



India Meteorological Department

(Ministry of Earth Sciences)

BULLETIN NO. : 01(BOB/05/2020)

TIME OF ISSUE: 0930 HOURS IST

DATED: 30.11.2020

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, KARNATAKA (FAX NO. 080-22256360)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)

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, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over southeast Bay of Bengal & neighbourhood

Latest satellite and Ship observations indicate that the well marked low pressure area over southeast Bay of Bengal & neighbourhood concentrated into a **Depression** and lay centered at 0530 hrs IST of 30th November 2020 over southeast Bay of Bengal near Lat. 7.5° N and Long. 88.0°E, about 750 km east-southeast of Trincomalee (Sri Lanka) and 1150 km east-southeast of Kanyakumari (India). It is very likely to intensify further into a Deep Depression during next 24 hours. It is also likely to intensify further into a cyclonic storm. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5° N and 9.0° N around evening of 2nd December. It is very like to move nearly westwards thereafter and emerge into Comorin area on 3rd December morning. Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.11.20/0530	7.5/88.0	40-50 gusting to 60	Depression
30.11.20/1730	7.7/87.0	50-60 gusting to 70	Deep Depression
01.12.20/0530	7.9/86.1	60-70 gusting to 80	Cyclonic Storm
01.12.20/1730	8.1/84.8	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.1	70-80 gusting to 90	Cyclonic Storm
02.12.20/1730	8.5/81.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/0530	8.5/80.2	60-70 gusting to 80	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over south Tamilnadu and south Kerala on 2nd December, 2020 and Isolated heavy to very heavy rainfall likely over these regions on 1st, 3rd and 4th December 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, 2020 and isolated heavy rainfall during 1st and 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	30 Nov 2020*	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at a few places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at isolated places	Rainfall at a few places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally Weather (wind speed reaching 45-55 kmph gusting to 65 kmph) very likely over central parts of South Bay of Bengal on 30th November.
- It would gradually increase becoming 55-65 kmph gusting to 75 kmph over southeast and adjoining southwest Bay of Bengal from 1st December night and 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast and 45-55 kmph gusting to 65 kmph over Comorin Area, Gulf of Mannar and Tamilnadu-Kerala coasts from 2nd December forenoon for subsequent 24 hours.

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.

- The squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely to prevail over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 24 hours.

(iii) Sea condition

- Sea condition will be rough to very rough over southeast and adjoining southwest Bay of Bengal from 1st December night and very rough to high gusting to 90 kmph over southwest Bay of Bengal, along & off east Sri Lanka coast and rough to very rough over Comorin Area, Gulf of Mannar and Tamilnadu-Kerala coasts from 2nd December forenoon for subsequent 24 hours.
- Sea condition will be rough to very rough over Gulf of Mannar, along and off south Tamilnadu & Kerala coasts, Comorin Area from 2nd December morning and Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 24 hours.

(iv) Fishermen Warning

Fishermen are advised not to venture into southeast and adjoining southwest Bay of Bengal from 1st December night; over southwest Bay of Bengal, along & off east Sri Lanka coast, Comorin Area, Gulf of Mannar and Tamilnadu-Kerala coasts from 2nd December forenoon for subsequent 24 hours, over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, Comorin Area from 2nd December morning and over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd December morning for subsequent 24 hours. Also those who are out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 1130 hrs IST of 30th December, 2020.

(Shobhit Katiyar)
Scientist-C, RSMC, New Delhi

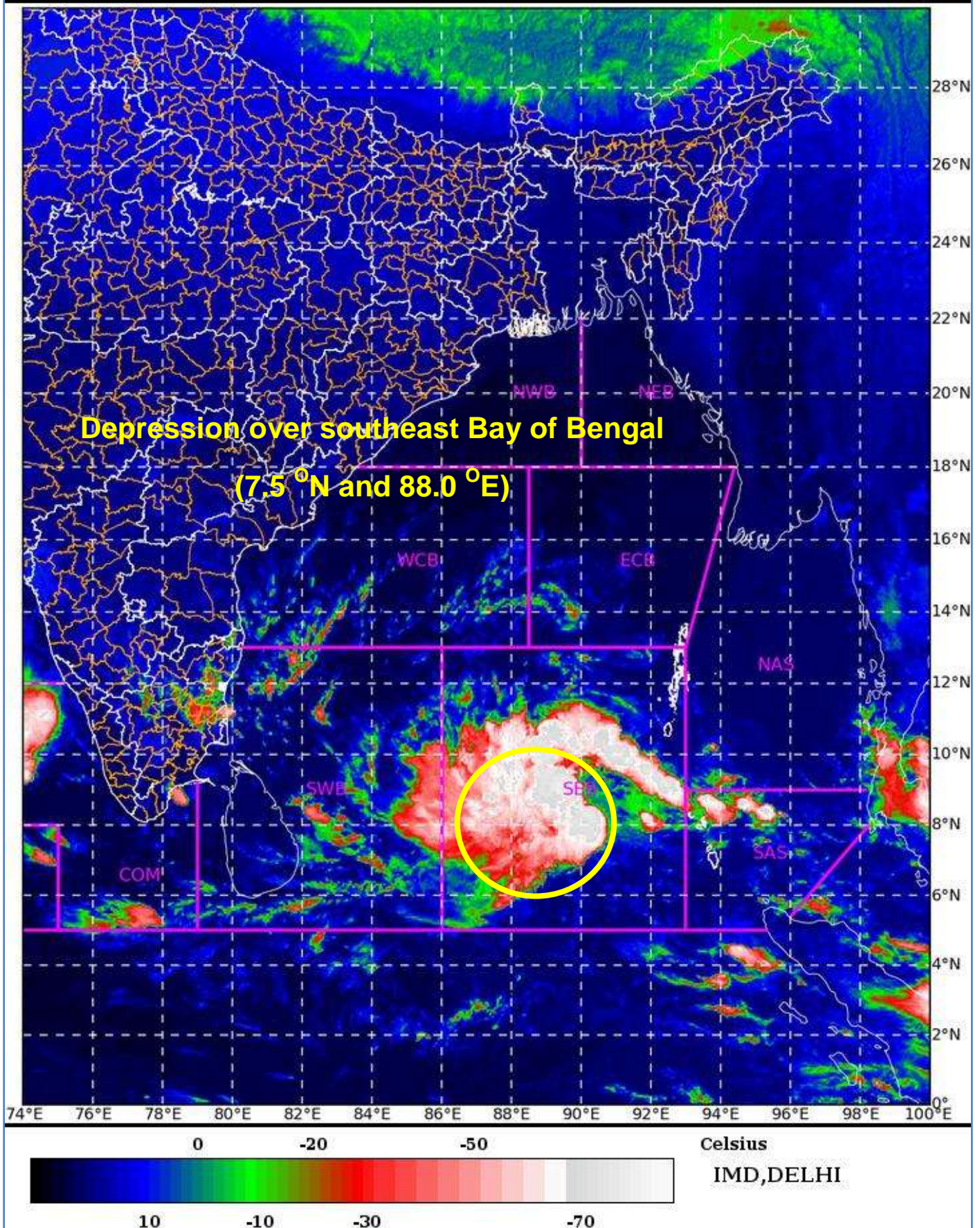
Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram

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.

SAT : INSAT-3DR IMG 30-11-2020/(0215 to 0241) GMT

IMG_TIR1_TEMP 10.8 um 30-11-2020/(0745 to 0811) IST

L1C Mercator

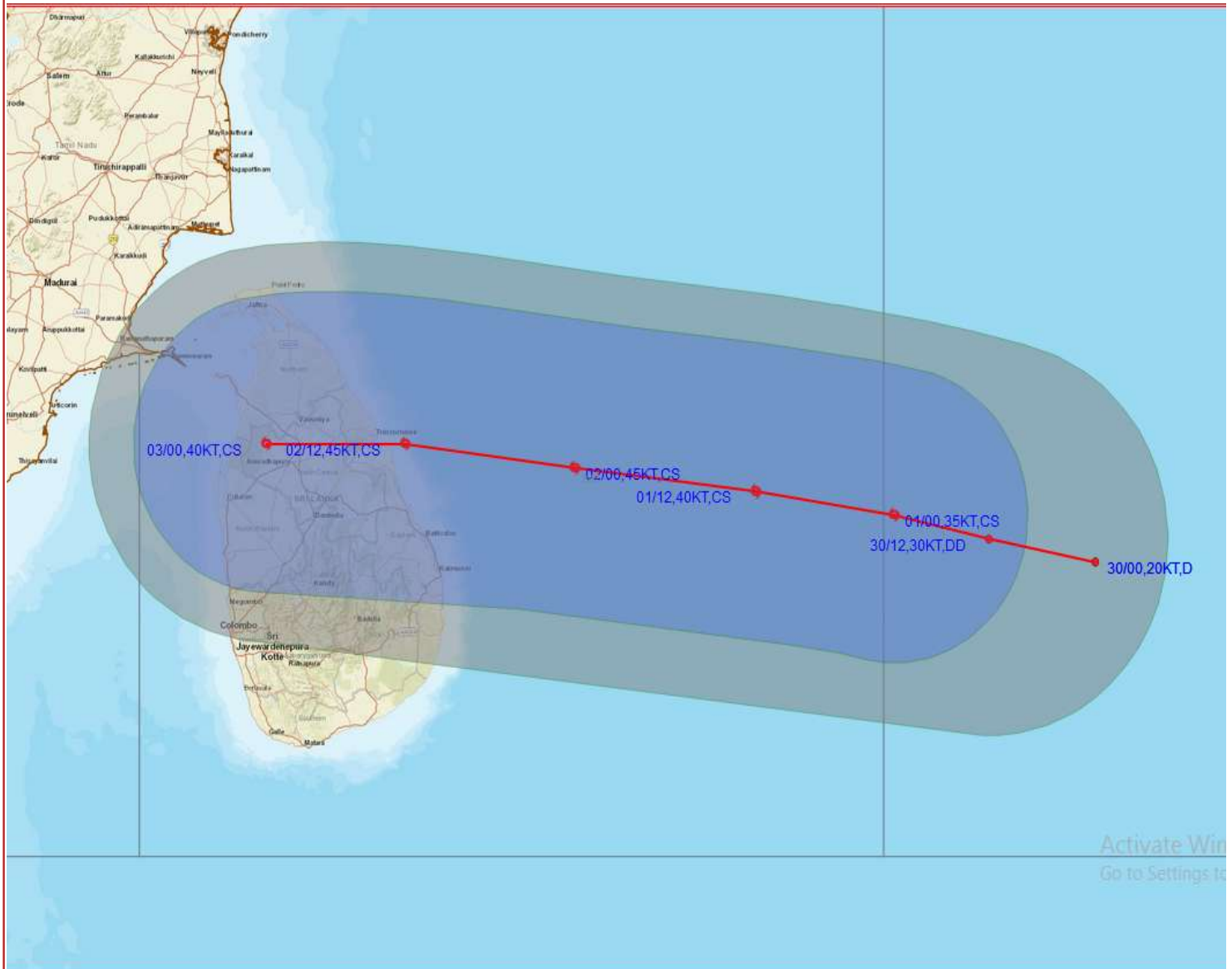


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63 KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
● 34-47 KT
● ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY
AREA OF MAXIMUM SUSTAINED WIND SPEED:
■ 28-33 KT (52-61 KMPH)
■ 34-49 KT (62-91 KMPH)
■ 50-63 KT (92-117 KMPH)
■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

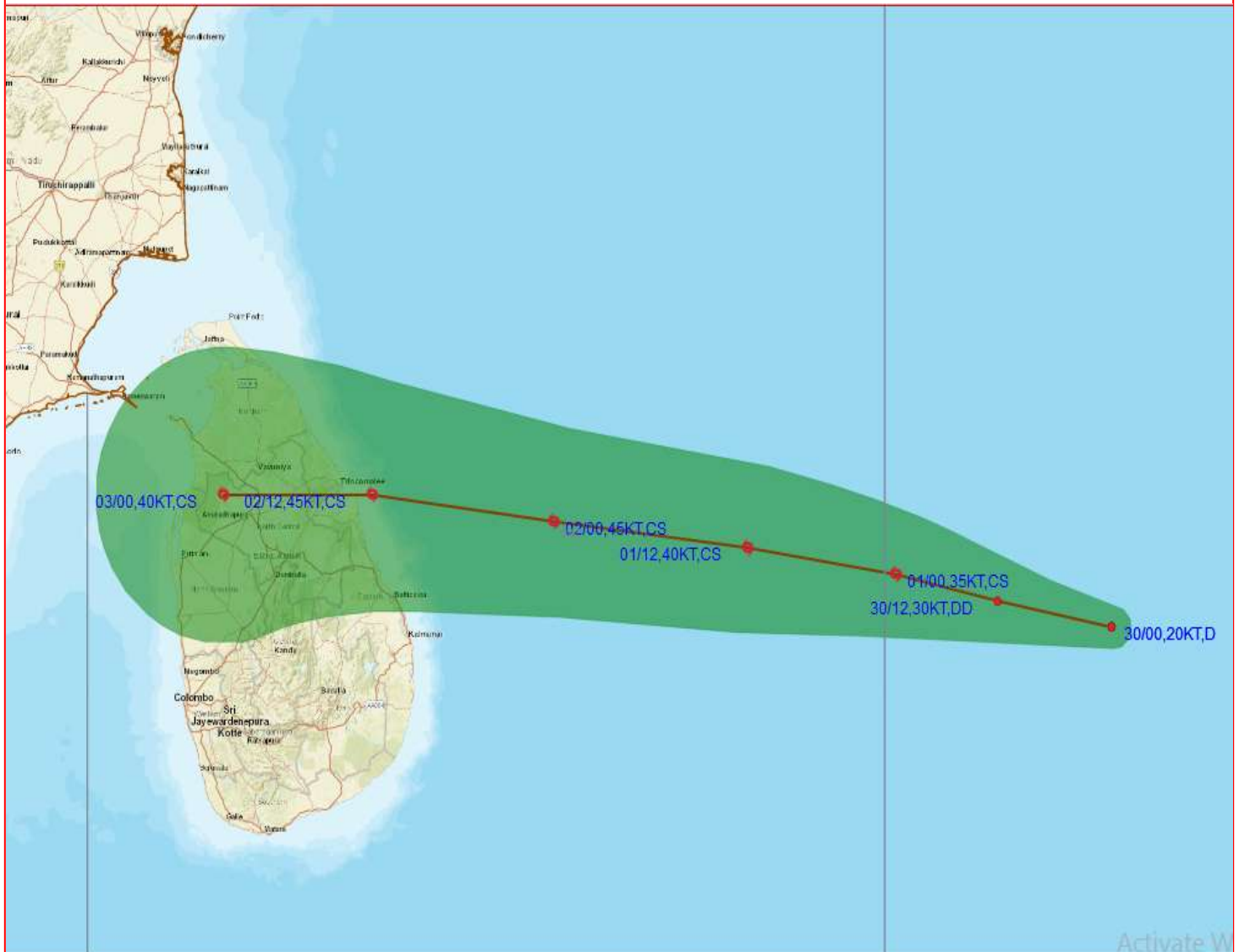
MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC OF 30TH NOVEMBER, 2020.



Activate W
Go to Settings

img/GIS/previewcyclone.html#

DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 02(BOB/05/2020)

TIME OF ISSUE: 1300 HOURS IST

DATED: 30.11.2020

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)

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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, KARNATAKA (FAX NO. 080-22256360)

CHIEF SECRETARY, KERALA (FAX NO. 0471-2327176)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)

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CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over southeast Bay of Bengal & neighbourhood (Pre-Cyclone Watch for South Tamilnadu and South Kerala coasts)

The **Depression** over southeast Bay of Bengal moved west-northwestwards during past 3 hours and lay centered at 0830 hrs IST of today, the 30th November 2020 over the same region near Lat. 7.7° N and Long. 87.70°E, about 710 km east-southeast of Trincomalee (Sri Lanka) and 1120 km east-southeast of Kanyakumari (India). It is very likely to intensify further into a Deep Depression during next 12 hours and into a cyclonic storm during subsequent 24 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5° N and 9.0° N during evening/night of 2nd December. It is very like to move nearly westwards thereafter and emerge into Comorin area on 3rd December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.11.20/0830	7.7/87.7	45-55 gusting to 65	Depression
30.11.20/1730	8.0/86.9	50-60 gusting to 70	Deep Depression
01.12.20/0530	8.2/86.0	60-70 gusting to 80	Cyclonic Storm
01.12.20/1730	8.4/84.7	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.5/83.0	70-80 gusting to 90	Cyclonic Storm
02.12.20/1730	8.6/81.4	70-80 gusting to 90	Cyclonic Storm
03.12.20/0530	8.5/79.5	60-70 gusting to 80	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated **Extremely heavy falls** very likely over south Tamilnadu(Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai; south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 2nd and 3rd December, 2020 and Isolated heavy to very heavy rainfall likely over these regions on 1st and 4th December 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, 2020 and isolated heavy rainfall during 1st and 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	30 Nov 2020*	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at a few places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over central parts of South Bay of Bengal on 30th November.
- It would gradually increase becoming 55-65 kmph gusting to 75 kmph over southeast and adjoining southwest Bay of Bengal from 1st December night and 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast and 45-55 kmph gusting to 65 kmph over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon for subsequent 24 hours.
- The squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely to prevail over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 48 hours.

