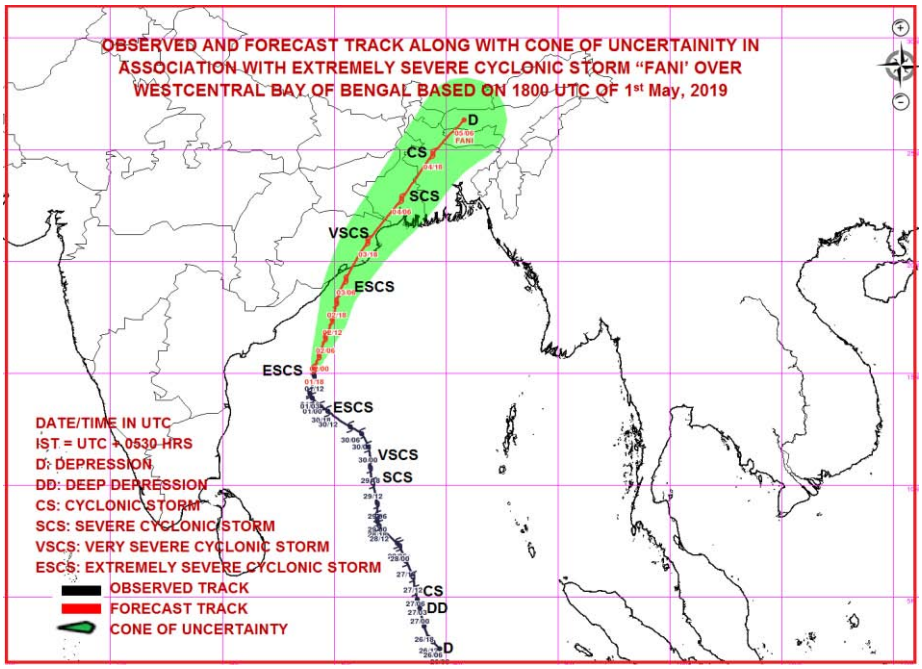


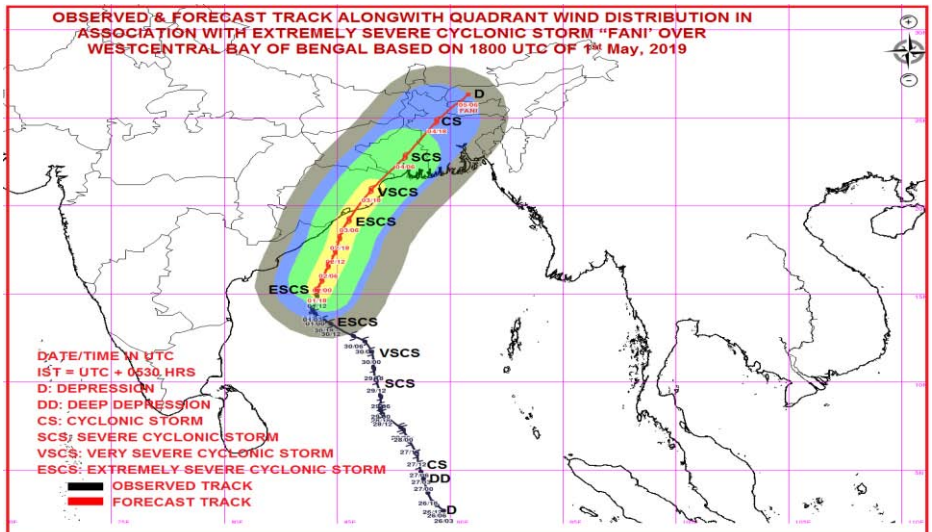
Plan Position Indicator (Z)



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 45 (BOB/02/2019)

TIME OF ISSUE: 0830 HOURS IST **DATED: 02.05.2019**

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 (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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved north-northeastwards with a speed of about 15 kmph in last six hours and lay centred at 0530 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 15.9°N and longitude 84.5°E, about 450 km south-southwest of Puri (Odisha), 230 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 650 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Chennai, Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.05.19/0530	15.9/84.5	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/2330	18.2/85.1	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	19.2/85.4	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1730	20.3/86.0	145-155 gusting to 170	Very Severe Cyclonic Storm
04.05.19/0530	22.1/87.3	110-120 gusting to 135	Severe Cyclonic Storm
04.05.19/1730	23.8/88.7	70-80 gusting to 90	Cyclonic Storm
05.05.19/0530	25.4/93.0	40-50 gusting to 60	Depression
05.05.19/1730	27.0/92.6	20-30 gusting to 40	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram Districts and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls (>20 cm)** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very falls at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

The next bulletin will be issued at 1130 hrs IST of 02nd May, 2019.

(D.R Pattanaik)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

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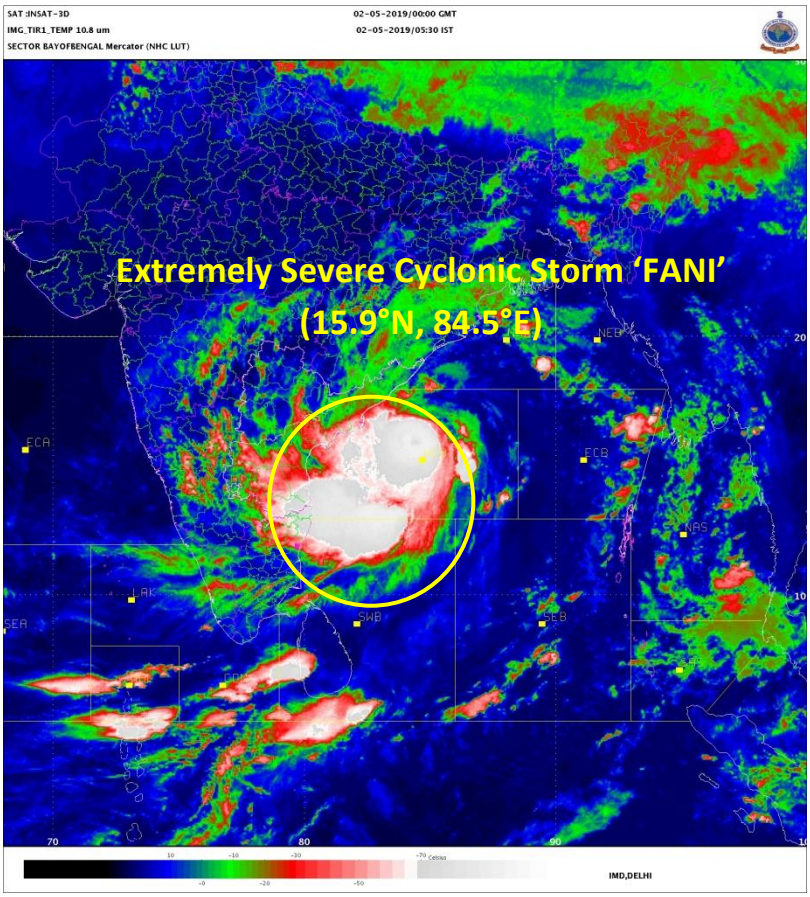
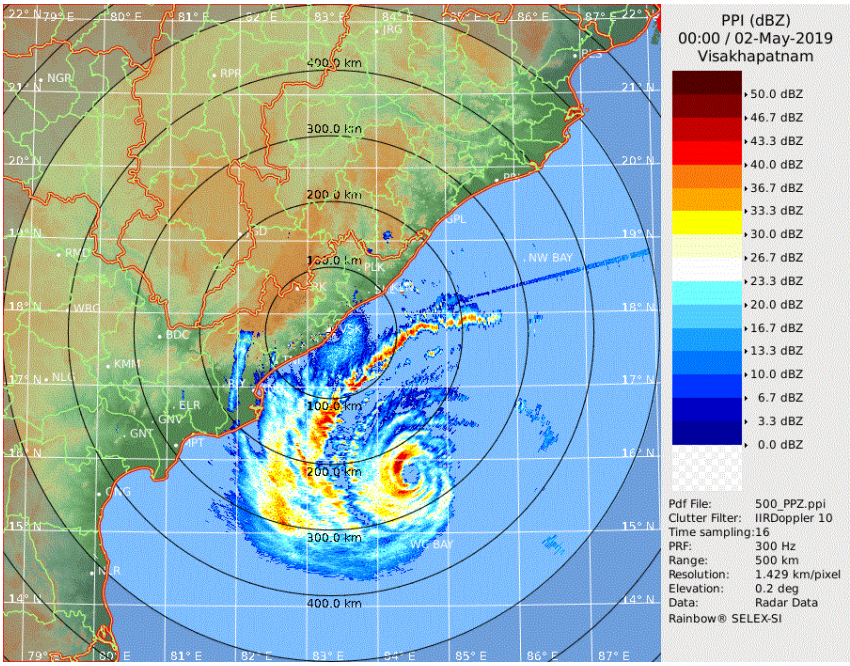
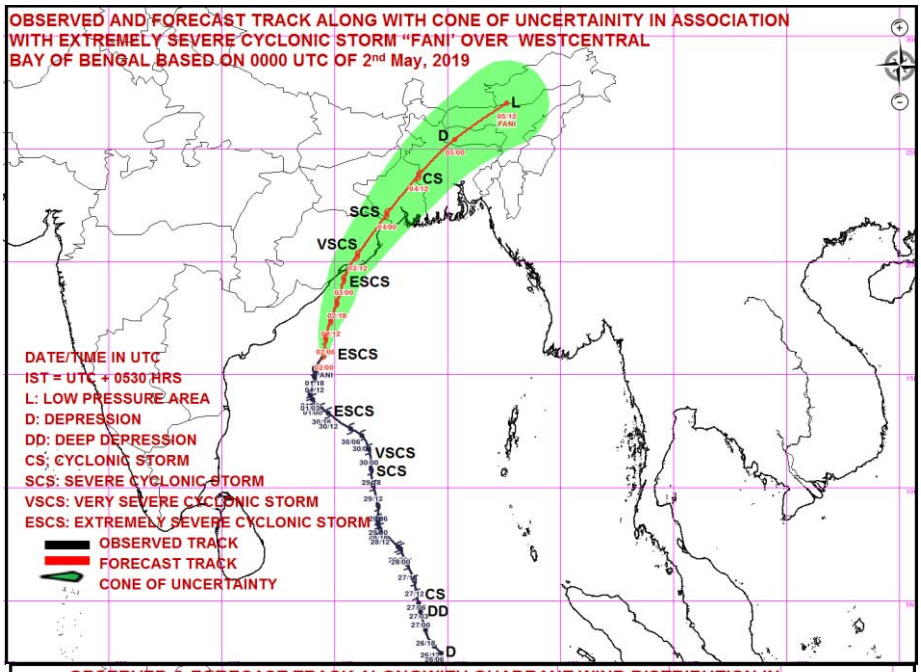


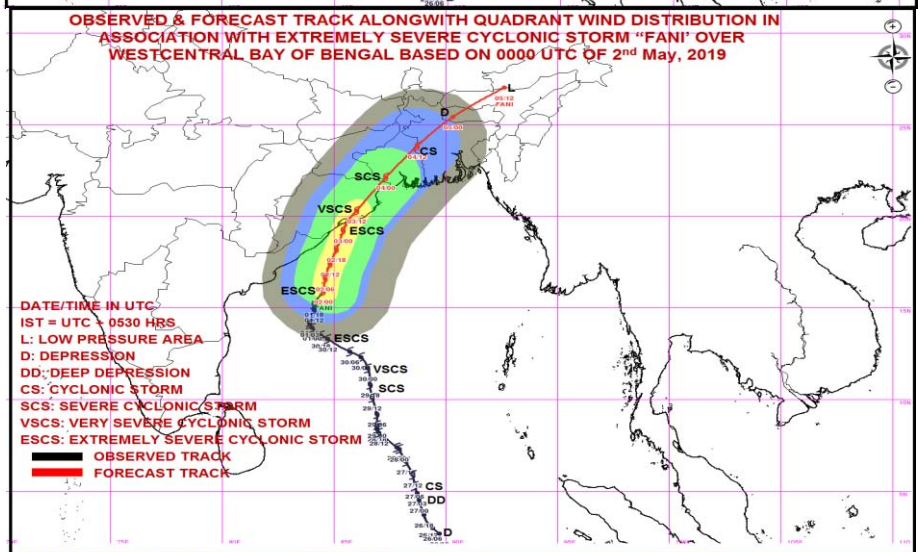
Plan Position Indicator (Z)



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
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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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 46 (BOB/02/2019)

TIME OF ISSUE: 1100 HOURS IST **DATED: 02.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved further north-northeastwards with a speed of about 15 kmph in last six hours and lay centred at 0830 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 16.2°N and longitude 84.6°E, about 420 km south-southwest of Puri (Odisha), 210 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 610 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during 3rd May afternoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.05.19/0830	16.2/84.6	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1130	16.6/84.7	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.4/84.9	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/2330	18.2/85.1	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	18.9/85.4	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.6/85.7	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/2330	21.2/86.6	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	22.9/88.0	90-100 gusting to 115	Severe Cyclonic Storm
04.05.19/2330	24.6/89.3	50-60 gusting to 70	Deep Depression

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram district and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall and **extremely heavy falls** (over Ganjam & Gajapati districts) at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

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.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

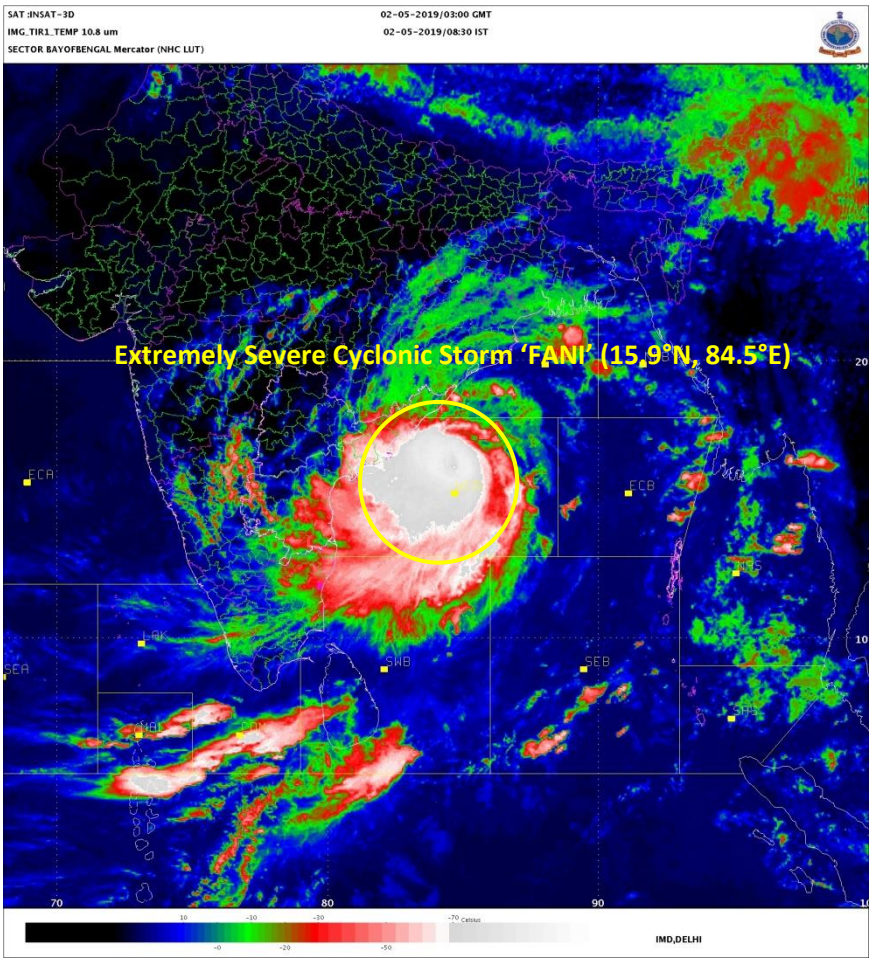
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

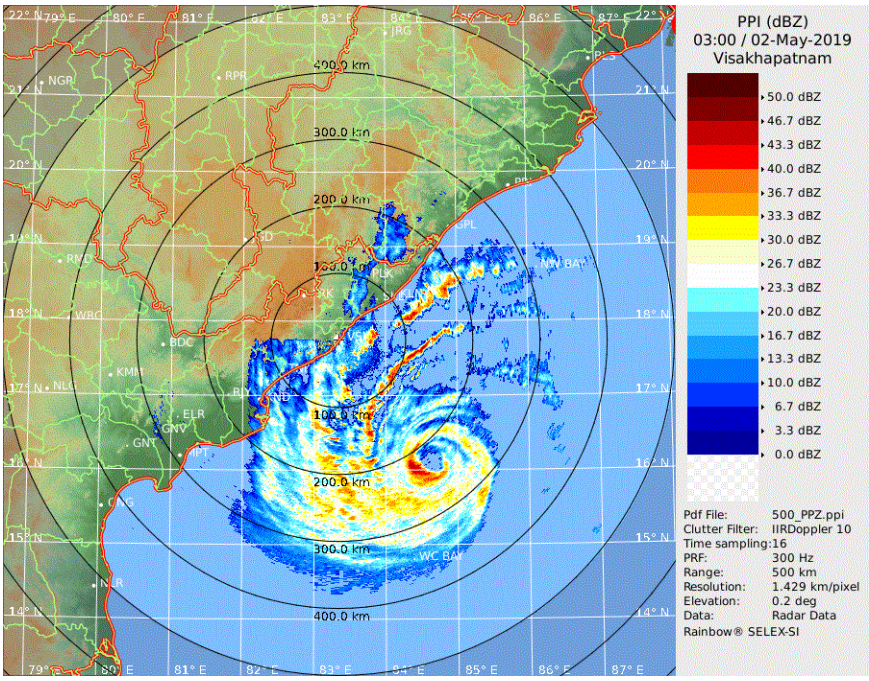
The next bulletin will be issued at 1430 hrs IST of 02nd May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

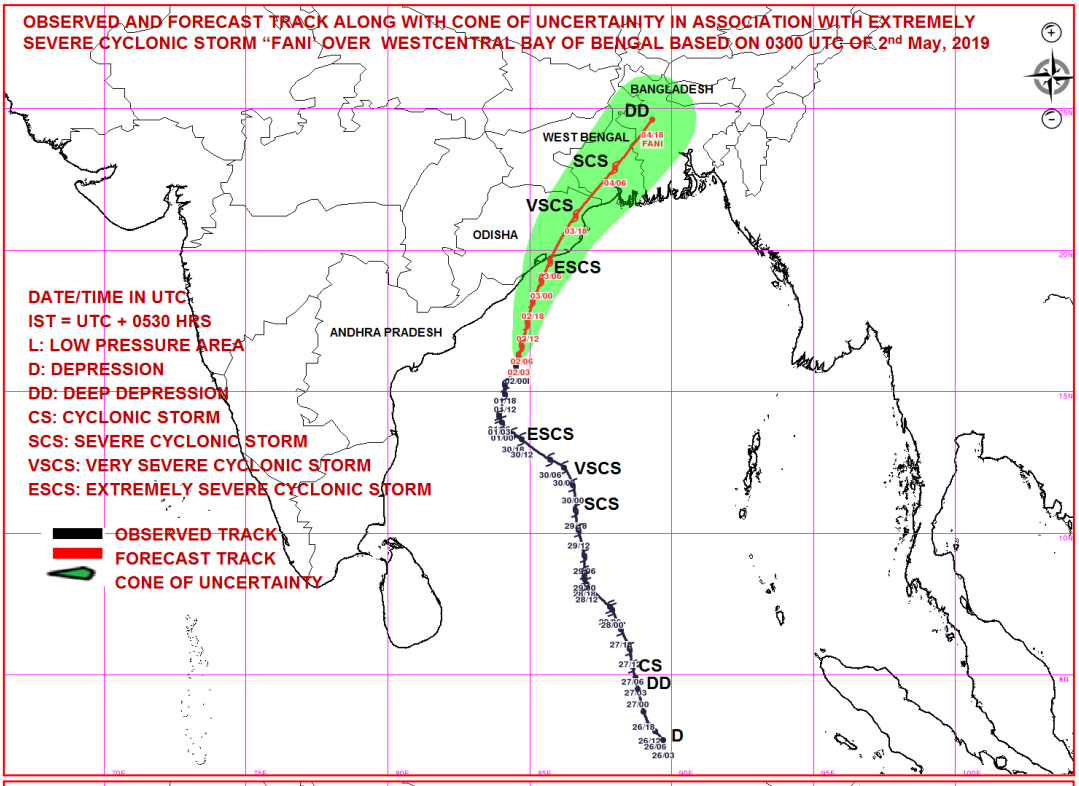
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

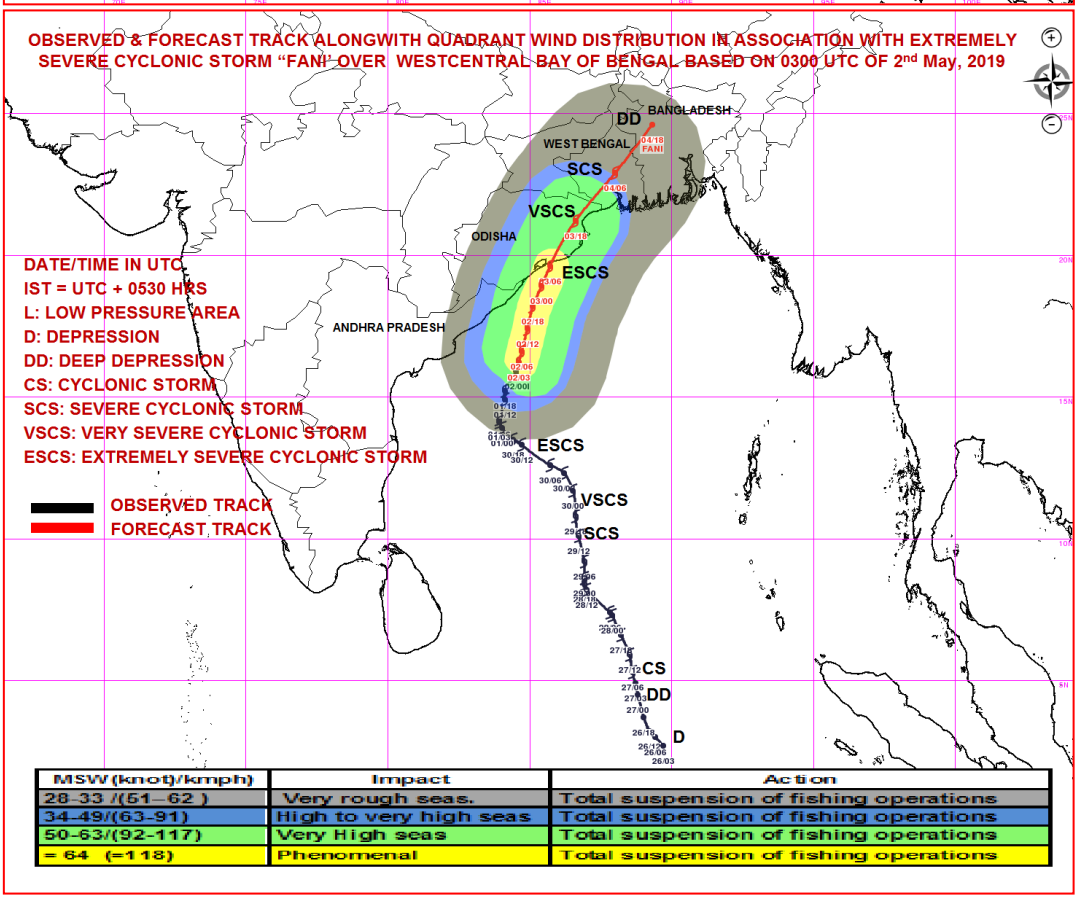




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 47 (BOB/02/2019)

TIME OF ISSUE: 1230 HOURS IST **DATED: 02.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Orange Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved further north-northeastwards with a speed of about 16 kmph in last six hours and lay centred at 1130 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 16.7°N and longitude 84.8°E, about 360 km south-southwest of Puri (Odisha), 190 km south-southeast of Vishakhapatnam (Andhra Pradesh) and 550 km south-southwest of Digha (West Bengal). **It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri by the afternoon of 3rd May with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.**

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.05.19/1130	16.7/84.8	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/1730	17.5/85.0	180-190 gusting to 210	Extremely Severe Cyclonic Storm
02.05.19/2330	18.3/85.2	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.5	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.7/85.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	21.3/86.7	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	23.0/88.1	90-100 gusting to 115	Severe Cyclonic Storm
04.05.19/2330	24.7/89.4	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram district and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall and **extremely heavy falls** (over Ganjam & Gajapati districts) at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

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.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

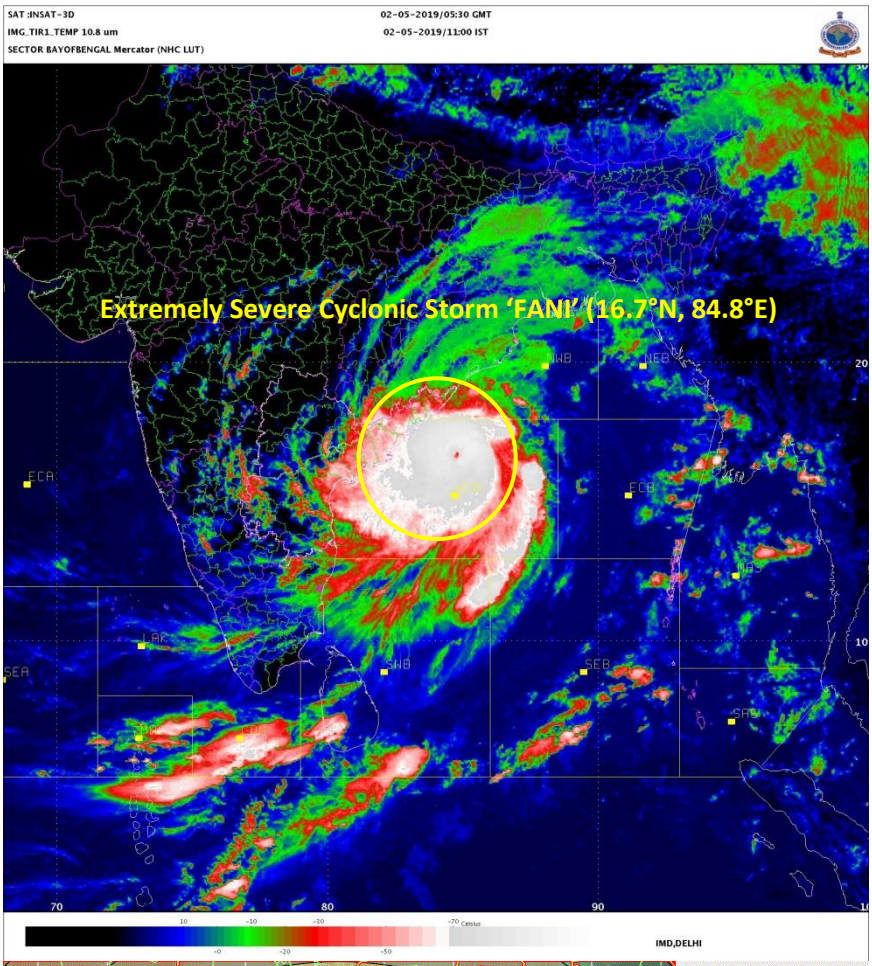
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

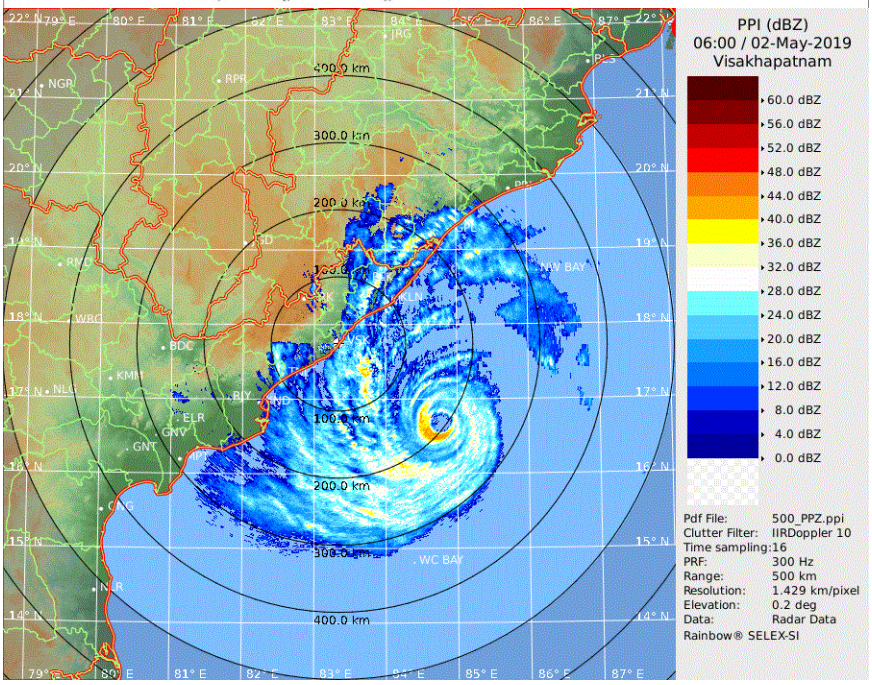
The next bulletin will be issued at 1730 hrs IST of 02nd May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

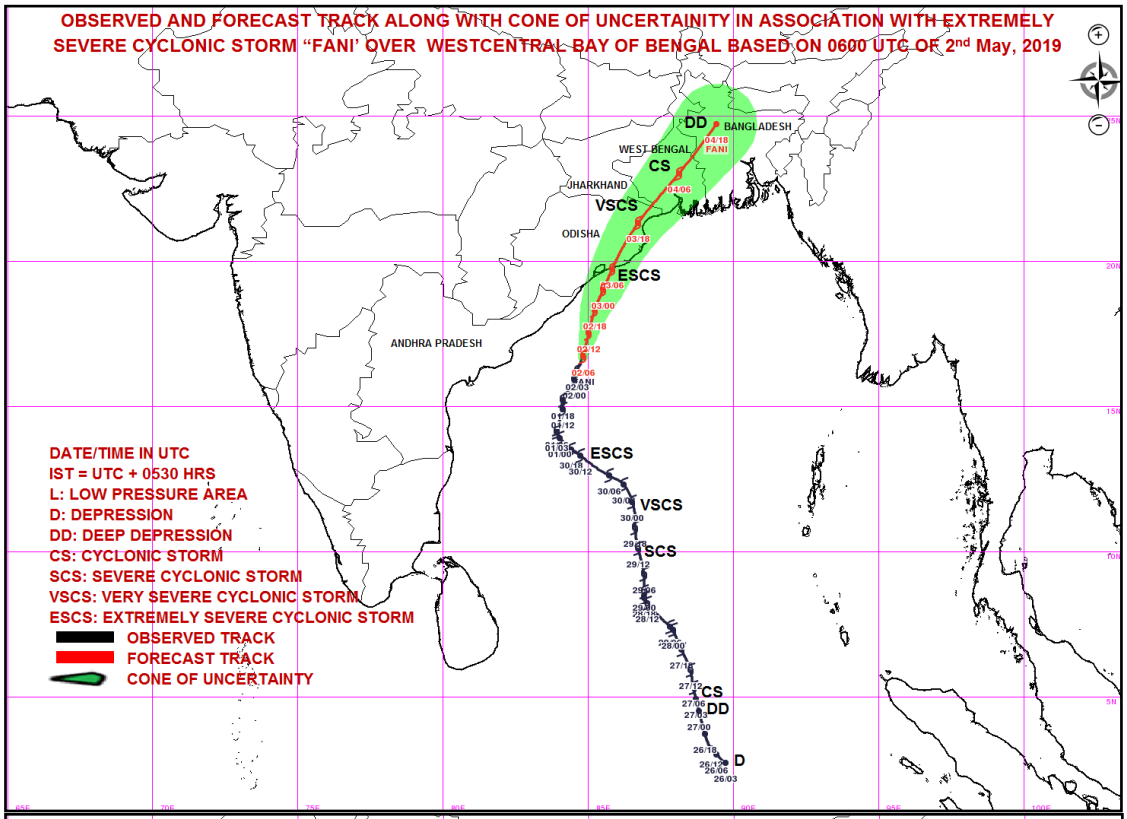
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

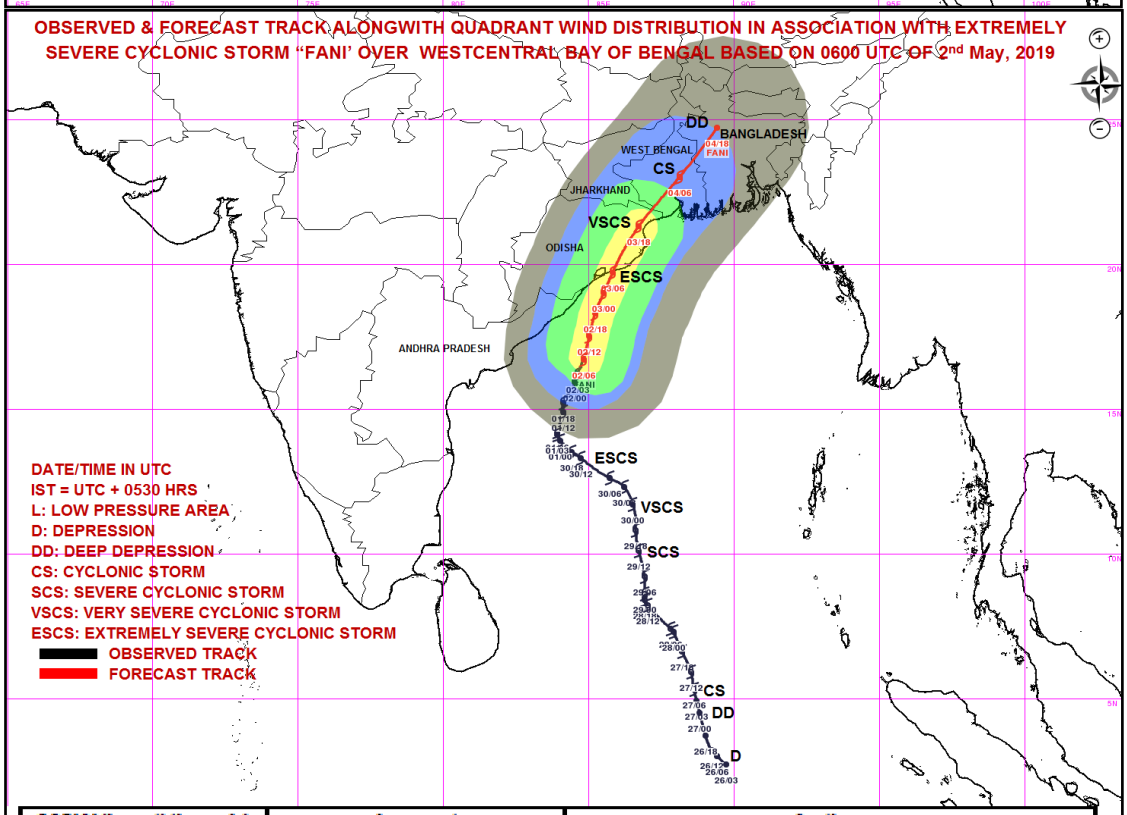




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 48 (BOB/02/2019)

TIME OF ISSUE: 1600 HOURS IST **DATED: 02.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved further north-northeastwards with a speed of about 17 kmph in last six hours and lay centred at 1430 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 17.1°N and longitude 84.8°E, about 320 km south-southwest of Puri (Odisha), 170 km east-southeast of Vishakhapatnam (Andhra Pradesh) and 610 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, around Puri during tomorrow the 3rd May forenoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph. Landfall process is very likely to continue till noon/afternoon of tomorrow the 3rd May.