(iii) Sea condition

- Sea condition will be rough to very rough over southeast Bay of Bengal from 30th November to 1st December and very rough to high over southwest & adjoining southeast Bay of Bengal along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 30th November to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal from 30th Nov to 1st Dec, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 1430 hrs IST of 30th November, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram

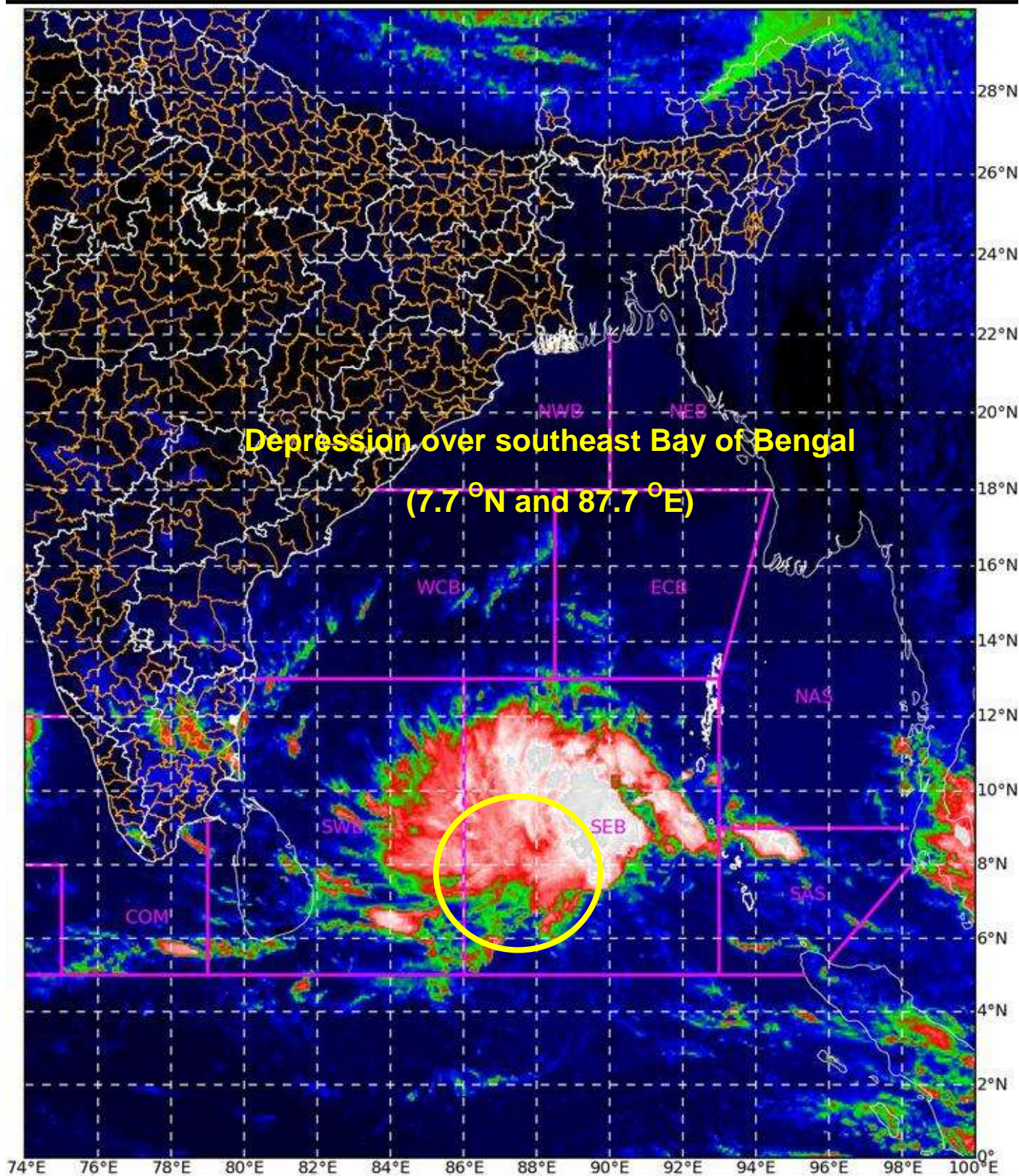
SAT : INSAT-3D IMG

30-11-2020/(0530 to 0557) GMT

IMG_TIR1_TEMP 10.8 um

30-11-2020/(1100 to 1127) IST

L1C Mercator



0

-20

-50

Celsius

IMD, DELHI

10

-10

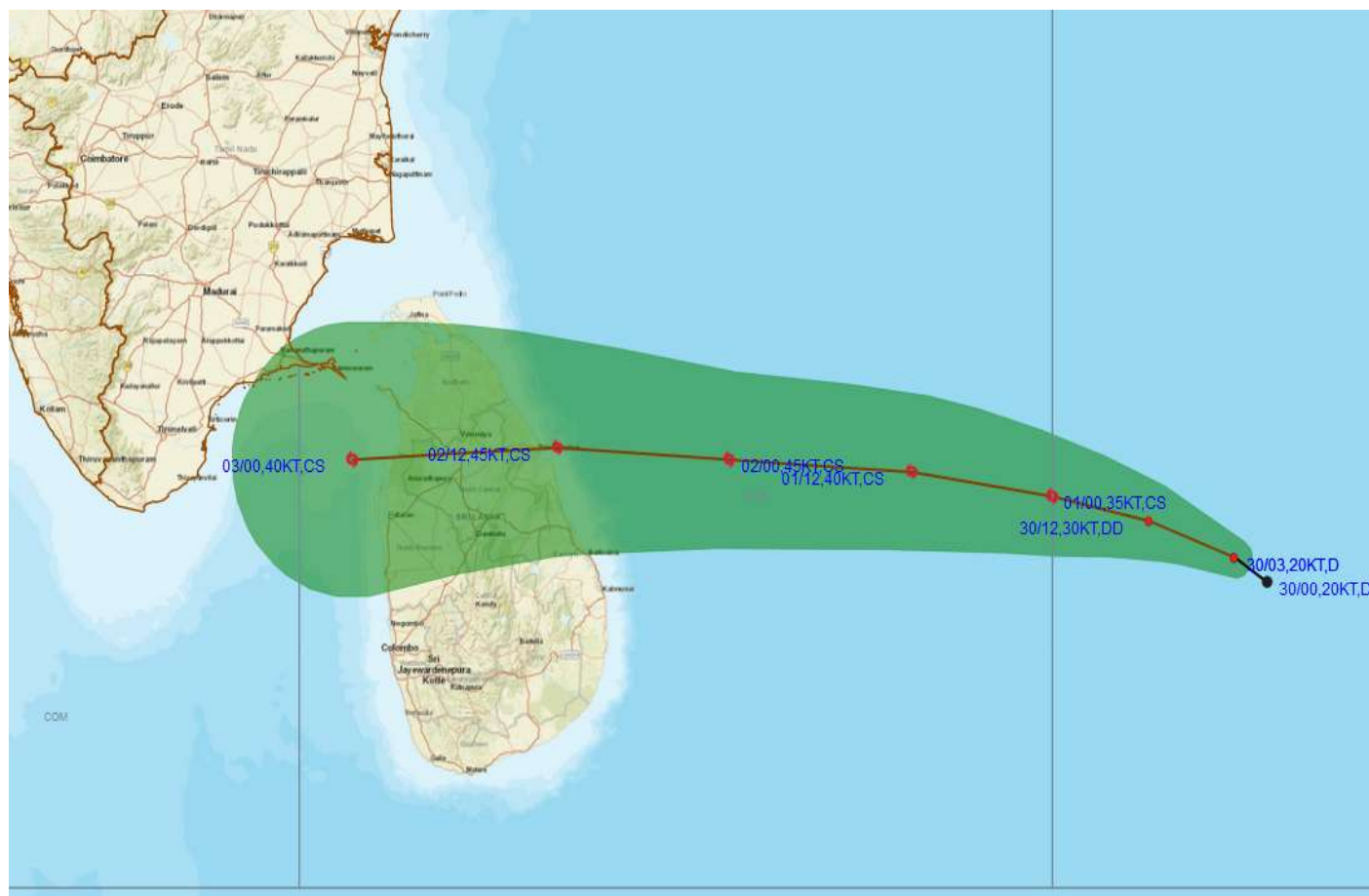
-30

-70

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 ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0300UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (\geq 120 KT)



LESS THAN 34 KT



34-47 KT



\geq 48 KT



OBSERVED TRACK



FORECAST TRACK



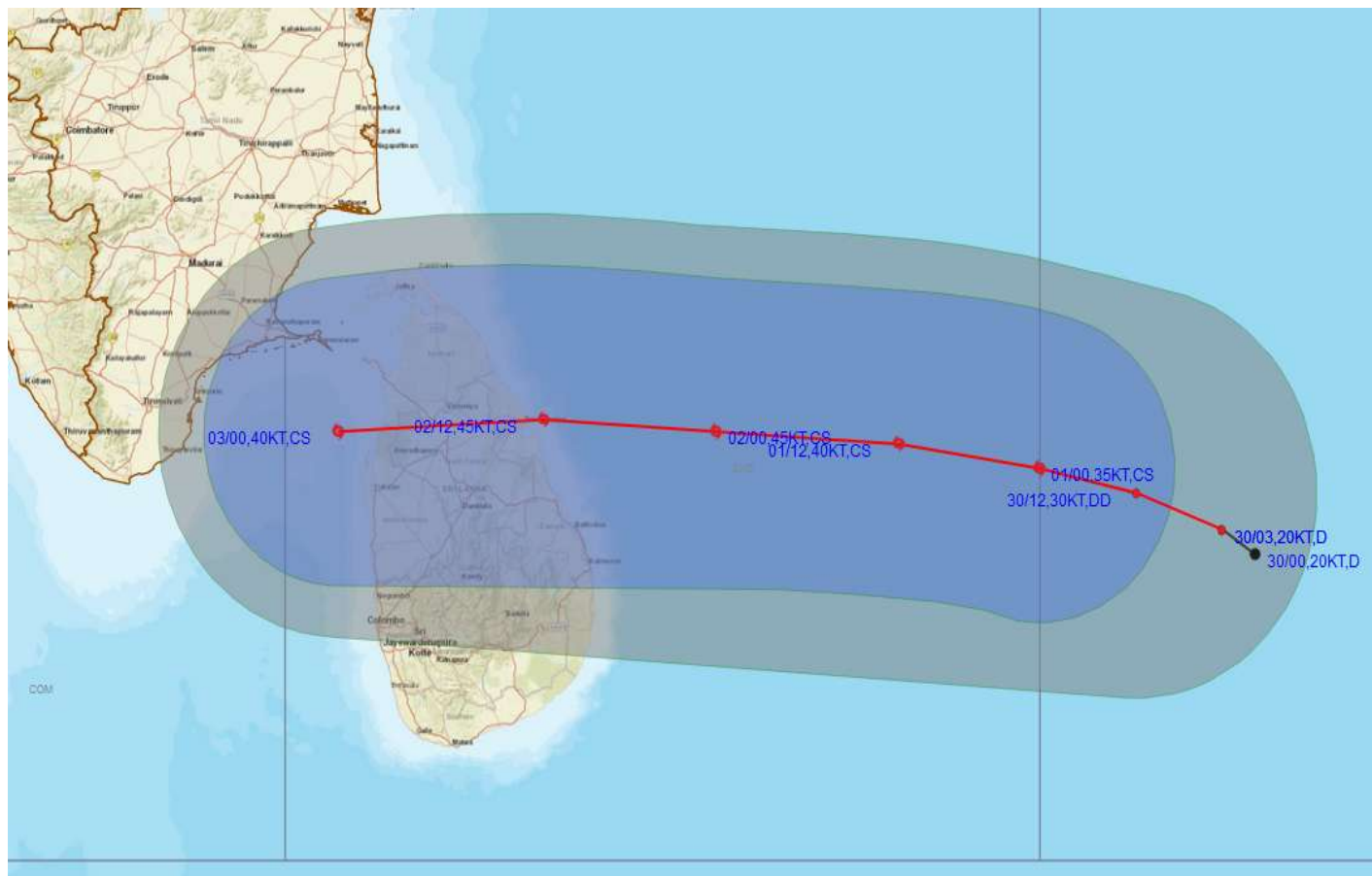
CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0300UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

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ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 03(BOB/05/2020)

TIME OF ISSUE: 1500 HOURS IST

DATED: 30.11.2020

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CHIEF SECRETARY, WEST BENGAL (FAX NO. 033-22144328)

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, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over southeast Bay of Bengal & neighbourhood (Pre-Cyclone Watch for South Tamilnadu and South Kerala coasts)

The **Depression** over southeast Bay of Bengal moved west-northwestwards at a speed of 12 kmph during past six hours and lay centered at 1130 hrs IST of today, the 30th November 2020 over the same region near Lat. 7.8° N and Long. 87.4°E, about 680 km east-southeast of Trincomalee (Sri Lanka) and 1090 km east of Kanniyakumari (India). It is very likely to intensify further into a Deep Depression during next 12 hours and into a cyclonic storm during subsequent 24 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5° N and 9.0° N during evening/night of 2nd December. It is very like to move nearly westwards thereafter and emerge into Comorin area on 3rd December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.11.20/1130	7.8/87.4	45-55 gusting to 65	Depression
30.11.20/2330	8.1/86.6	50-60 gusting to 70	Deep Depression
01.12.20/1130	8.4/85.3	60-70 gusting to 80	Cyclonic Storm
01.12.20/2330	8.5/83.8	65-75 gusting to 85	Cyclonic Storm
02.12.20/1130	8.6/82.2	70-80 gusting to 90	Cyclonic Storm
02.12.20/2330	8.6/80.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	8.4/79.3	60-70 gusting to 80	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 1st and 4th December 2020 and south Kerala on 2nd and 4th December, 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, 2020 and isolated heavy rainfall on 1st and 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	30 Nov 2020*	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at a few places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over central parts of South Bay of Bengal on 30th November.
- It would gradually increase becoming 55-65 kmph gusting to 75 kmph over southeast and adjoining southwest Bay of Bengal from 30th November night. It would gradually increase becoming gale wind speed reaching 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 48 hours.

(iii) Sea condition

- Sea condition will be rough to very rough over southeast Bay of Bengal from 30th November to 1st December and very rough to high over southwest & adjoining southeast Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 30th November to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal from 30th Nov to 1st Dec, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

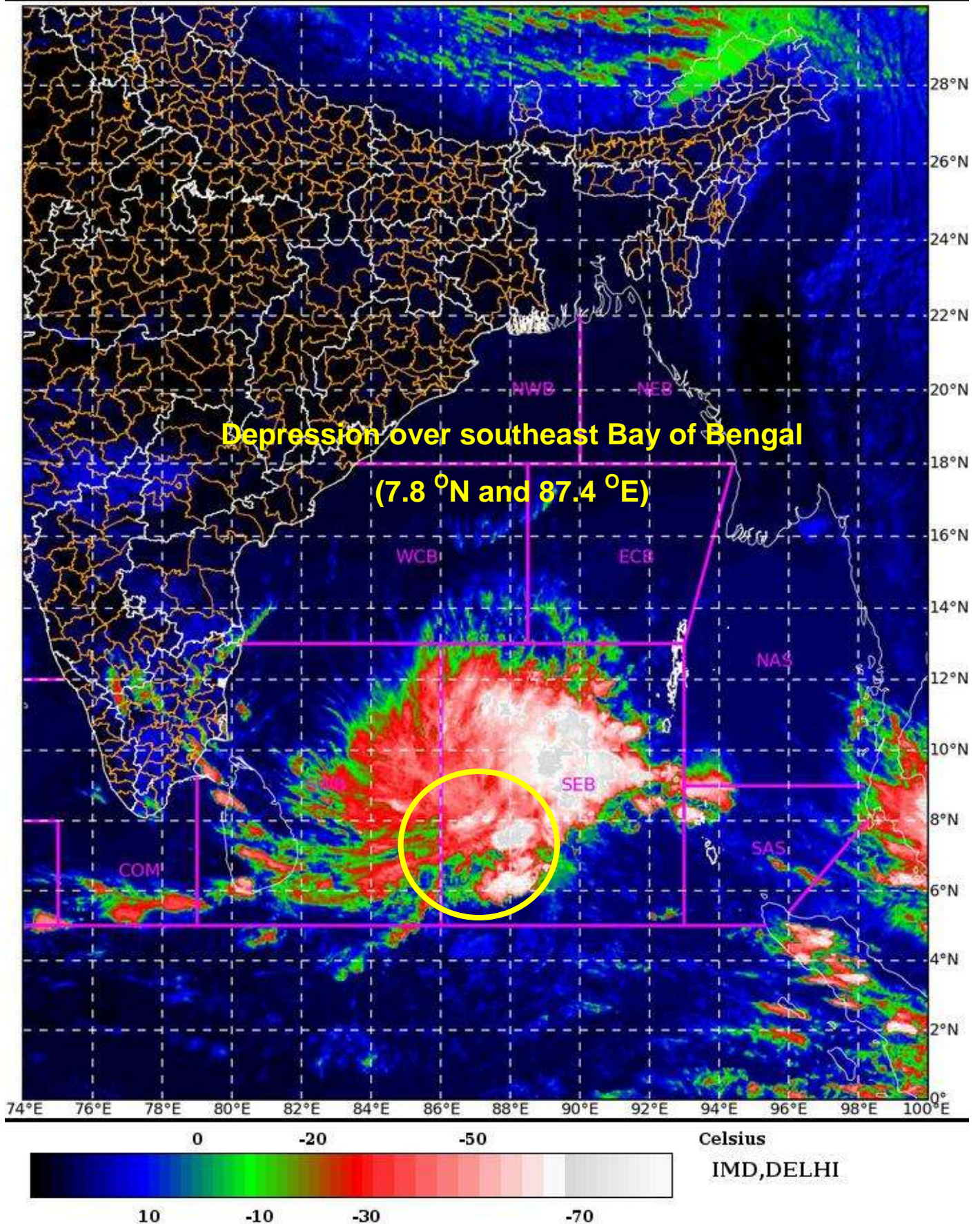
The next bulletin will be issued at 2030 hrs IST of 30th November, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram

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.

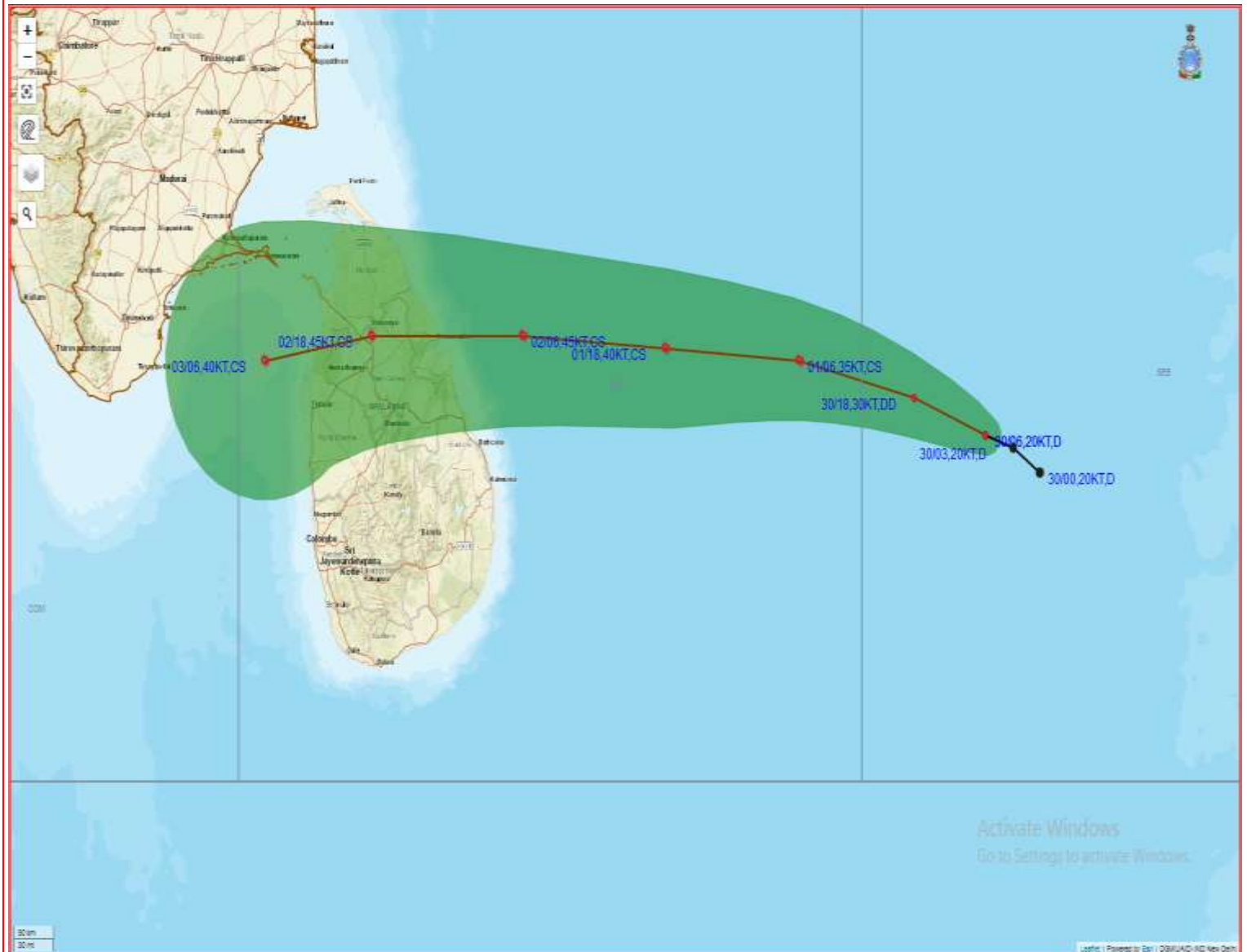
SAT : INSAT-3DR IMG 30-11-2020/(0845 to 0911) GMT
IMG_TIR1_TEMP 10.8 um 30-11-2020/(1415 to 1441) IST
L1C Mercator



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 ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 30TH NOVEMBER, 2020.