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and enter into West Bengal as a Severe Cyclonic Storm with the wind speed of 90-100 Kmph gusting to 115 Kmph. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th April evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
02.05.19/1430	17.1/84.8	190-200 gusting to 220	Extremely Severe Cyclonic Storm
02.05.19/1730	17.5/85.0	190-200 gusting to 220	Extremely Severe Cyclonic Storm
02.05.19/2330	18.3/85.2	180-190 gusting to 210	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.5	175-185 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	19.8/85.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/2330	21.3/86.7	130-140 gusting to 155	Very Severe Cyclonic Storm
04.05.19/1130	23.0/88.1	90-100 gusting to 115	Severe Cyclonic Storm
04.05.19/2330	24.7/89.4	50-60 gusting to 70	Deep Depression

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.

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram district and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall and **extremely heavy falls** (over Ganjam & Gajapati districts) at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh and Assam & Meghalaya:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 180-190 kmph gusting to 210 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

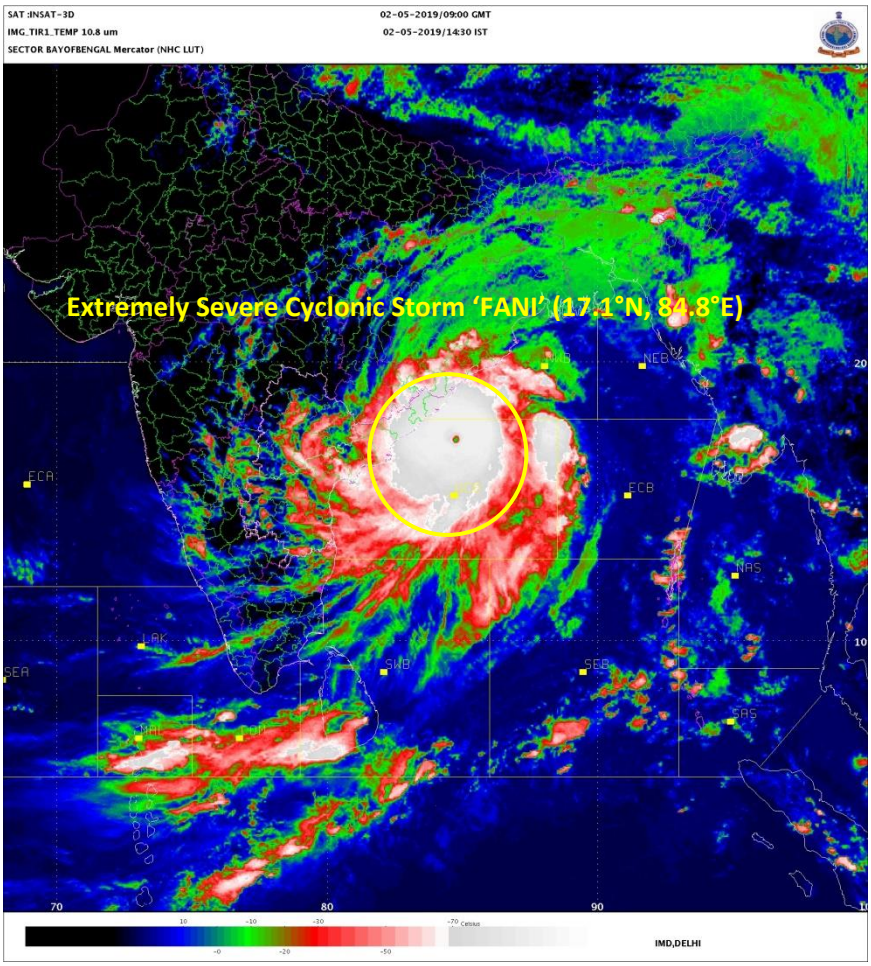
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

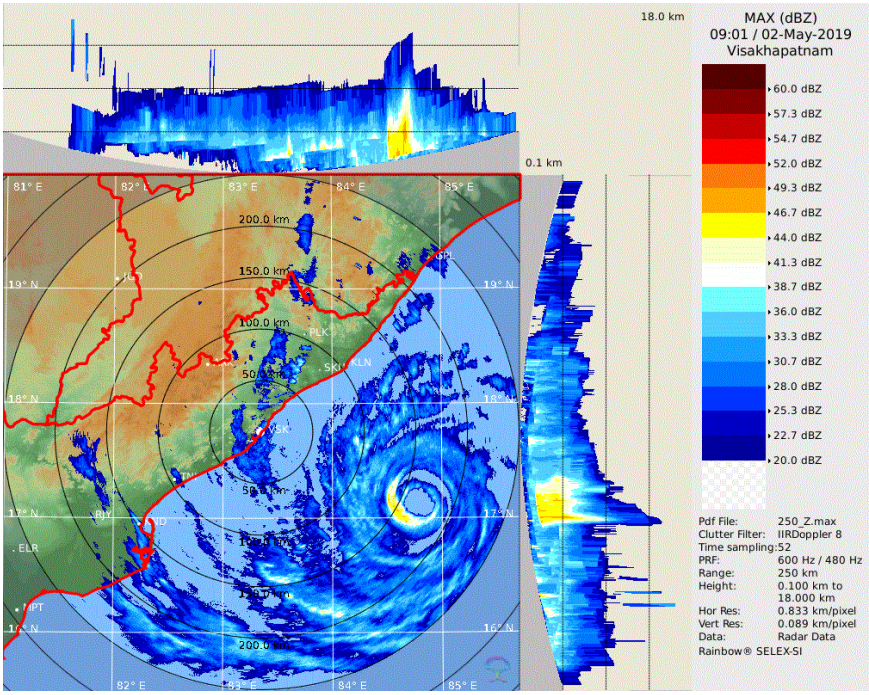
The next bulletin will be issued at 2030 hrs IST of 02nd May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

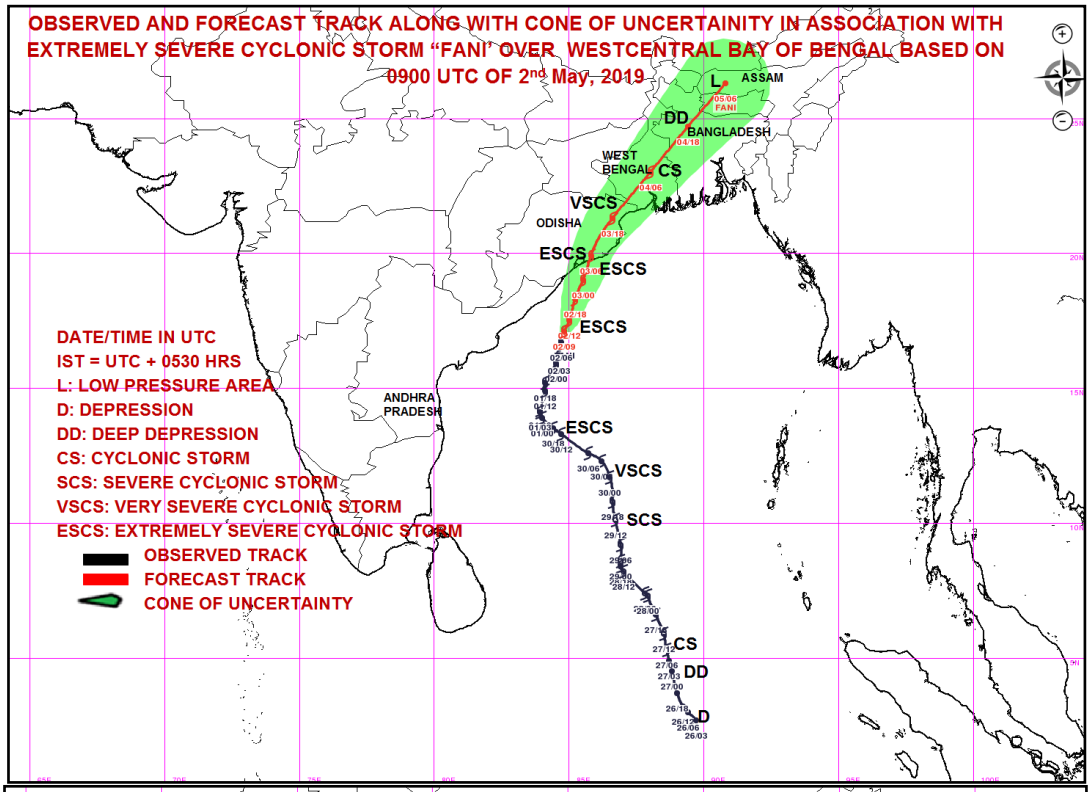
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

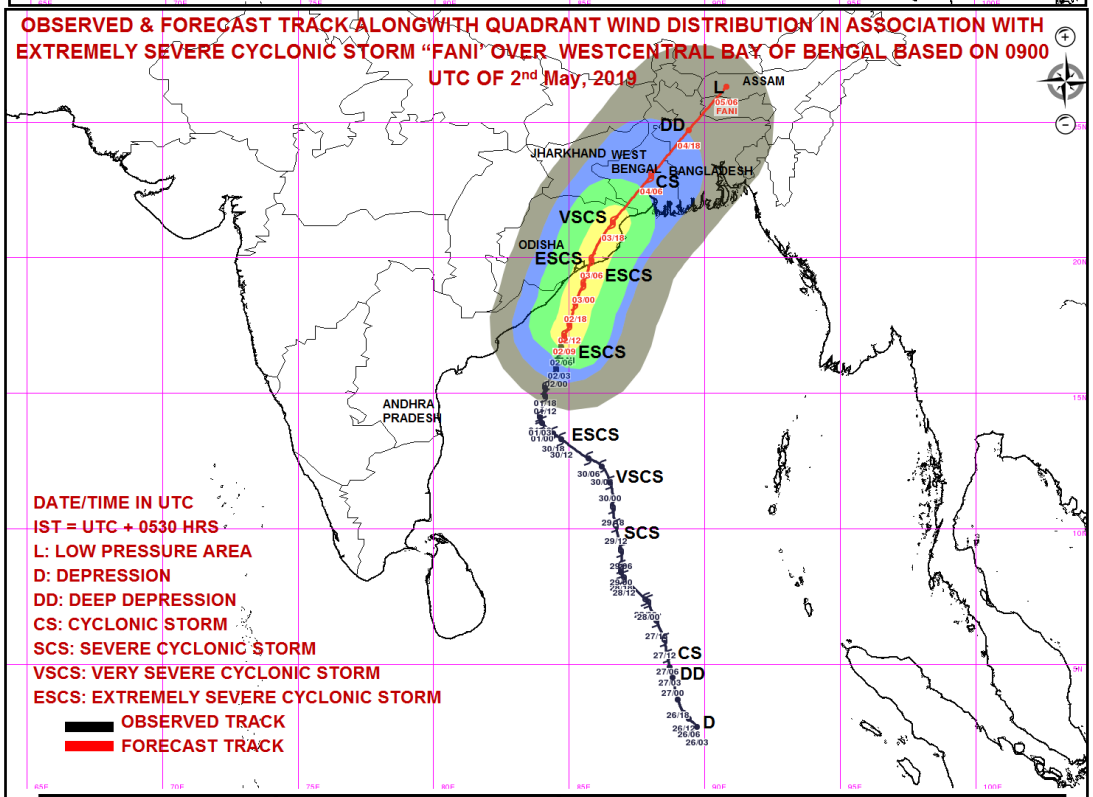




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 49 (BOB/02/2019)

TIME OF ISSUE: 2030 HOURS IST **DATED: 02.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved northwards with a speed of about 15 kmph in last six hours and lay centred at 1730 hrs IST of 02nd May, 2019 over Westcentral Bay of Bengal near latitude 17.5°N and longitude 84.8°E, about 275 km south-southwest of Puri (Odisha), 160 km east-southeast of Vishakhapatnam (Andhra Pradesh) and 570 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, south of Puri during tomorrow the 3rd May forenoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph. Landfall process is very likely to continue till noon/afternoon of tomorrow the 3rd May.

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Machilipatnam.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
02.05.19/1730	17.5/84.8	200-210 gusting to 230	Extremely Severe Cyclonic Storm
02.05.19/2330	18.3/85.0	190-200 gusting to 220	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.3	180-190 gusting to 210	Extremely Severe Cyclonic Storm
03.05.19/1130	19.9/85.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.6/86.1	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	22.1/87.3	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/1730	23.8/88.7	60-70 gusting to 80	Cyclonic Storm
05.05.19/0530	25.5/90.1	40-50 gusting to 60	Depression
05.05.19/1730	27.1/91.5	20-30 gusting to 40	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram district and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** (over Ganjam & Gajapati districts) at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 200-210 kmph gusting to 230 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 24 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.

- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii) Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.

(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th.

(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 100 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th and decrease thereafter.

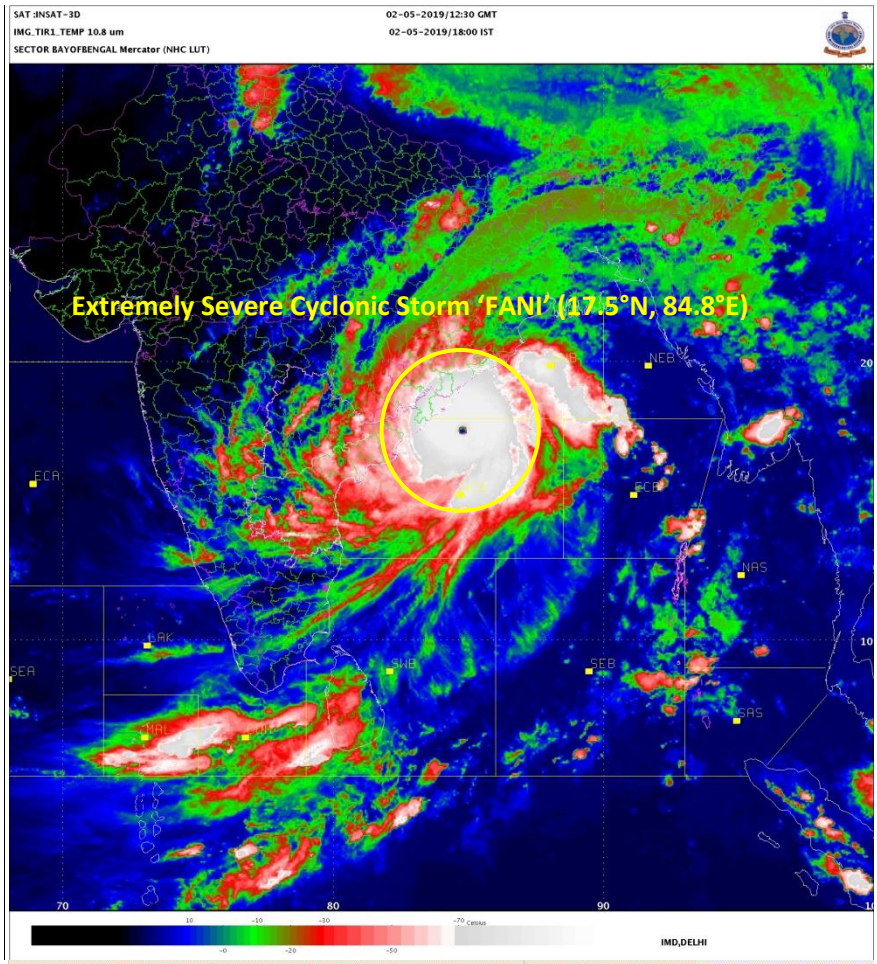
Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

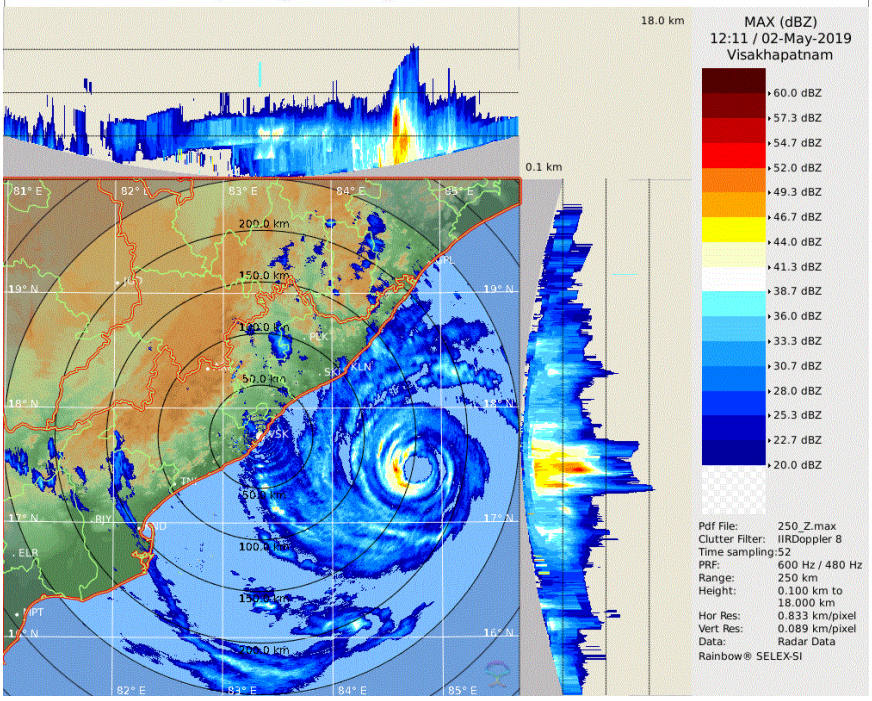
(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

The next bulletin will be issued at 2330 hrs IST of 02nd May, 2019.

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

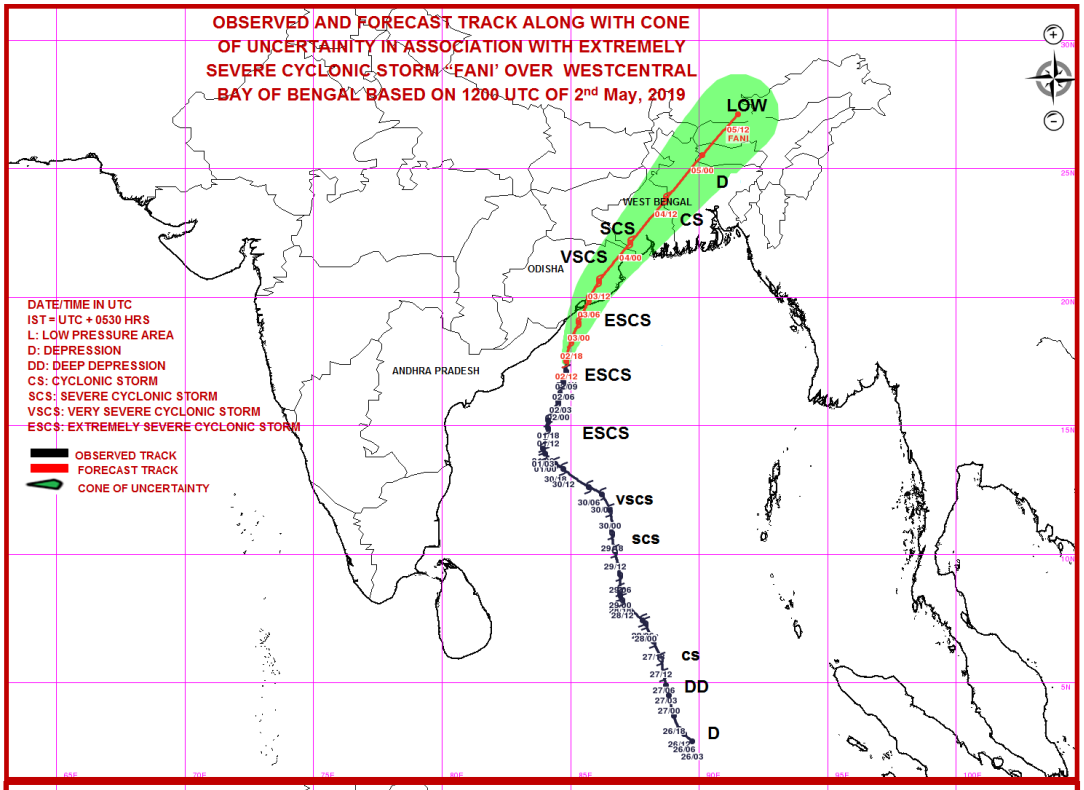
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

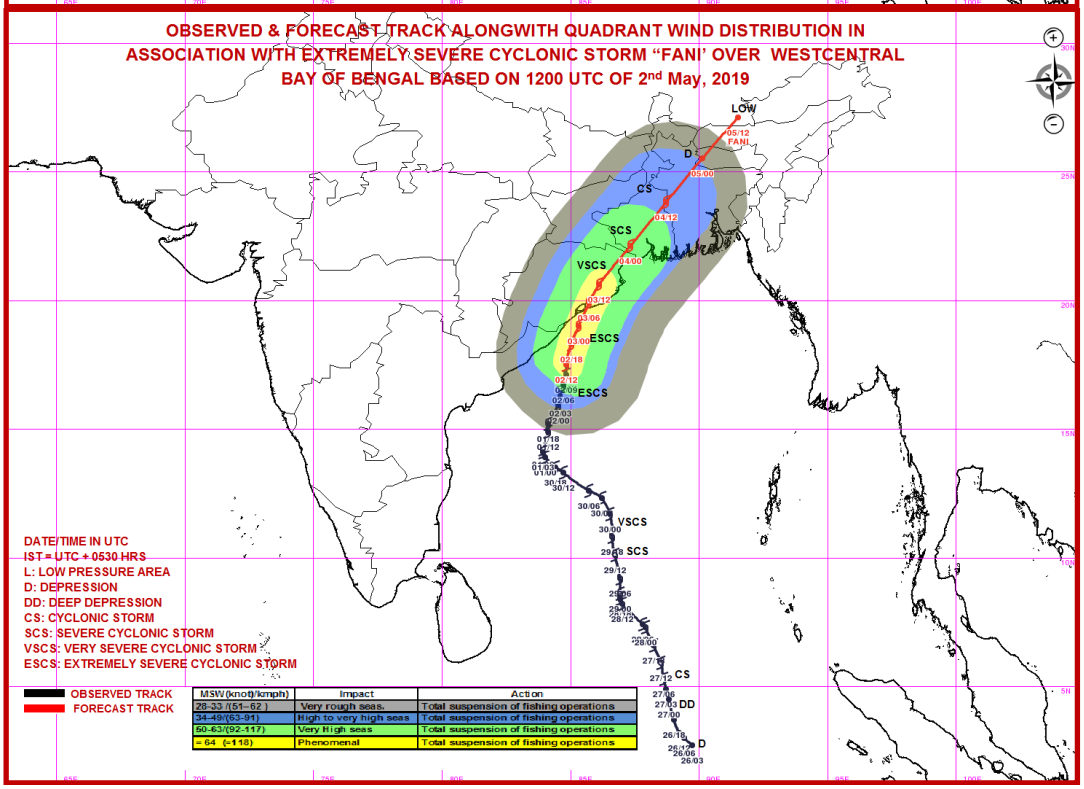




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





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.

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 50 (BOB/02/2019)

TIME OF ISSUE: 2230 HOURS IST **DATED: 02.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral & adjoining Northwest Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral Bay of Bengal moved northwards with a speed of about 13 kmph in last six hours and lay centred at 2030 hrs IST of 02nd May, 2019 over Westcentral & adjoining Northwest Bay of Bengal near latitude 17.8°N and longitude 84.9°E, about 240 km south-southwest of Puri (Odisha), 170 km east-southeast of Vishakhapatnam (Andhra Pradesh) and 540 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, south of Puri during tomorrow the 3rd May forenoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph. Landfall process is very likely to continue till noon/afternoon of tomorrow the 3rd May.

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Gopalpur.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
02.05.19/2030	17.8/84.9	210-220 gusting to 240	Extremely Severe Cyclonic Storm
02.05.19/2330	18.3/85.0	200-210 gusting to 230	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.3	190-200 gusting to 220	Extremely Severe Cyclonic Storm
03.05.19/1130	19.9/85.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.6/86.1	150-160 gusting to 175	Very Severe Cyclonic Storm
04.05.19/0530	22.1/87.3	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/1730	23.8/88.7	60-70 gusting to 80	Cyclonic Storm
05.05.19/0530	25.5/90.1	40-50 gusting to 60	Depression
05.05.19/1730	27.1/91.5	20-30 gusting to 40	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with isolated heavy to very heavy falls over Visakhapatnam and Vijayanagaram district and isolated heavy to **extremely heavy falls (>20 cm)** over Srikakulam district on 2nd May and with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** (over Ganjam & Gajapati districts) at isolated places very likely over south coastal & adjoining interior Odisha on 2nd May. It is likely to increase with moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 200-210 kmph gusting to 230 kmph is very likely to prevail over westcentral Bay of Bengal around system centre during next 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts and become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 2nd May night. It is very likely to become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts; and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon for subsequent 12 hours and decrease thereafter.

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.

- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast from 2nd May evening. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii) Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

Action Suggested:
(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:
After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.
(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th May.
(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 100 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th May and decrease thereafter.

Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

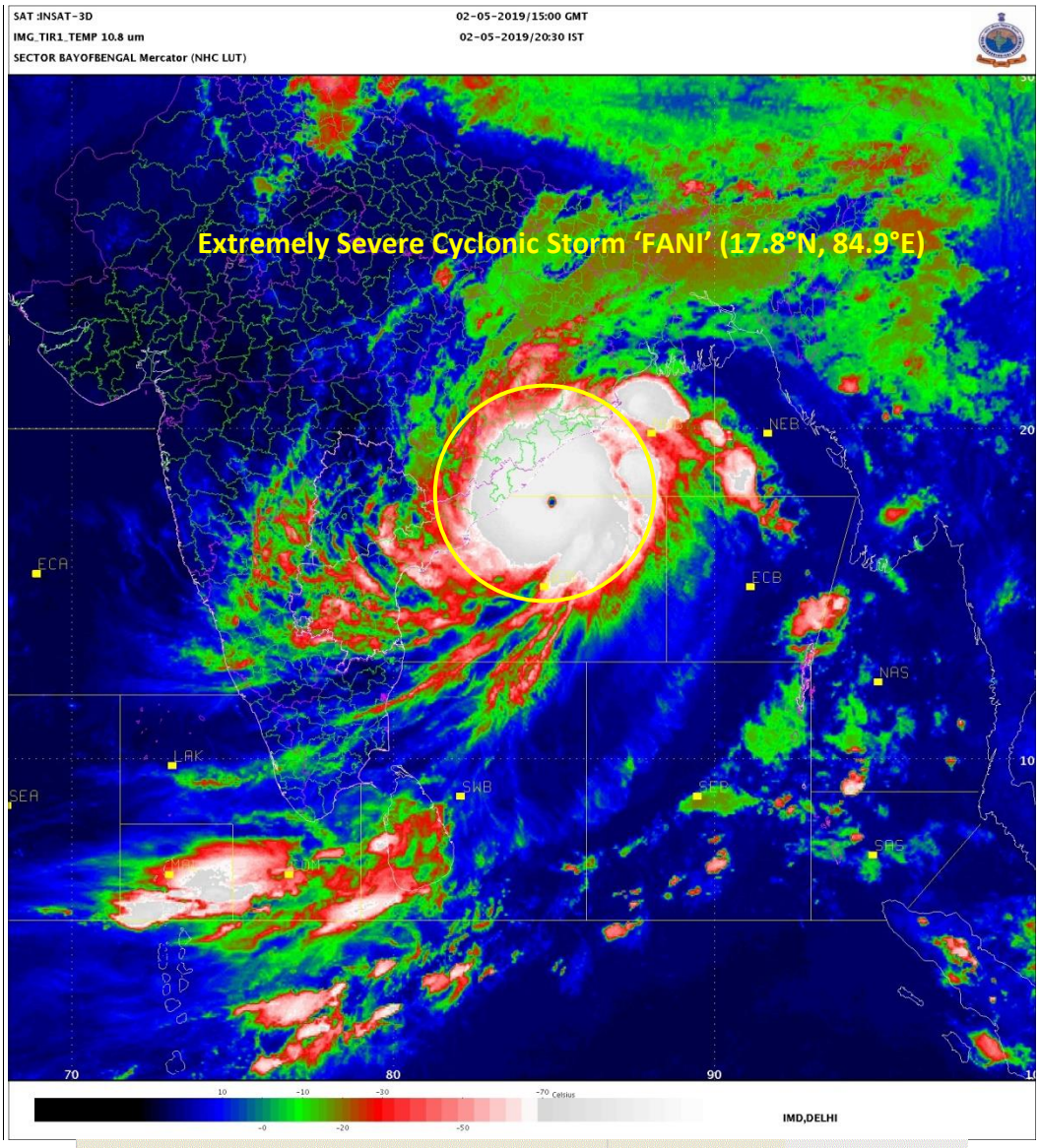
(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

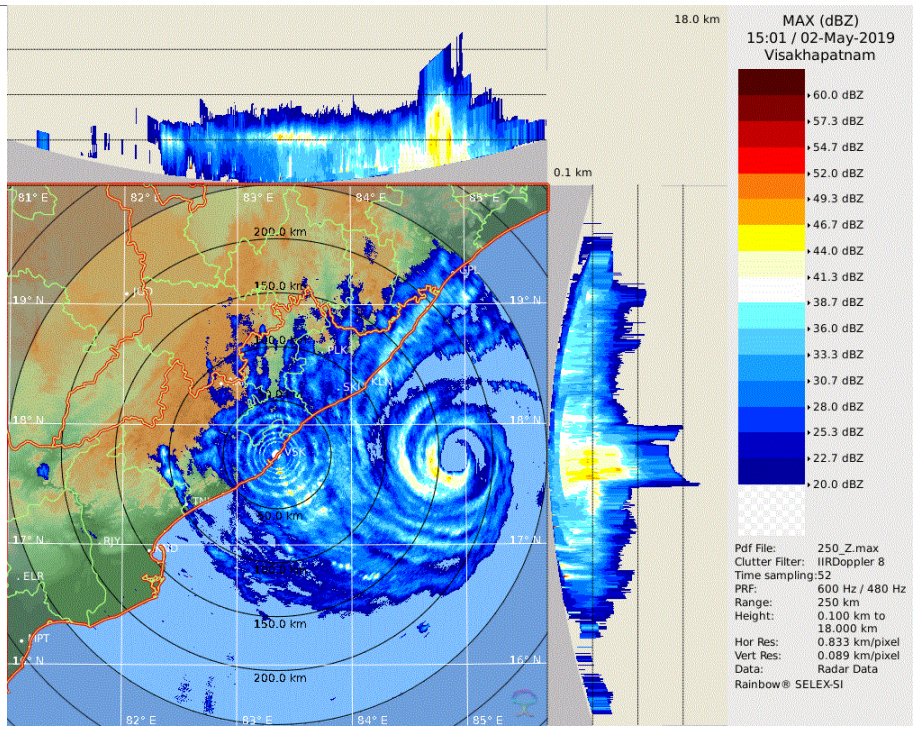
The next bulletin will be issued at 0230 hrs IST of 03rd May, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

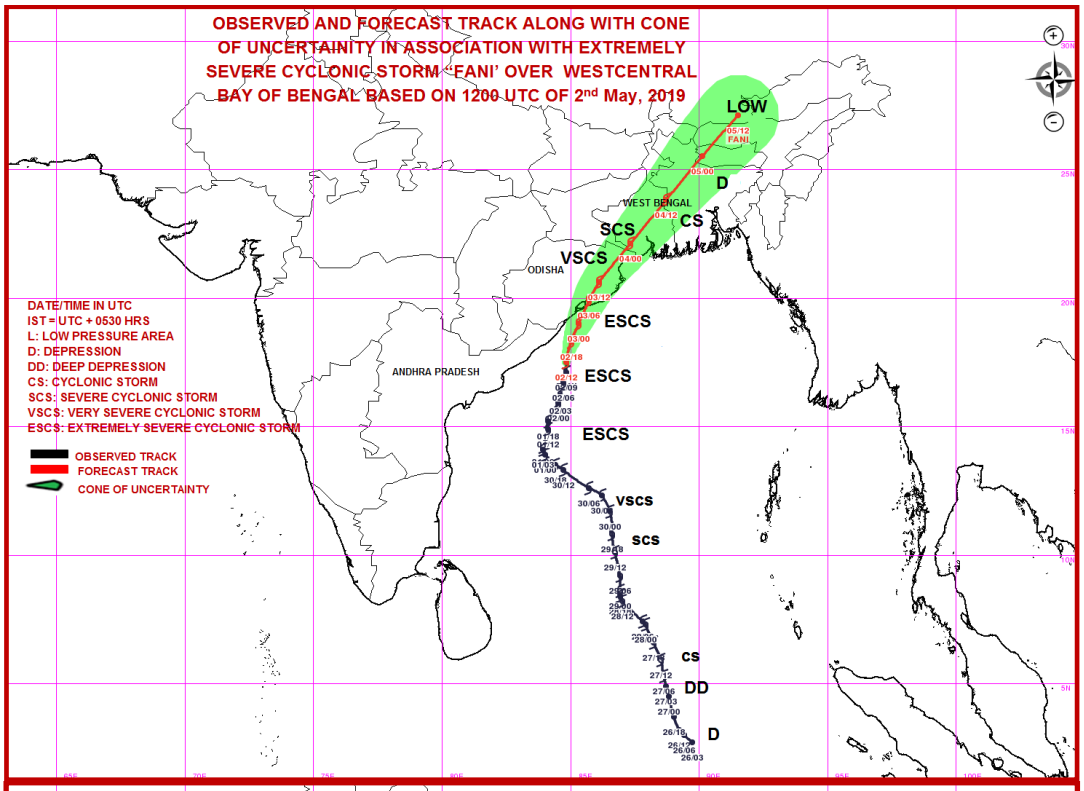
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

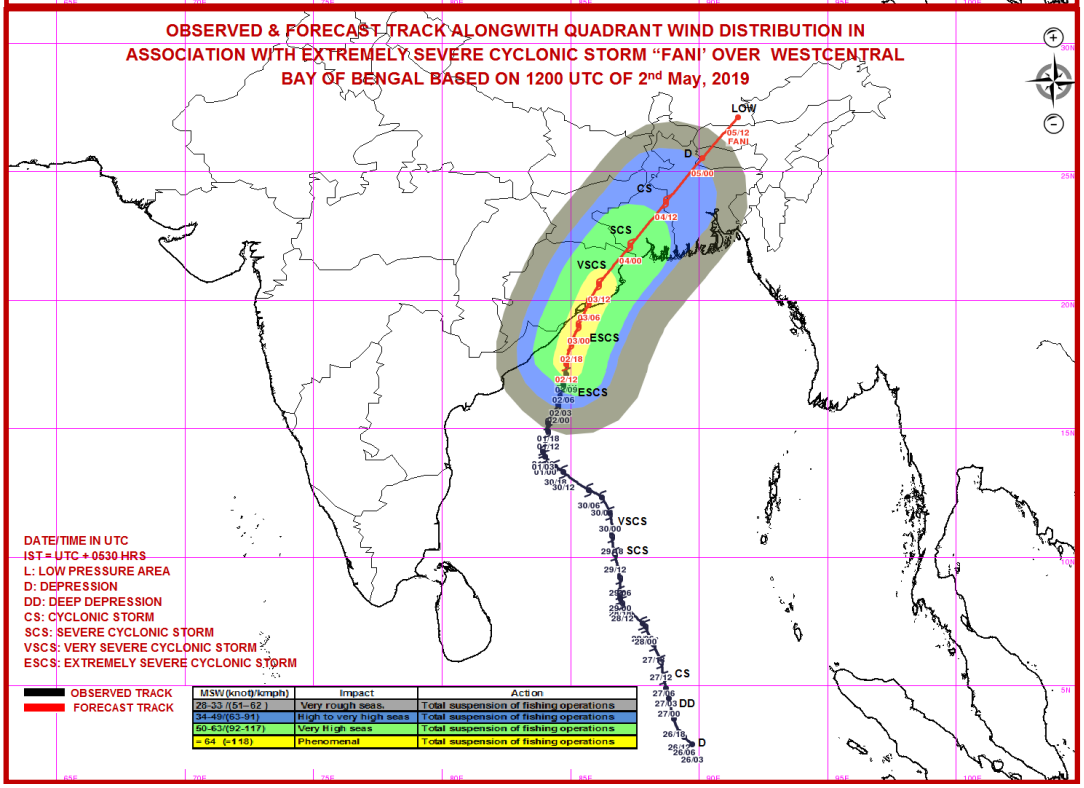




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/(kmph)	Impact	Action
28-33 /(51-62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 51 (BOB/02/2019)

TIME OF ISSUE: 0230 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Westcentral & adjoining Northwest Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral **&** adjoining Northwest Bay of Bengal moved north-northeastwards with a speed of about 13 kmph in last six hours and lay centred at 2330 hrs IST of 02nd May, 2019 over Westcentral & adjoining Northwest Bay of Bengal near latitude 18.2°N and longitude 85.0°E, about 200 km south-southwest of Puri (Odisha), 190 km nearly east of Vishakhapatnam (Andhra Pradesh) and 500 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, south of Puri during 3rd May forenoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph. Landfall process is very likely to continue till noon/afternoon of 3rd May.

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Gopalpur.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
02.05.19/2330	18.2/85.0	200-210 gusting to 230	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.3	190-200 gusting to 220	Extremely Severe Cyclonic Storm
03.05.19/1130	19.9/85.7	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.6/86.1	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	21.3/86.7	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/1130	22.9/88.0	70-80 gusting to 90	Cyclonic Storm
04.05.19/2330	24.6/89.3	50-60 gusting to 70	Deep Depression
05.05.19/1130	26.2/90.6	30-40 gusting to 50	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 200-210 kmph gusting to 230 kmph is very likely to prevail over westcentral Bay of Bengal around system centre till morning of 3rd May and decrease thereafter.
- Gale wind speed reaching 60-70 kmph gusting to 85 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts during next 06 hours. It is very likely to increase gradually and become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon. It is very likely to become 90-100 kmph gusting to 115 kmph along & off coastal districts of Odisha for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 12 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

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.

(ii) Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast till 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.

(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th May.

(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 100 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th May and decrease thereafter.

Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

The next bulletin will be issued at 0530 hrs IST of 03rd May, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

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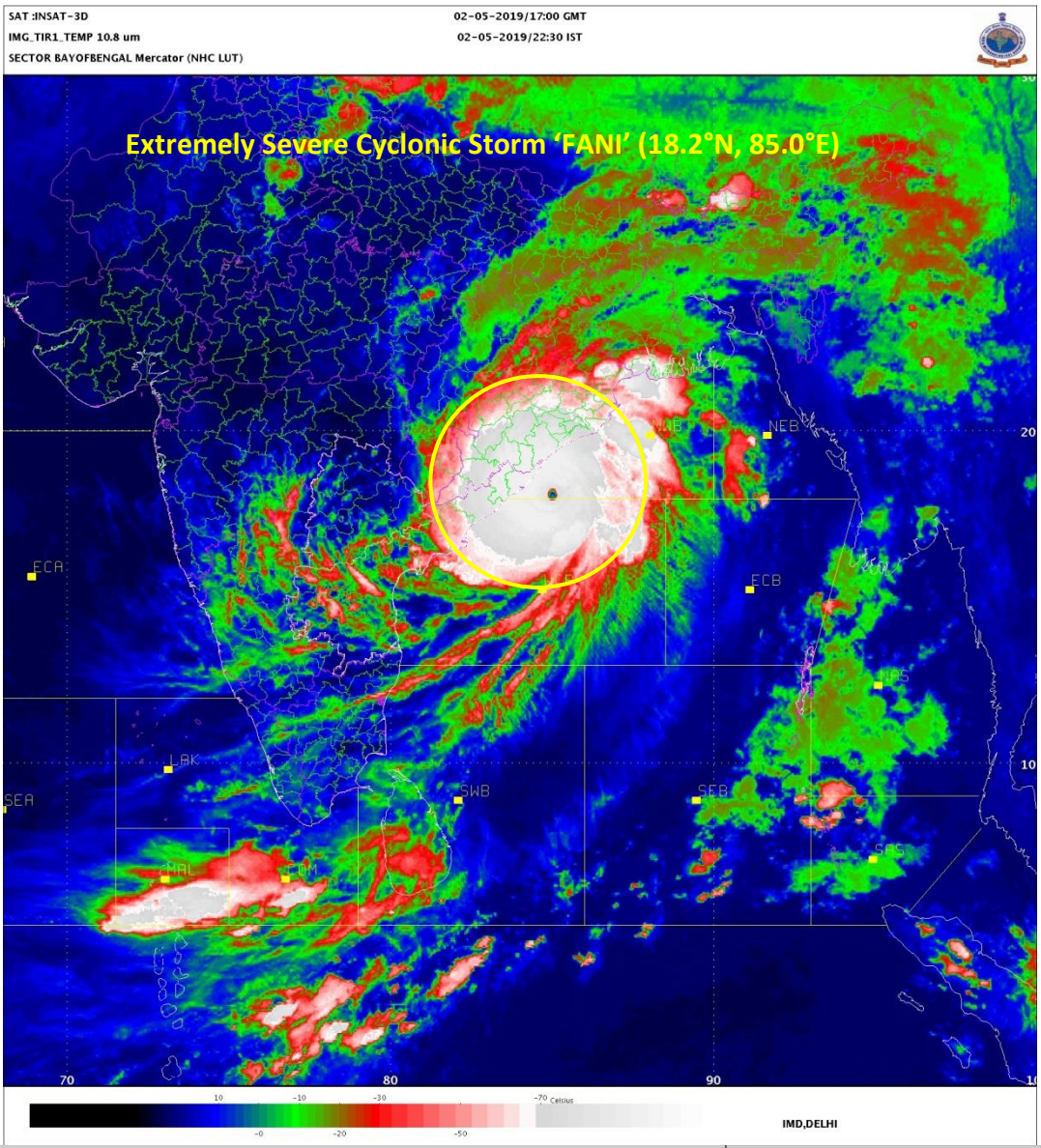
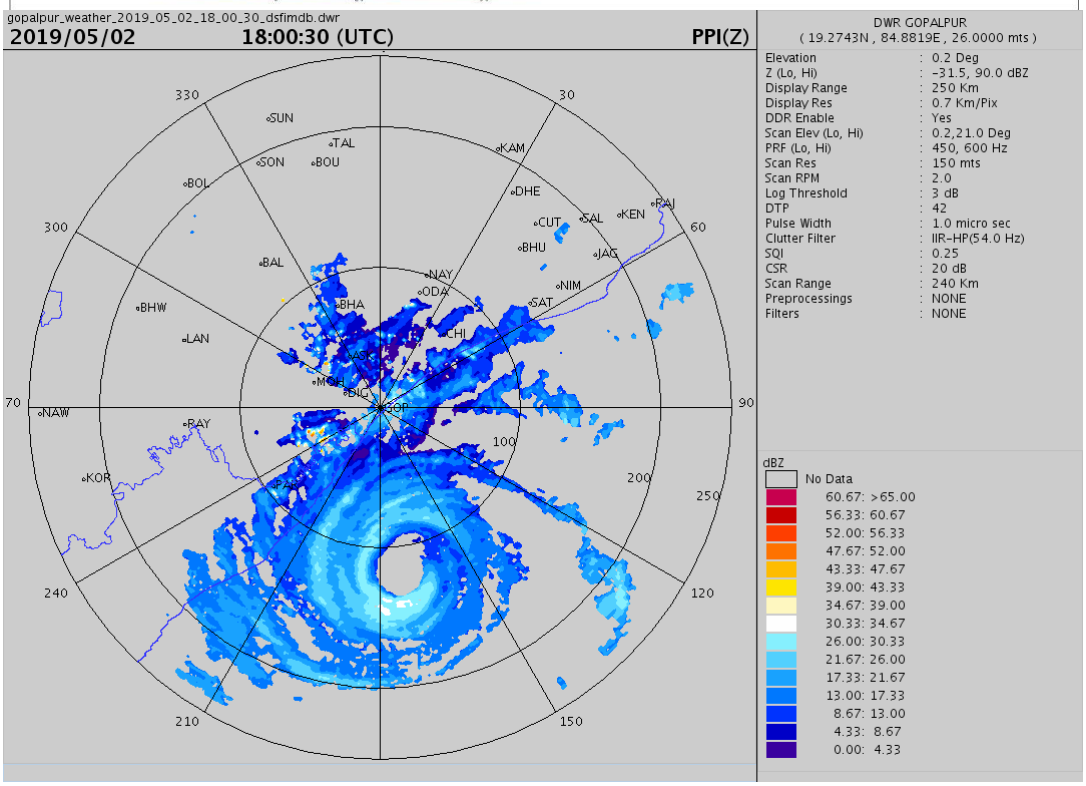
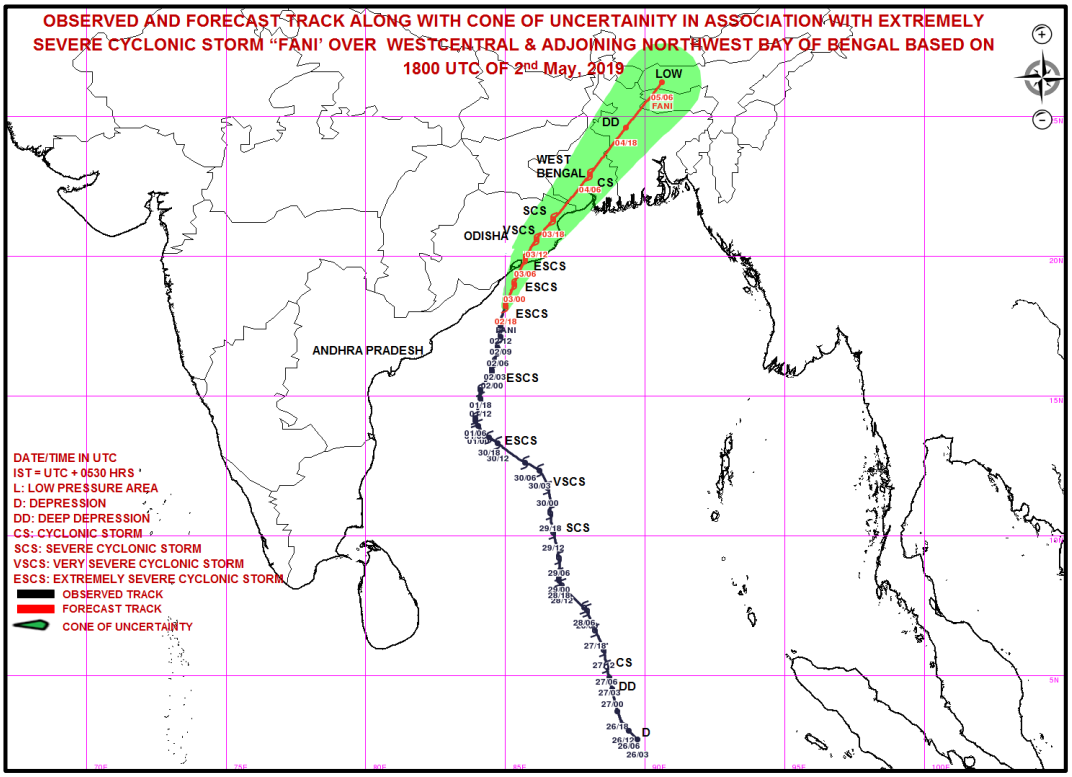
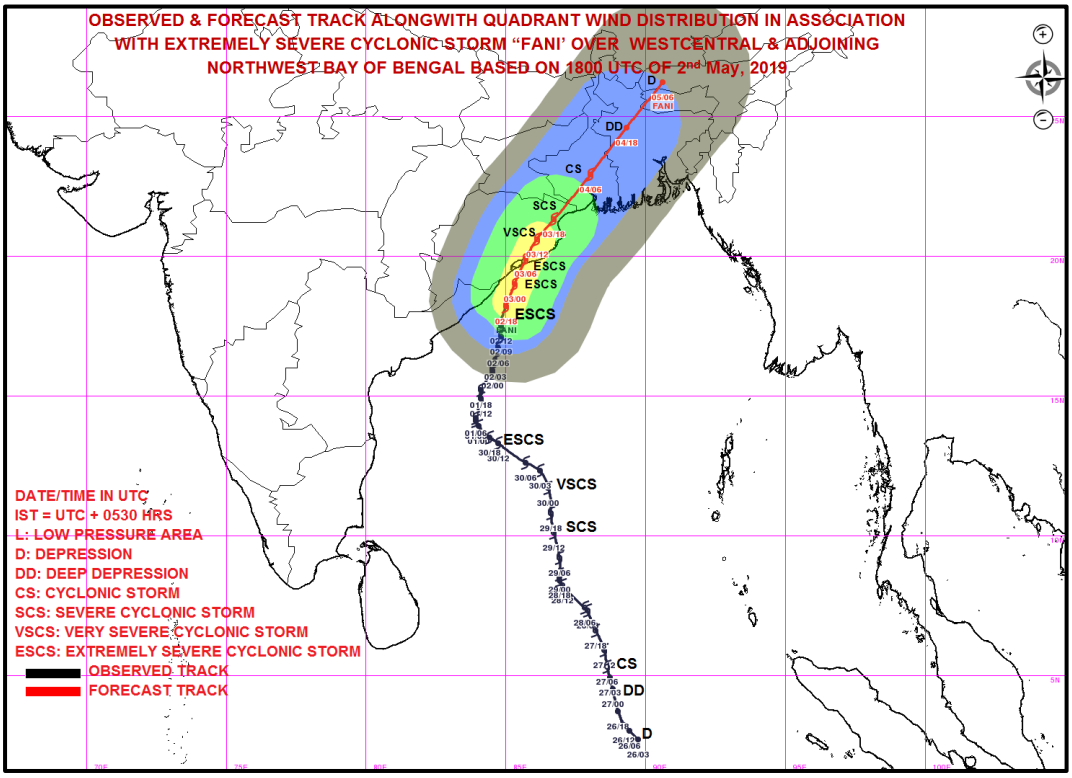




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 52 (BOB/02/2019)

TIME OF ISSUE: 0400 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Northwest & adjoining Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Westcentral **&** adjoining Northwest Bay of Bengal moved north-northeastwards with a speed of about 16 kmph in last six hours and lay centred at 0230 hrs IST of 03rd May, 2019 over Northwest & adjoining Westcentral Bay of Bengal near latitude 18.6°N and longitude 85.2°E, about 150 km south-southwest of Puri (Odisha), about 80 km southeast of Gopalpur (Odisha), about 225 km northeast of Vishakhapatnam (Andhra Pradesh), and 450 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, south of Puri during 3rd May forenoon with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph. Landfall process is very likely to continue till noon/afternoon of 3rd May.

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Gopalpur.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/0230	18.6/85.2	200-210 gusting to 230	Extremely Severe Cyclonic Storm
03.05.19/0530	19.0/85.4	190-200 gusting to 220	Extremely Severe Cyclonic Storm
03.05.19/1130	19.9/85.8	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.6/86.2	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	21.3/86.6	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/1130	22.9/88.0	70-80 gusting to 90	Cyclonic Storm
04.05.19/2330	24.6/89.3	50-60 gusting to 70	Deep Depression
05.05.19/1130	26.2/90.6	30-40 gusting to 50	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 200-210 kmph gusting to 230 kmph is very likely to prevail over westcentral Bay of Bengal around system centre till morning of 3rd May and decrease thereafter.
- Gale wind speed reaching 60-70 kmph gusting to 85 kmph is very likely to prevail along & off north Andhra Pradesh & Odisha Coasts during next 06 hours. It is very likely to increase gradually and become 170-180 kmph gusting to 200 kmph along & off south Odisha & adjoining north Andhra Pradesh (Srikakulam District) coasts and 90-100 kmph gusting to 115 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Visakhapatnam and Vijayanagaram Districts) by 3rd May forenoon. It is very likely to become 90-100 kmph gusting to 115 kmph along & off coastal districts of Odisha for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 12 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

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.

(ii) Sea condition

- The sea condition is phenomenal over westcentral Bay of Bengal, off north Andhra Pradesh Coasts till 03 May 2019 and over Northwest Bay of Bengal off Odisha & West Bengal till 04 May.
- Sea conditions very likely to be very rough to high off north Tamilnadu, Puducherry, along & off south Andhra Pradesh Coasts till 03 May.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of Southwest & adjoining southeast Bay of Bengal, Southwest & adjoining westcentral Bay of Bengal, along & off Puducherry, north Tamilnadu & south Andhra Pradesh coasts during next 12 hours; over westcentral Bay of Bengal, along & off north Andhra Pradesh Coast on 03 May and over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.
- Those, who are out in deep sea above areas are advised to return to the coasts.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.

(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th May.

(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 100 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th May and decrease thereafter.

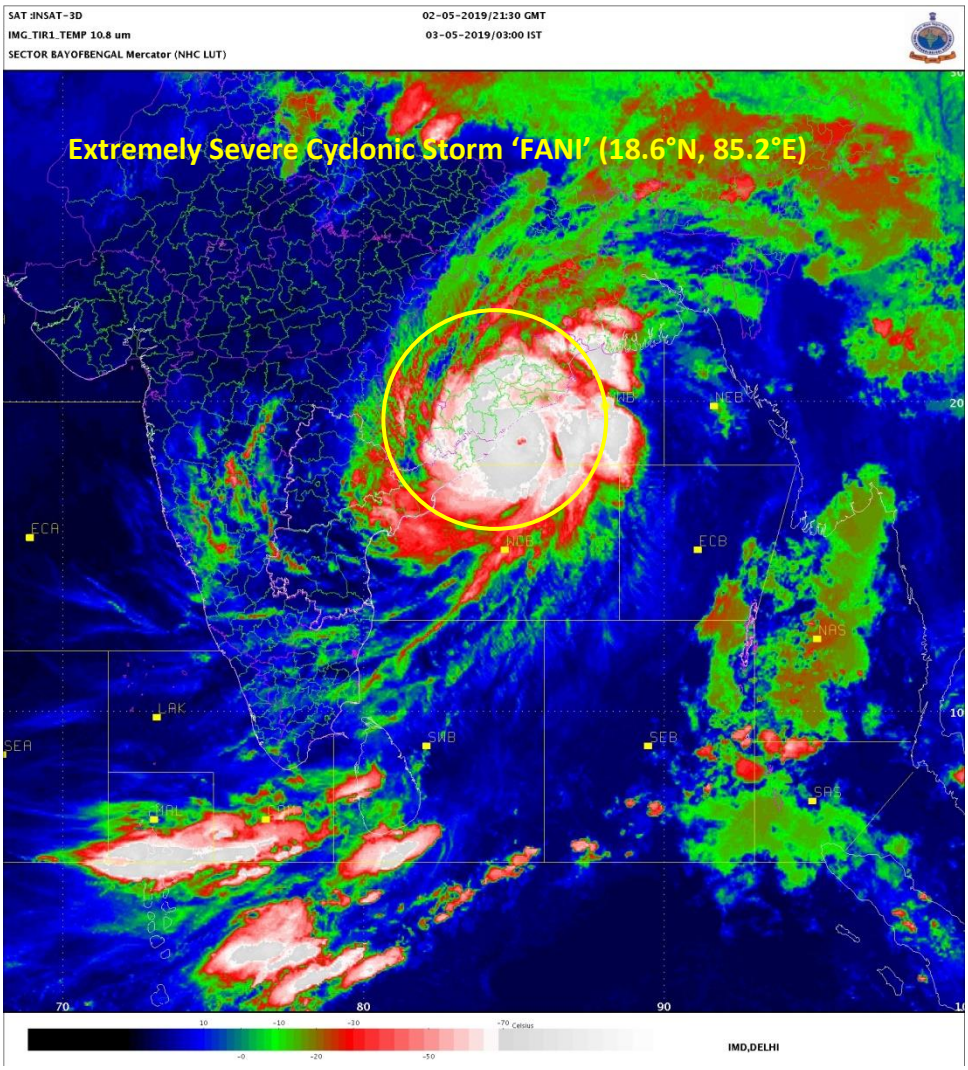
Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

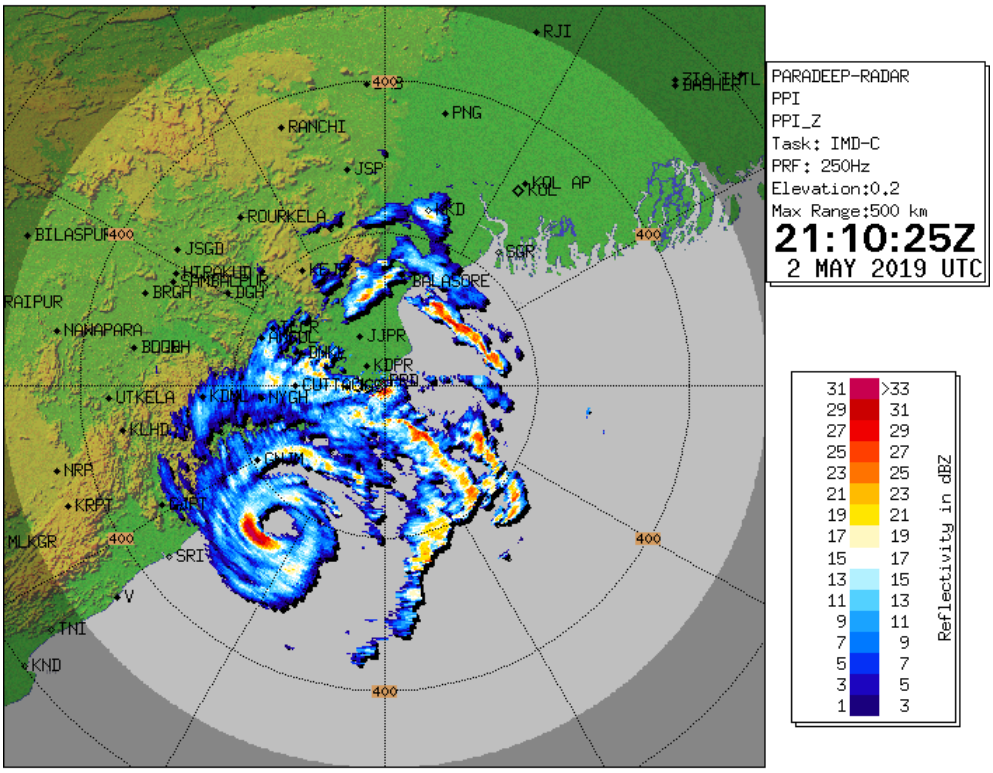
(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

The next bulletin will be issued at 0830 hrs IST of 03rd May, 2019.

(Ananda Kumar Das)
Scientist-E, RSMC, New Delhi

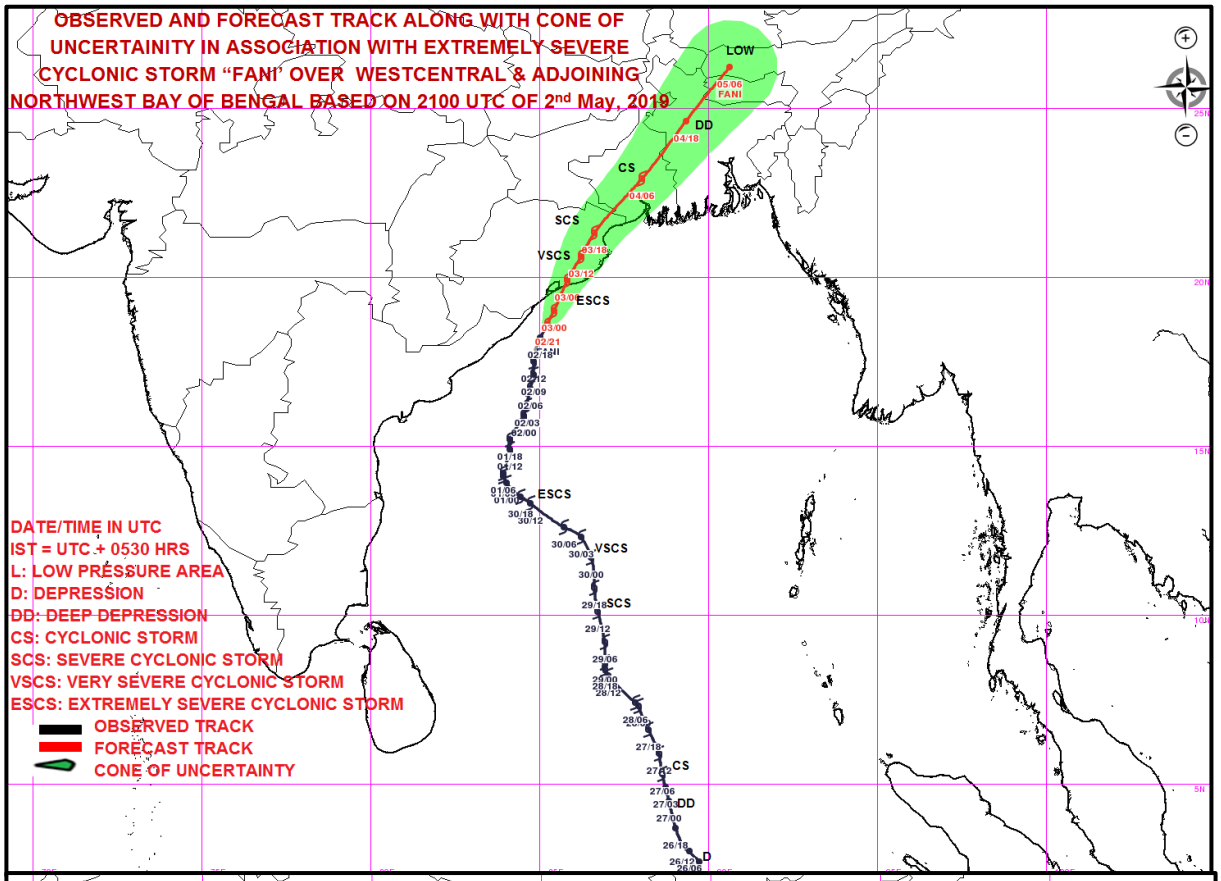
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

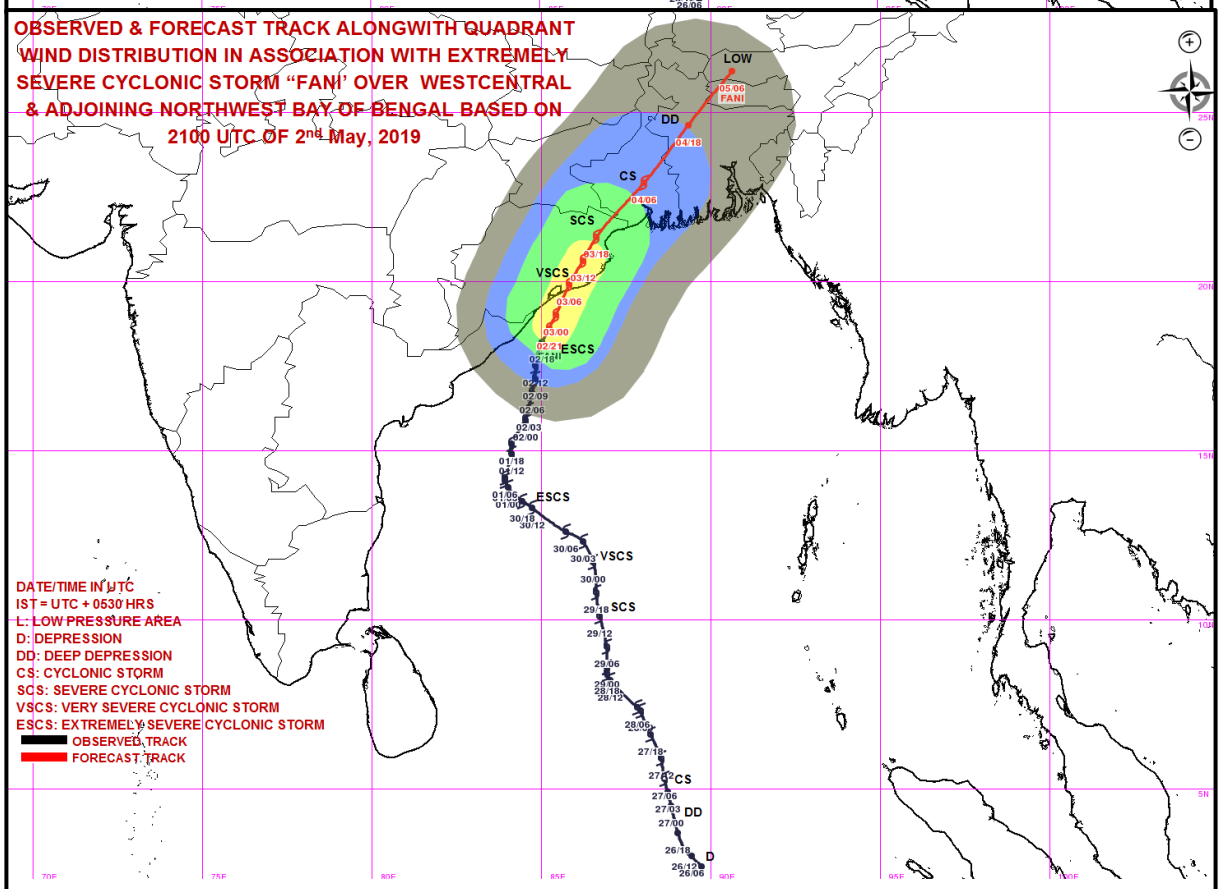




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 53 (BOB/02/2019)

TIME OF ISSUE: 0830 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Northwest & adjoining Westcentral Bay of Bengal: Cyclone Warning for Odisha, West Bengal and Srikakulam, Vijayanagaram & Visakhapatnam Districts of Andhra Pradesh Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Northwest **&** adjoining Westcentral Bay of Bengal moved north-northeastwards with a speed of about 17 kmph in last six hours and lay centred at 0530 hrs IST of 03rd May, 2019 over Northwest & adjoining Westcentral Bay of Bengal near latitude 19.1°N and longitude 85.5°E, about 85 km south-southwest of Puri (Odisha), about 70 km east-southeast of Gopalpur (Odisha), about 280 km northeast of Vishakhapatnam (Andhra Pradesh), and 390 km south-southwest of Digha (West Bengal).

It is very likely to move north-northeastwards and cross Odisha Coast between Gopalpur and Chandbali, close to Puri during 3rd May forenoon (0800-1100 IST) with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.

After the landfall, the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Paradip.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/0530	19.1/85.5	185-195 gusting to 205	Extremely Severe Cyclonic Storm
03.05.19/1130	20.0/85.9	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.8/86.4	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	21.6/86.9	130-140 gusting to 150	Very Severe Cyclonic Storm
04.05.19/0530	22.4/87.4	100-110 gusting to 120	Severe Cyclonic Storm
04.05.19/1730	24.0/88.4	70-80 gusting to 90	Cyclonic Storm
05.05.19/0530	25.6/90.0	40-50 gusting to 60	Deep Depression

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 140-150 kmph gusting to 165 kmph is prevailing along & off Puri and Jagatsighpur districts of Odisha coast. It is very likely to increase gradually and become 170-180 kmph gusting to 200 kmph during next 06 hours and 150-160 kmph gusting to 180 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Srikakulam and Vijayanagaram districts) during next 6 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 12 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over northwest and adjoining westcentral Bay of Bengal, off north Andhra Pradesh- south Odisha Coasts during next 6 hours and is likely to become high to very high subsequently for the next 24 hours. Very rough to high seas are likely to prevail over Northwest Bay of Bengal along and off Odisha & West Bengal coasts till 04 May.

- Sea conditions very likely to be very rough to high along & off south Andhra Pradesh Coasts during next 6 hours.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of westcentral Bay of Bengal, along & off Andhra Pradesh coasts during next 12 hours; over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas.
(ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.

(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th May.
(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 120 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th May and decrease thereafter.

Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

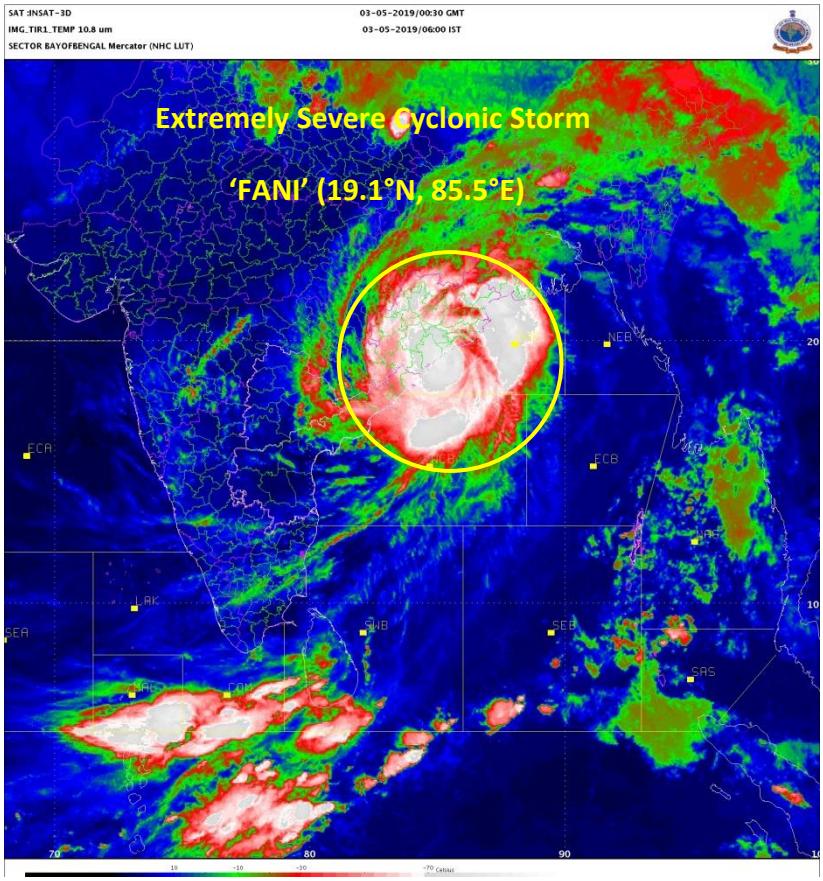
(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

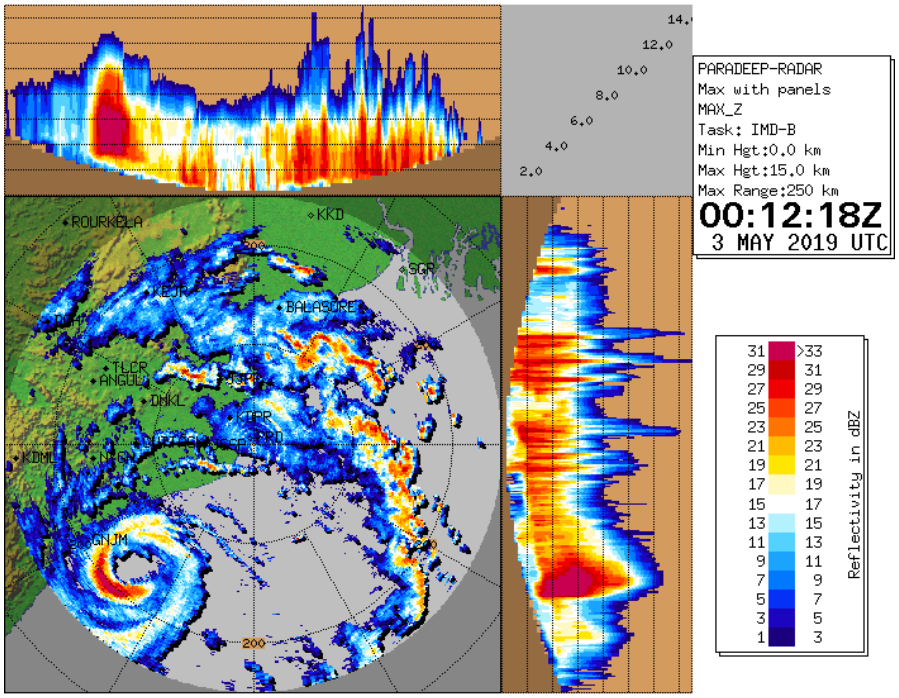
The next bulletin will be issued at 1130 hrs IST of 03rd May, 2019.

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

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

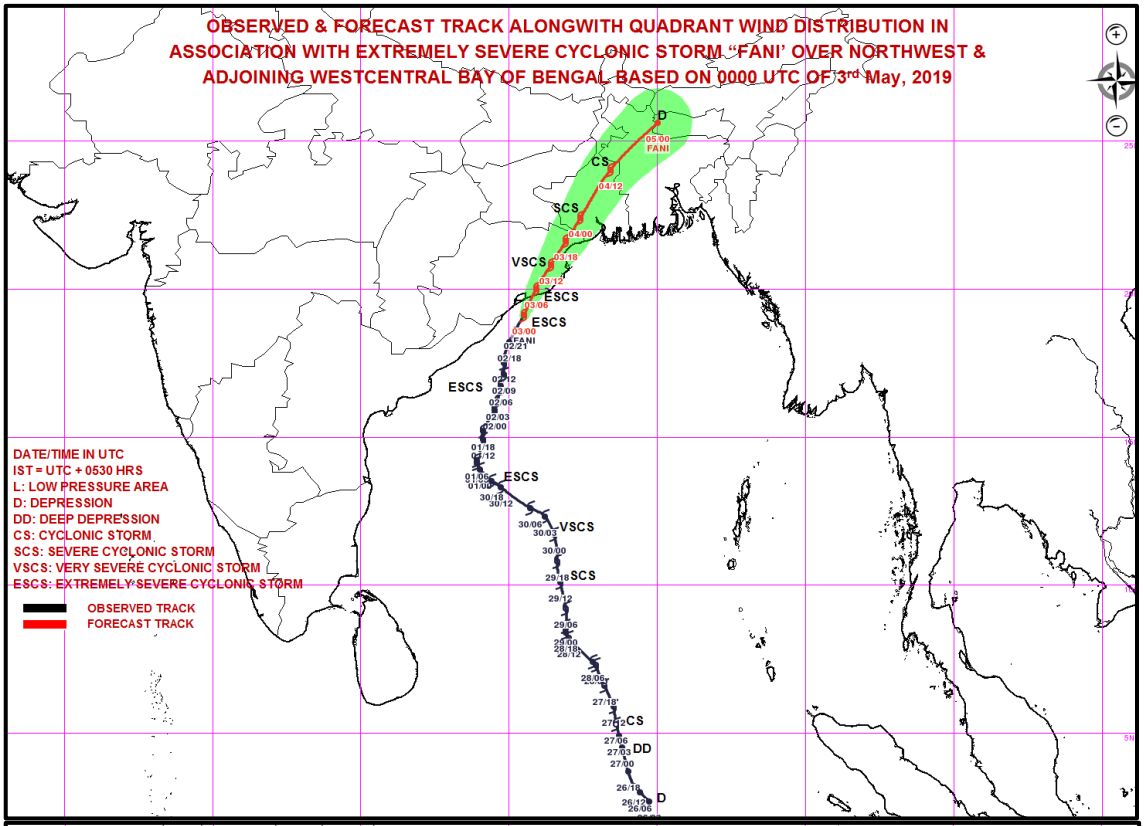
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

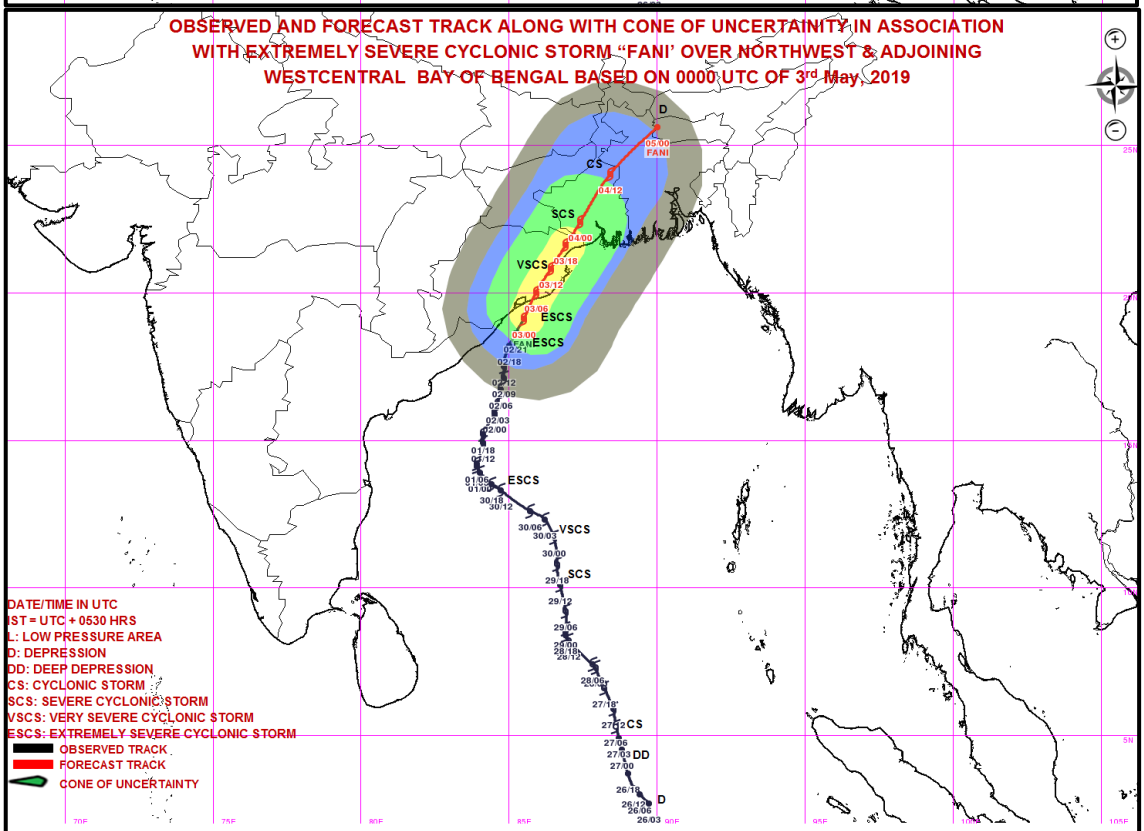




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW (knot)/kmph)	Impact	Action
28-33 /(51--62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 54 (BOB/02/2019)

TIME OF ISSUE: 0900 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Northwest Bay of Bengal is crossing Odisha coast close to Puri :
Cyclone Warning for Odisha & West Bengal Coasts: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Northwest **&** adjoining Westcentral Bay of Bengal moved north-northeastwards with a speed of about 20 kmph in last six hours and lay centred at 0830 hrs IST of 03rd May, 2019 over Northwest Bay of Bengal near latitude 19.6°N and longitude 85.7°E, about 25 km south-southwest of Puri (Odisha), about 90 km east-northeast of Gopalpur (Odisha), about 300 km east-northeast of Vishakhapatnam (Andhra Pradesh), and 330 km southwest of Digha (West Bengal).

It is very likely to move north-northeastwards close to Puri during next 02 hours with maximum sustained wind speed of 170-180 kmph gusting to 200 kmph.

The landfall process has started at 0800 hours IST and will continue for next 03 hours. Part of the eye lies over the land at 0830 hours IST. Entire process of eye entering into land will be completed during next 02 hours.

After the landfall, the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.

The cyclone is being tracked by Doppler Weather Radars Vishakhapatnam & Paradip.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat. ^{0}N/ long. ^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/0830	19.6/85.7	180-190 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1130	20.0/85.9	170-180 gusting to 200	Extremely Severe Cyclonic Storm
03.05.19/1730	20.8/86.4	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/2330	21.6/86.9	130-140 gusting to 150	Very Severe Cyclonic Storm
04.05.19/0530	22.4/87.4	100-110 gusting to 120	Severe Cyclonic Storm
04.05.19/1730	24.0/88.4	70-80 gusting to 90	Cyclonic Storm
05.05.19/0530	25.6/90.0	40-50 gusting to 60	Depression

Warnings:

(i) Heavy rainfall warning

- **North Andhra Pradesh**: Light to moderate rainfall at most places with heavy to very heavy rainfall at isolated places over Srikakulam district on 3rd May.
- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over coastal Odisha & adjoining districts of interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy to very heavy falls at isolated places over Balasore, Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 140-150 kmph gusting to 165 kmph is prevailing along & off Puri and Jagatsighpur districts of Odisha coast. It is very likely to increase gradually and become 170-180 kmph gusting to 200 kmph during next 06 hours and 150-160 kmph gusting to 180 kmph along & off remaining districts of coastal Odisha and north Andhra Pradesh (Srikakulam and Vijayanagaram districts) during next 6 hours and decrease thereafter.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 12 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over northwest and adjoining westcentral Bay of Bengal, off north Andhra Pradesh- south Odisha Coasts during next 6 hours and is likely to become high to very high subsequently for the next 24 hours. Very rough to high seas are likely to prevail over Northwest Bay of Bengal along and off Odisha & West Bengal coasts till 04 May.

- Sea conditions very likely to be very rough to high along & off south Andhra Pradesh Coasts during next 6 hours.

(iii) Storm surge Warning

- Storm surge of about 1.5 meter height above astronomical tide is very likely to inundate low lying areas of Ganjam, Khurda, Puri & Jagatsinghpur Districts of Odisha at the time of landfall.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas of westcentral Bay of Bengal, along & off Andhra Pradesh coasts during next 12 hours; over northwest & adjoining Westcentral Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(v) (a) Damage Expected and Action suggested for Ganjam, Gajapati, Khurda, Puri, Jagatsinghpur districts of Odisha.

(i) Extensive damage to all types of kutcha houses, some damage to old badly managed Pucca structures. Potential threat from flying objects. (ii) Extensive uprooting of communication and power poles. (iii) Disruption of rail/road link at several places. (iv) Extensive damage to standing crops, plantations, orchards. (v) Blowing down of Palm and coconut trees. (vi) Uprooting of large bushy trees. (vii) Large boats and ships may get torn from their moorings.

Action Suggested:

(i)Total suspension of fishing operations. (ii) Extensive evacuation from coastal areas. (iii) Diversion or suspension of rail and road traffic. (iv) People in affected areas to remain indoors. (v) Movement in motor boats and small ships not advisable.

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vi) Visibility severely affected. (vii) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

Action Suggested:

(i) Total suspension of fishing operations. Mobilise evacuation from coastal areas.
(ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe.

(vi) Post Landfall Outlook:

After the landfall the system is very likely to continue to move north-northeastwards, weaken gradually and emerge into Gangetic West Bengal as a Severe Cyclonic Storm and move to Bangladesh thereafter after weakening.

(a) Interior Districts of west Bengal are very likely to experience gale wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to decrease gradually becoming 60-70 Kmph gusting to 80 Kmph by the evening of 4th May.
(b) Interior districts adjoining to south coastal Odisha are very likely to experience cyclone wind speed of 120-130 Kmph gusting to 150 Kmph for 6 hours after landfall and 90-100 gusting to 120 kmph over districts adjoining north coastal Odisha from 3rd evening till early morning of 4th May and decrease thereafter.

Damage Expected and Action suggested for adjoining interior districts of Odisha and Gangetic West Bengal.

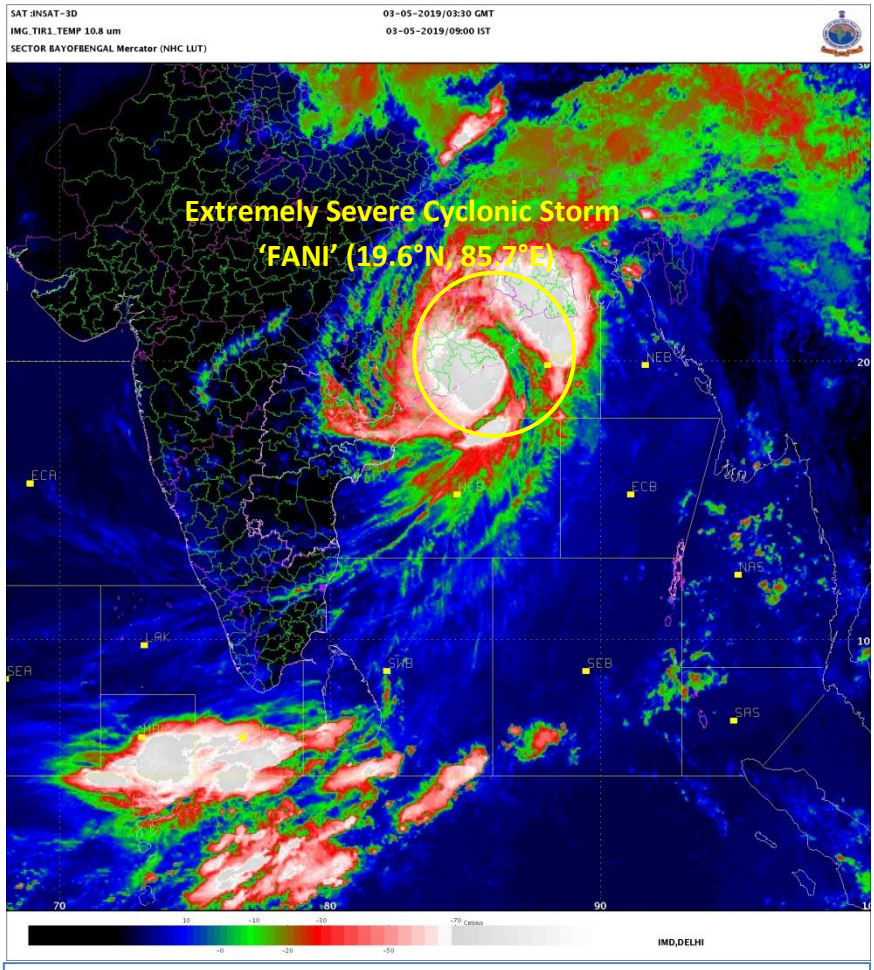
(i) Minor damage to power and communication lines. (ii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iii) Breaking of tree branches, uprooting of large avenue trees. (iv) Moderate damage to banana and papaya trees. (v) Large dead limbs blown from trees.

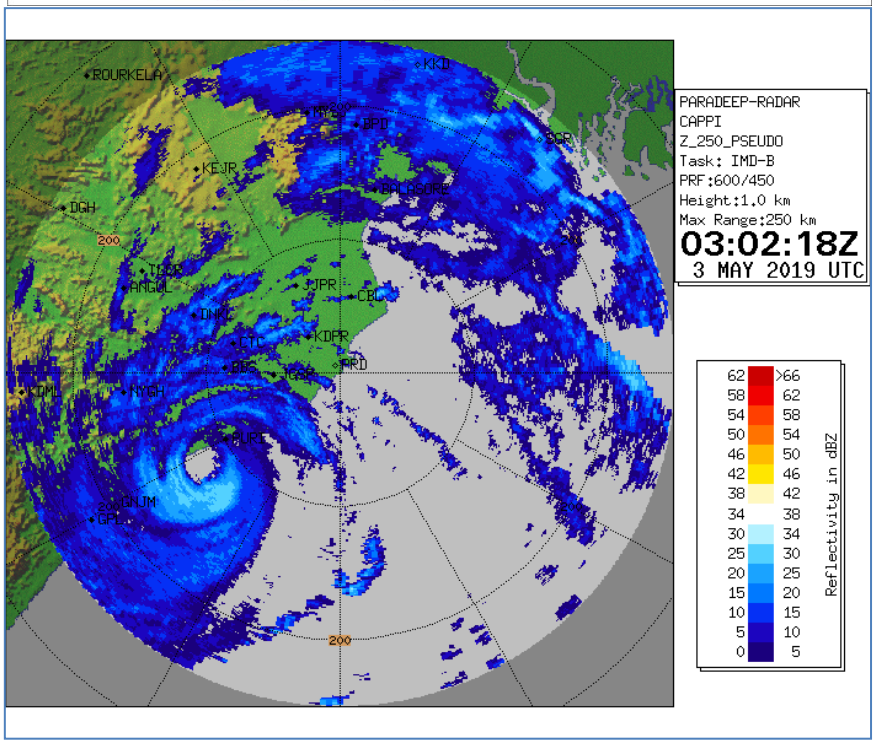
The next bulletin will be issued at 1430 hrs IST of 03rd May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

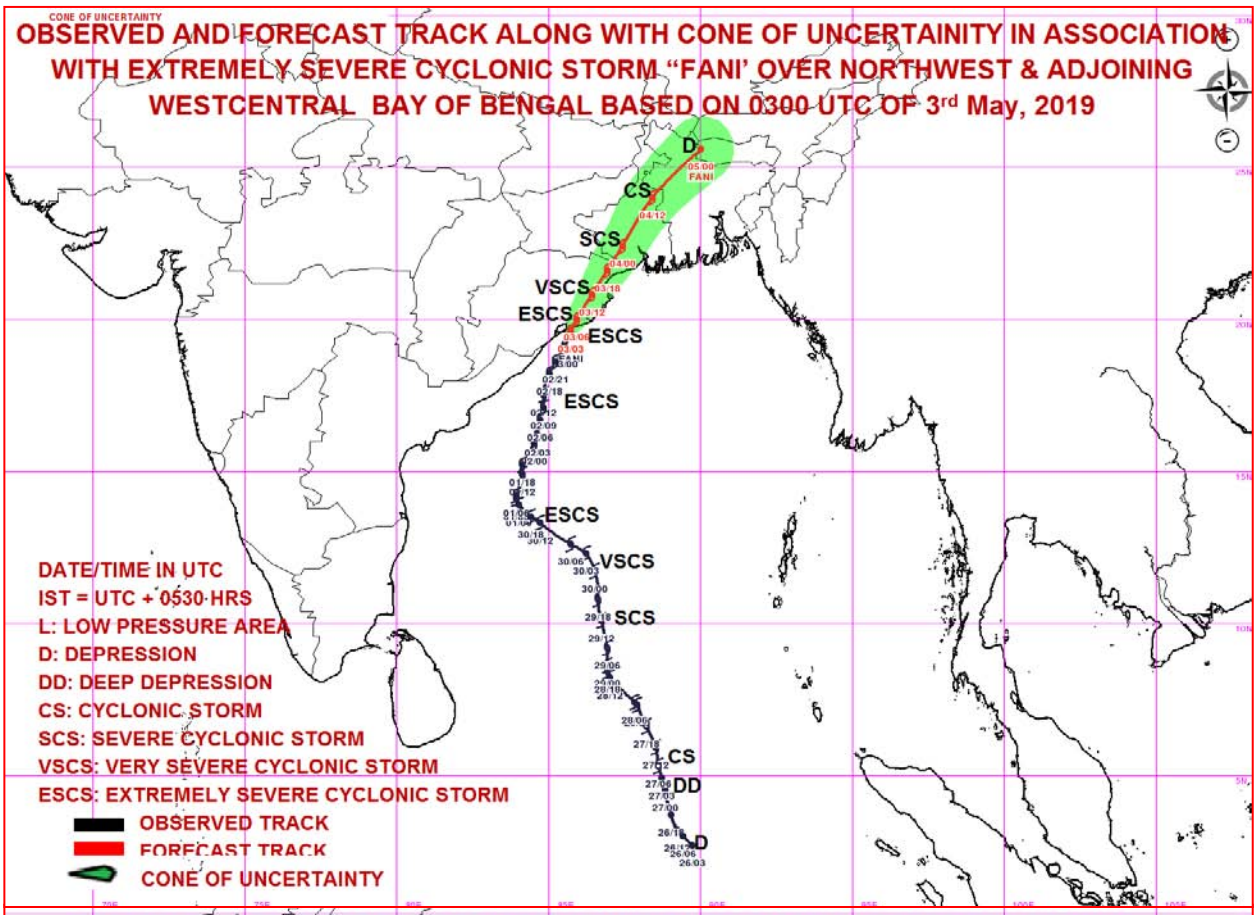
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

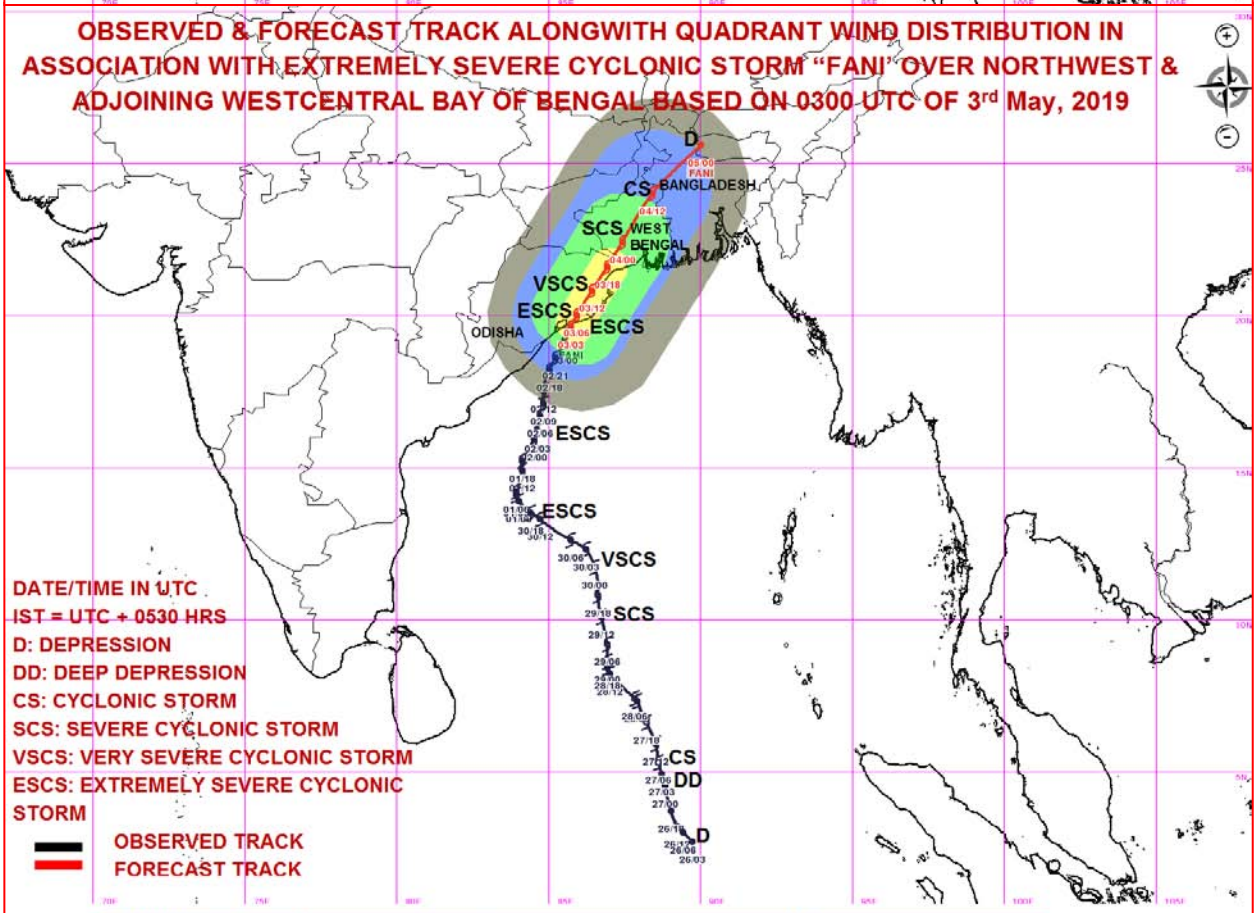




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 55 (BOB/02/2019)

TIME OF ISSUE: 1400 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Extremely Severe Cyclonic Storm "FANI" over Northwest Bay of Bengal crossed Odisha coast close to Puri between 0800 to 1000 hrs IST of today: Cyclone Warning for Odisha & West Bengal: Red Message

The **Extremely Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Northwest Bay of Bengal moved north-northeastwards with a speed of about 22 kmph in last six hours and crossed Odisha coast close to Puri with maximum sustained wind speed of 175-185 kmph gusting to 205 kmph between 0800 to 1000 hrs IST of today, the 03rd May, 2019. It weakened into a very severe cyclonic storm and lay centred at 1130 hrs IST of 03rd May, 2019 over Coastal Odisha near latitude 20.2°N and longitude 85.9°E, about 10 km east of Bhubaneswar (Odisha) and 30 km south of Cuttack (Odisha) .