Activate Windows
Go to Settings to activate Windows.

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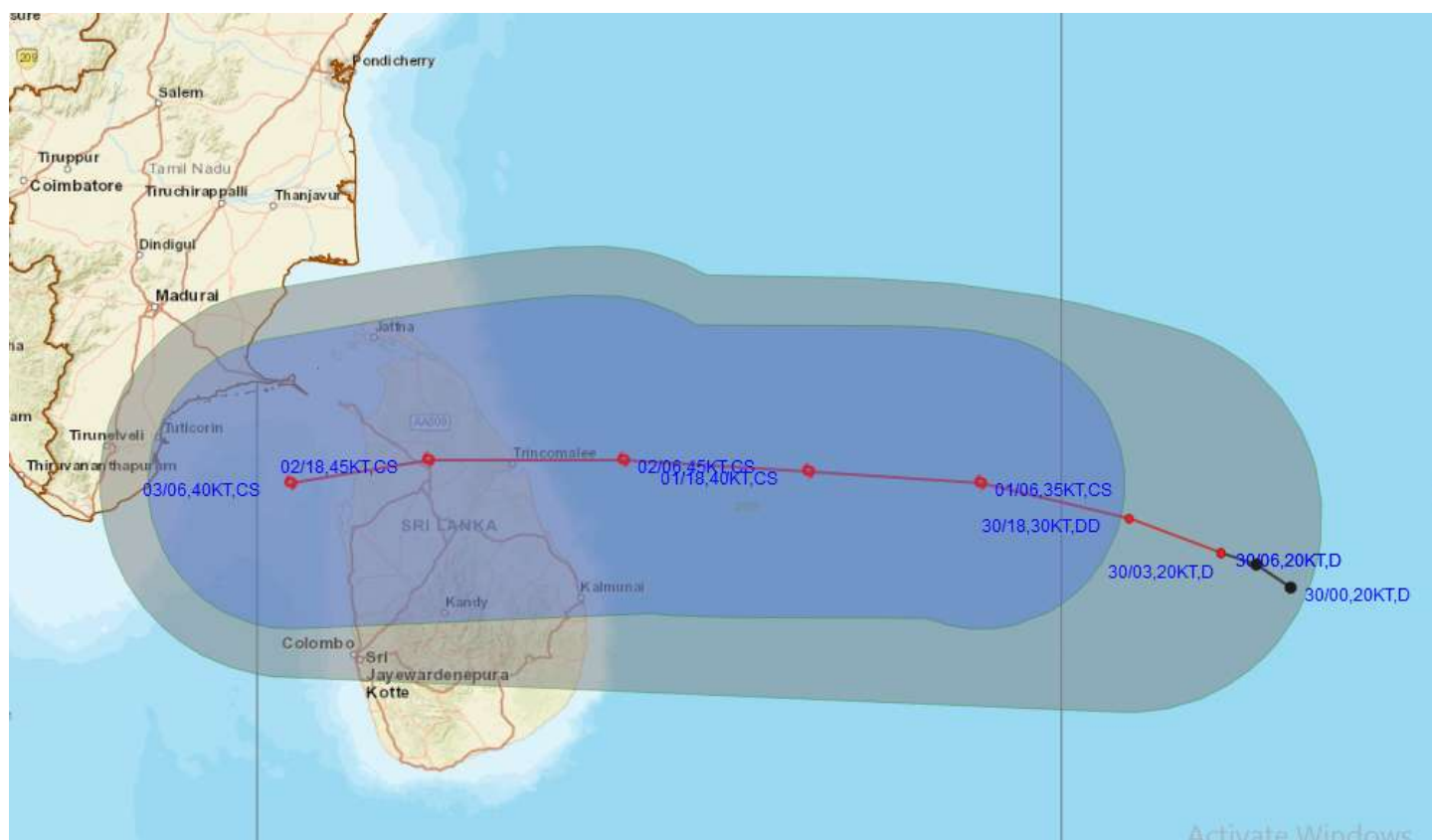
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST BAY OF BENGAL BASED ON 0600 UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 6 34-47 KT
 6 ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 — CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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

(Ministry of Earth Sciences)

BULLETIN NO. : 04(BOB/05/2020)

TIME OF ISSUE: 2000 HOURS IST

DATED: 30.11.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over southeast Bay and adjoining southwest Bay of Bengal & neighbourhood (Pre-Cyclone Watch for South Tamilnadu and South Kerala coasts)

The **Depression** over southeast Bay of Bengal moved westwards with a speed of 7 kmph during past six hours and lay centered at 1730 hrs IST of today, the 30th November 2020 over southeast and adjoining southwest Bay of Bengal near Lat. 7.7° N and Long. 87.0°E, about 640 km east-southeast of Trincomalee (Sri Lanka) and 1040 km east of Kanniyakumari (India). It is very likely to intensify further into a Deep Depression during next 12 hours and into a cyclonic storm during subsequent 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5° N and 9.0° N close to Trincomalee during evening/night of 2nd December. It is very like to move nearly westwards thereafter and emerge into Comorin area on 3rd December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.11.20/1730	7.7/87.0	45-55 gusting to 65	Depression
30.11.20/2330	7.8/86.6	50-60 gusting to 70	Deep Depression
01.12.20/0530	7.9/85.9	55-65 gusting to 75	Deep Depression
01.12.20/1130	8.1/85.3	60-70 gusting to 80	Cyclonic Storm
01.12.20/1730	8.2/84.6	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.4/83.2	70-80 gusting to 90	Cyclonic Storm
02.12.20/1730	8.6/81.7	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	8.4/80.0	60-70 gusting to 80	Cyclonic Storm
03.12.20/1730	8.2/79.0	70-80 gusting to 80	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 1st and 4th December 2020 and south Kerala on 2nd and 4th December, 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, 2020 and isolated heavy rainfall on 1st and 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	30 Nov 2020*	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at a few places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at isolated places	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over central parts of South Bay of Bengal on 30th November.
- It would gradually increase becoming 55-65 kmph gusting to 75 kmph over southeast and adjoining southwest Bay of Bengal from 30th November night. It would gradually increase becoming gale wind speed reaching 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 48 hours.

(iii) Sea condition

- Sea condition will be rough to very rough over southeast Bay of Bengal from 30th November to 1st December and very rough to high over southwest & adjoining southeast Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 30th November to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal from 30th Nov to 1st Dec, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 0230 hrs IST of 01 Dec , 2020.

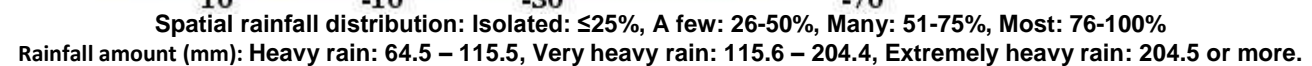
(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram

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.

30-11-2020/(1315 to 1341) GMT

30-11-2020/(1845 to 1911) IST





OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 30TH NOVEMBER,



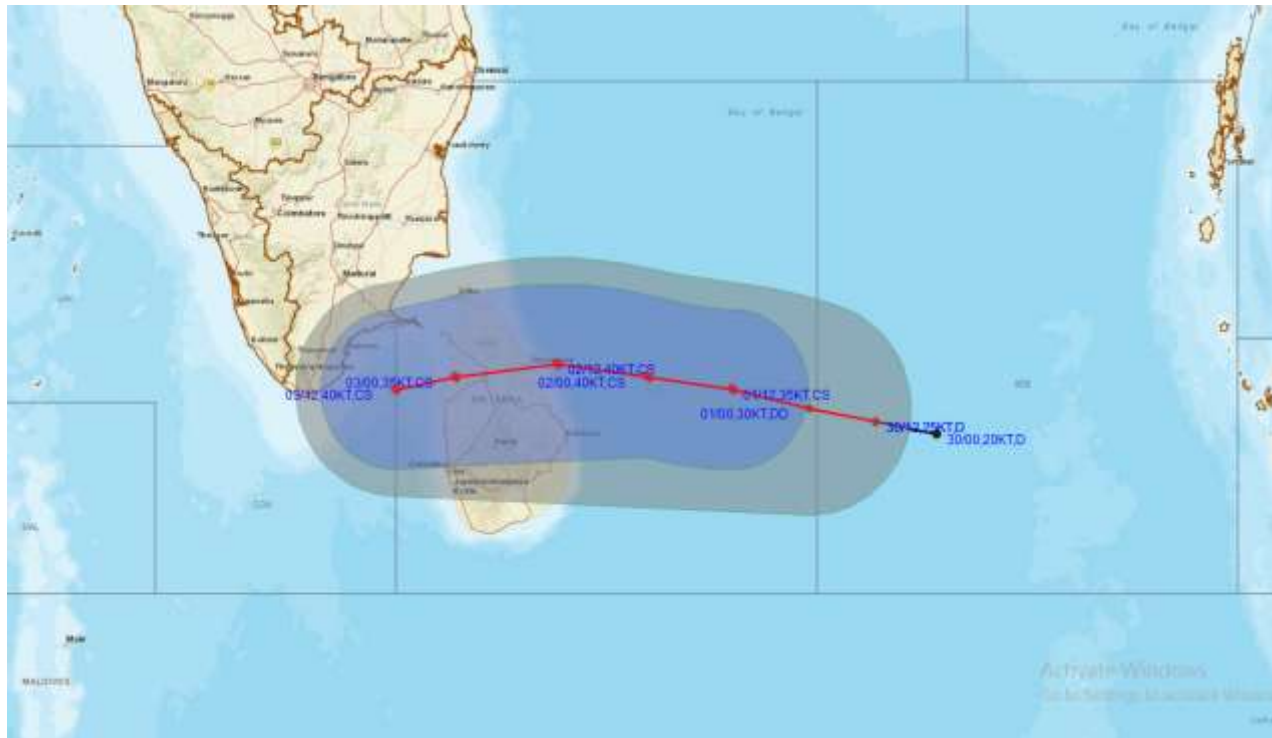
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
⤵ 34-47 KT
⤵ \geq 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63 KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
 ● 34-47 KT
 ● \geq 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ \geq 64 KT (\geq 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
\geq 64 (\geq 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: \leq 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

(Ministry of Earth Sciences)

BULLETIN NO. : 05(BOB/05/2020)

TIME OF ISSUE: 0210 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over southeast Bay and adjoining southwest Bay of Bengal & neighbourhood (Pre-Cyclone Watch for South Tamilnadu and South Kerala coasts)

The **Depression** over southeast Bay of Bengal moved nearly westwards with a speed of 7 kmph during past six hours and lay centered at 2330 hrs IST of 30th November 2020 over southeast and adjoining southwest Bay of Bengal near Lat. 7.8° N and Long. 86.6°E, about 590 km east-southeast of Trincomalee (Sri Lanka) and 1000 km east of Kanniyakumari (India). It is very likely to intensify further into a Deep Depression during next 06 hours and into a cyclonic storm during subsequent 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N close to Trincomalee during evening/night of 2nd December. It is very like to move nearly westwards thereafter, emerge into Comorin area on 3rd December morning and move westward towards south Tamilnadu coast.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
30.11.20/2330	7.8/86.6	45-55 gusting to 65	Depression
01.12.20/0530	8.0/86.0	50-60 gusting to 75	Deep Depression
01.12.20/1130	8.1/85.3	60-70 gusting to 80	Cyclonic Storm
01.12.20/1730	8.2/84.6	65-75 gusting to 85	Cyclonic Storm
01.12.20/2330	8.3/83.9	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.5	75-85 gusting to 95	Cyclonic Storm
02.12.20/2330	8.5/80.8	60-70 gusting to 80	Cyclonic Storm
03.12.20/1130	8.4/79.5	65-75 gusting to 85	Cyclonic Storm
03.12.20/2330	8.3/78.4	70-80 gusting to 90	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 1st and 4th December 2020 and south Kerala on 2nd and 4th December, 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, 2020 and isolated heavy rainfall on 1st and 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over central parts of South Bay of Bengal during next 6 hours.
- It would gradually increase becoming 55-65 kmph gusting to 75 kmph over southeast and adjoining southwest Bay of Bengal from 1st December morning. It would gradually increase becoming gale wind speed reaching 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for subsequent 48 hours.

(iii) Sea condition

- Prevailing rough to very rough sea condition over southeast Bay of Bengal will continue during 1st December and very rough to high over southwest & adjoining southeast Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 30th November to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 0830 hrs IST of 01 December, 2020.

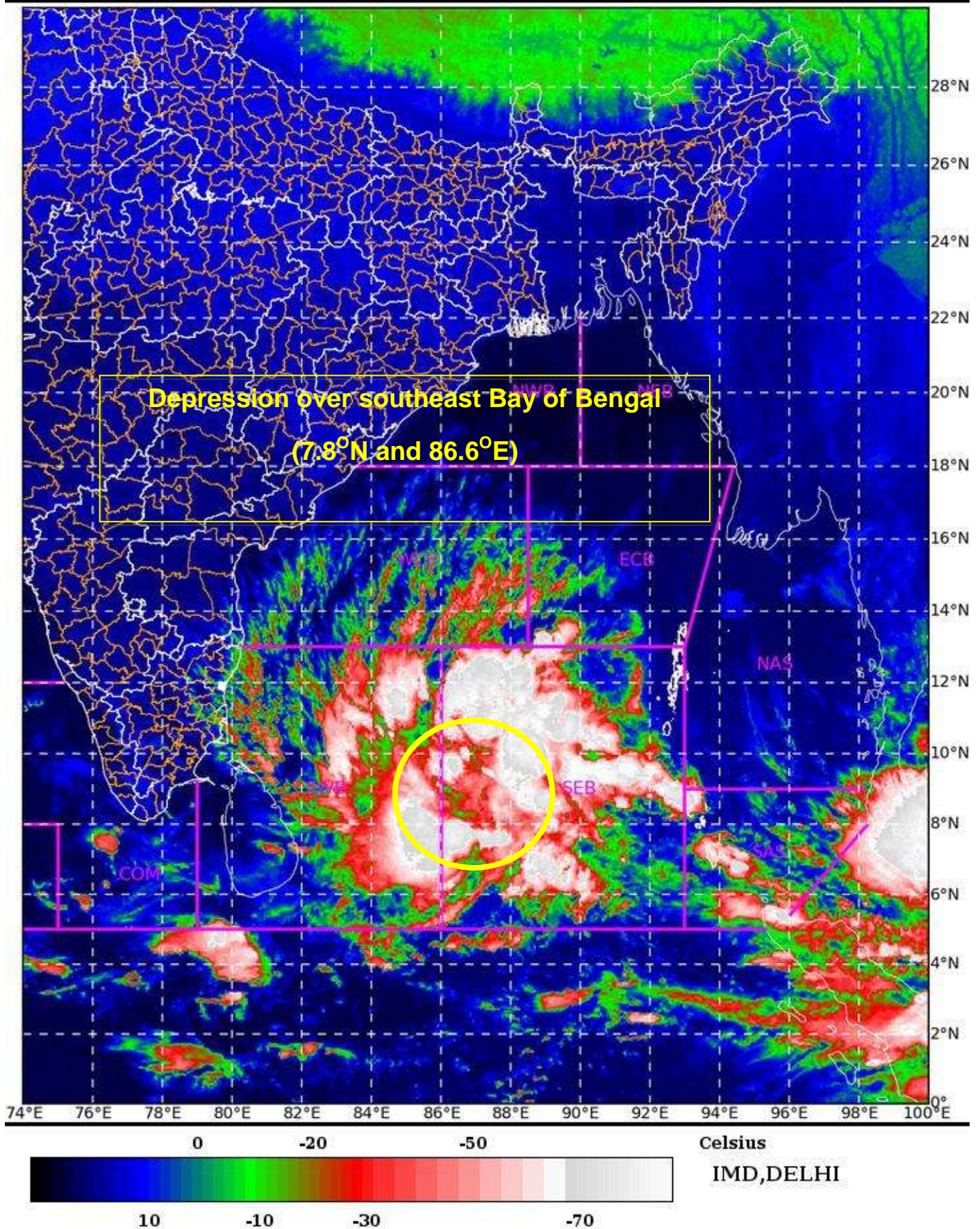
(A.K. Das)
Scientist-E, RSMC, New Delhi

*Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram*

SAT : INSAT-3DR IMG 30-11-2020/(1945 to 2011) GMT

IMG_TIR1_TEMP 10.8 um 01-12-2020/(0115 to 0141) IST

L1C Mercator

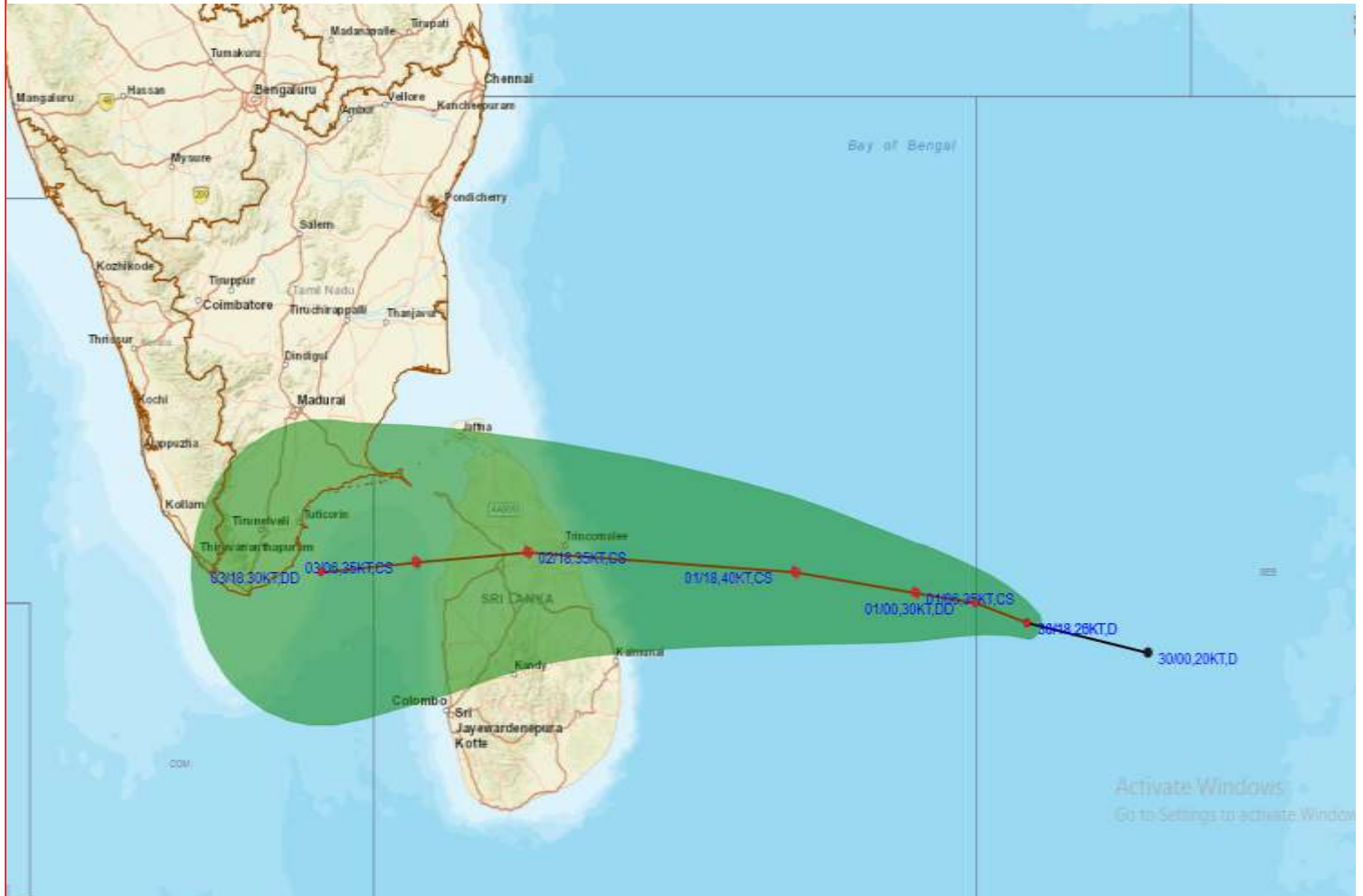


Spatial rainfall distribution: Isolated: $\leq 25\%$, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT

⬮ 34-47 KT

⬮ \geq 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEPRESSION OVER SOUTHEAST AND ADJOINING SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 30TH NOVEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

● 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

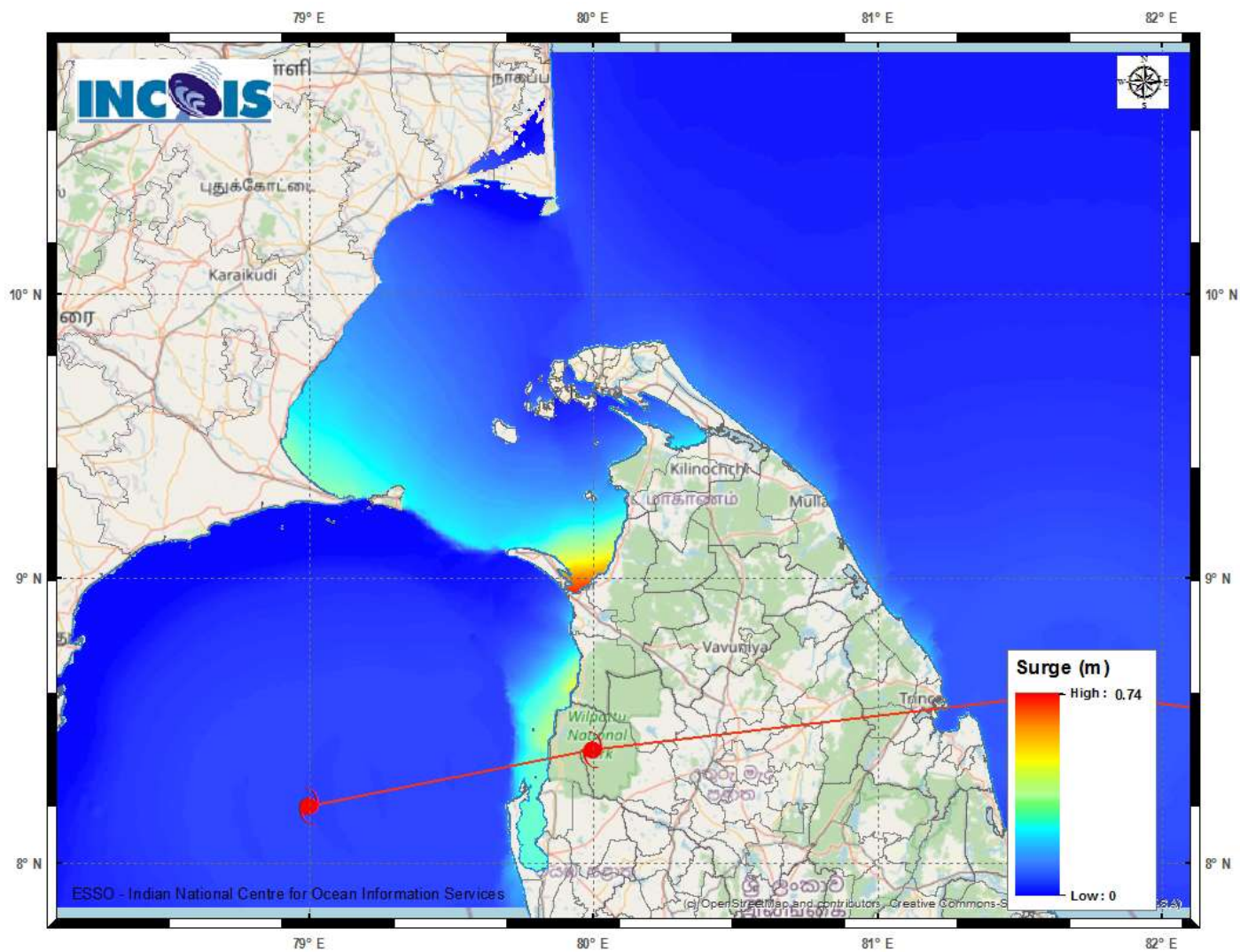
■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.



Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 06(BOB/05/2020)

TIME OF ISSUE: 0830 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression intensified into a Deep Depression over southwest and adjoining southeast Bay of Bengal (Pre-Cyclone Watch for South Tamilnadu and South Kerala coasts)

The **Depression** over southeast and adjoining southwest Bay of Bengal moved nearly westwards with a speed of 10 kmph during past six hours, intensified into a **Deep Depression** and lay centered at 0530 hrs IST of 01st December 2020 over southwest and adjoining southeast Bay of Bengal near Lat. 7.8° N and Long. 86.0°E, about 530 km east-southeast of Trincomalee (Sri Lanka) and 930 km east-southeast of Kanniyakumari (India). It is very likely to intensify further into a cyclonic storm during next 24 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N close to Trincomalee during evening/night of 2nd December. It is very likely to move nearly westwards thereafter, emerge into Comorin area on 3rd December morning and move westward towards south Tamilnadu coast.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/0530	7.8/86.0	50-60 gusting to 70	Deep Depression
01.12.20/1130	7.9/85.3	55-65 gusting to 75	Deep Depression
01.12.20/1730	8.1/84.6	60-70 gusting to 75	Cyclonic Storm
01.12.20/2330	8.3/83.9	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.4/83.2	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.6/81.7	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	8.7/80.3	65-75 gusting to 85	Cyclonic Storm
03.12.20/1730	8.7/79.3	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.5/78.5	70-80 gusting to 90	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd and 4th December 2020 and south Kerala on 3rd and 4th December, 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd and 3rd December, isolated heavy rainfall on 4th December and isolated heavy rainfall over coastal Tamilnadu on 1st December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely over central parts of South Bay of Bengal during next 12 hours.
- It would gradually increase becoming gale wind speed reaching 60-70 kmph gusting to 80 kmph over southwest and adjoining southeast Bay of Bengal from 1st December evening. It would gradually increase becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 24 hours.

(iii) Sea condition

- Prevailing rough to very rough sea condition over southeast Bay of Bengal will continue during 1st December and very rough to high over southeast & adjoining southwest Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 1st december to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 1130 hrs IST of 1st December, 2020.

(A.K. Das)
Scientist-E, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

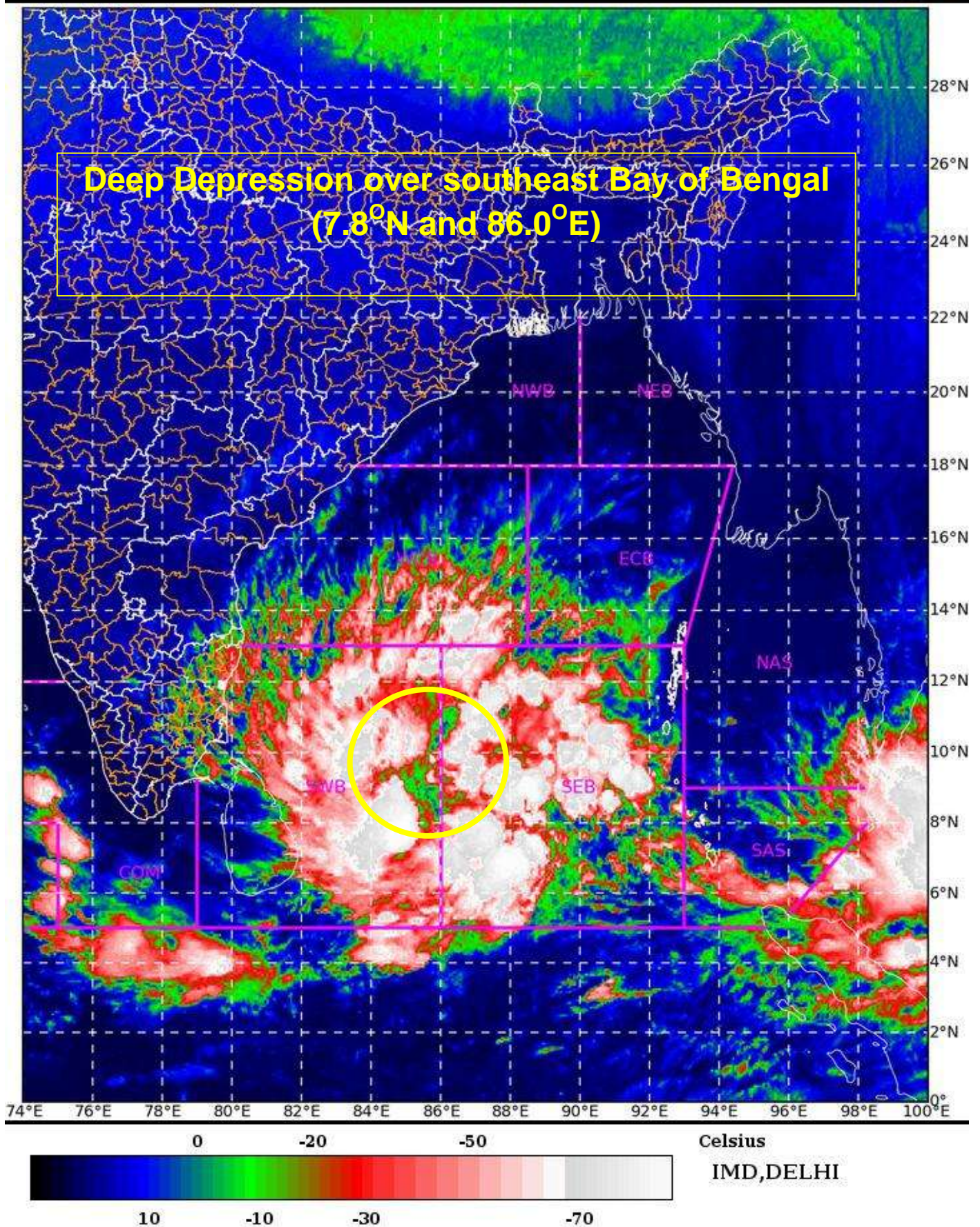
SAT : INSAT-3D IMG

01-12-2020/(0200 to 0226) GMT

IMG_TIR1_TEMP 10.8 um

01-12-2020/(0730 to 0756) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC OF 1st DECEMBER, 2020.



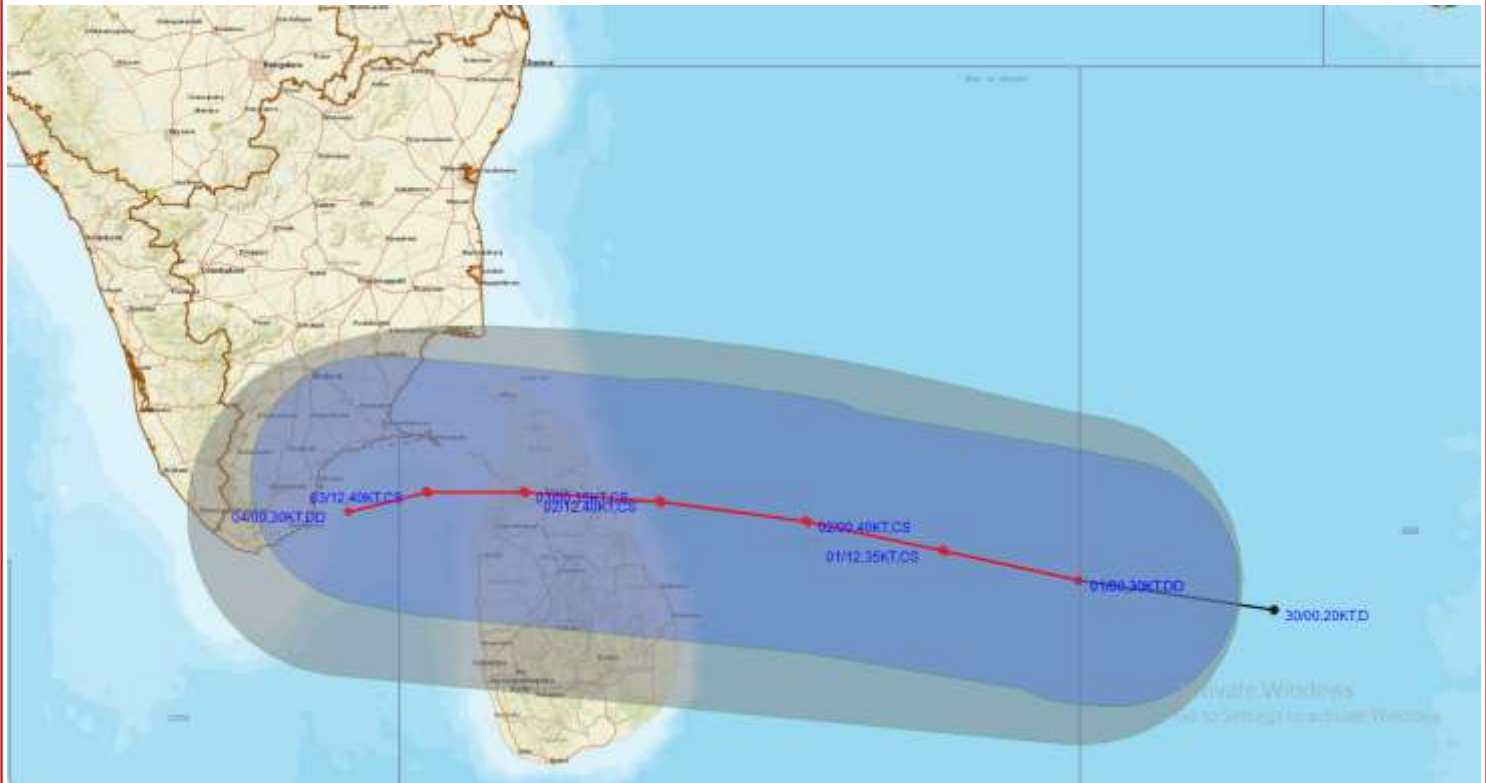
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
● 34-47 KT
● \geq 48 KT
■ OBSERVED TRACK
■ FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 0000 UTC OF 1st DECEMBER, 2020.



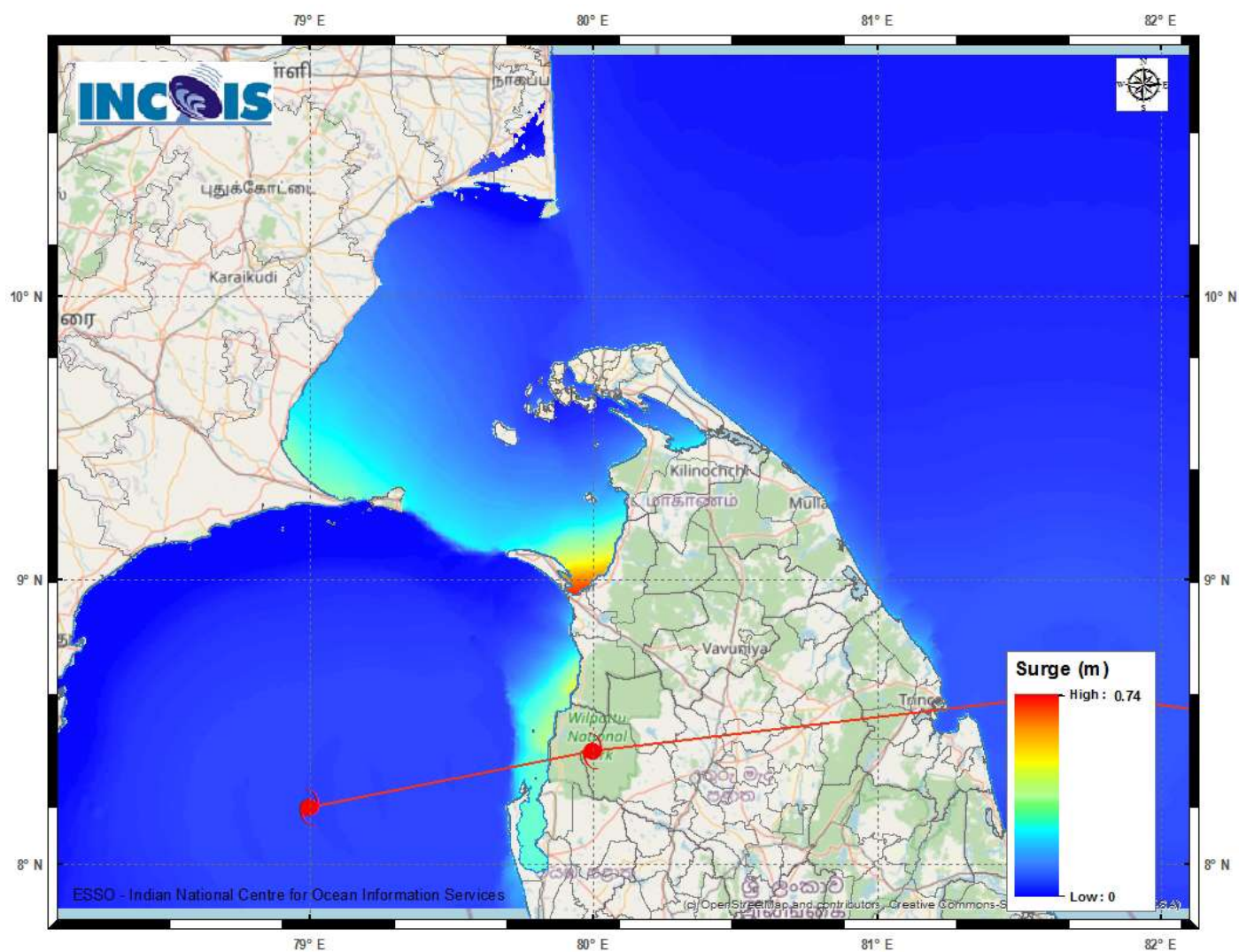
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 6 34-47 KT
 6 ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.



Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 07(BOB/05/2020)

TIME OF ISSUE: 1130 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over southwest and adjoining southeast Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Deep Depression** over southwest and adjoining southeast Bay of Bengal moved westwards with a speed of 11 kmph during past six hours and lay centered at 0830 hrs IST of 01st December 2020 over the same region near Lat. 7.8° N and Long. 85.7°E, about 500 km east-southeast of Trincomalee (Sri Lanka) and 900 km east-southeast of Kanniyakumari (India).