It is very likely to continue to move north-northeastwards and weaken further into a severe cyclonic storm during next nine hours. It is very likely to **emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.**

The cyclone is being tracked by Doppler Weather Radars Gopalpur & Paradip. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/1130	20.2/85.9	150-160 gusting to 175	Very Severe Cyclonic Storm
03.05.19/1730	20.8/86.3	130-140 gusting to 155	Very Severe Cyclonic Storm
03.05.19/2330	21.6/86.8	110-120 gusting to 135	Severe Cyclonic Storm
04.05.19/0530	22.4/87.4	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.2/88.1	70-80 gusting to 90	Cyclonic Storm
04.05.19/2330	24.8/89.5	40-50 gusting 60	Depression
05.05.19/1130	26.4/91.0	20-30 gusting to 40	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 150-160 kmph gusting to 175 kmph is likely to prevail over Khurda (including Bhubaneswar), Cuttack, Puri and Jagatsighpur districts of Odisha during next 03 hours, 90-100 kmph gusting to 115 kmph over remaining districts of north coastal Odisha (Keonjhargarh, Jajpur and Mayurbhanj) during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 06 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May afternoon and become 90-100 kmph gusting to 115 kmph from 4th May early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over northwest Bay of Bengal off Odisha Coast during next 6 hours and is likely to become high to very high subsequently for the next 18 hours and rough to very rough during subsequent 06 hours.

(iii) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha during next 12 hours; north & south 24 Paraganas districts of west Bengal during mid-night of 3rd to forenoon of 4th May.

(iv) Fishermen Warning

- The fishermen are advised not to venture into deep sea areas over northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(v) (a) Damage Expected and Action suggested for Khurda (including Bhubaneswar), Cuttack, Puri and Jagatsighpur districts of Odisha during next 03 hours:

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green

coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vii) Visibility severely affected.

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe. (v) **Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.**

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Keonjhargarh, Mayurbhanj and Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal and Srikakulam, Visakhapatnam and Vijayanagaram districts of Andhra Pradesh

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

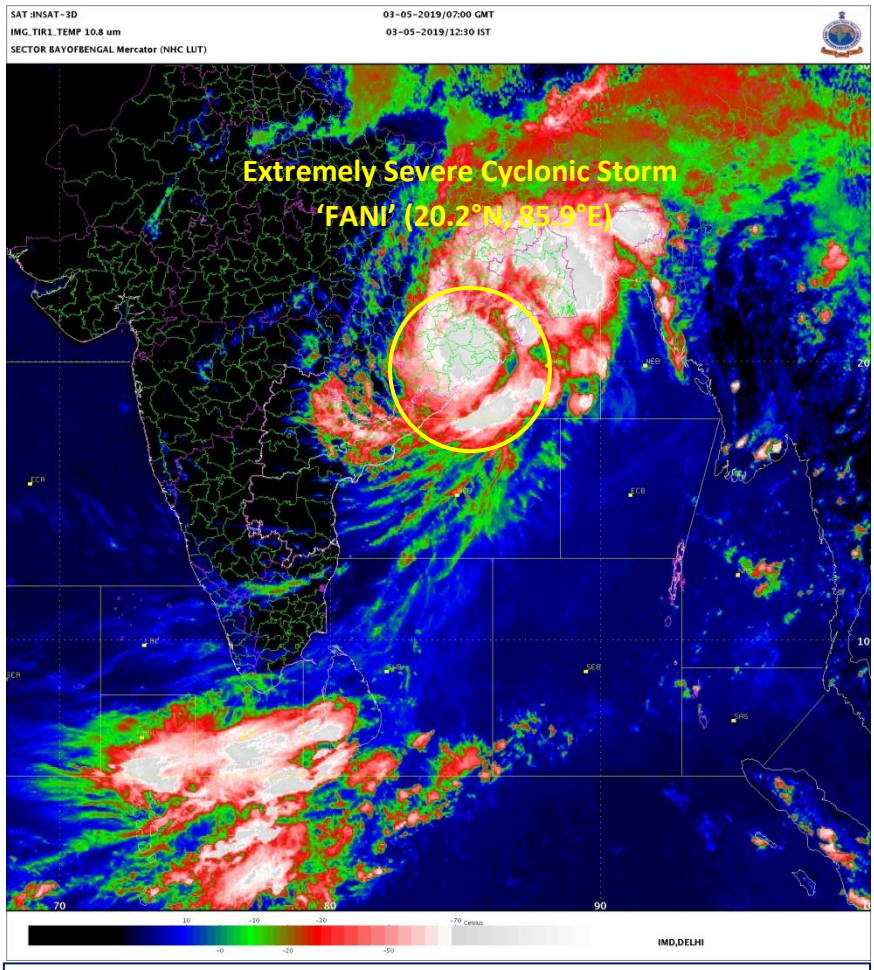
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

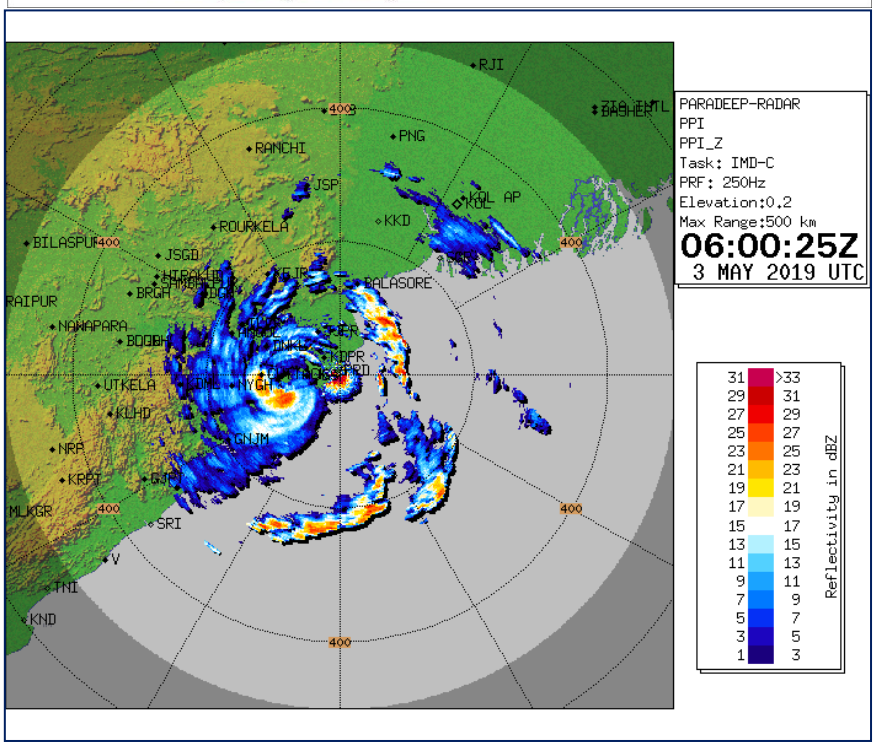
The next bulletin will be issued at 1730 hrs IST of 03rd May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

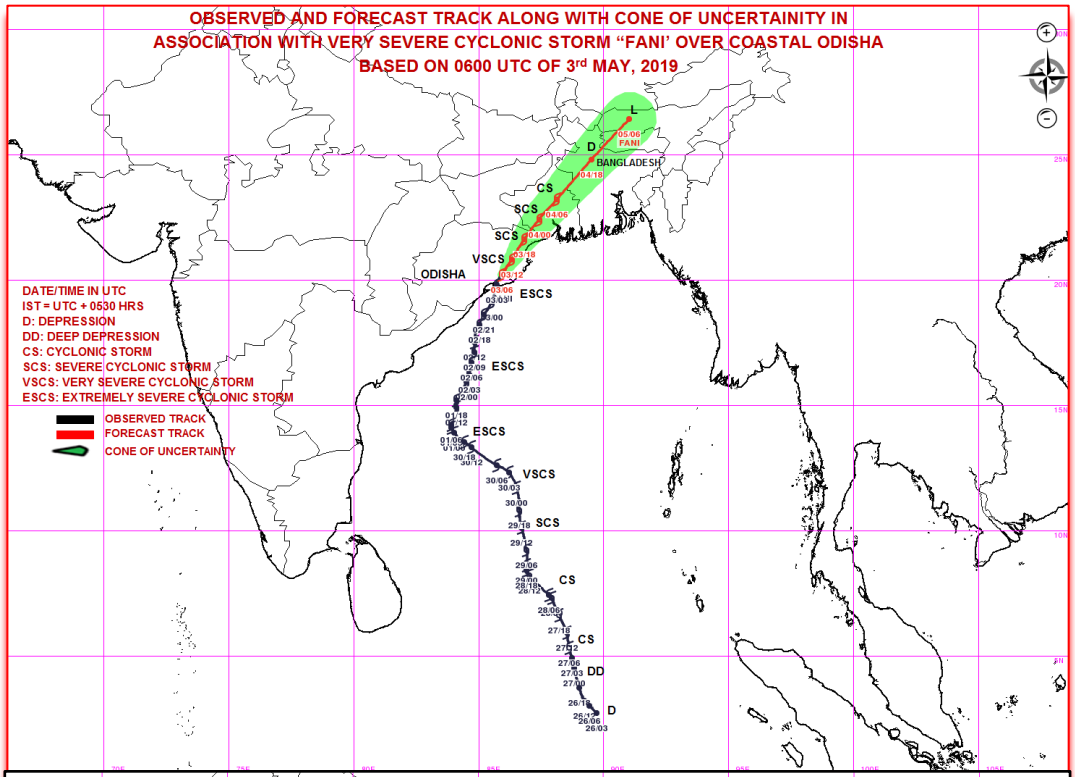
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

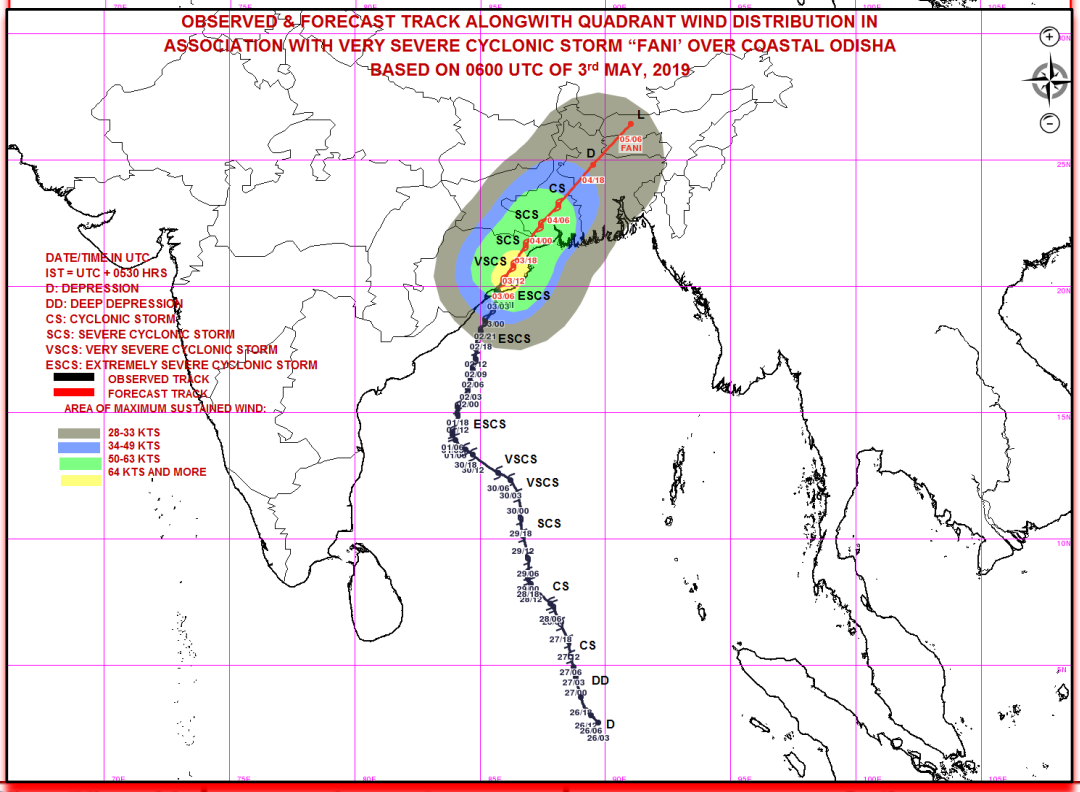




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 56 (BOB/02/2019)

TIME OF ISSUE: 1440 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Very Severe Cyclonic Storm "FANI" over Odisha coast: Cyclone Warning for Odisha & West Bengal: Red Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Coastal Odisha moved further north-northeastwards with a speed of about 17 kmph in last six hours and lay centred at 1430 hrs IST of 03rd May, 2019 over Coastal Odisha near latitude 20.5°N and longitude 86.0°E, close to Cuttack (Odisha), about 25 km northeast of Bhubaneswar (Odisha) and 170 km south-southwest of Baripada (Odisha).

It is very likely to continue to move north-northeastwards and weaken further into a severe cyclonic storm during next six hours. It is very likely to **emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.**

The cyclone is being tracked by Doppler Weather Radar Paradip. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/1430	20.5/86.0	140-150 gusting to 165	Very Severe Cyclonic Storm
03.05.19/1730	20.8/86.3	130-140 gusting to 155	Very Severe Cyclonic Storm
03.05.19/2330	21.6/86.8	110-120 gusting to 135	Severe Cyclonic Storm
04.05.19/0530	22.4/87.4	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.2/88.1	70-80 gusting to 90	Cyclonic Storm
04.05.19/2330	24.8/89.5	40-50 gusting 60	Depression
05.05.19/1130	26.4/91.0	20-30 gusting to 40	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 140-150 kmph gusting to 165 kmph is likely to prevail over Khurda (including Bhubaneswar), Cuttack, Puri and Jagatsighpur districts of Odisha during next 03 hours, 90-100 kmph gusting to 115 kmph over remaining districts of north coastal Odisha and adjoining districts of Keonjhargarh, Jajpur and Mayurbhanj during next 12 hours.
- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along & off West Bengal coast during next 03 hours. It is very likely become gale wind speed reaching 60-70 kmph gusting to 85 kmph from 3rd May evening and become 90-100 kmph gusting to 115 kmph from 4th May over west and east Medinipur districts and 70-80 kmph over Kolkata, Howrah, Hoogli, north and south 24 Parganas during early morning for subsequent 12 hours and decrease thereafter.

(ii)Sea condition

- The sea condition is phenomenal over northwest Bay of Bengal off Odisha Coast during next 6 hours and is likely to become high to very high subsequently for the next 18 hours and rough to very rough during subsequent 06 hours.

(iii) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha and east Medinipur district of West Bengal during next 12 hours.

(iv) Fishermen Warning

- The fishermen are advised not to venture into northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(v) (a) Damage Expected and Action suggested for Khurda (including Bhubaneswar), Cuttack, Puri and Jagatsighpur districts of Odisha during next 03 hours:

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding

of escape routes. Minor disruption of railways, overhead powerlines and signalling systems. (iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vii) Visibility severely affected.

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe. (v) **Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.**

(b) Damage Expected and action suggested for Kendrapara, Bhadrak, Jajpur, Keonjhargarh, Mayurbhanj and Balasore districts of Odisha and east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

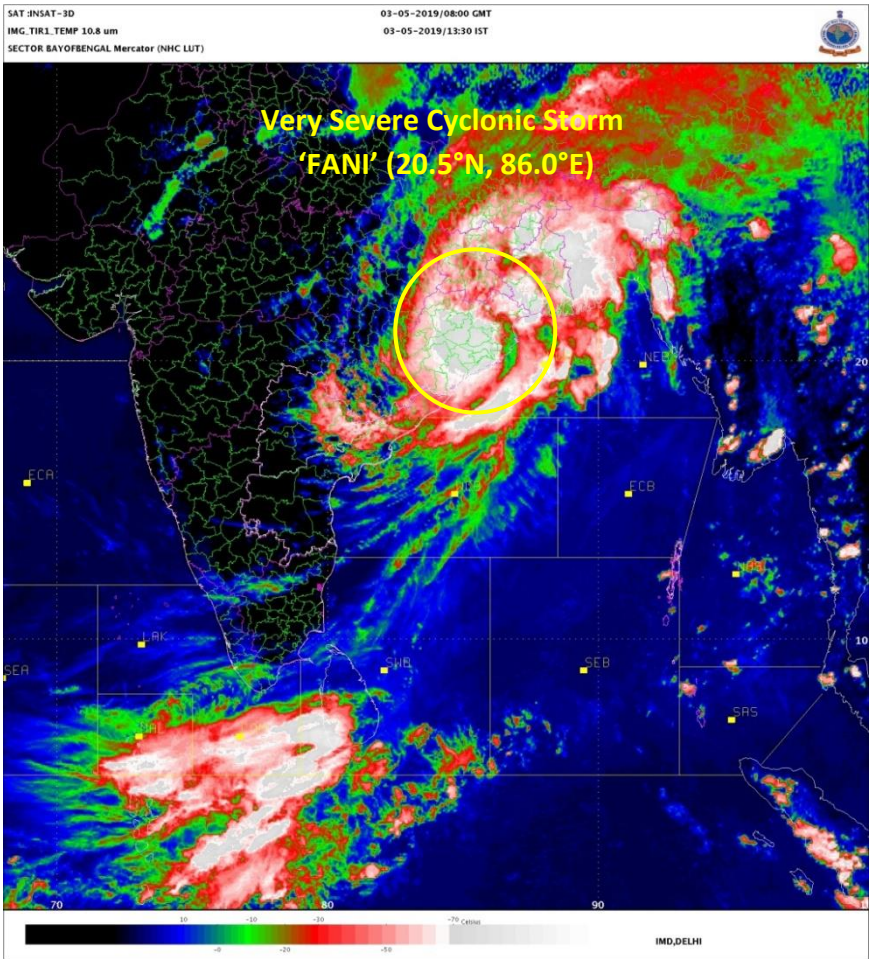
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

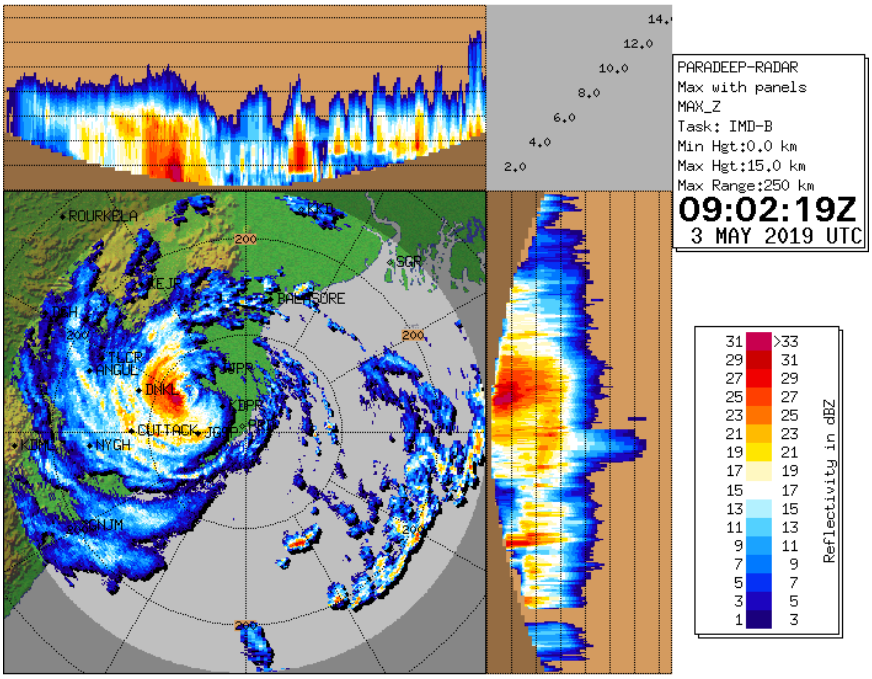
The next bulletin will be issued at 2030 hrs IST of 03rd May, 2019.

(Sunitha Devi)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

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.





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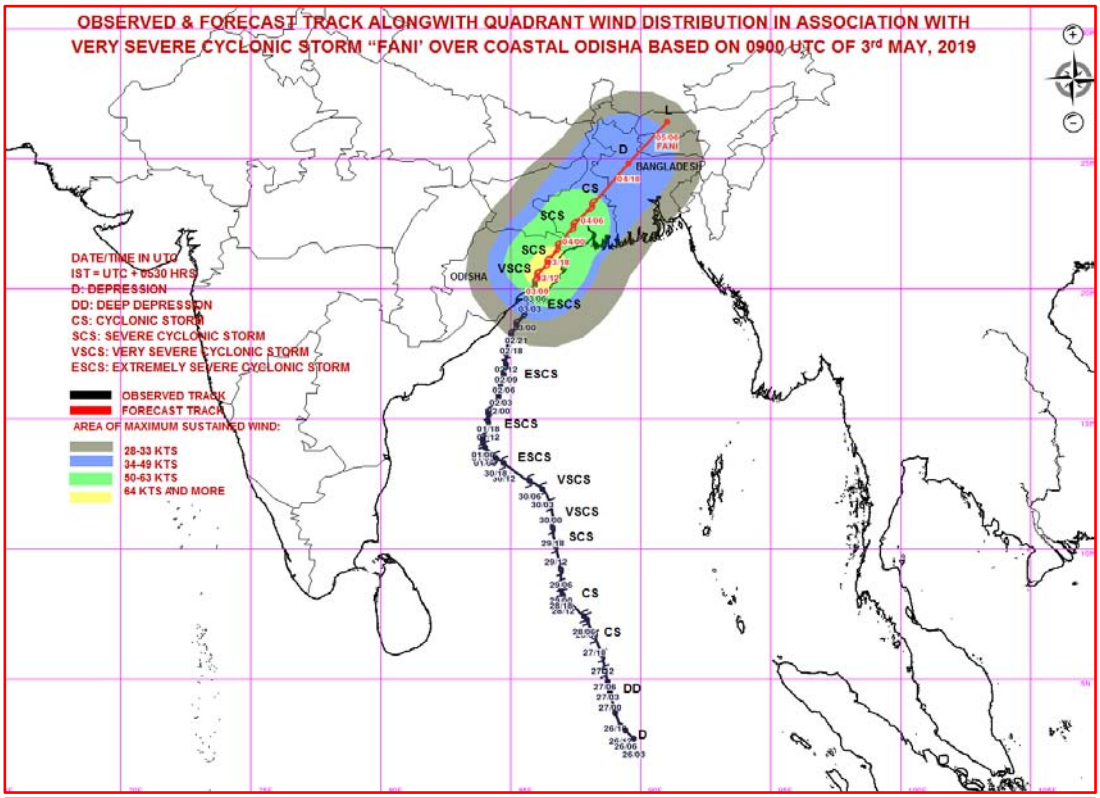
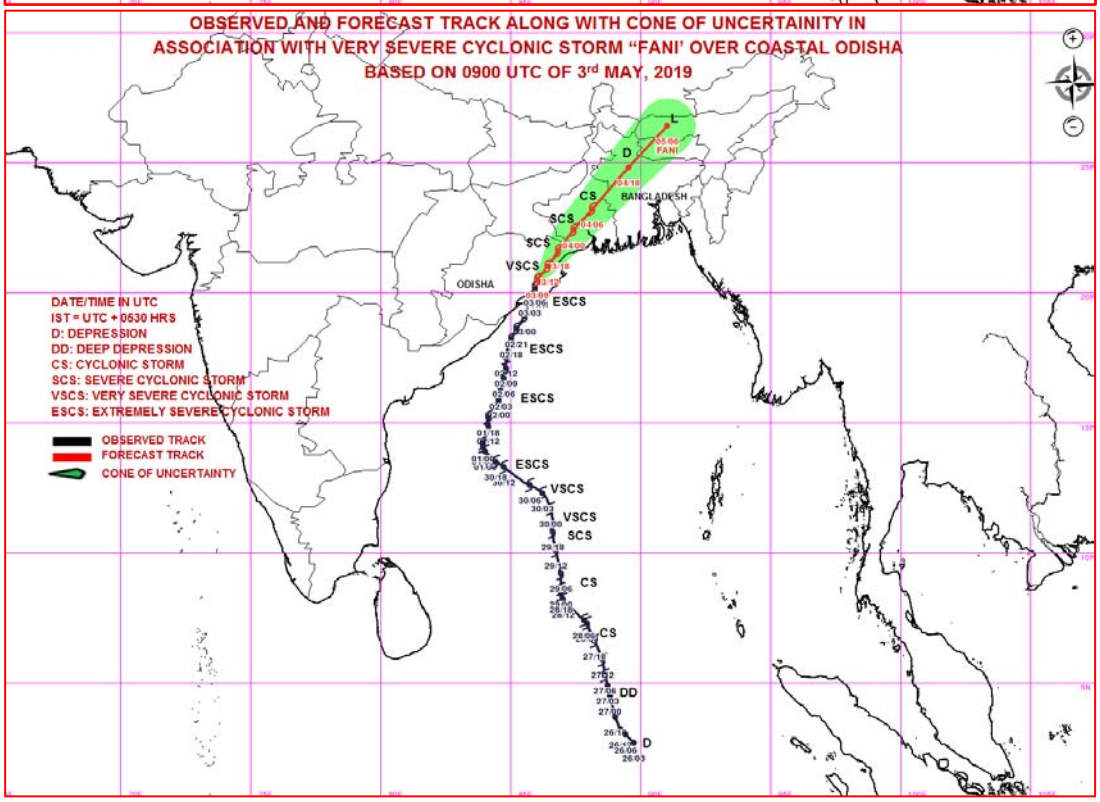




MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	High to very high seas	Total suspension of fishing operations
50-63/(92-117)	Very High seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 57 (BOB/02/2019)

TIME OF ISSUE: 2000 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Very Severe Cyclonic Storm "FANI" over Odisha coast:
Cyclone Warning for Odisha & West Bengal: Red Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Coastal Odisha moved further north-northeastwards with a speed of about 20 kmph in last six hours and lay centred at 1730 hrs IST of 03rd May, 2019 over Coastal Odisha near latitude 21.1°N and longitude 86.5°E, about 60 km southwest of Balasore (Odisha) and 160 km southwest of Midnapore (West Bengal).

It is very likely to continue to move north-northeastwards and weaken further into a severe cyclonic storm during next six hours. It is very likely to **emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 60-70 Kmph gusting to 80 Kmph.**

The cyclone is being tracked by Doppler Weather Radar Paradip. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/1730	21.1/86.5	125-135 gusting to 150	Very Severe Cyclonic Storm
03.05.19/2330	21.9/87.0	110-120 gusting to 135	Severe Cyclonic Storm
04.05.19/0530	22.7/87.6	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.5/88.3	70-80 gusting to 90	Cyclonic Storm
04.05.19/1730	25.0/89.7	50-60 gusting 70	Deep Depression
05.05.19/0530	26.4/91.4	35-45 gusting to 55	Depression

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall over south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 120-130 kmph gusting to 145 kmph is likely to prevail over Bhadrak, Balasore, Jajpur, Kendrapara and Mayurbhanj districts of Odisha during next 03 hours, 80-90 kmph gusting to 100 kmph over remaining districts of north coastal Odisha during next 03 hours.
- Gale wind speed reaching 60-70 kmph gusting to 85 kmph is very likely over west & east Medinipur district during next 03 hours and become 90-100 kmph gusting to 115 kmph from midnight during subsequent six hours. It is likely to be 70-80 kmph gusting to 90 kmph over Kolkata, Howrah, Hoogli, north & south 24 Parganas during early morning to noon and decrease thereafter. Gale wind speed reaching 60-70 kmph gusting to 85 kmph is also likely along & off West Bengal coast during the same period.