It is very likely to intensify further into a cyclonic storm during next 24 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N close to Trincomalee during evening/night of 2nd December. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning and move westward towards south Tamilnadu coast.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/0830	7.8/85.7	50-60 gusting to 70	Deep Depression
01.12.20/1130	7.9/85.3	55-65 gusting to 75	Deep Depression
01.12.20/1730	8.1/84.6	60-70 gusting to 75	Cyclonic Storm
01.12.20/2330	8.3/83.9	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.4/83.2	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.6/81.7	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	8.7/80.3	65-75 gusting to 85	Cyclonic Storm
03.12.20/1730	8.7/79.3	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.5/78.5	70-80 gusting to 90	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala(Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at Isolated places very likely over north Tamilnadu, Puducherry, Mahe & Kariakal and north Kerala during 2nd & 3rd December, isolated heavy rainfall on 4th December and isolated heavy rainfall over coastal Tamilnadu on 1st December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh during 2nd & 03rd December and over Lakshadweep during 03rd and 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely over central parts of South Bay of Bengal during next 12 hours.
- It would gradually increase becoming gale wind speed reaching 60-70 kmph gusting to 80 kmph over southwest and adjoining southeast Bay of Bengal from 1st December evening. It would gradually increase becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu & Kerala coasts, over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 24 hours.

(iii) Sea condition

- Prevailing rough to very rough sea condition over southeast Bay of Bengal will continue during 1st December and very rough to high over southeast & adjoining southwest Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen Warning

- **Total suspension** of fishing operation **during 1st december to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

The next bulletin will be issued at 1430 hrs IST of 1st December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

*Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC
Thiruvananthapuram*

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.

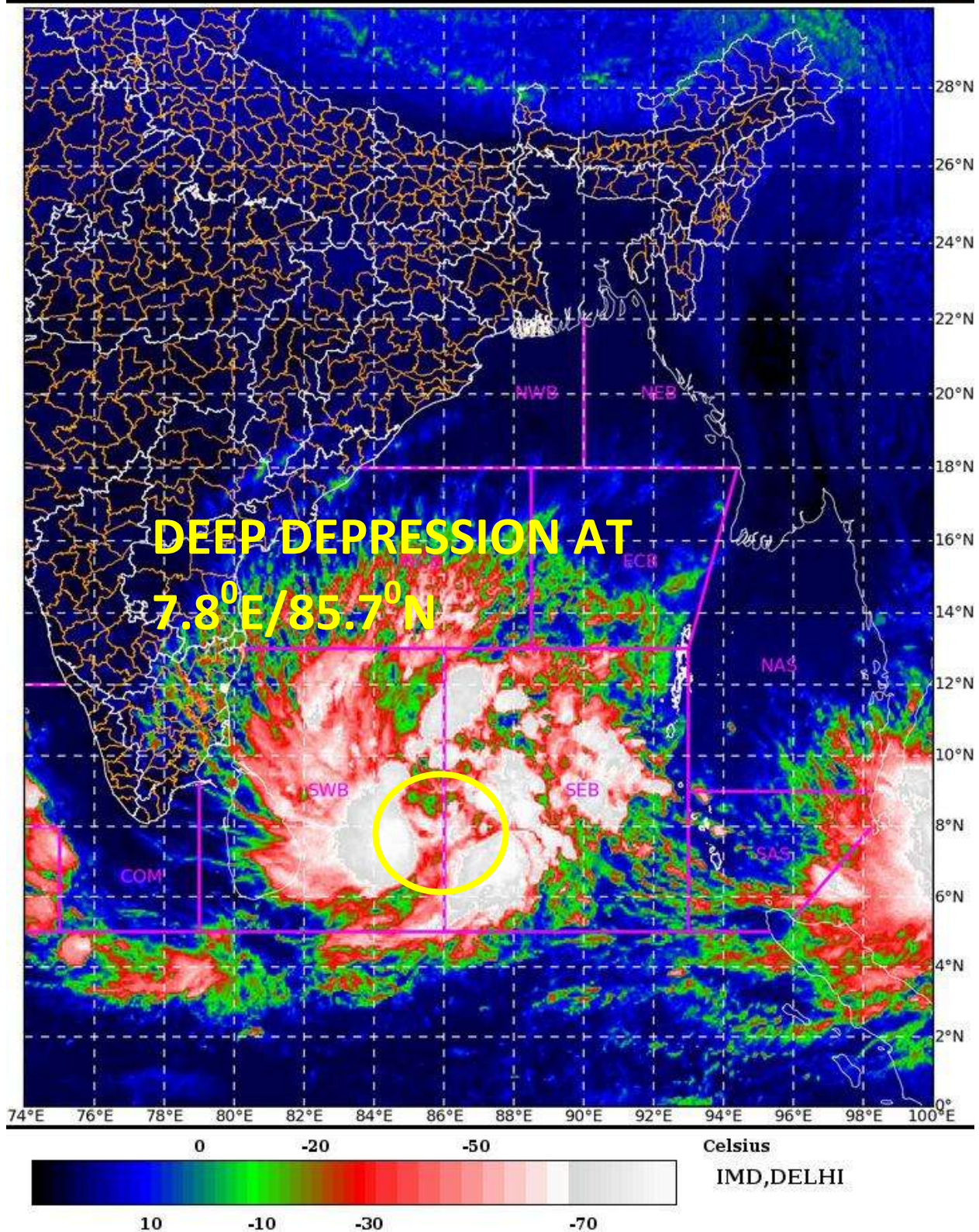
SAT : INSAT-3D IMG

01-12-2020/(0400 to 0427) GMT

IMG_TIR1_TEMP 10.8 um

01-12-2020/(0930 to 0957) IST

L1C Mercator

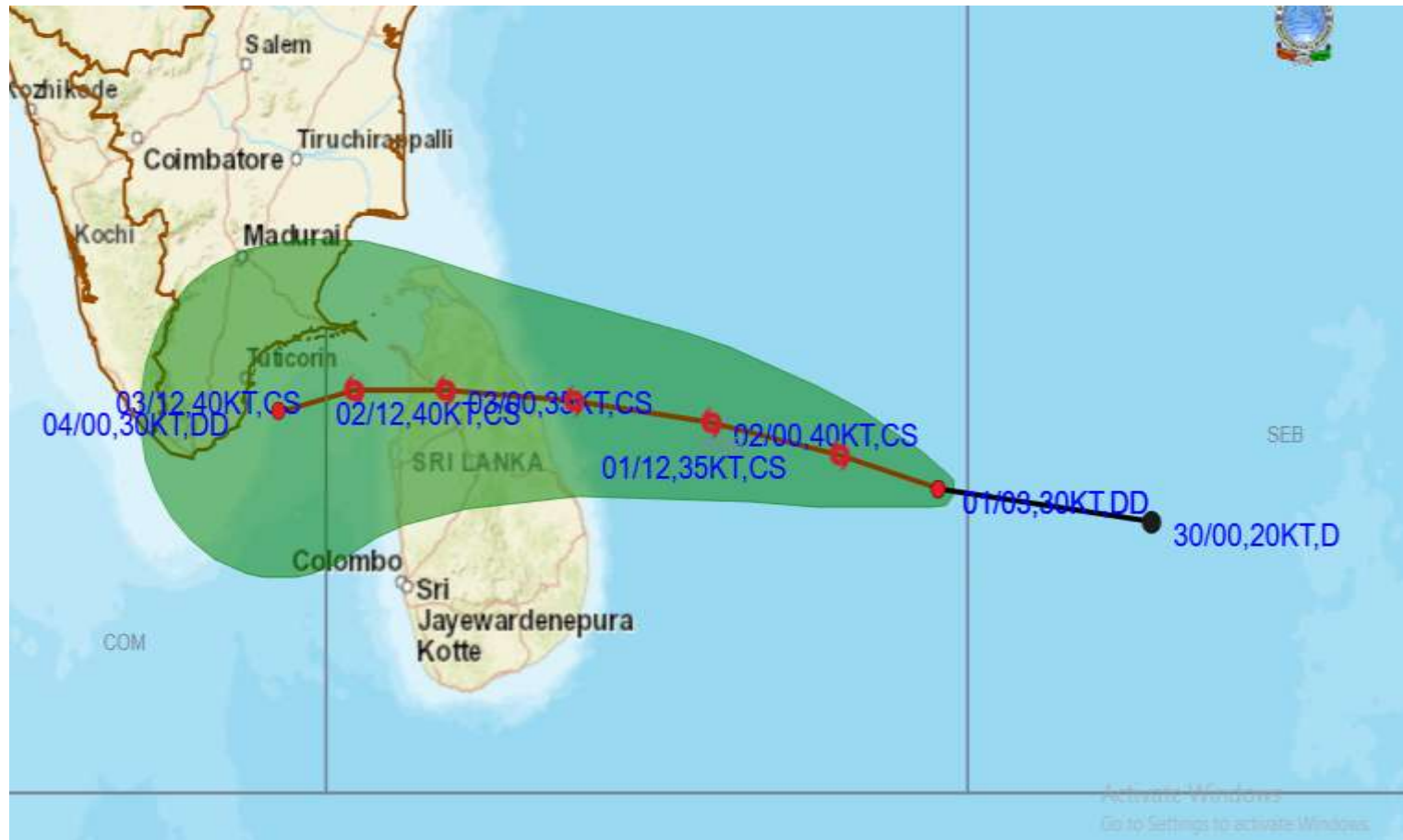


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 0300 UTC OF 1st DECEMBER, 2020.



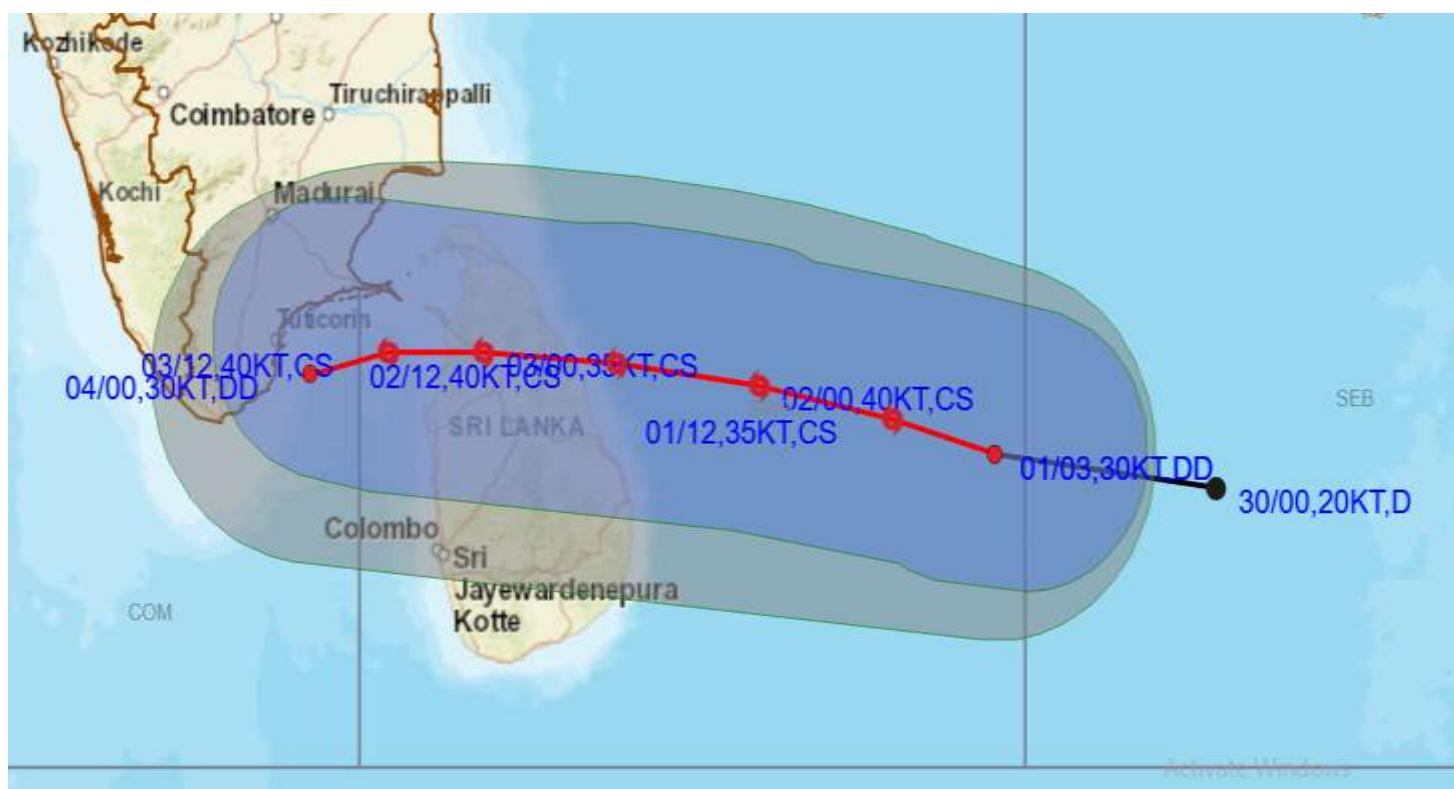
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST AND ADJOINING SOUTHEAST BAY OF BENGAL BASED ON 0300 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

● 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamelkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

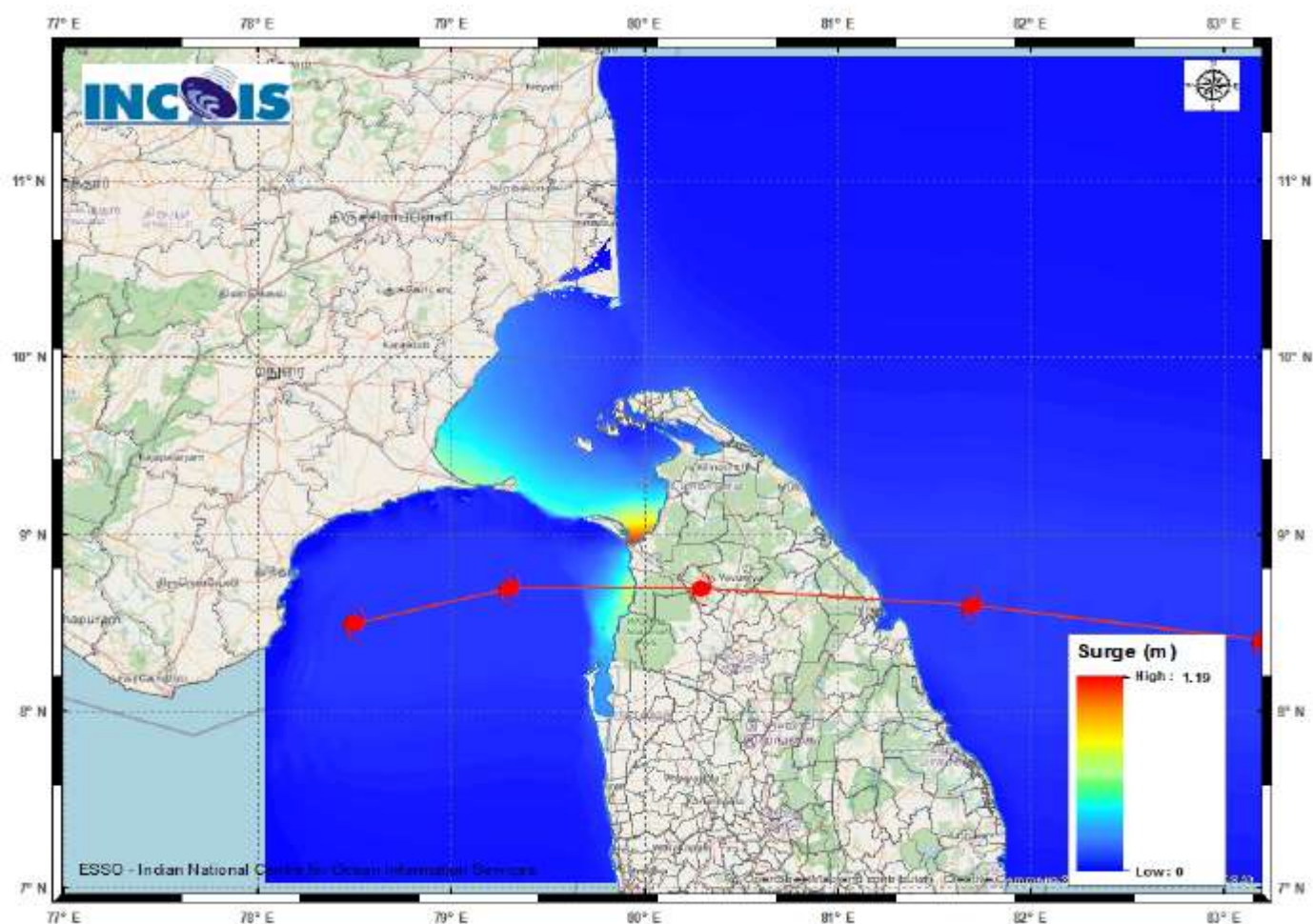


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 08(BOB/05/2020)

TIME OF ISSUE: 1430 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Deep Depression** over southwest and adjoining southeast Bay of Bengal moved westwards with a speed of 13 kmph during past six hours and lay centered at 1130 hrs IST of 01st December 2020 over southwest Bay of Bengal near Lat. 7.8° N and Long. 85.3°E, about 460 km east-southeast of Trincomalee (Sri Lanka) and 860 km east-southeast of Kanniyakumari (India).

It is very likely to intensify further into a cyclonic storm during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N close to Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 75-85 kmph gusting to 95 kmph. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/1130	7.8/85.3	55-65 gusting to 75	Deep Depression
01.12.20/1730	7.9/84.6	60-70 gusting to 75	Cyclonic Storm
01.12.20/2330	8.1/84.0	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.2	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.4	75-85 gusting to 95	Cyclonic Storm
02.12.20/2330	8.7/80.8	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	8.8/79.7	65-75 gusting to 85	Cyclonic Storm
03.12.20/2330	8.8/78.7	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.2/77.5	65-75 gusting to 85	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December and isolated heavy rainfall over coastal Tamilnadu on 1st December, 2020.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph very likely over central parts of South Bay of Bengal during next 12 hours.
- It would gradually increase becoming gale wind speed reaching 60-70 kmph gusting to 80 kmph over southwest and adjoining southeast Bay of Bengal from 1st December evening. It would gradually increase becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from 2nd December morning for subsequent 24 hours.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coasts (**Thiruvananthapuram district**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph over Gulf of Mannar, along & off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram and Kollam districts**), over Comorin Area, Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 12 hours.

(iii) Sea condition

- Prevailing rough to very rough sea condition over southeast Bay of Bengal will continue during 1st December and very rough to high over southeast & adjoining southwest Bay of Bengal and along & off east Sri Lanka coast during 1st & 2nd December, and rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala coasts from 2nd to 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen warning

- **Total suspension** of fishing operation **during 1st December to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast by today.