(ii)Sea condition

- The sea condition is phenomenal over northwest Bay of Bengal along and off north Odisha & West Bengal Coasts during next 03 hours and is likely to become very rough to high along and off West Bengal and adjoining Bangladesh Coasts during subsequent 18 hours.

(iii) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha and east Medinipur district of West Bengal during next 06 hours.

(iv) Fishermen Warning

- The fishermen are advised not to venture into northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(v) (a) Damage Expected and Action suggested for Bhadrak, Balasore, Jajpur and Mayurbhanj districts of Odisha during next 03 hours:

(i) Total destruction of thatched houses/ extensive damage to kutcha houses. Some damage to pucca houses. Potential threat from flying objects. (ii) Bending/ uprooting of power and communication poles. (iii) Major damage to Kutcha and Pucca roads. Flooding of escape routes. Minor disruption of railways, overhead powerlines and signalling systems.

(iv) Widespread damage to standing crops, plantations, orchards, falling of green coconuts and tearing of palm fronds. Blowing down of bushy trees like mango. (v) Small boats, country crafts may get detached from moorings. (vii) Visibility severely affected.

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Judicious regulation of rail and road traffic. (iii) People in affected areas to remain indoors. (iv) Movement in motor boats and small ships unsafe. (v) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

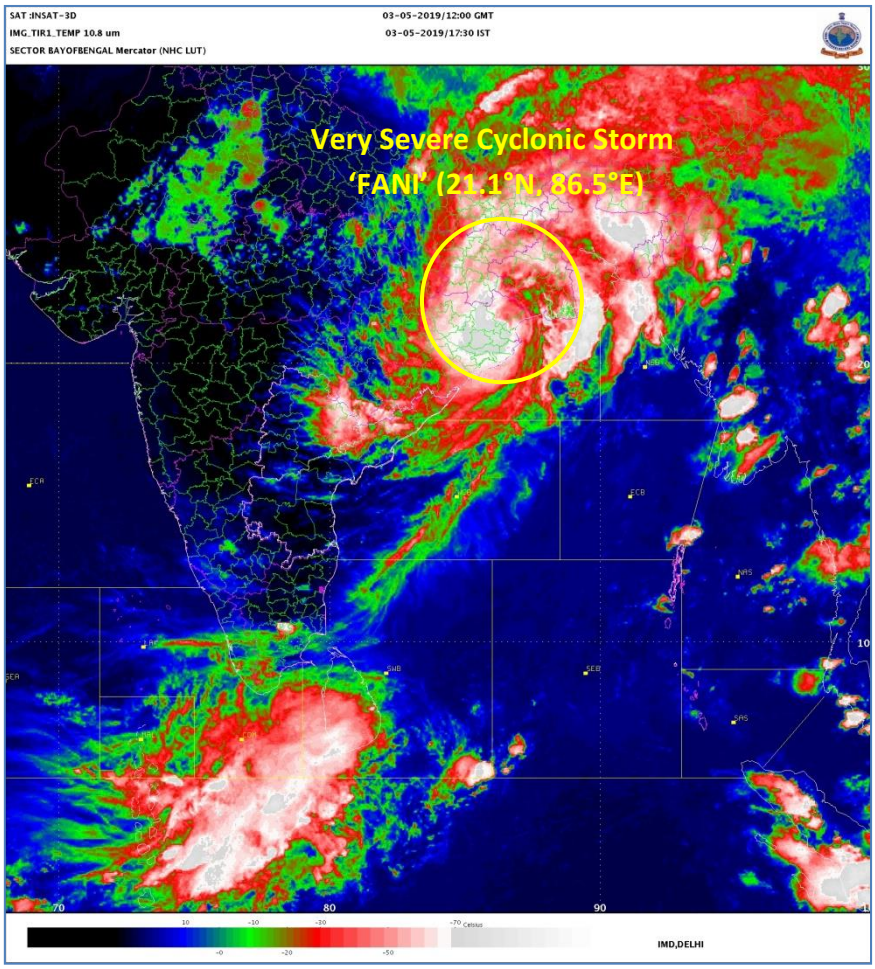
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

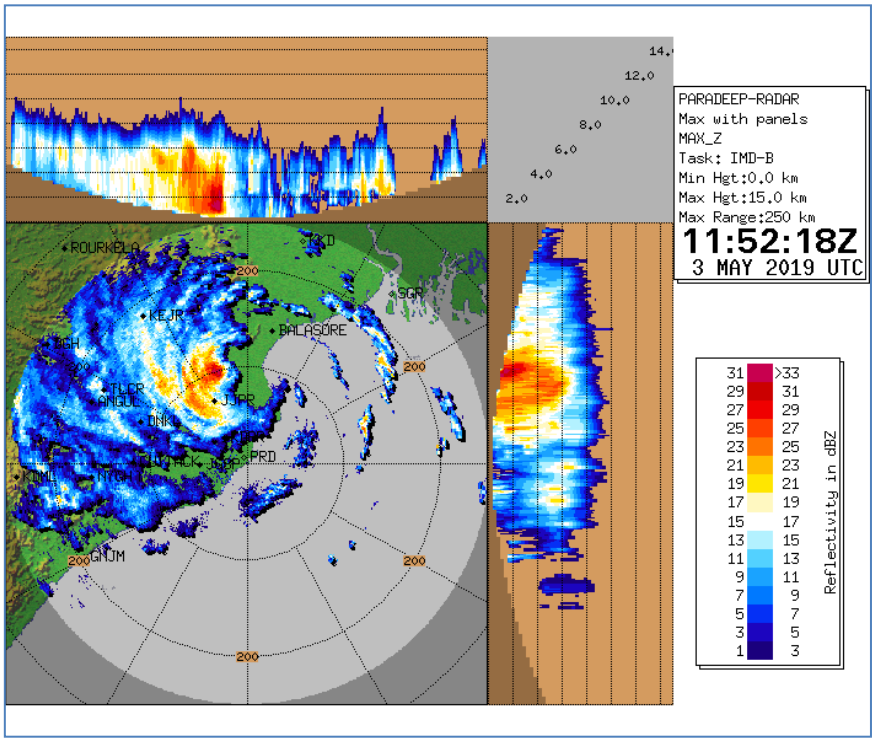
The next bulletin will be issued at 2330 hrs IST of 03rd May, 2019.

(Sunitha Devi)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

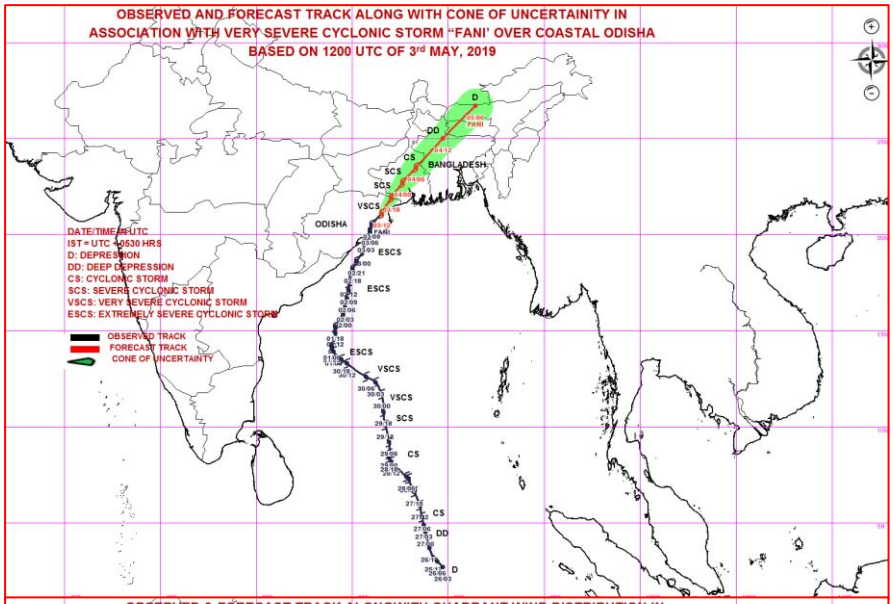
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

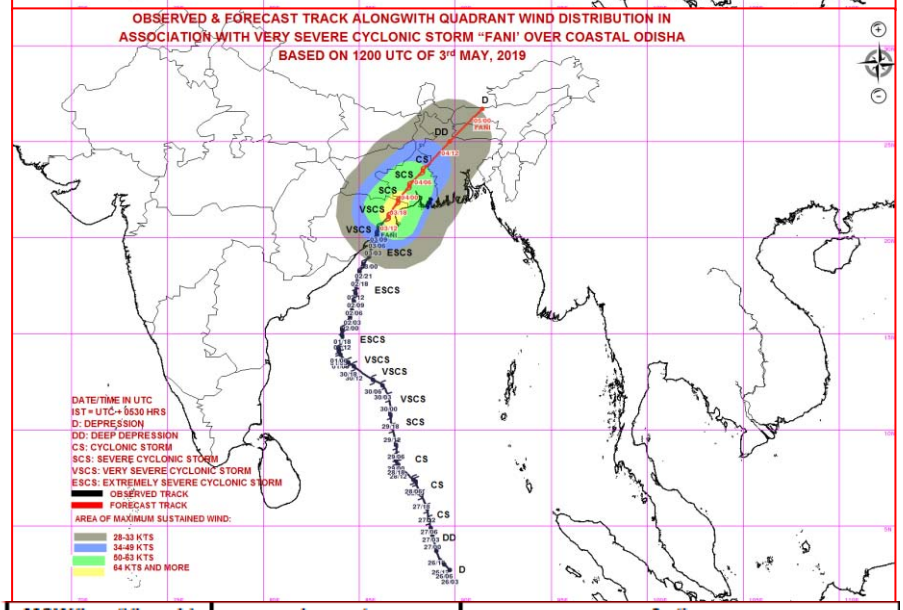




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 58 (BOB/02/2019)

TIME OF ISSUE: 2200 HOURS IST **DATED: 03.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Severe Cyclonic Storm "FANI" over Odisha coast:
Cyclone Warning for Odisha & West Bengal: Red Message

The **Very Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Coastal Odisha moved further north-northeastwards with a speed of about 22 kmph in last six hours, weakened into a **Severe Cyclonic Storm** and lay centred at 2030 hrs IST of 03rd May, 2019 over Coastal Odisha near latitude 21.5°N and longitude 86.7°E, about 20 km west of Balasore (Odisha), 120 km west-southwest of Midnapore (West Bengal) and 200 km west-southwest of Kolkata (West Bengal).

It is very likely to continue to move north-northeastwards and weaken further into a cyclonic storm during next 12 hours. It is very likely to **emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 70-80 Kmph gusting to 90 Kmph.**

The cyclone is being tracked by Doppler Weather Radar Paradip. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/2030	21.5/86.7	110-120 gusting to 135	Severe Cyclonic Storm
03.05.19/2330	21.9/87.0	110-120 gusting to 135	Severe Cyclonic Storm
04.05.19/0530	22.7/87.6	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.5/88.3	70-80 gusting to 90	Cyclonic Storm
04.05.19/1730	25.0/89.7	50-60 gusting 70	Deep Depression
05.05.19/0530	26.4/91.4	35-45 gusting to 55	Depression

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.

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall over south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 110-120 kmph gusting to 135 kmph is likely to prevail over Bhadrak, Balasore, Jajpur, Kendrapara and Mayurbhanj districts of Odisha during next 03 hours, 80-90 kmph gusting to 100 kmph over remaining districts of north coastal Odisha during next 03 hours.
- Gale wind speed reaching 60-70 kmph gusting to 85 kmph is very likely over west & east Medinipur district during next 03 hours and become 90-100 kmph gusting to 115 kmph from midnight during subsequent six hours. It is likely to be 70-80 kmph gusting to 90 kmph over Kolkata, Howrah, Hoogli, north & south 24 Parganas during early morning to noon and decrease thereafter. Gale wind speed reaching 60-70 kmph gusting to 85 kmph is also likely along & off West Bengal coast during the same period.

(iii) Sea condition

- The sea condition is likely to become very rough to high along and off West Bengal and adjoining Bangladesh Coasts during next 18 hours.

(iv) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha and east Medinipur district of West Bengal during next 06 hours.

(v) Fishermen Warning

- The fishermen are advised not to venture into northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(vi) (a) Damage Expected and Action suggested for Bhadrak, Balasore, Jajpur and Mayurbhanj districts of Odisha during next 03 hours:

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. (v) Moderate damage to banana and papaya

trees. Large dead limbs blown from trees. (vi)Major damage to coastal crops. (vii) Damage to embankments/ salt pans..

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe. (iv) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

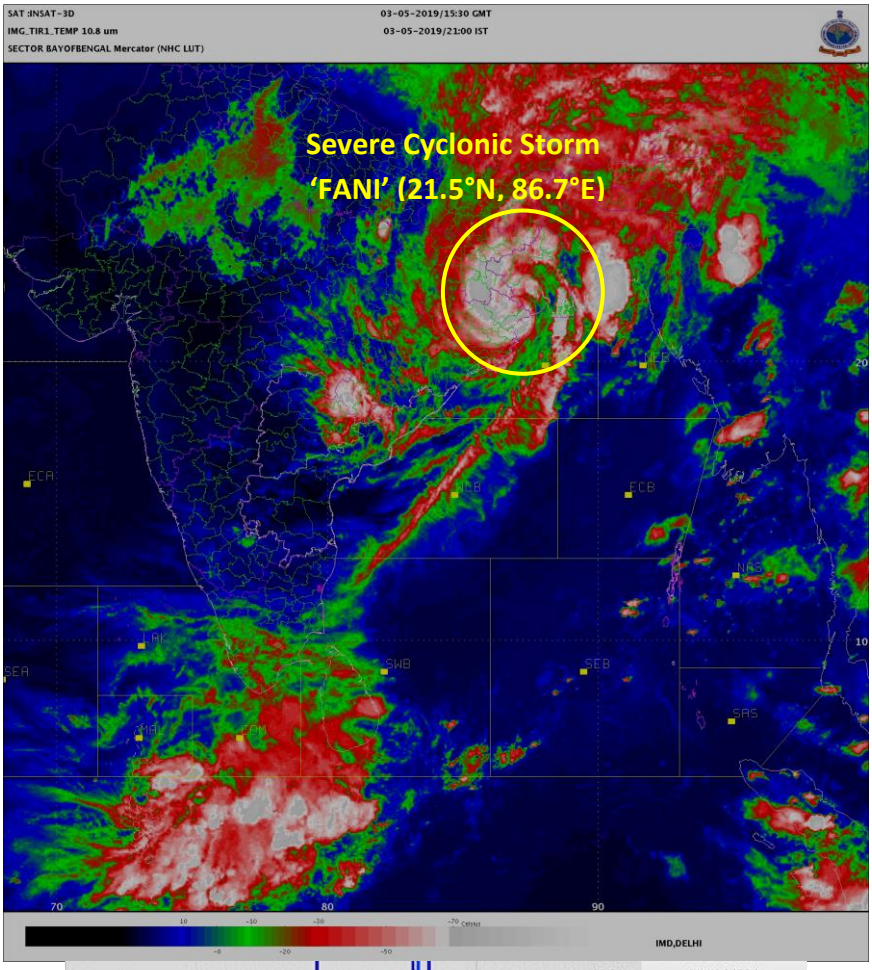
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

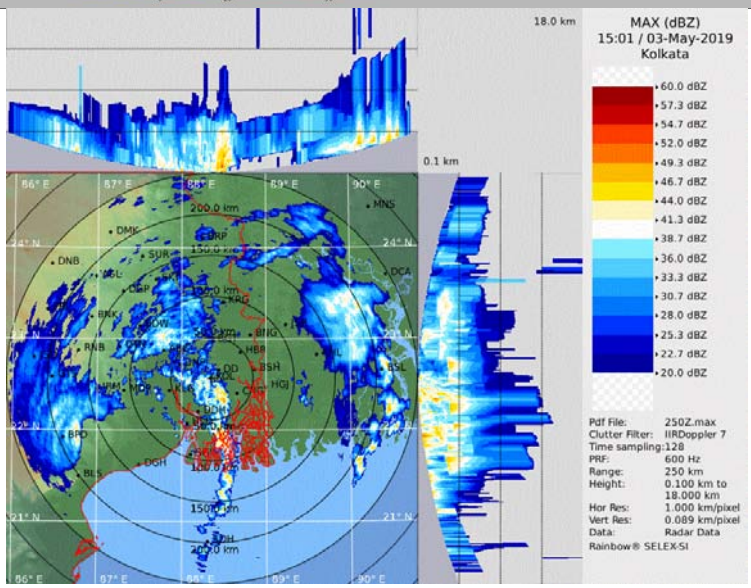
The next bulletin will be issued at 0230 hrs IST of 04th May, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

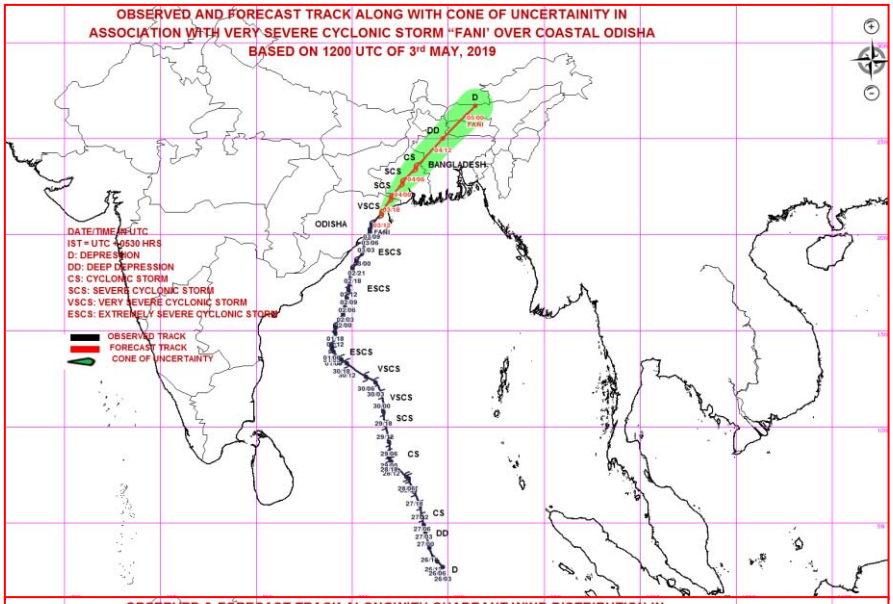
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

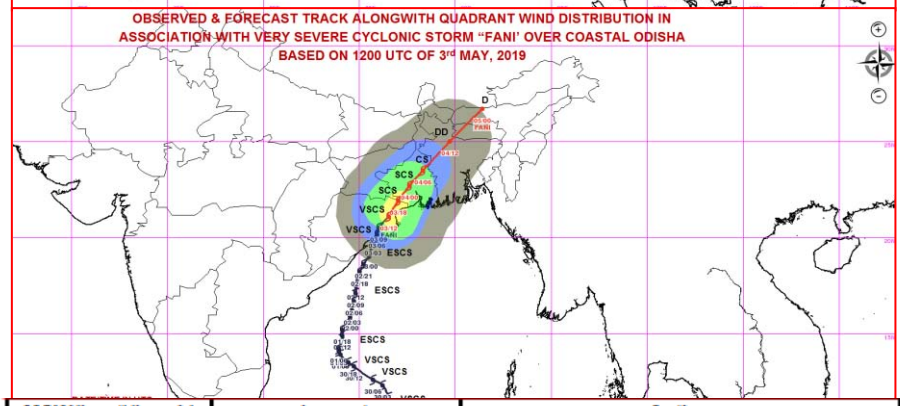




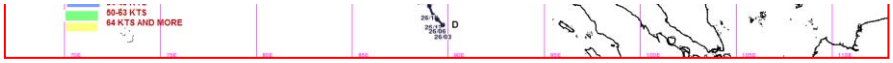
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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



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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 59 (BOB/02/2019)

TIME OF ISSUE: 0100 HOURS IST **DATED: 04.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Severe Cyclonic Storm "FANI" over Odisha coast:
Cyclone Warning for Odisha & West Bengal: Red Message

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Coastal Odisha moved further north-northeastwards with a speed of about 18 kmph in last six hours and lay centred at 2330 hrs IST of 03rd May, 2019 over Coastal Odisha near latitude 21.9°N and longitude 87.1°E, about 45 km north-northeast of Balasore (Odisha), 60 km southwest of Midnapore (West Bengal) and 140 km west-southwest of Kolkata (West Bengal).

It is very likely to continue to move north-northeastwards and weaken further into a cyclonic storm during next 12 hours. It is very likely to **emerge into Gangetic West Bengal as a Severe Cyclonic Storm with wind speed of 90-100 Kmph gusting to 115 Kmph by early morning of 4th May. It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 70-80 Kmph gusting to 90 Kmph.**

The cyclone is being tracked by Doppler Weather Radar Paradip. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
03.05.19/2330	21.9/87.1	100-110 gusting to 125	Severe Cyclonic Storm
04.05.19/0530	22.7/87.6	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.5/88.3	70-80 gusting to 90	Cyclonic Storm
04.05.19/1730	25.0/89.7	50-60 gusting 70	Deep Depression
04.05.19/2330	25.7/90.6	50-60 gusting 70	Deep Depression
05.05.19/1130	26.9/92.4	35-45 gusting to 55	Depression

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall over south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail over Bhadrak, Balasore, Jajpur, Kendrapara, Mayurbhanj and remaining districts of north coastal Odisha during next 06 hours.
- Gale wind speed reaching 90-100 kmph gusting to 115 kmph is very likely over west & east Medinipur district during next six hours. It is likely to be 70-80 kmph gusting to 90 kmph over Kolkata, Howrah, Hoogli, north & south 24 Parganas during early morning to noon and decrease thereafter. Gale wind speed reaching 60-70 kmph gusting to 85 kmph is also likely along & off West Bengal coast during the same period.

(iii) Sea condition

- The sea condition is likely to become very rough to high along and off West Bengal and adjoining Bangladesh Coasts during next 18 hours.

(iv) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha and east Medinipur district of West Bengal during next 06 hours.

(v) Fishermen Warning

- The fishermen are advised not to venture into northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(vi) (a) Damage Expected and Action suggested for Bhadrak, Balasore, Jajpur and Mayurbhanj districts of Odisha during next 03 hours:

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. (v) Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (vi)Major damage to coastal crops. (vii) Damage to embankments/ salt pans..

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.

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe. (iv) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

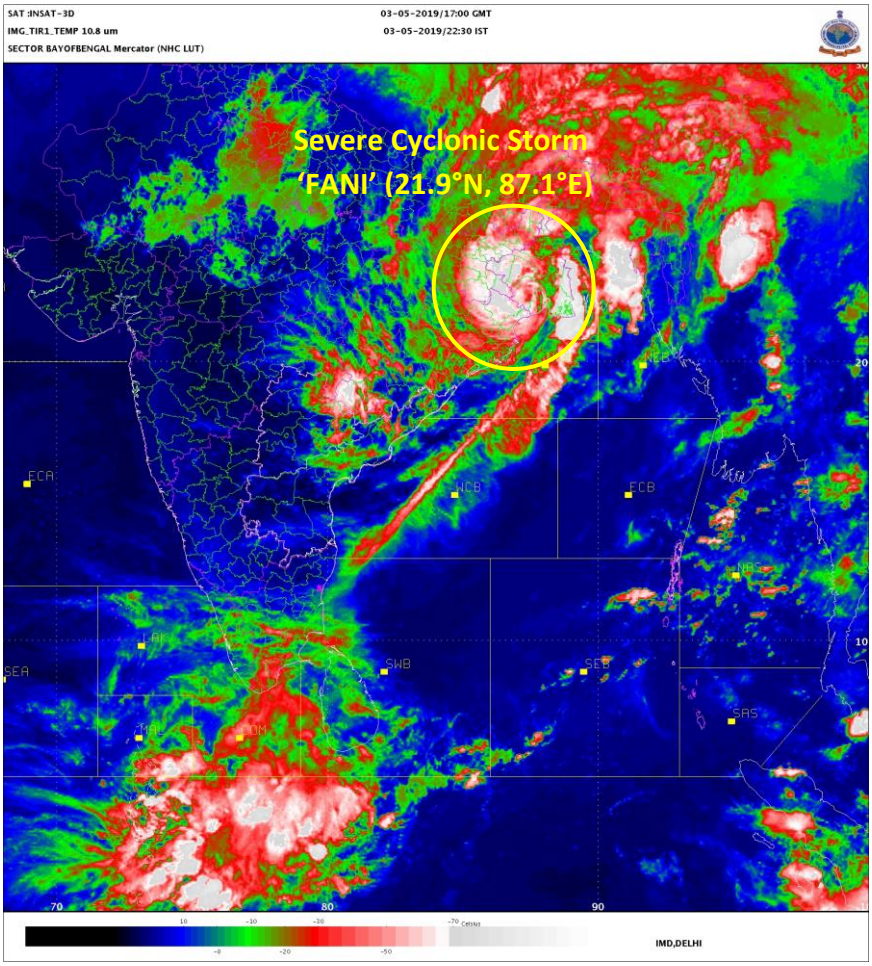
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

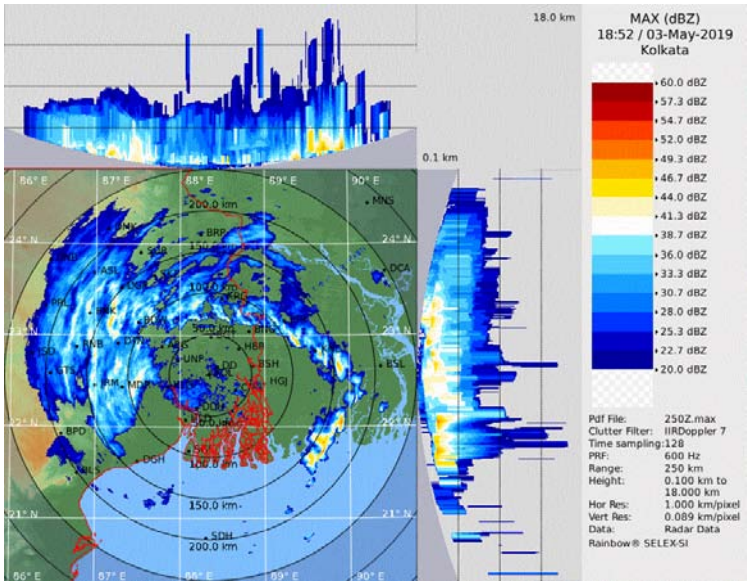
The next bulletin will be issued at 0530 hrs IST of 04th May, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

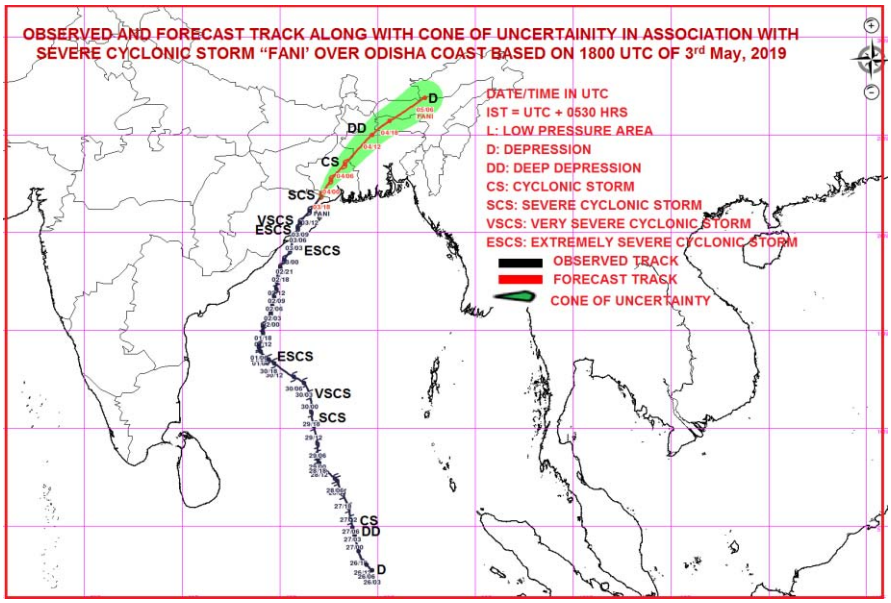
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

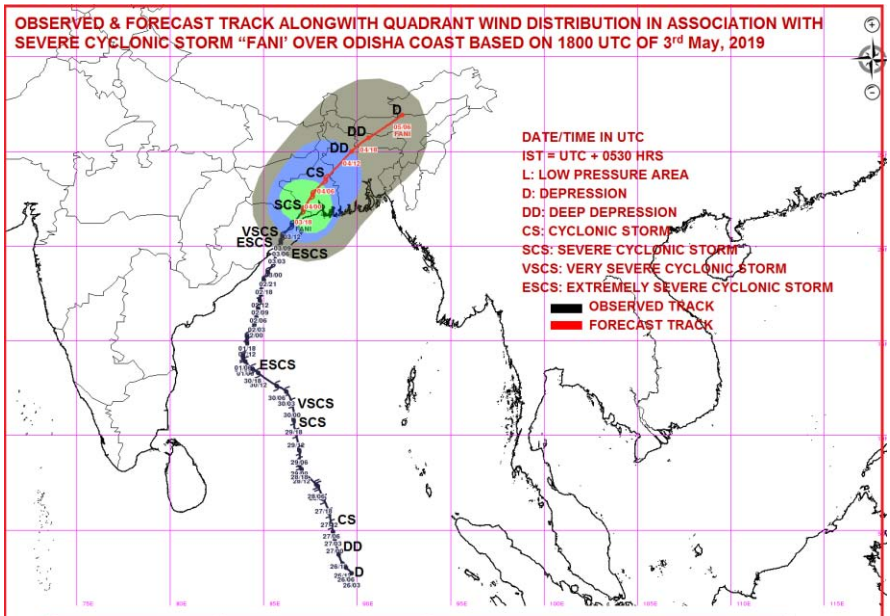




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51--62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 60 (BOB/02/2019)

TIME OF ISSUE: 0530 HOURS IST **DATED: 04.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Severe Cyclonic Storm "FANI" over West Bengal: Cyclone Warning for Odisha & West Bengal: Red Message

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Coastal Odisha moved further north-northeastwards with a speed of about 27 kmph in last six hours and lay centred at 0230 hrs IST of 04th May, 2019 over Gangetic West Bengal near latitude 22.5°N and longitude 87.9°E, about 130 km north-northeast of Balasore (Odisha), 60 km north-northeast of Midnapore (West Bengal) and 50 km west of Kolkata (West Bengal).

It is very likely to continue to move north-northeastwards and weaken further into a cyclonic storm during next 06 hours. **It is very likely to move further north-northeastwards and emerge into Bangladesh on 4th May evening as a Cyclonic Storm with wind speed 70-80 Kmph gusting to 90 Kmph.**

The cyclone is being tracked by Doppler Weather Radar Kolkata. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
04.05.19/0230	22.5/87.9	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/0530	22.7/88.1	90-100 gusting to 110	Severe Cyclonic Storm
04.05.19/1130	23.5/88.3	70-80 gusting to 90	Cyclonic Storm
04.05.19/1730	25.0/89.7	50-60 gusting 70	Deep Depression
04.05.19/2330	25.7/90.6	50-60 gusting 70	Deep Depression
05.05.19/1130	26.9/92.4	35-45 gusting to 55	Depression

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.