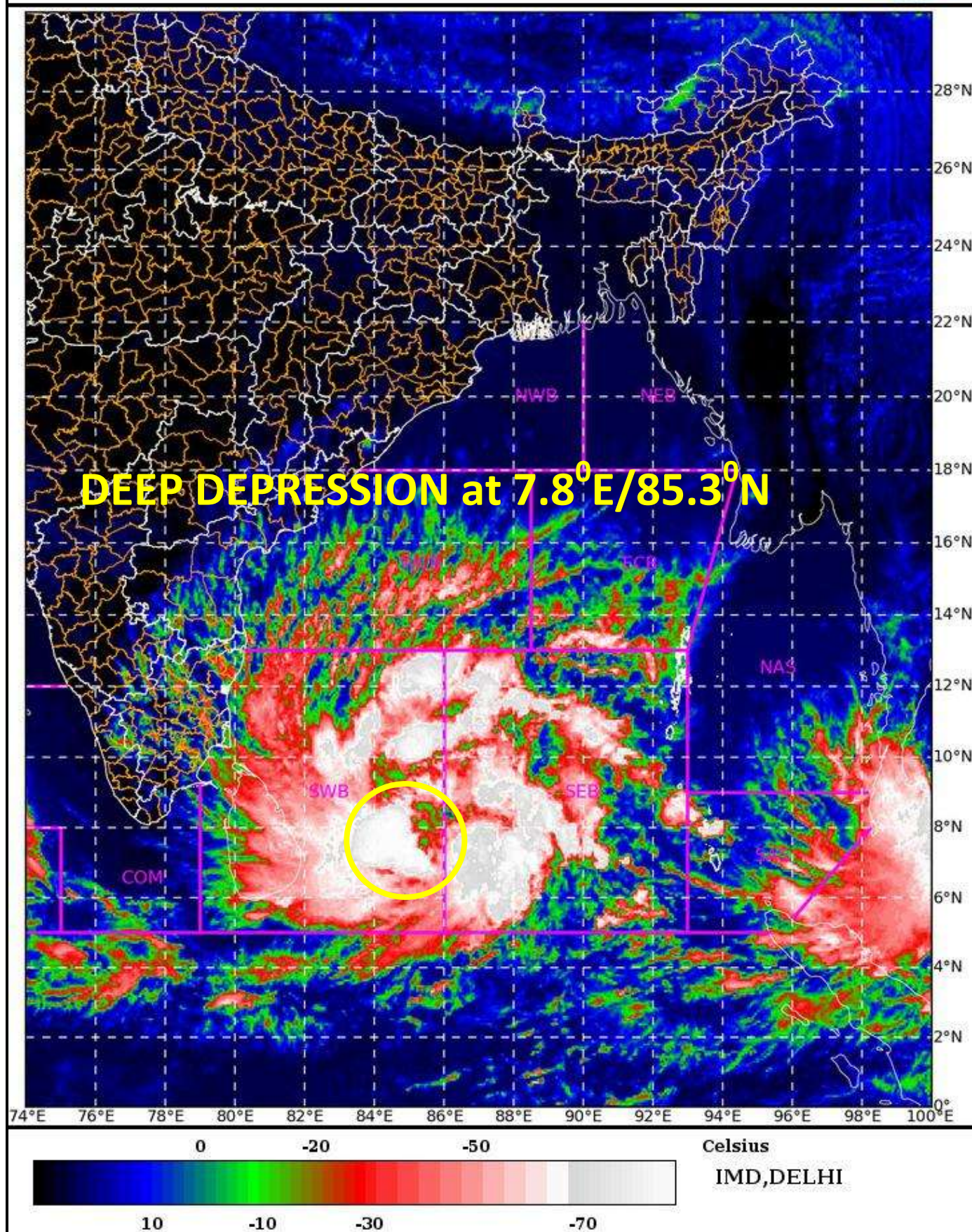
The next bulletin will be issued at 1730 hrs IST of 1st December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

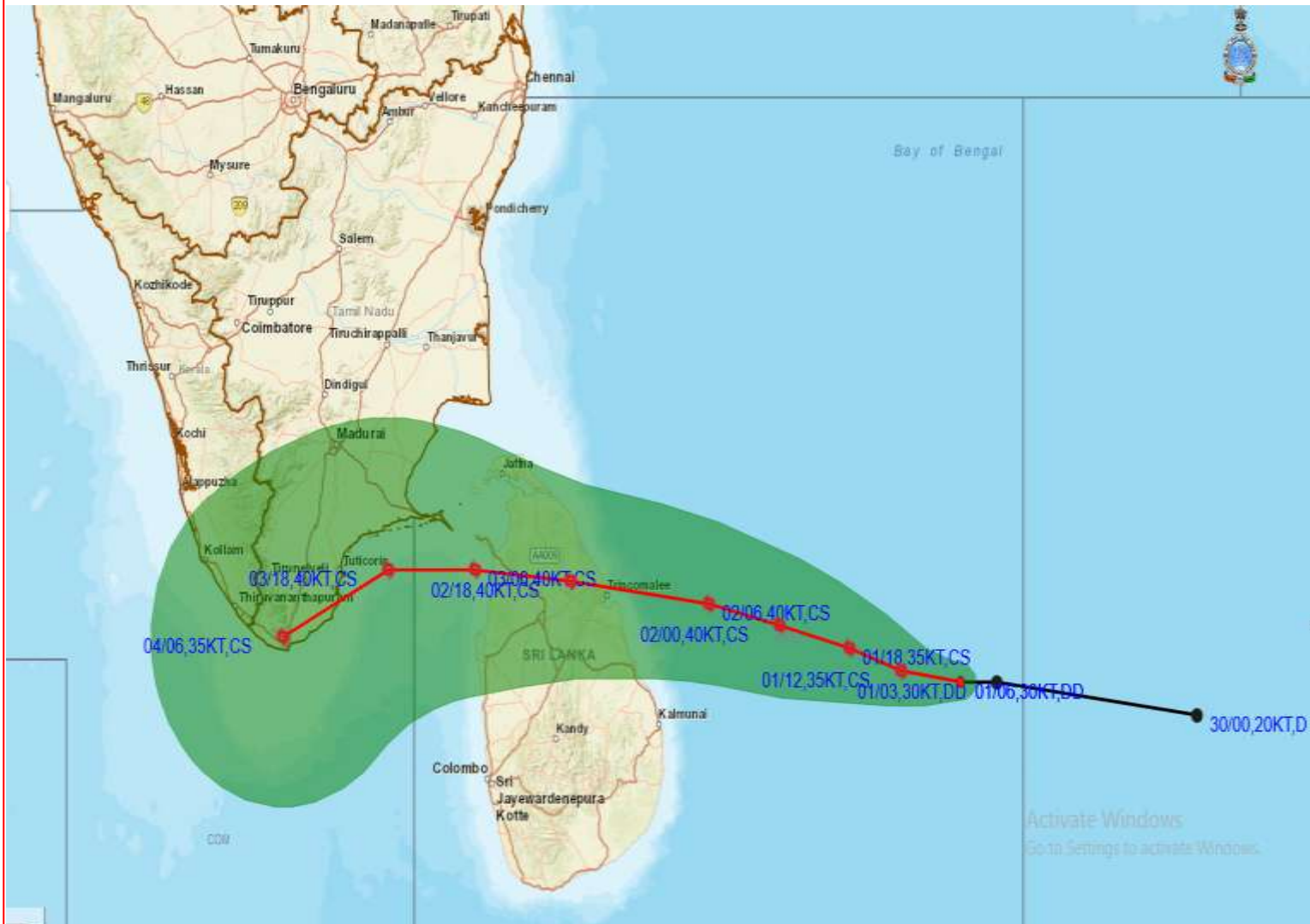
SAT : INSAT-3D IMG 01-12-2020/(0700 to 0727) GMT
 IMG_TIR1_TEMP 10.8 um 01-12-2020/(1230 to 1257) IST
 L1C Mercator



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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 1st DECEMBER, 2020.



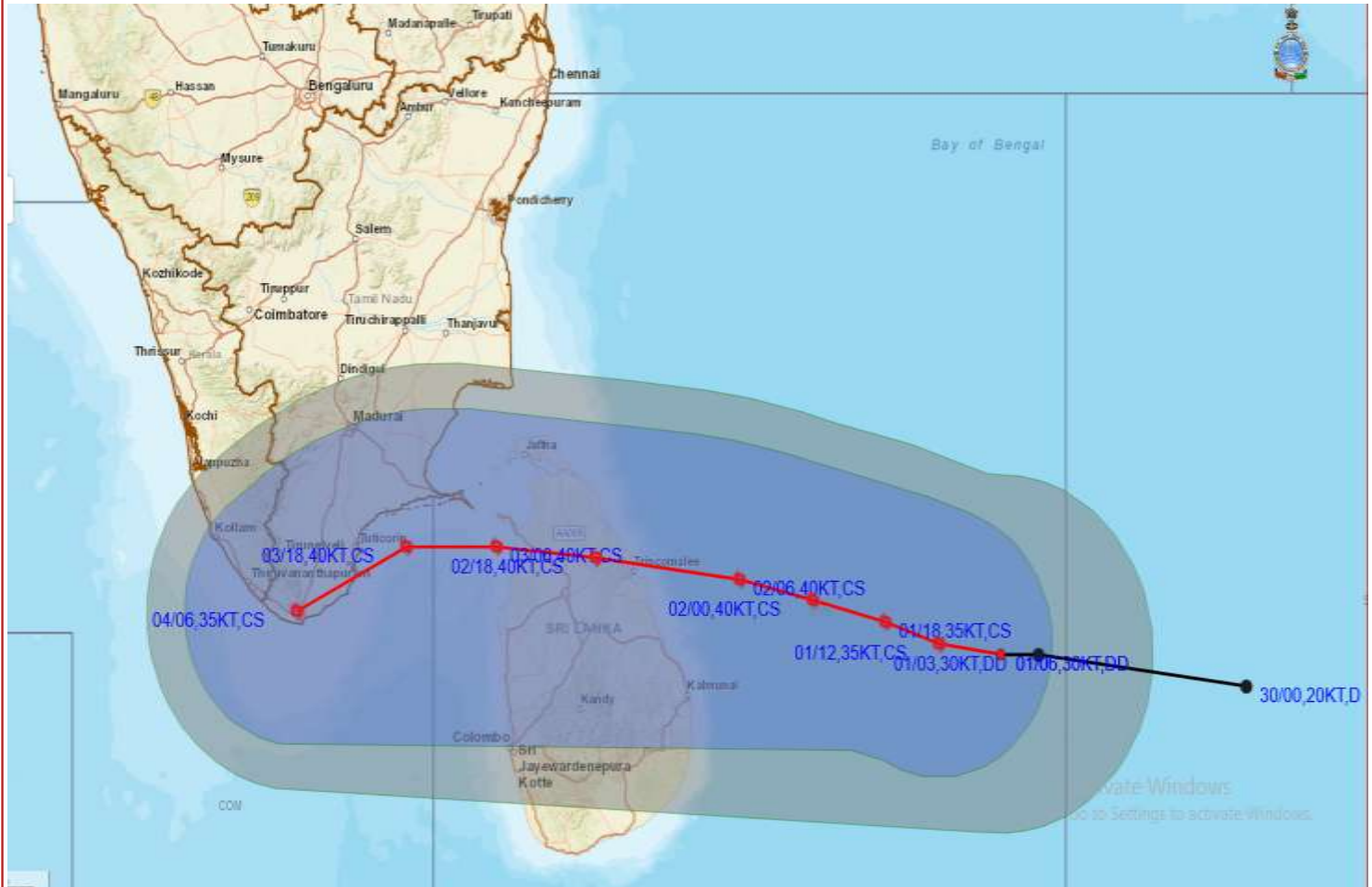
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
6 34-47 KT
6 \geq 48 KT
■ OBSERVED TRACK
■ FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

● 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamalkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

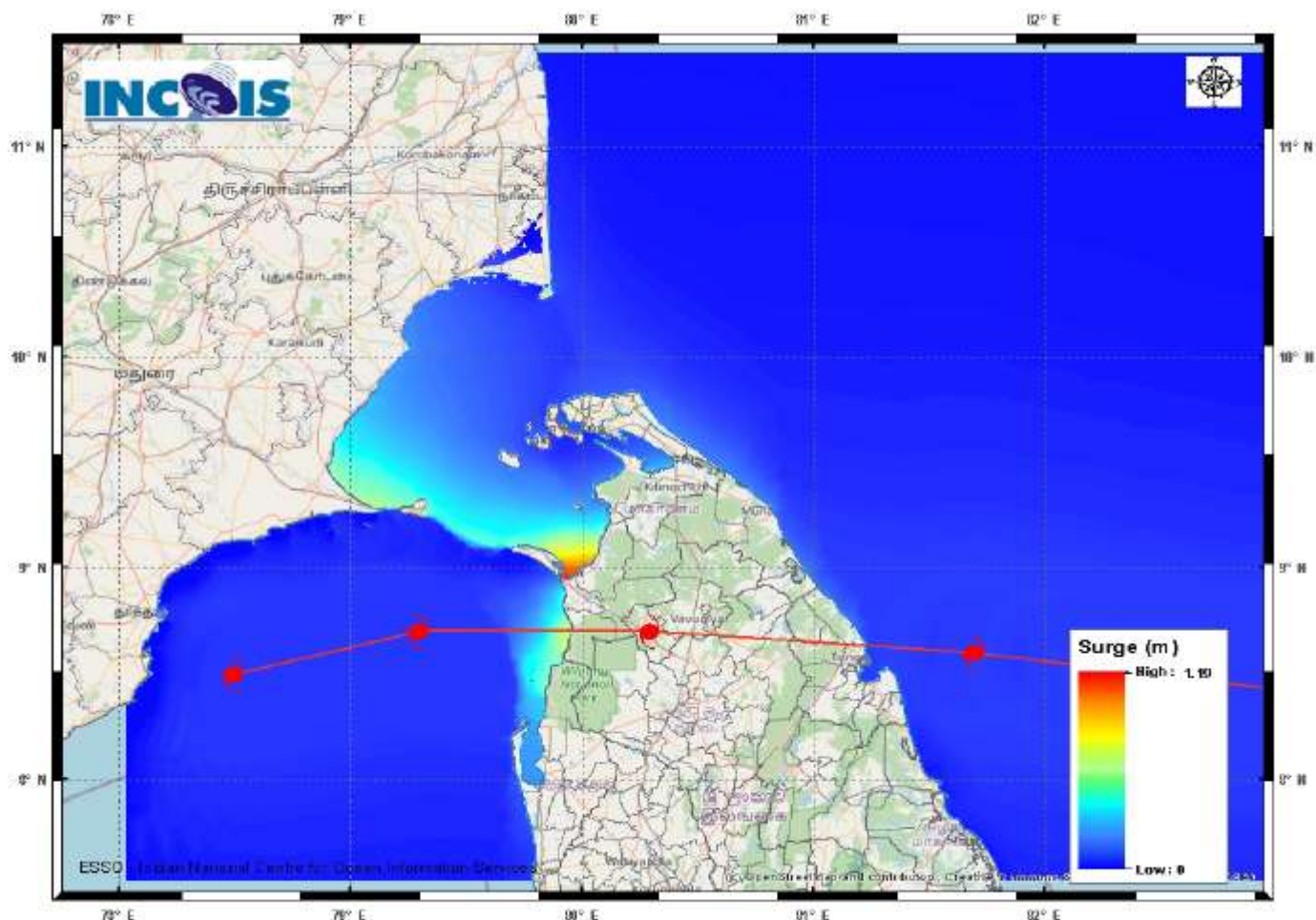


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 09(BOB/05/2020)

TIME OF ISSUE: 2030 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Deep Depression** over southwest Bay of Bengal moved west-northwestwards with a speed of 09 kmph during past six hours, intensified into **Cyclonic Storm 'Burevi'** and lay centered at 1730 hrs IST of today, the 01st December 2020 over southwest Bay of Bengal near Lat. 7.9° N and Long. 84.8°E, about 400 km east-southeast of Trincomalee (Sri Lanka) and 800 km east-southeast of Kanniyakumari (India).

It is very likely to intensify further during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N, close to Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 75-85 kmph gusting to 95 kmph. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/1730	7.9/84.8	60-70 gusting to 75	Cyclonic Storm
01.12.20/2330	8.1/84.2	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.4	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.6	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.7/81.3	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	8.8/80.2	65-75 gusting to 85	Cyclonic Storm
03.12.20/1730	8.8/79.3	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.6/78.2	70-80 gusting to 90	Cyclonic Storm
04.12.20/1730	8.0/77.1	65-75 gusting to 85	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December and isolated heavy rainfall over coastal Tamilnadu on 1st December, 2020.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 60-70 kmph gusting to 80 kmph very likely over southwest and adjoining Southeast Bay of Bengal during next 12 hours.
- It would gradually increase and becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from morning to night of 2nd December and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Sea condition

- Sea conditions is very rough to high over southwest and adjoining Southeast Bay of Bengal and along & off east Sri Lanka coast and the same will continue till night of 2nd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen warning

- **Total suspension** of fishing operation **during 1st December to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from **3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast.

The next bulletin will be issued at 2330 hrs IST of 1st December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