Warnings:

(i) Heavy rainfall warning

- **Odisha:** Moderate rainfall at most places and heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places over north Odisha and isolated heavy rainfall over south coastal Odisha & adjoining districts of south interior Odisha on 3rd May. Light to moderate rainfall at most places with heavy falls at isolated places likely over Balasore and Mayurbhanj districts of north Odisha on 4th May.
- **West Bengal:** Light to moderate rainfall at most places with heavy to very heavy rainfall at a few places and **extremely heavy falls** at isolated places very likely over coastal & adjoining districts of West Bengal on 3rd; and heavy to very heavy falls at isolated places over Gangetic West Bengal on 4th May. Light to moderate rainfall at most places with heavy falls at isolated places over Sub-Himalayan West Bengal & Sikkim on 4th May.
- **Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh and Assam & Meghalaya on 4th & 5th May; with isolated extremely** heavy falls over Assam & Meghalaya on 4th. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph is likely to prevail over Bhadrak, Balasore, Jajpur, Kendrapara, Mayurbhanj and remaining districts of north coastal Odisha during next 06 hours.
- Gale wind speed reaching 90-100 kmph gusting to 115 kmph is very likely over west & east Medinipur district during next six hours. It is likely to be 70-80 kmph gusting to 90 kmph over Kolkata, Howrah, Hoogli, north & south 24 Parganas during early morning to noon and decrease thereafter. Gale wind speed reaching 60-70 kmph gusting to 85 kmph is also likely along & off West Bengal coast during the same period.

(iii) Sea condition

- The sea condition is likely to become very rough to high along and off West Bengal and adjoining Bangladesh Coasts during next 18 hours.

(iv) Storm surge Warning

- Storm surge of about 0.5 to 1 meter height above astronomical tide is very likely to inundate low lying areas of Kendrapara, Balasore and Bhadrak Districts of Odisha and east Medinipur district of West Bengal during next 06 hours.

(v) Fishermen Warning

- The fishermen are advised not to venture into northwest Bay of Bengal along & off Odisha and West Bengal coasts till 04 May.

(vi) (a) Damage Expected and Action suggested for Bhadrak, Balasore, Jajpur and Mayurbhanj districts of Odisha during next 03 hours:

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. (v) Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (vi)Major damage to coastal crops. (vii) Damage to embankments/ salt pans..

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.

Action Suggested:

(i) Total suspension of fishing operations over northwest Bay of Bengal along & off Odisha Coast till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe. (iv) Hoarding, flex and banners hanging loose are likely to fly and damage surroundings. These should be removed.

(b) Damage Expected and action suggested for east & west Medinipur, south & north 24 Parganas, Howrah, Hoogli, Kolkata districts of West Bengal

(i) Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly. (ii) Minor damage to power and communication lines. (iii) Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes. (iv) Breaking of tree branches, uprooting of large avenue trees. Moderate damage to banana and papaya trees. Large dead limbs blown from trees. (v) Major damage to coastal crops. (vi) Damage to embankments/ salt pans.

Action Suggested:

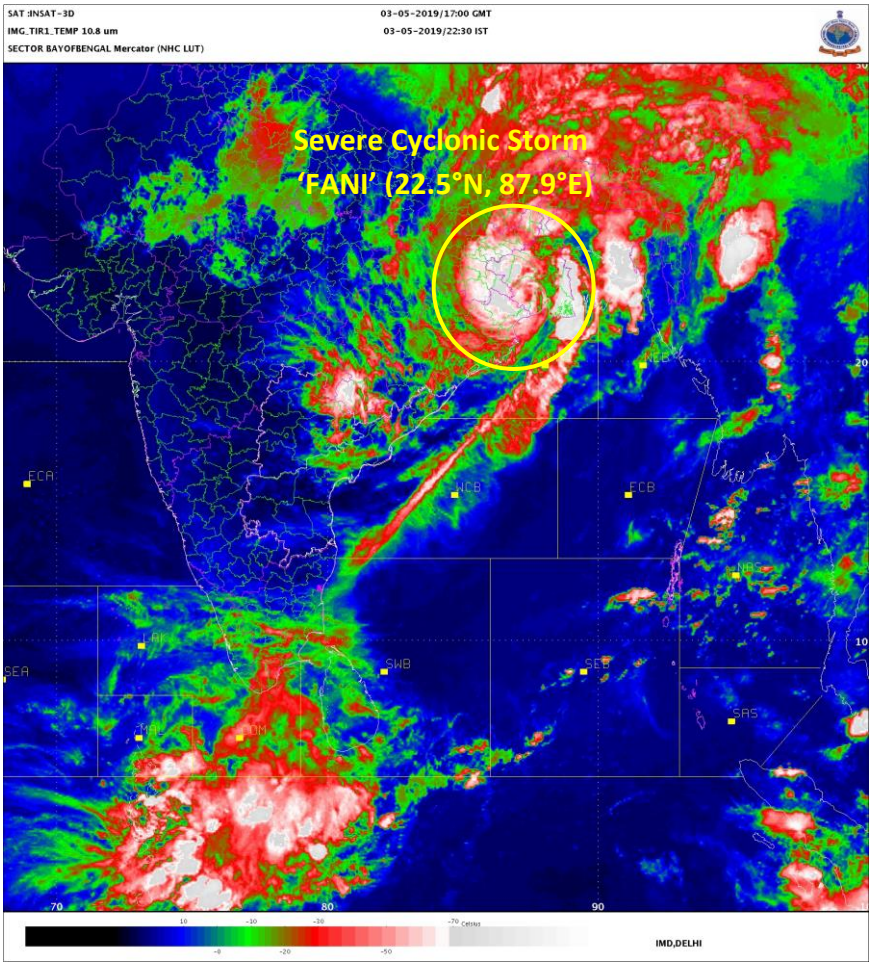
(i) Total suspension of fishing operations over northwest Bay of Bengal along & off north Odisha and West Bengal Coasts till 04th May. (ii) Coastal hutment dwellers to be moved to safer places. People in affected areas to remain indoors. (iii) Movement in motor boats unsafe.

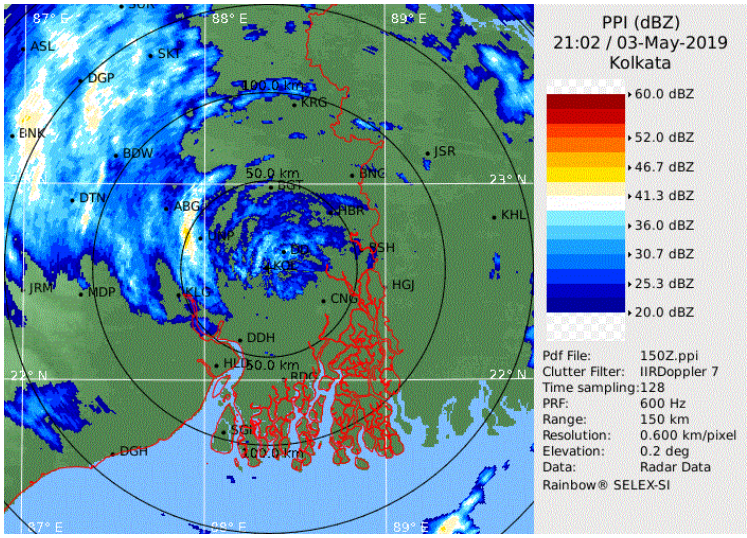
The next bulletin will be issued at 0830 hrs IST of 04th May, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

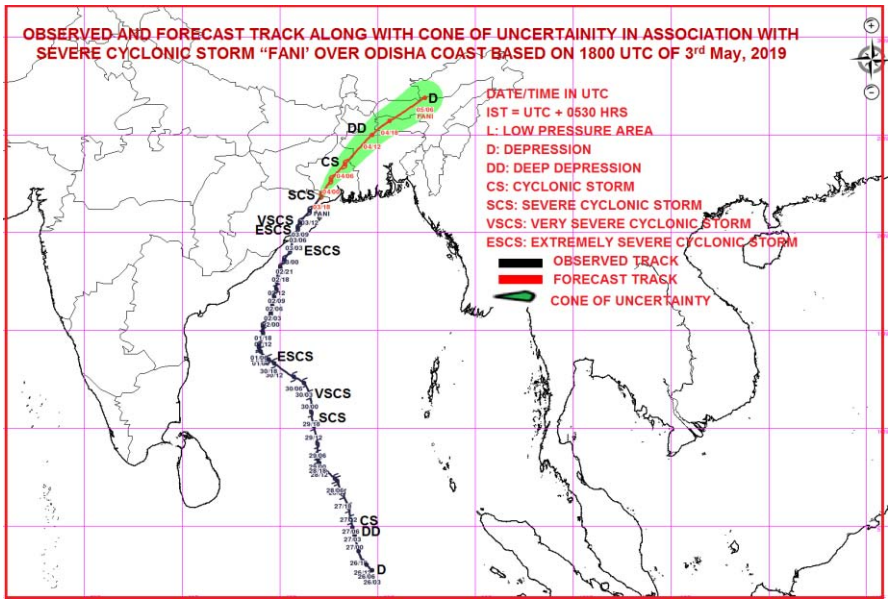
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

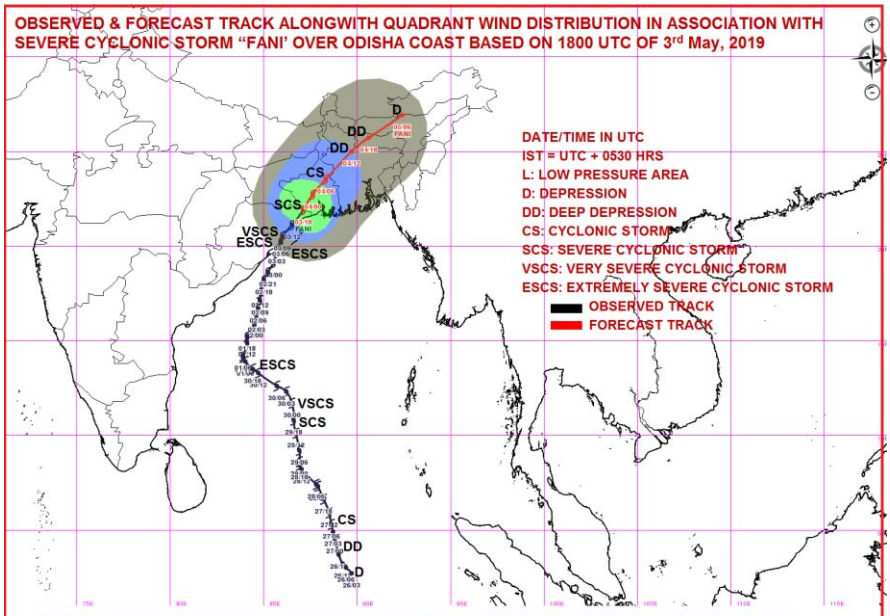




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51--62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 61 (BOB/02/2019)

TIME OF ISSUE: 0800 HOURS IST **DATED: 04.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Cyclonic Storm "FANI" over West Bengal:

The **Severe Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Gangetic West Bengal moved further north-northeastwards with a speed of about 30 kmph in last six hours, weakened into a **Cyclonic Storm** and lay centred at 0530 hrs IST of 04th May, 2019 over Gangetic West Bengal near latitude 23.1°N and longitude 88.2°E, about 120 km north-northeast of Medinipur and 60 km northwest of Kolkata (West Bengal).

It is very likely to continue to move north-northeastwards, weaken further into a deep depression and emerge **into Bangladesh with wind speed 50-60 Kmph gusting to 70 Kmph by noon of today, the 4th May 2019.**

The cyclone is being tracked by Doppler Weather Radar Kolkata. Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
04.05.19/0530	23.1/88.2	60-70 gusting to 80	Cyclonic Storm
04.05.19/1130	24.3/89.3	50-60 gusting to 70	Deep Depression
04.05.19/1730	25.5/90.4	40-50 gusting to 60	Depression
04.05.19/2330	26.7/91.5	30-40 gusting to 50	Well Marked Low

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.

Warnings:

(i) Heavy rainfall warning

- **West Bengal: Light to moderate rainfall at many places is very likely over the districts adjoining to Bangladesh during next 6 hours.** Light to moderate rainfall at many places with heavy falls at isolated places very likely over Sub-Himalayan West Bengal & Sikkim during next 12 hours.
- **Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh, Assam & Meghalaya on 4th May.** Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Gale wind speed reaching 60-70 kmph gusting to 80 kmph likely over West Bengal districts adjoining to Bangladesh during next 6 hours. Squally wind speed reaching 45-55 kmph gusting to 65 kmph is also likely along & off West Bengal coast during the same period.

(iii) Sea condition

- The sea condition is likely to become rough to very rough along and off West Bengal and adjoining Bangladesh Coasts during next 06 hours.

(iv) Fishermen Warning

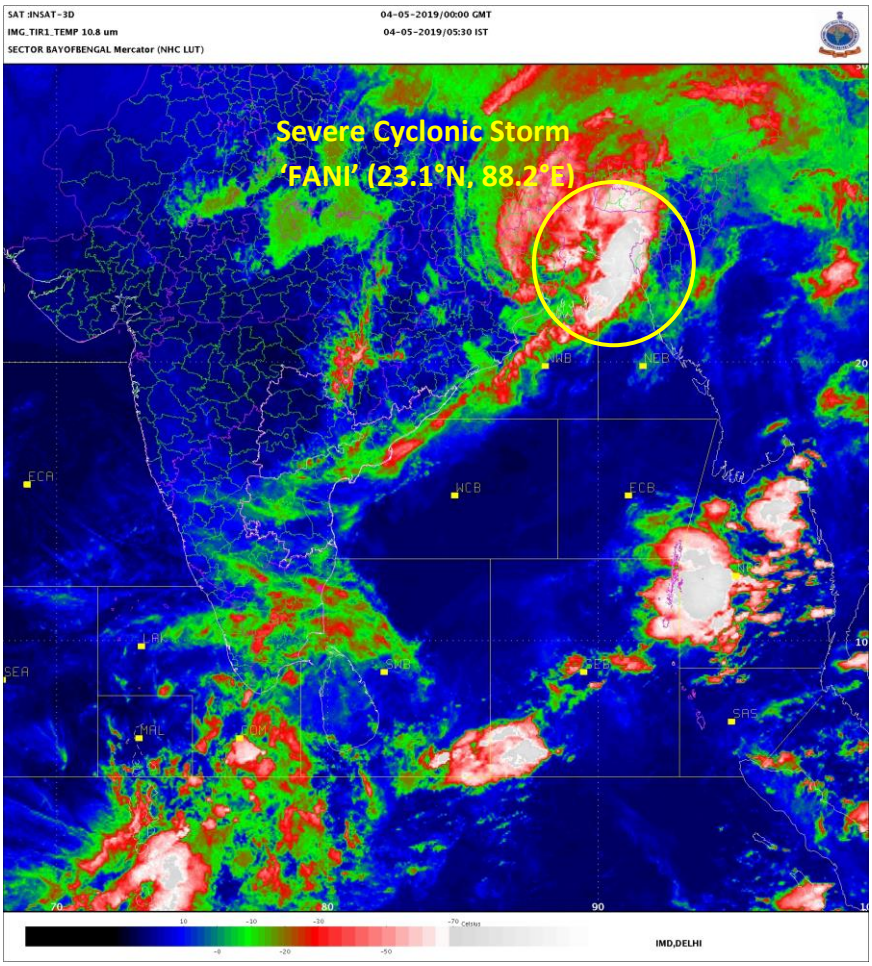
- The fishermen are advised not to venture into northwest Bay of Bengal along & off West Bengal coast during next 06 hours.

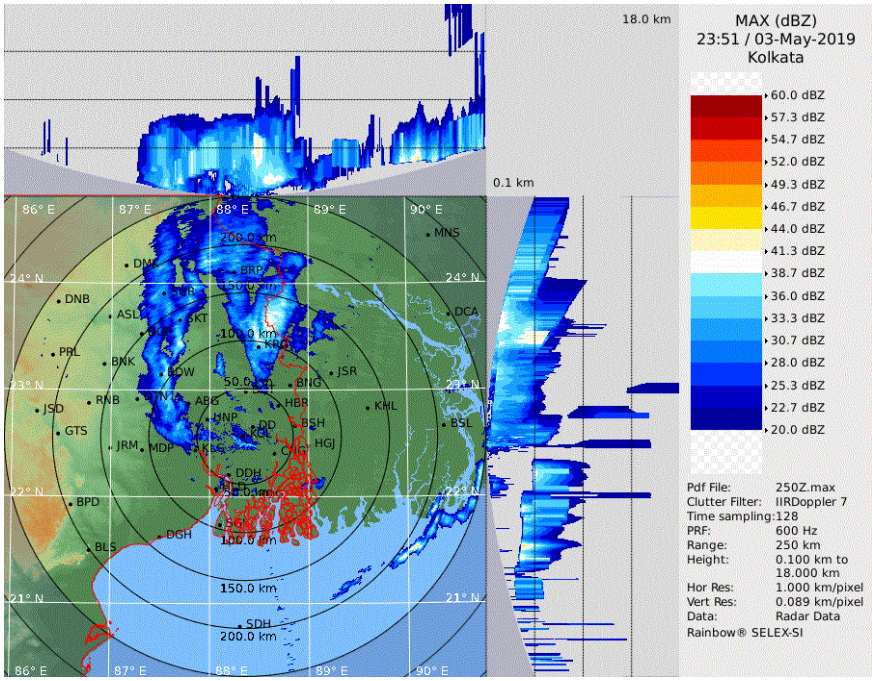
The next bulletin will be issued at 1130 hrs IST of 04th May, 2019.

(V R Durai)
Scientist-E, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

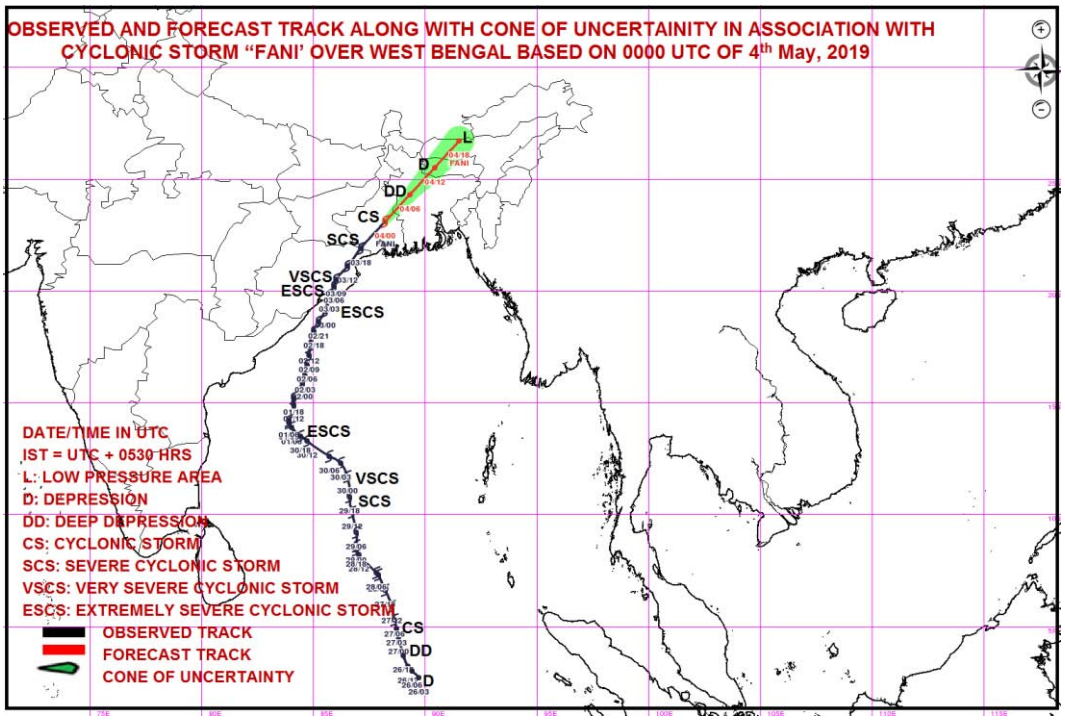
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

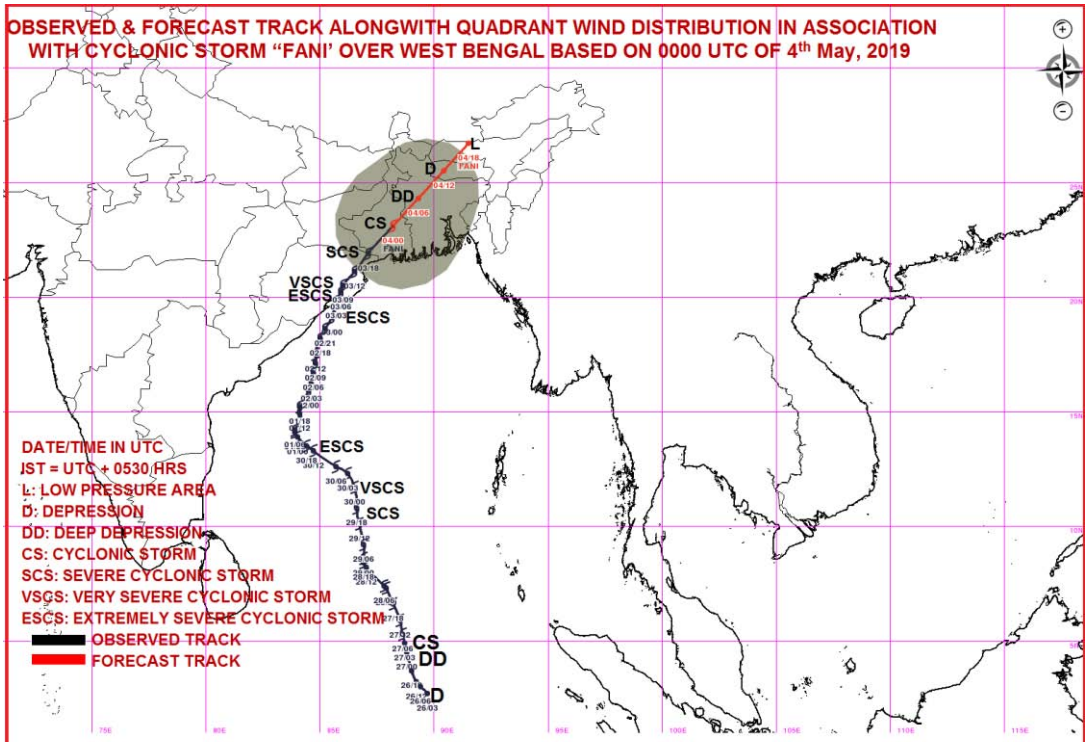




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 62 (BOB/02/2019)

TIME OF ISSUE: 0930 HOURS IST **DATED: 04.05.2019**

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)
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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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Cyclonic Storm "FANI" over West Bengal weakened into a deep depression over Bangladesh and adjoining Gangetic West Bengal

The **Cyclonic Storm 'FANI'** (pronounced as '**FONI**') over Gangetic West Bengal moved further east northeastwards with a speed of about 25 kmph in last six hours, weakened into a **deep depression** and lay centred at 0830 hrs IST of 04th May, 2019 over Bangladesh and adjoining Gangetic West Bengal near latitude 23.6°N and longitude 88.8°E, about 40 km east-northeast of Krishnanagar (West Bengal).

It is very likely to move northeastwards, weaken further into a depression over Bangladesh during next 6 hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
04.05.19/0830	23.6/88.8	50-60 gusting to 70	Deep Depression
04.05.19/1130	24.2/89.4	45-55 gusting to 65	Depression
04.05.19/1730	25.4/90.7	40-50 gusting to 60	Depression
04.05.19/2330	26.6/92.0	30-40 gusting to 50	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **West Bengal: Light to moderate rainfall at many places is very likely over the districts adjoining to Bangladesh during next 6 hours.** Light to moderate rainfall at many places with heavy falls at isolated places very likely over Sub-Himalayan West Bengal & Sikkim during next 12 hours.

- **Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh, Assam & Meghalaya on 4th May.** Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph likely over West Bengal districts adjoining to Bangladesh during next 6 hours. Squally wind speed reaching 45-55 kmph gusting to 65 kmph is also likely along & off West Bengal coast during the same period.

(iii) Sea condition

- The sea condition is likely to remain rough to very rough along and off West Bengal and adjoining Bangladesh Coasts during next 06 hours.

(iv) Fishermen Warning

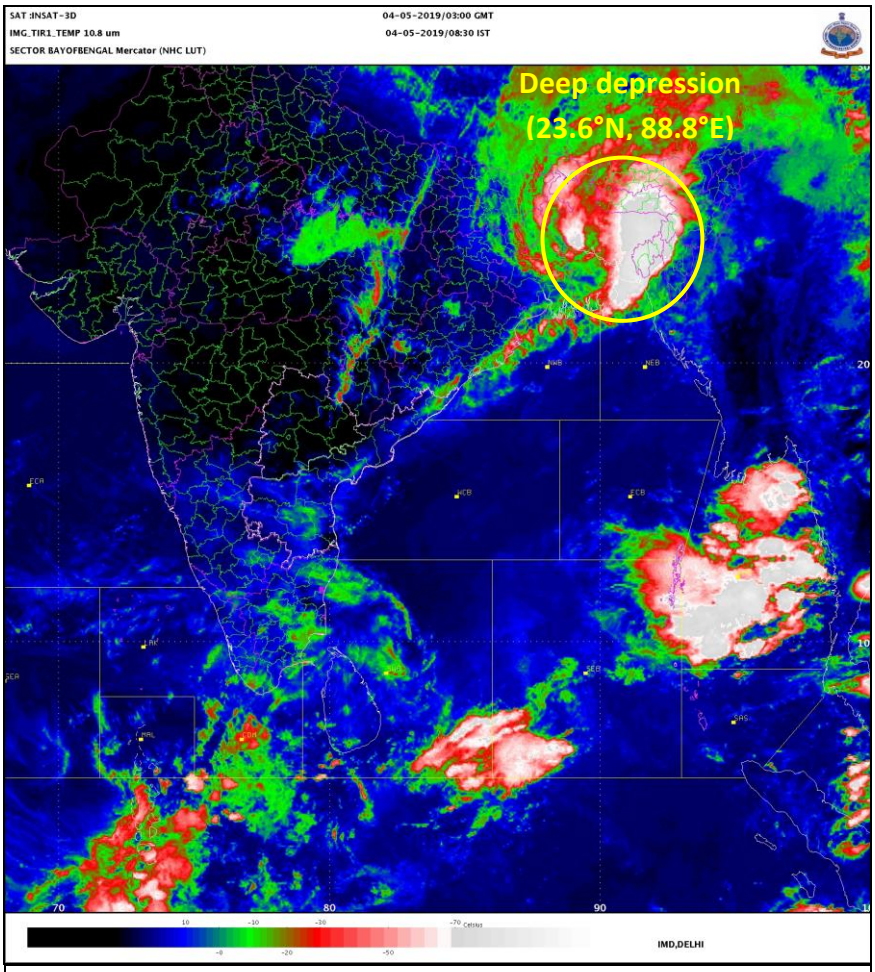
- The fishermen are advised not to venture into northwest Bay of Bengal along & off West Bengal coast during next 06 hours.

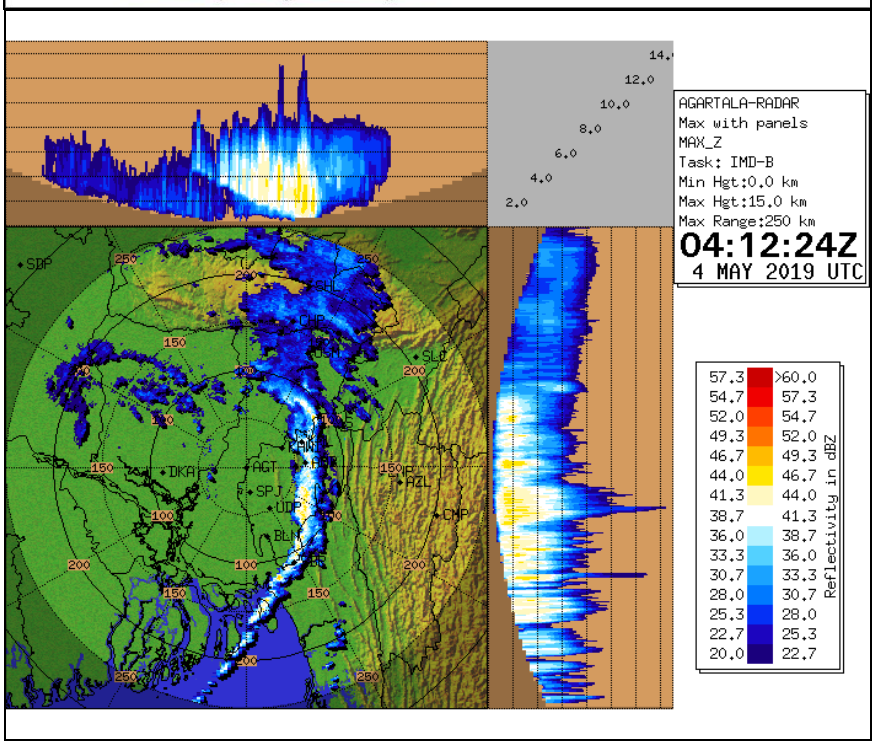
The next bulletin will be issued at 1430 hrs IST of 04thMay, 2019.

(Charan Singh)
Scientist-F, RSMC, New Delhi

Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam

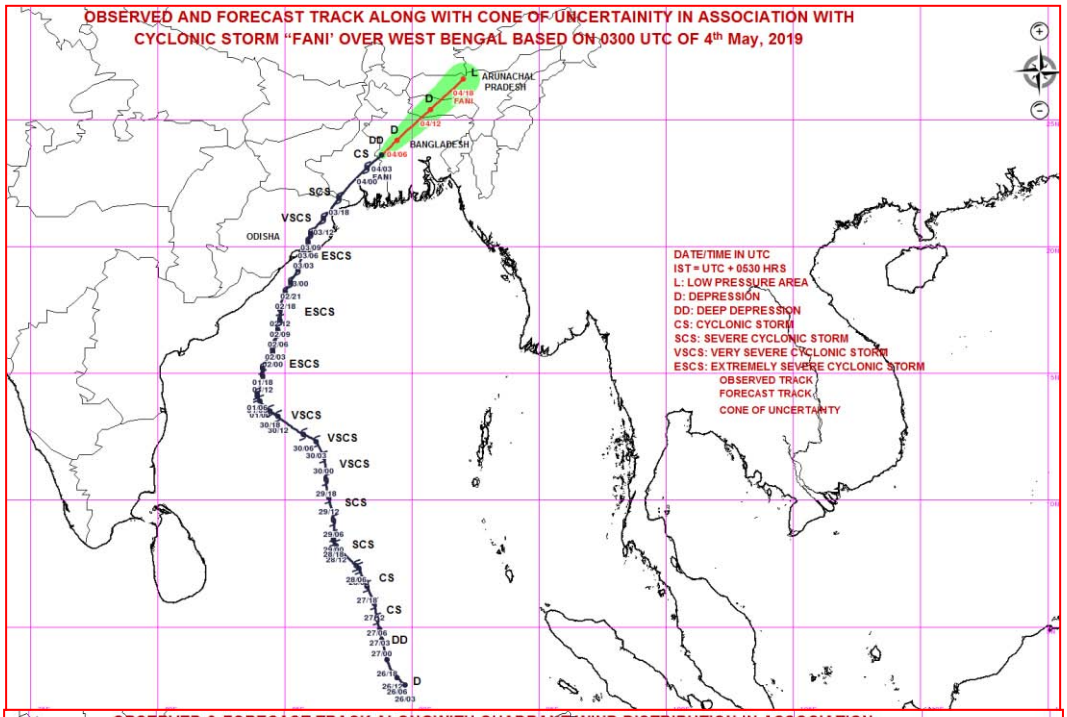
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

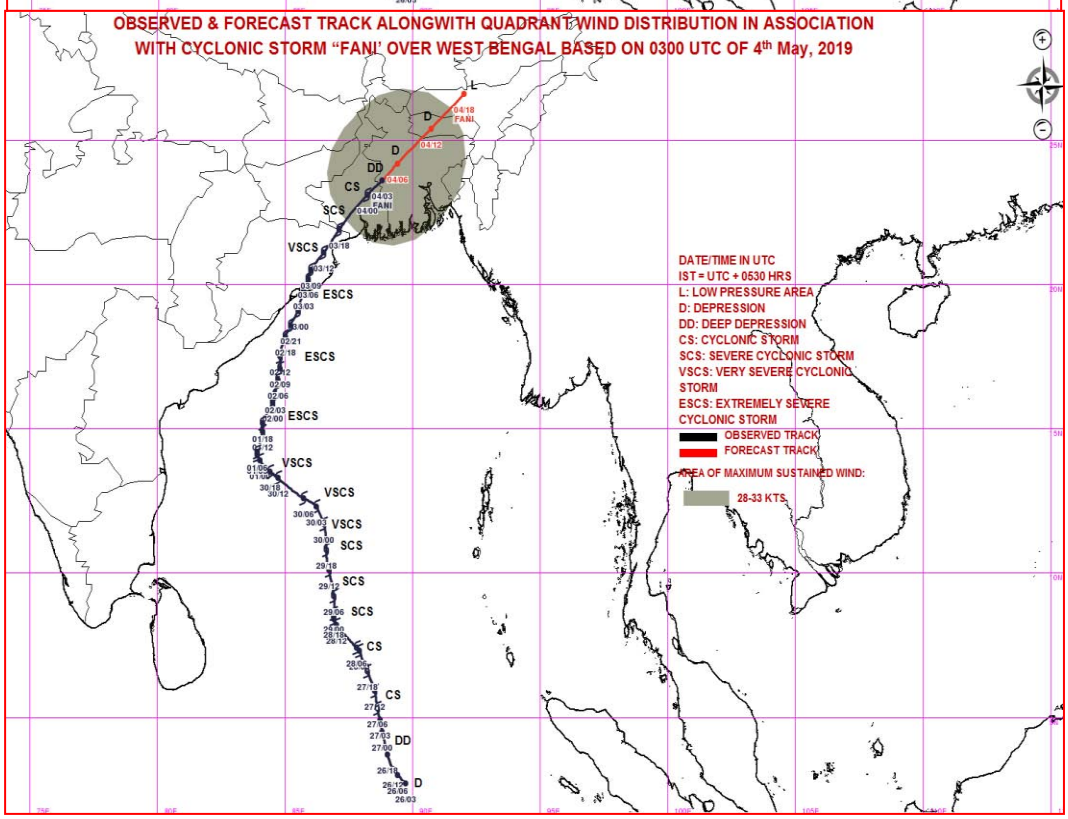




Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 63 (BOB/02/2019)

TIME OF ISSUE: 1400 HOURS IST **DATED: 04.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Deep depression over Bangladesh and adjoining Gangetic West Bengal weakened into a depression

The deep depression over Bangladesh and adjoining Gangetic West Bengal moved further northeastwards with a speed of about 29 kmph in last six hours, weakened into a **depression** and lay centred at 1130 hrs IST of 04th May, 2019 over Bangladesh near latitude 24.3°N and longitude 89.3°E, about 120 km north-northwest of Dhaka (Bangladesh) and 200 km south-southwest of Dhubri (Assam).