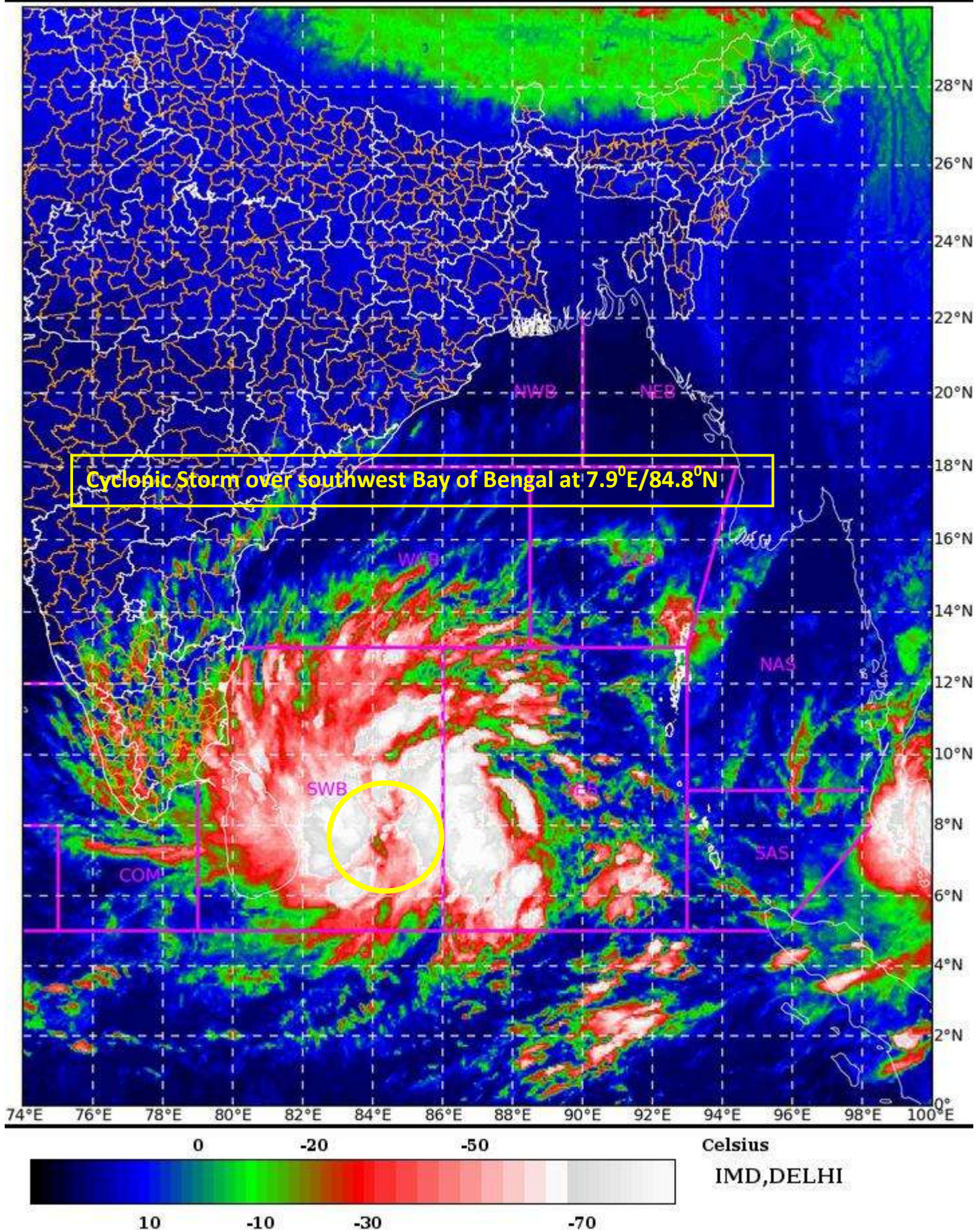
SAT : INSAT-3D IMG

01-12-2020/(1400 to 1426) GMT

IMG_TIR1_TEMP 10.8 um

01-12-2020/(1930 to 1956) IST

L1C Mercator

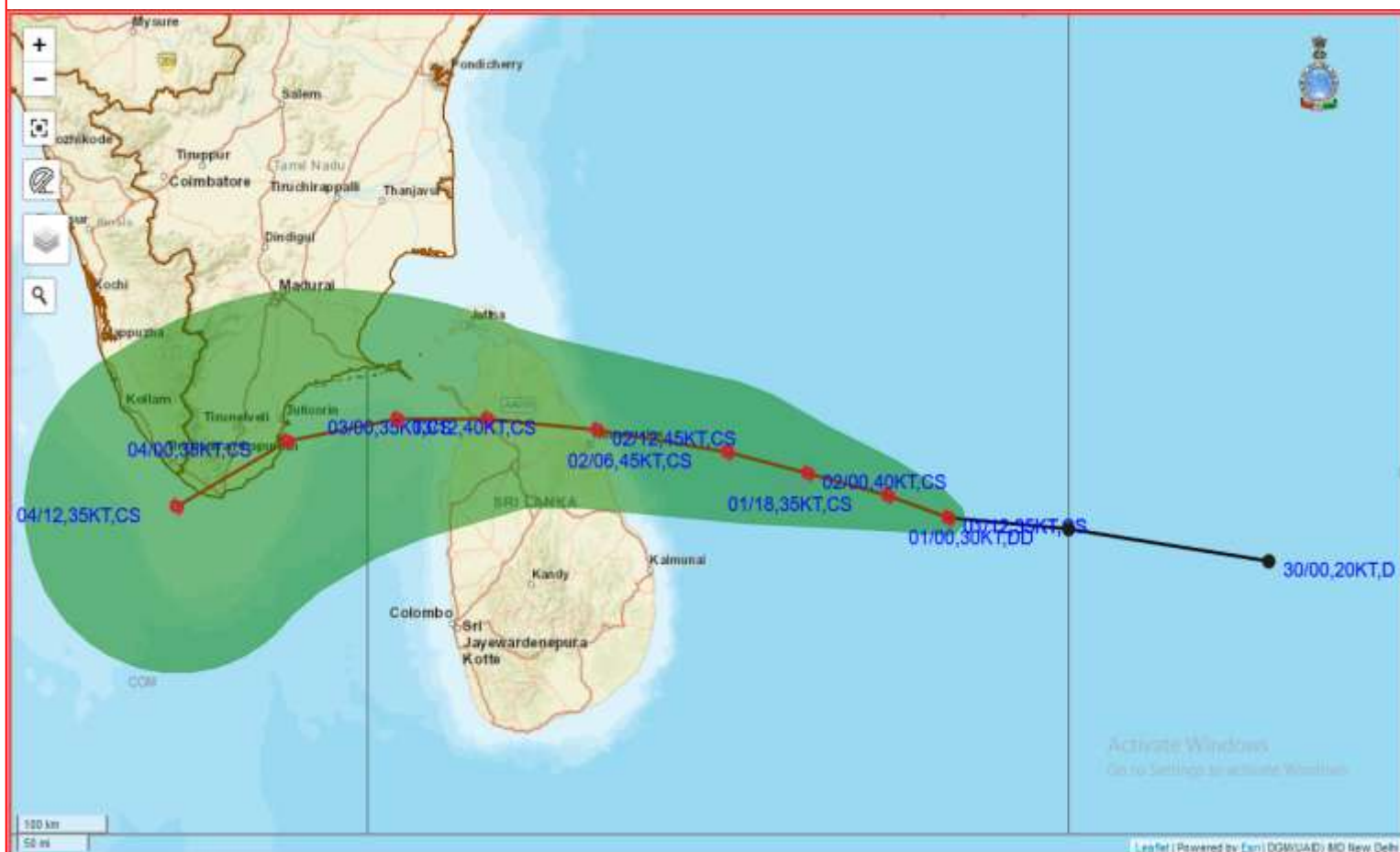


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 1st DECEMBER, 2020.



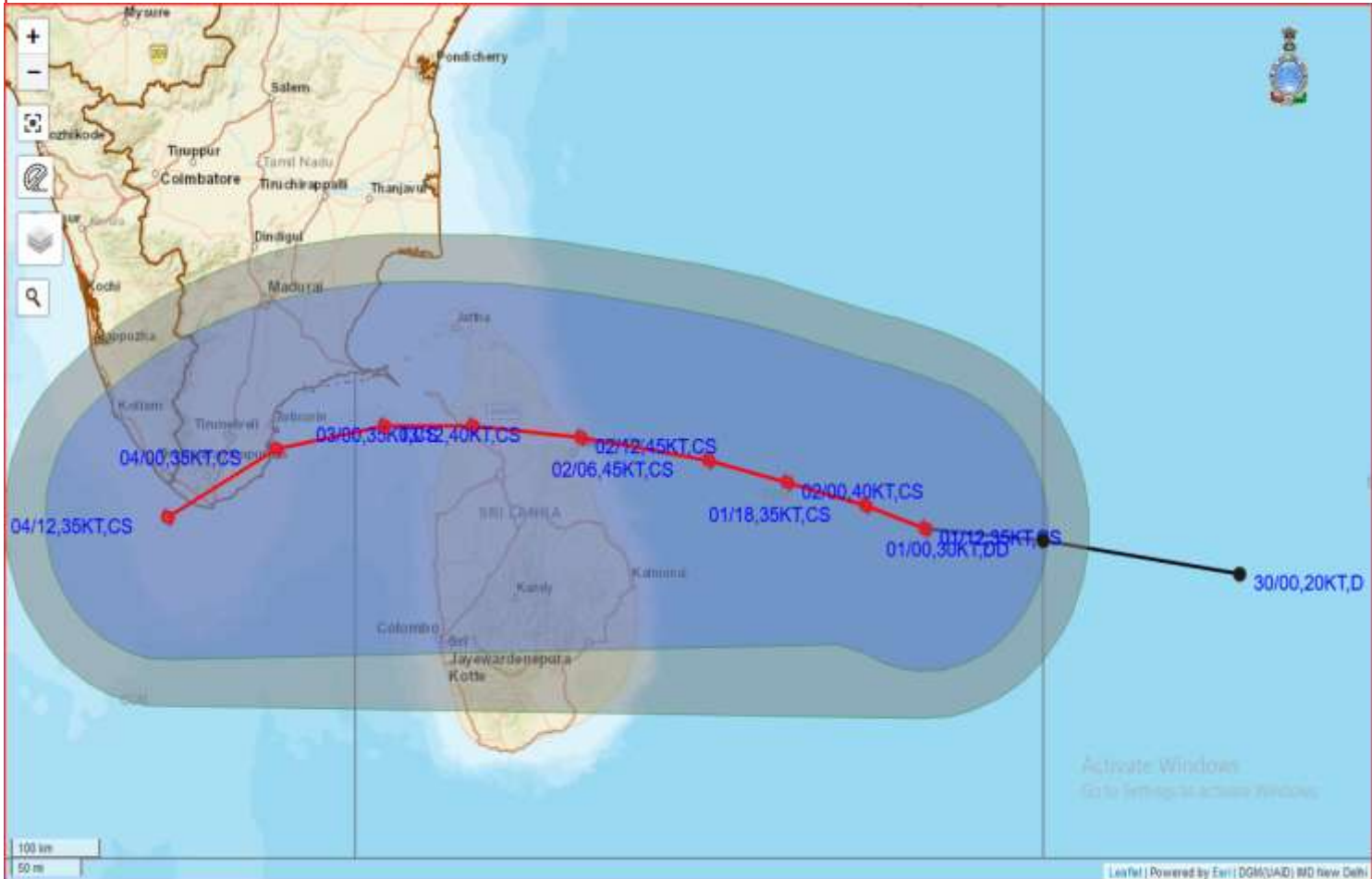
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63 KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⬮ 34-47 KT
⬮ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamelkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

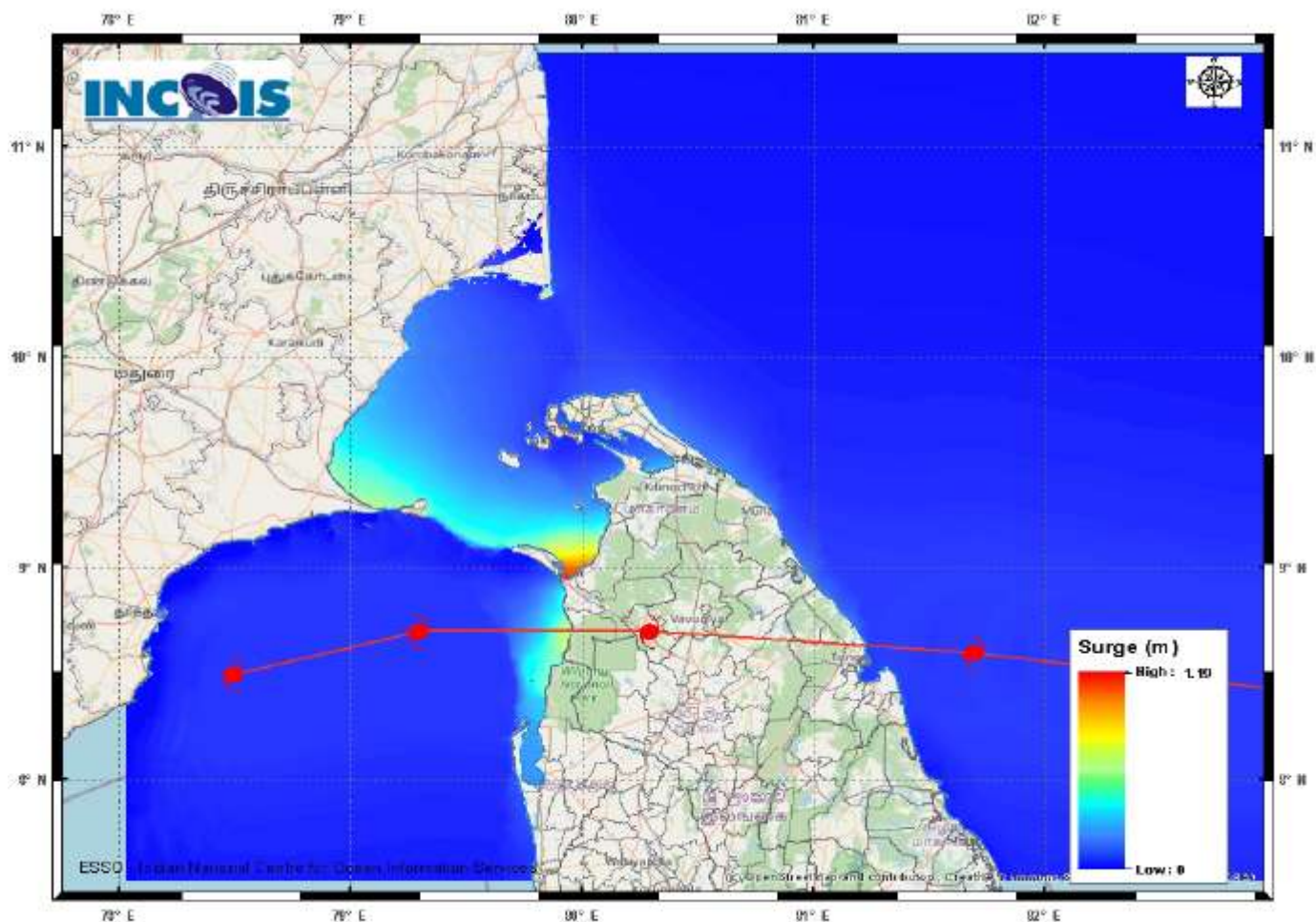


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 10(BOB/05/2020)

TIME OF ISSUE: 2300 HOURS IST

DATED: 01.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 10 kmph during past six hours and lay centered at 2030 hrs IST of today, the 01st December 2020 over southwest Bay of Bengal near Lat. 7.9°N and Long. 84.5°E, about 370 km east-southeast of Trincomalee (Sri Lanka), 600 km east-southeast of Pamban (India) and 770 km east-southeast of Kanniyakumari (India).

It is very likely to intensify further during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N, close to Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 75-85 kmph gusting to 95 kmph. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/2030	7.9/84.5	60-70 gusting to 80	Cyclonic Storm
01.12.20/2330	8.1/84.2	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.4	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.6	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.7/81.3	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	8.8/80.2	65-75 gusting to 85	Cyclonic Storm
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04.12.20/0530	8.6/78.2	70-80 gusting to 90	Cyclonic Storm
04.12.20/1730	8.0/77.1	65-75 gusting to 85	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December and isolated heavy rainfall over coastal Tamilnadu on 1st December, 2020.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	01 Dec 2020*	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at a few places	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 60-70 kmph gusting to 80 kmph very likely over southwest and adjoining Southeast Bay of Bengal during next 12 hours.
- It would gradually increase and becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from morning to night of 2nd December and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Sea condition

- Sea conditions is very rough to high over southwest and adjoining Southeast Bay of Bengal and along & off east Sri Lanka coast and the same will continue till night of 2nd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen warning

- **Total suspension** of fishing operation **during 1st December to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 1st December, southwest Bay of Bengal and along & off east Sri Lanka coast from **1st to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from **3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast.

The next bulletin will be issued at 0230 hrs IST of 2nd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

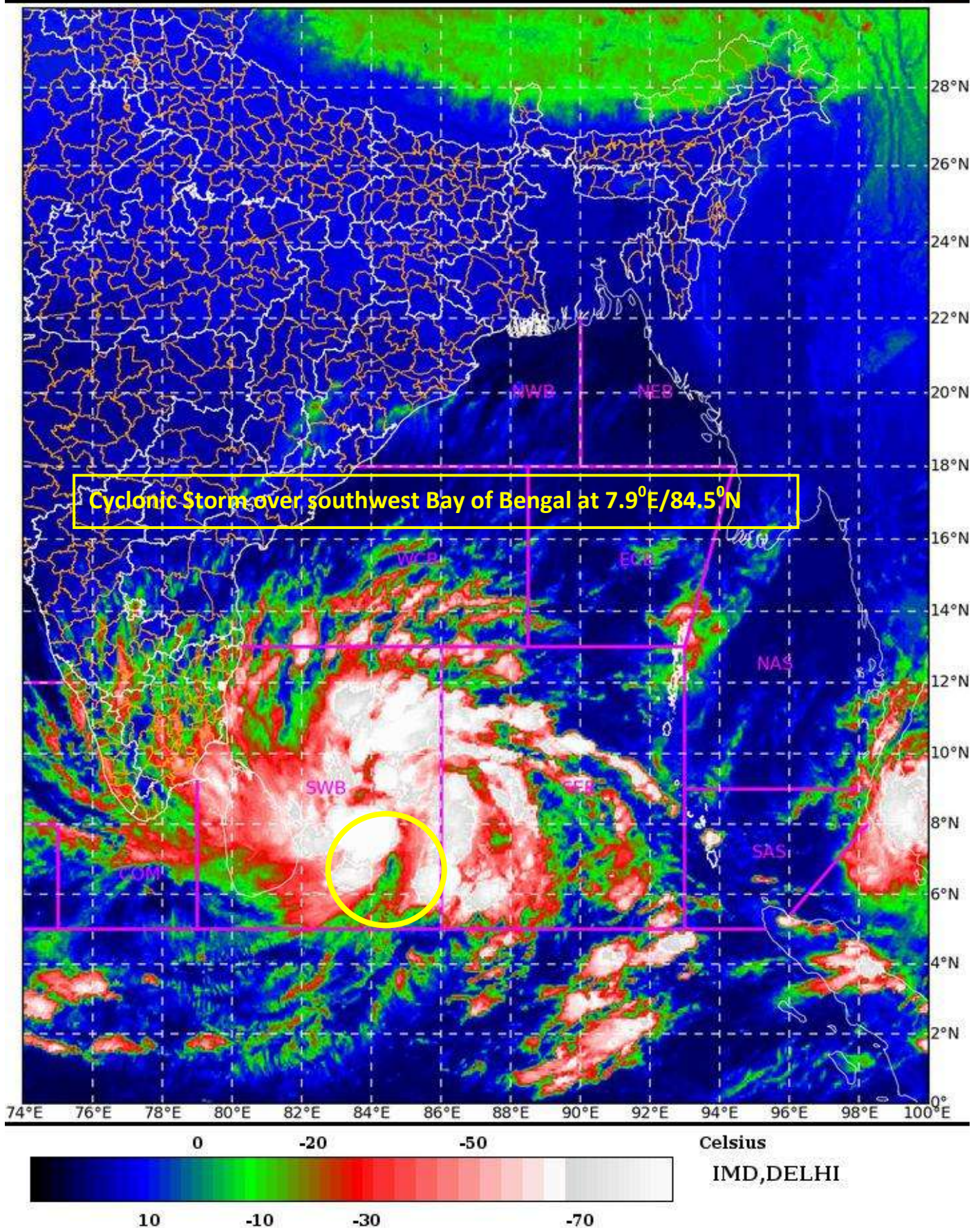
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01-12-2020/(1630 to 1656) GMT

IMG_TIR1_TEMP 10.8 um

01-12-2020/(2200 to 2226) IST

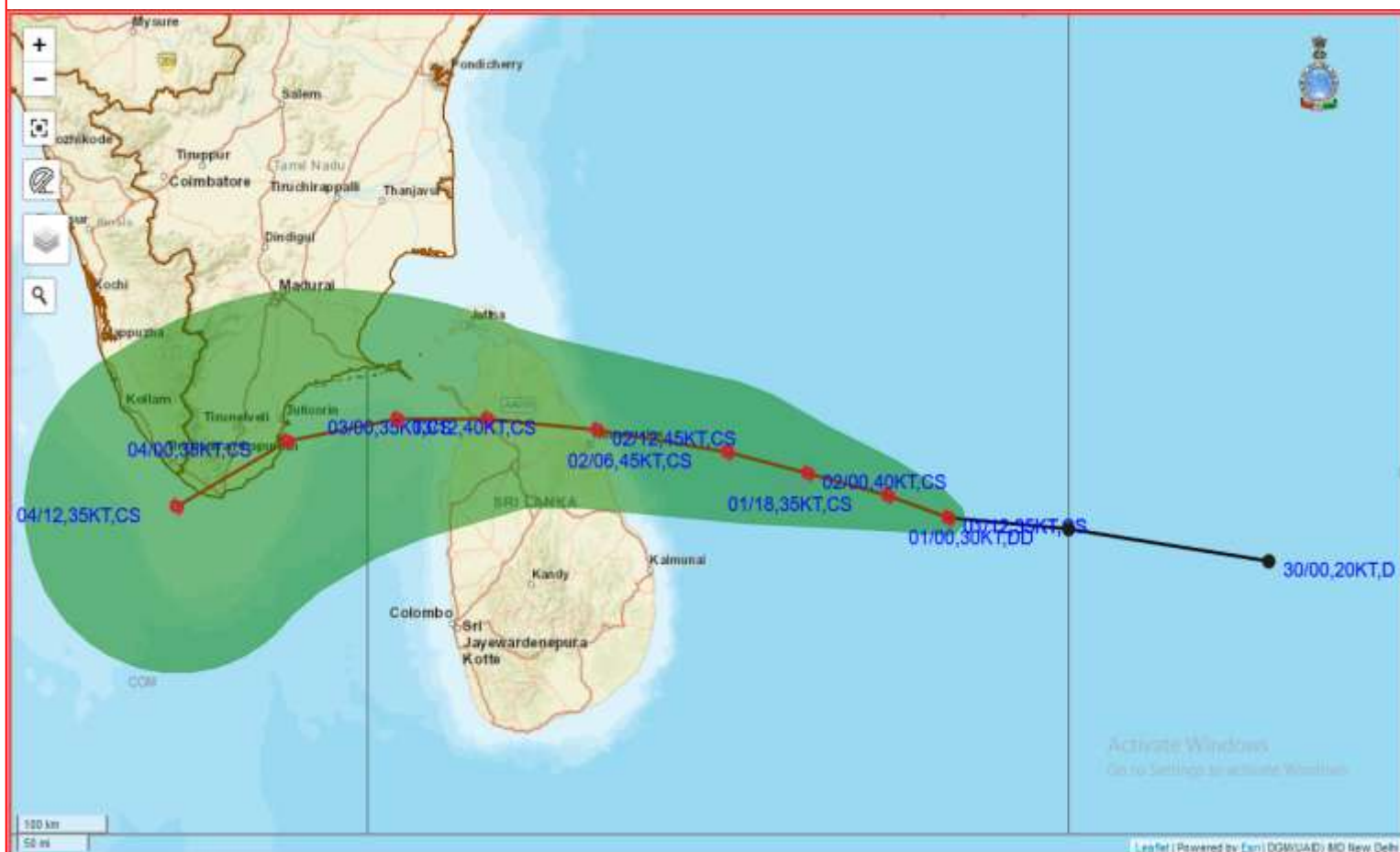
L1C Mercator



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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 1st DECEMBER, 2020.