It is very likely to continue to move northeastwards and weaken further into a Well Marked Low Pressure Area during next 12 hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
04.05.19/1130	24.3/89.3	45-55 gusting to 65	Depression
04.05.19/1730	25.6/90.5	40-50 gusting to 60	Depression
04.05.19/2330	26.4/91.8	30-40 gusting to 50	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **West Bengal: Light to moderate rainfall at many places is very likely over the districts adjoining to Bangladesh during next 6 hours.** Light to moderate rainfall at many places with heavy falls at isolated places very likely over Sub-Himalayan West Bengal & Sikkim during next 12 hours.

- **Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura:** Light to moderate rainfall at most places with isolated heavy to very heavy falls very likely over **Arunachal Pradesh, Assam & Meghalaya on 4th May.** Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland, Manipur, Mizoram & Tripura on 4th.

(ii) Wind warning

- Strong wind speed reaching 40-50 kmph gusting to 60 kmph very likely over Assam & Meghalaya during next 12 hours.
- Strong wind speed reaching 30-40 kmph gusting to 50 kmph likely over West Bengal districts adjoining to Bangladesh during next 6 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is also likely along & off West Bengal coast during next 6 hours.

(iii) Sea condition

- The sea condition is likely to remain rough to very rough along and off West Bengal and adjoining Bangladesh Coasts during next 06 hours.

(iv) Fishermen Warning

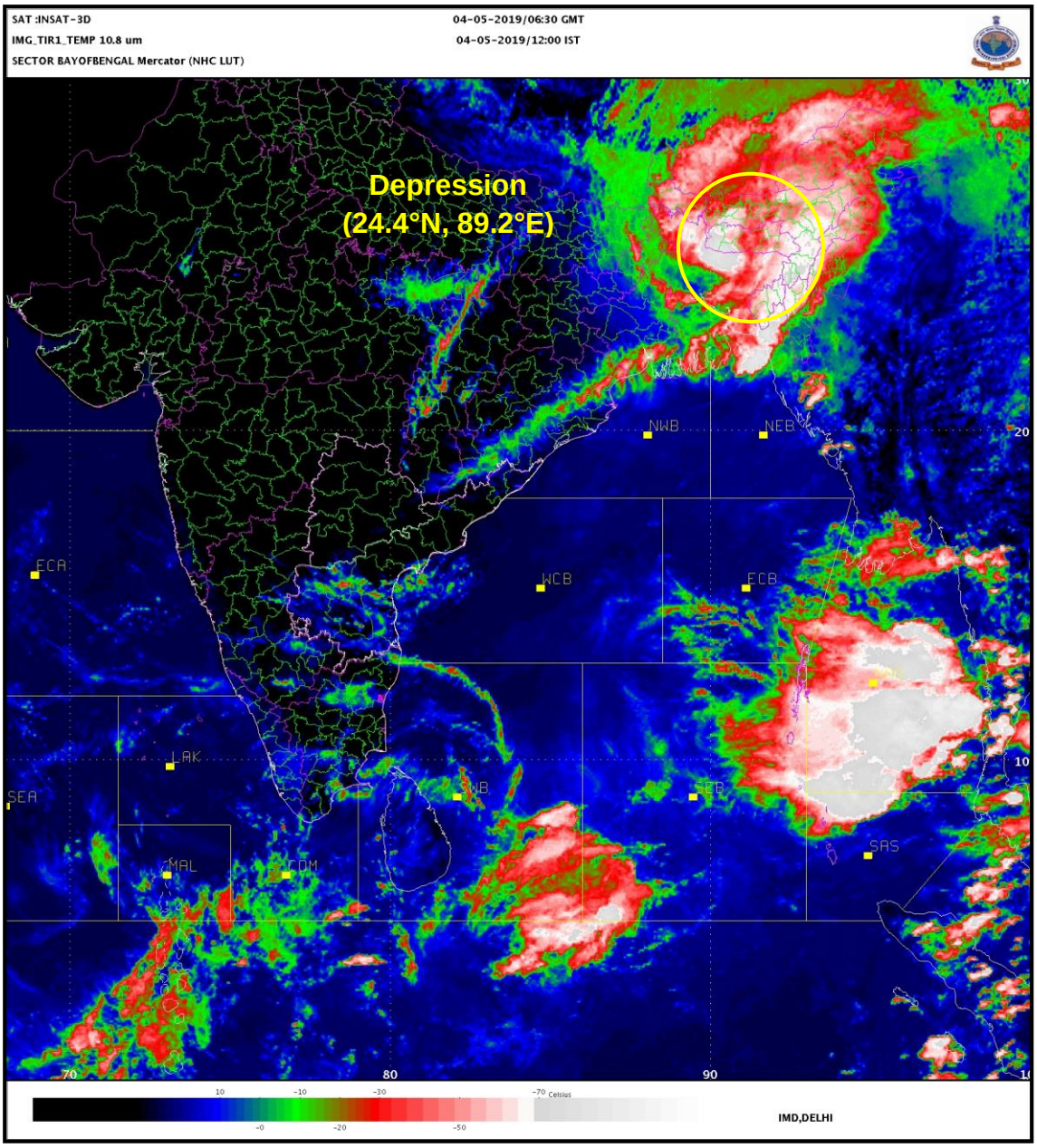
- The fishermen are advised not to venture into northwest Bay of Bengal along & off West Bengal coast during next 06 hours.

The next bulletin will be issued at 2030 hrs IST of 04th May, 2019.

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

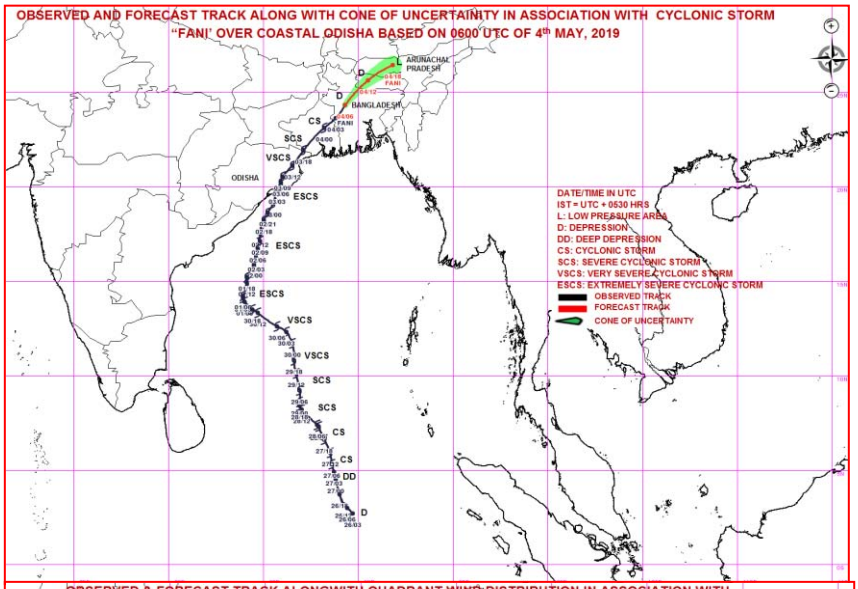
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/ RMC Guwahati/ MC Tripura/ MC Shillong

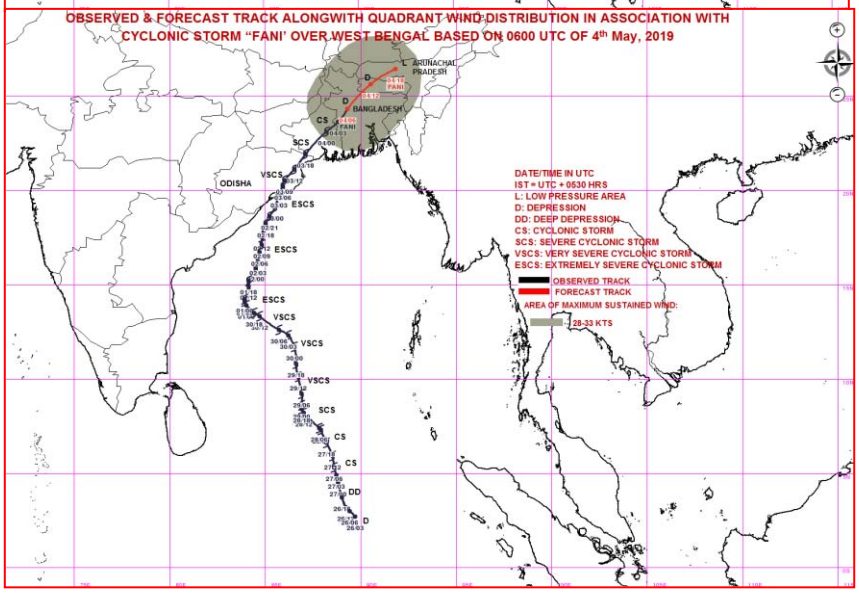
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 64 (BOB/02/2019)

TIME OF ISSUE: 2000 HOURS IST **DATED: 04.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Depression over Western Meghalaya & adjoining Bangladesh

The depression over Bangladesh moved east-northeastwards with a speed of about 29 kmph in last six hours and lay centred at 1730 hrs IST of 04th May, 2019 over Western Meghalaya & adjoining Bangladesh near latitude 25.2°N and longitude 90.7°E, about 110 km southeast of Dhubri (Assam), 130 km west-southwest of Guwahati (Assam) and 120 km west-southwest of Shillong (Meghalaya). It is very likely to move northeastwards and weaken into a Well Marked Low Pressure Area during next 12 hours.

Forecast track and intensity are given in the following table:

Date/Time(IST)	Position (Lat.^{0}N/ long.^{0}E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic Disturbance
04.05.19/1730	25.2/90.7	40-50 gusting to 60	Depression
04.05.19/2330	26.1/92.0	35-45 gusting to 55	Depression
05.05.19/0530	27.0/93.3	25-35 gusting to 45	Well Marked Low

Warnings:

(i) Heavy rainfall warning

- **Assam, Meghalaya, Arunachal Pradesh, Nagaland & Manipur:** Light to moderate rainfall at most places with isolated heavy to very heavy falls and **extremely heavy falls (≥20 cm)** very likely over Assam & Meghalaya; and with isolated heavy to very heavy falls over Arunachal Pradesh during next 24 hours. Light to moderate rainfall at many places with isolated heavy falls very likely over Nagaland & Manipur during same period.

(ii) Wind warning

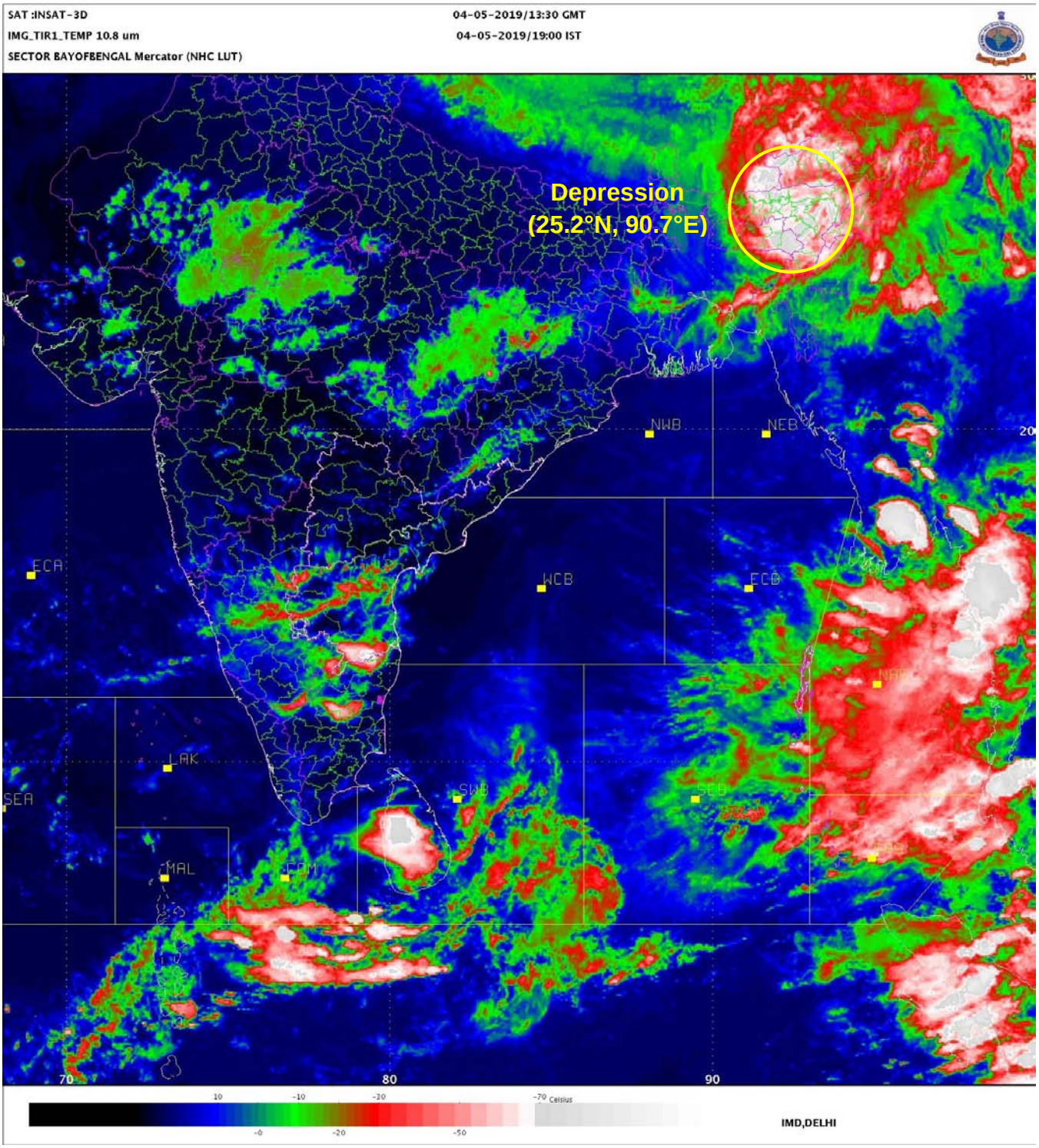
- Strong wind speed reaching 40-50 kmph gusting to 60 kmph very likely over Assam & Meghalaya during next 12 hours.

The next bulletin will be issued at 0230 hrs IST of 05th May, 2019.

(Naresh Kumar)
Scientist-E, RSMC, New Delhi

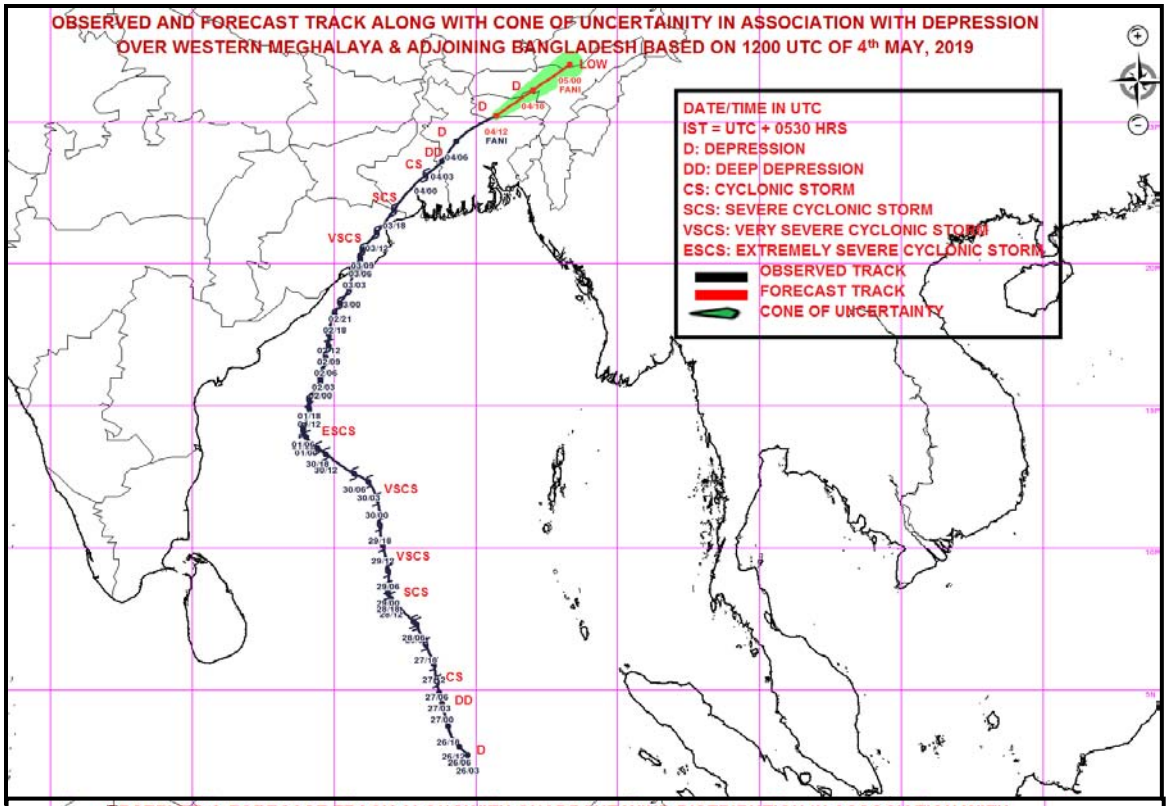
Spatial rainfall distribution: Isolated: <25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

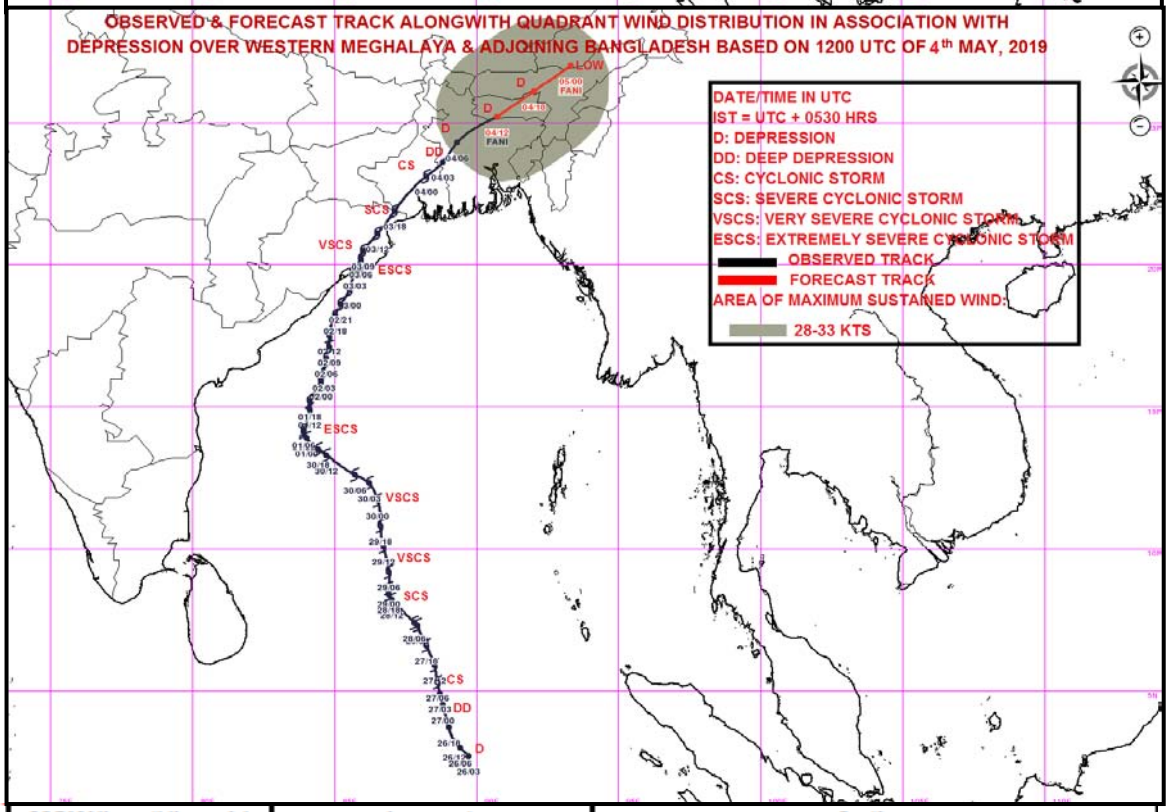
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/ RMC Guwahati/ MC Tripura/ MC Shillong



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.





MSW(knot)/kmph)	Impact	Action
28-33 /(51–62)	Very rough seas.	Total suspension of fishing operations
34-49/(63-91)	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

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.

India Meteorological Department
Earth System Science Organisation
(Ministry of Earth Sciences)

BULLETIN NO. : 65 (BOB/02/2019)

TIME OF ISSUE: 0200 HOURS IST **DATED: 05.05.2019**

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, GOVT. OF ODISHA (FAX NO. 0674 -2536660)
CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)
CHIEF SECRETARY, ASSAM (FAX NO. 0361 - 2237200)
CHIEF SECRETARY, MEGHALAYA (FAX NO. 0364- 2225978)
CHIEF SECRETARY, ARUNACHAL PRADESH (FAX NO. 0360- 2215719/1187)

Sub: Depression weakened into a Well Marked Low Pressure Area over central Assam & neighbourhood.

The depression over Western Meghalaya & adjoining Bangladesh moved northeastwards during past 06 hours, weakened further and lay as a Well Marked Low Pressure Area over central Assam & neighbourhood at 2330 hrs IST of 04th May, 2019. It is very likely to move northeastwards and become insignificant during next 24 hours.

Warnings:

(i) Heavy rainfall warning

- **Assam, Arunachal Pradesh, Nagaland, Manipur :** Light to moderate rainfall at most places with isolated heavy falls over east Assam, Nagaland and east Arunachal Pradesh during next 06 hours. Light to moderate rainfall is also very likely at a few places over west Arunachal Pradesh and north Manipur during next 06 hours.

(ii) Wind warning

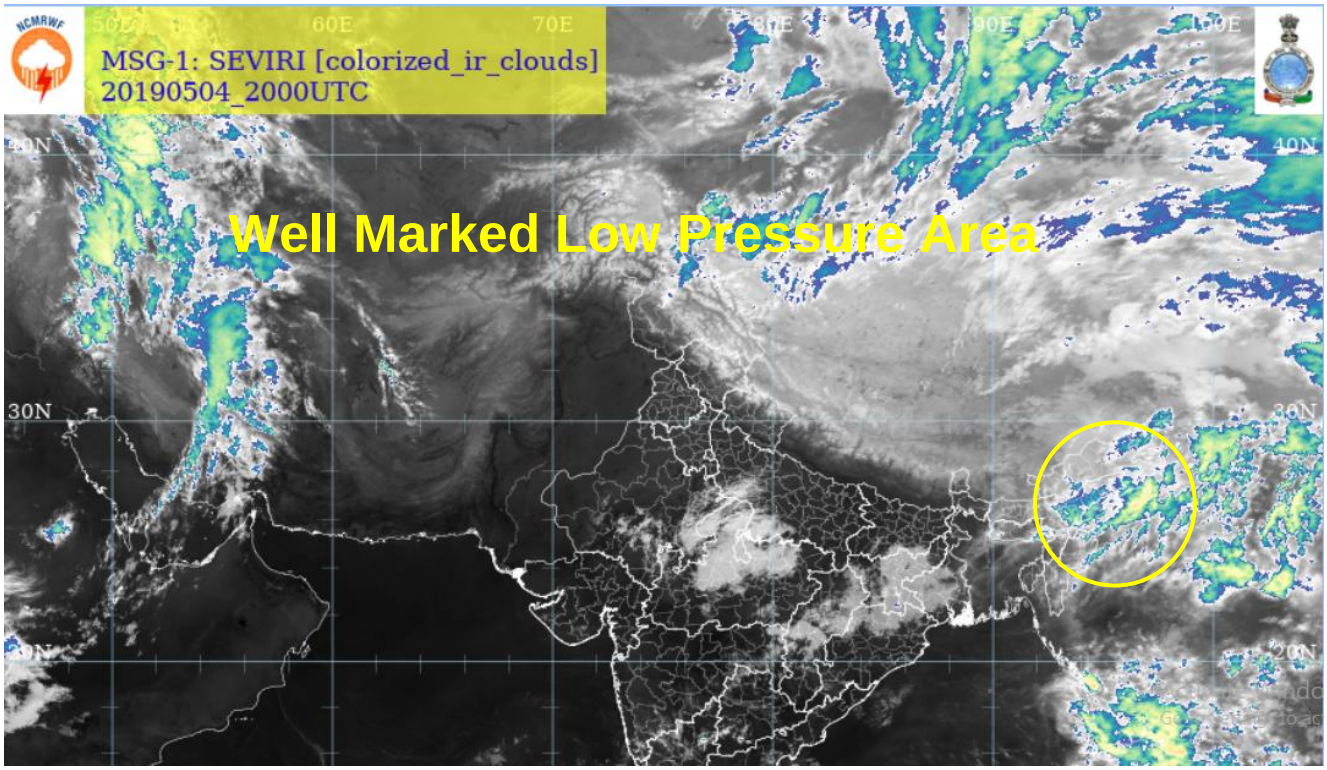
- Strong surface wind, speed reaching 30-40 kmph gusting to 50 kmph, very likely over east Assam, Nagaland and east & north Arunachal Pradesh during next 06 hours and decrease thereafter.

This is the last bulletin for this system. However, regular bulletins will continue from National Weather Forecasting Centre, New Delhi & Regional Meteorological Centre Guwahati.

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

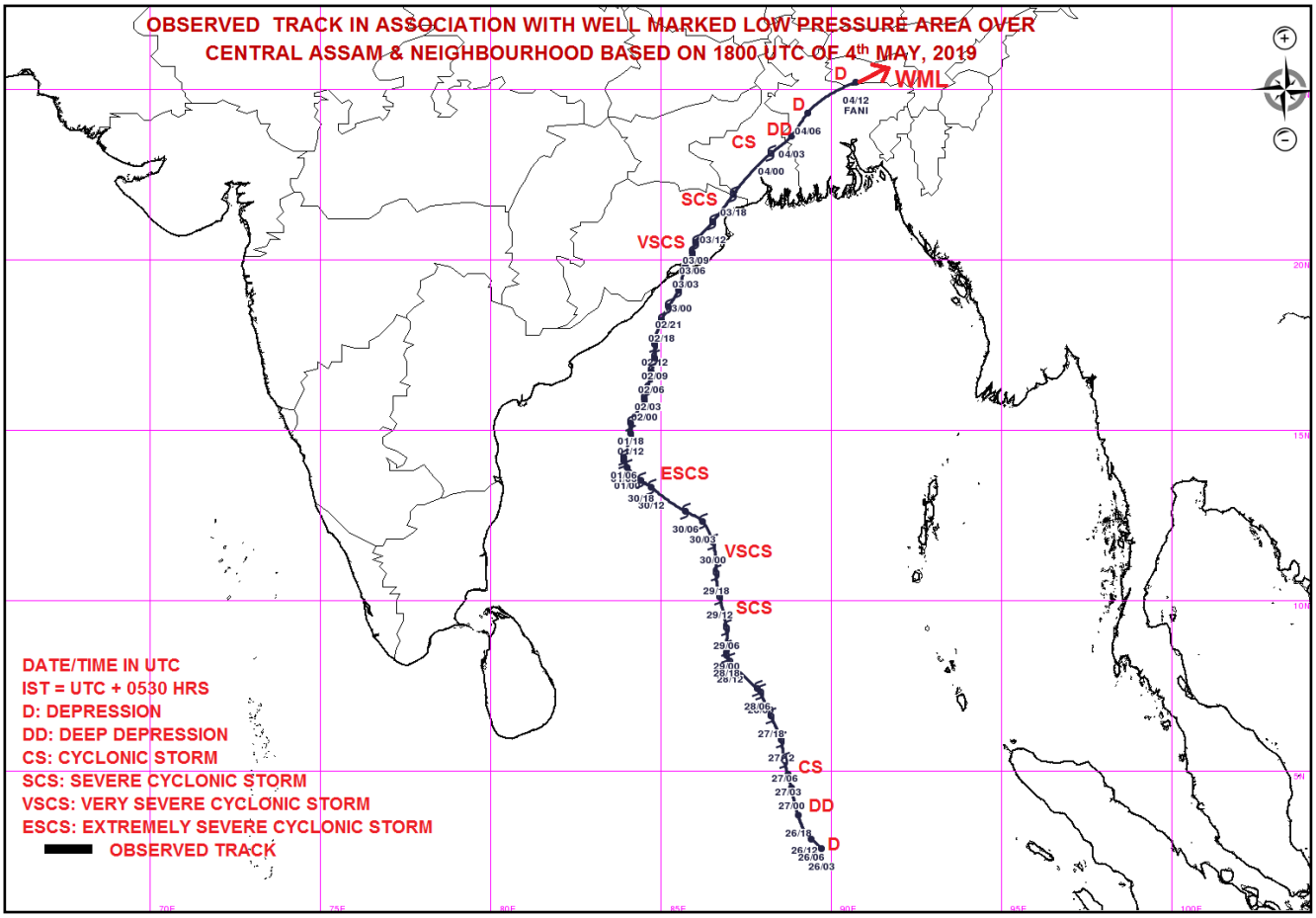
Copy to: CRS, Pune/ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/ RMC Guwahati/ MC Tripura/ MC Shillong

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.



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.



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.