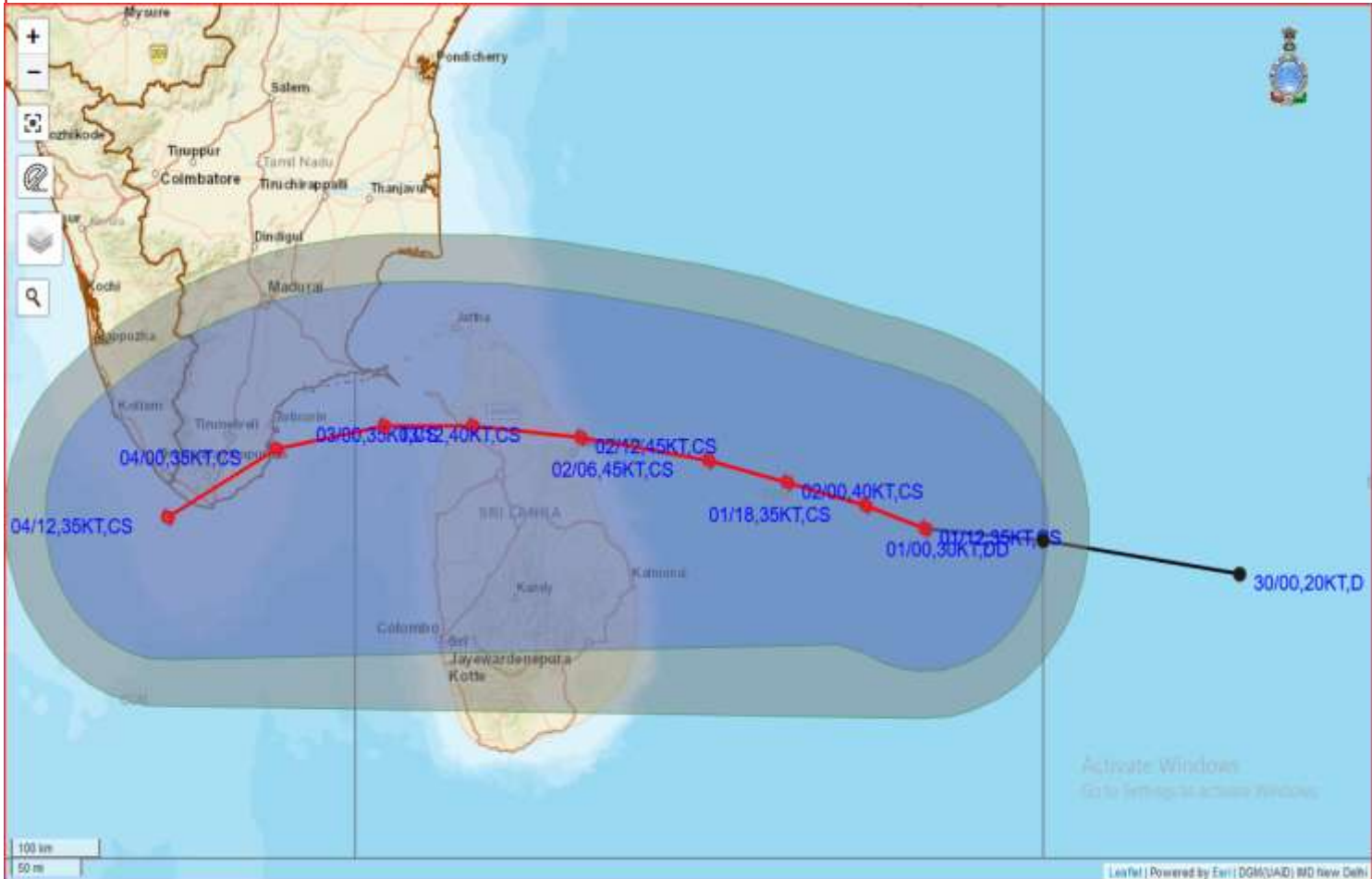
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63 KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⤵ 34-47 KT
⤵ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamelkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

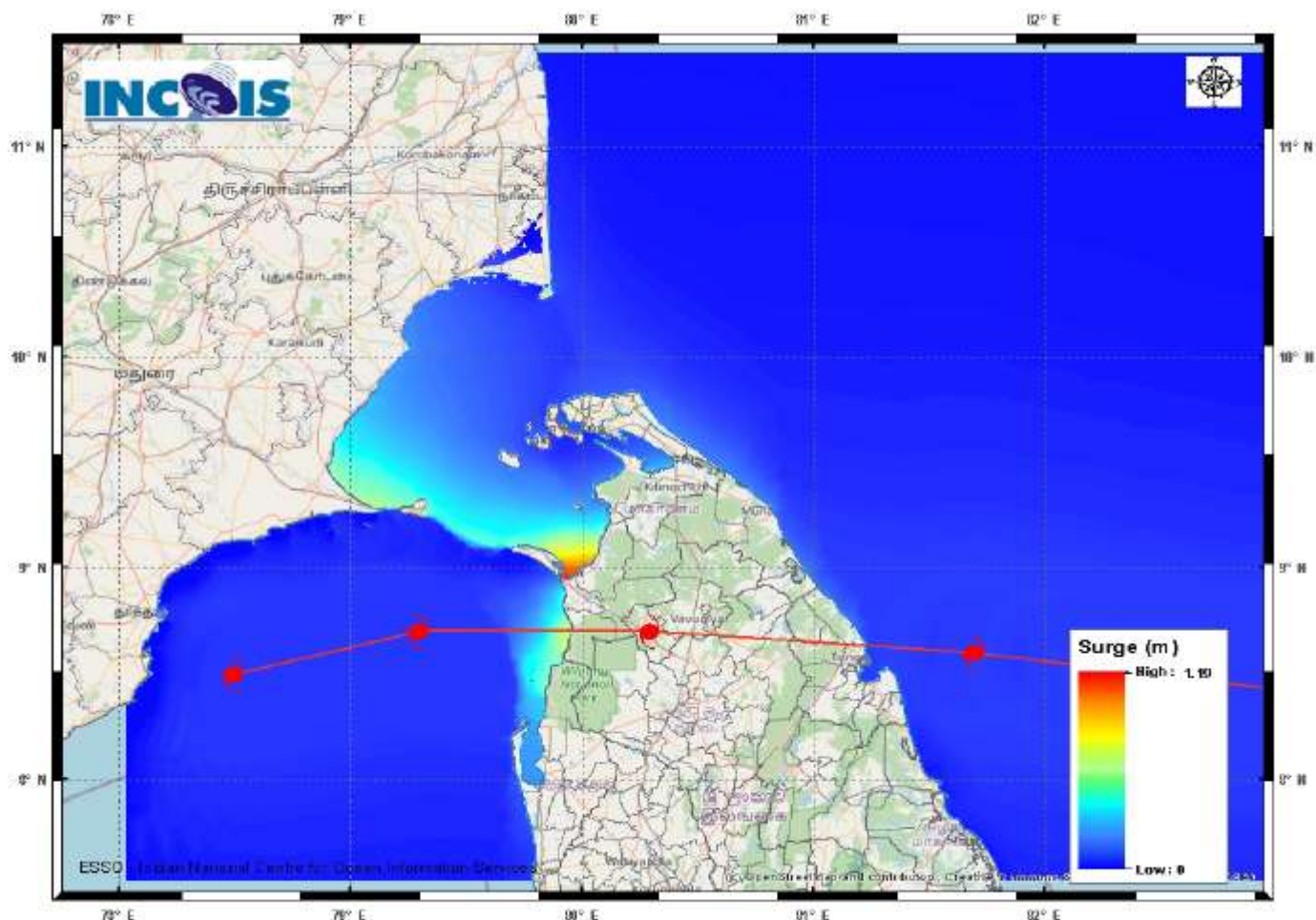


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 11(BOB/05/2020)

TIME OF ISSUE: 0220 HOURS IST

DATED: 02.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 11 kmph during past six hours and lay centered at 2330 hrs IST of today, the 01st December 2020 over southwest Bay of Bengal near Lat. 8.1°N and Long. 84.2°E, about 330 km east-southeast of Trincomalee (Sri Lanka), 560 km east-southeast of Pamban (India) and 740 km east of Kanniyakumari (India).

It is very likely to intensify further during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N, close to Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 75-85 kmph gusting to 95 kmph. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
01.12.20/2330	8.1/84.2	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.4	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.6	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.7/81.3	75-85 gusting to 95	Cyclonic Storm
02.12.20/2330	8.8/80.7	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	8.8/79.7	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	8.7/78.7	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.4/77.5	65-75 gusting to 85	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 65-75 kmph gusting to 85 kmph very likely over southwest and adjoining Southeast Bay of Bengal during next 06 hours.
- It would gradually increase and becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from morning to night of 2nd December and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Sea condition

- Sea conditions is very rough to high over southwest and adjoining Southeast Bay of Bengal during next 06 hours and gradually improve thereafter over Southeast Bay of Bengal.
- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till night of 2nd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen warning

- **Total suspension** of fishing operation **during 2nd to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 06 hours, southwest Bay of Bengal and along & off east Sri Lanka coast from **2nd to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from **3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast.

The next bulletin will be issued at 0530 hrs IST of 2nd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

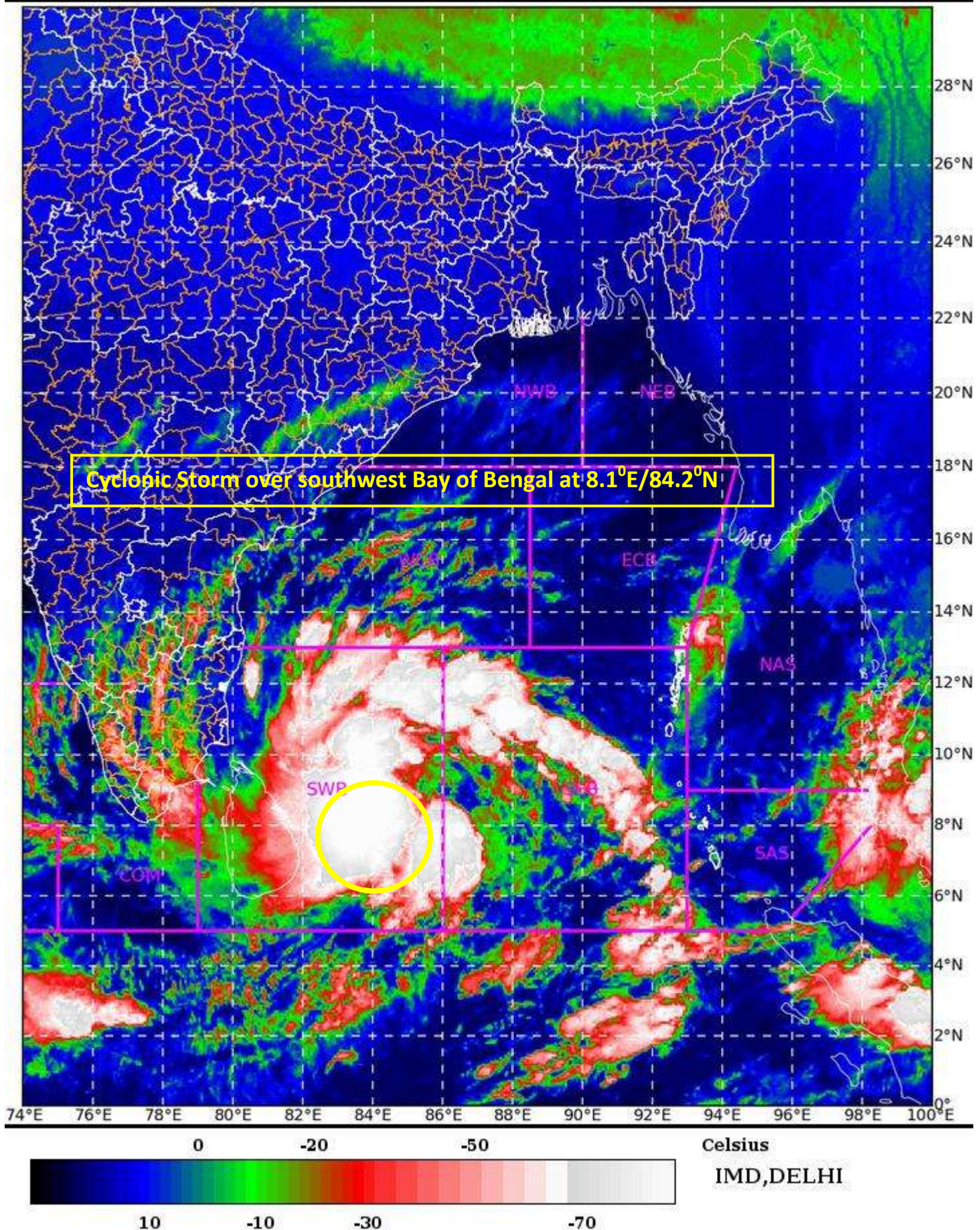
SAT : INSAT-3D IMG

01-12-2020/(2000 to 2026) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(0130 to 0156) IST

L1C Mercator

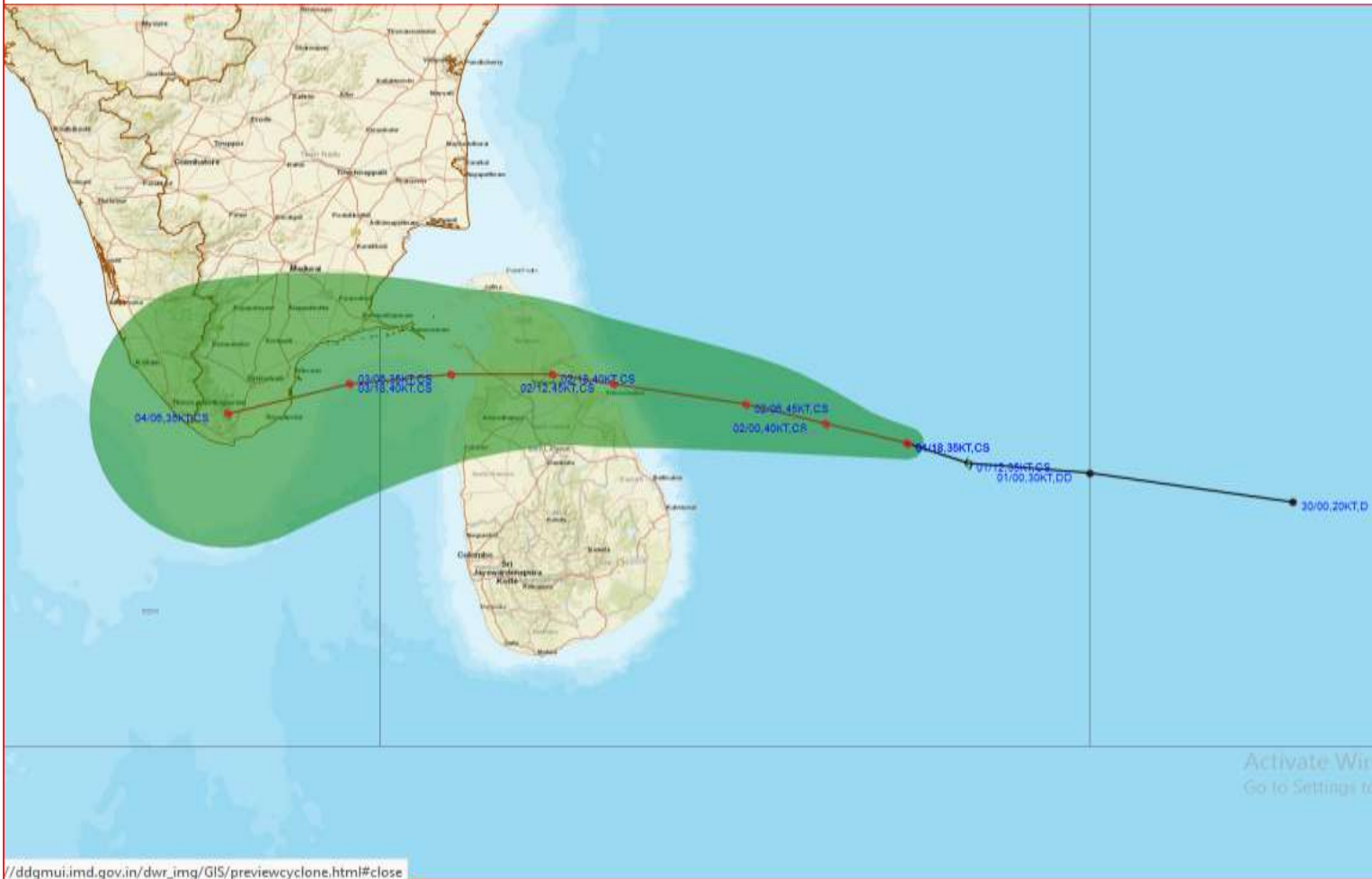


Spatial rainfall distribution: Isolated: $\leq 25\%$, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 1st DECEMBER, 2020.



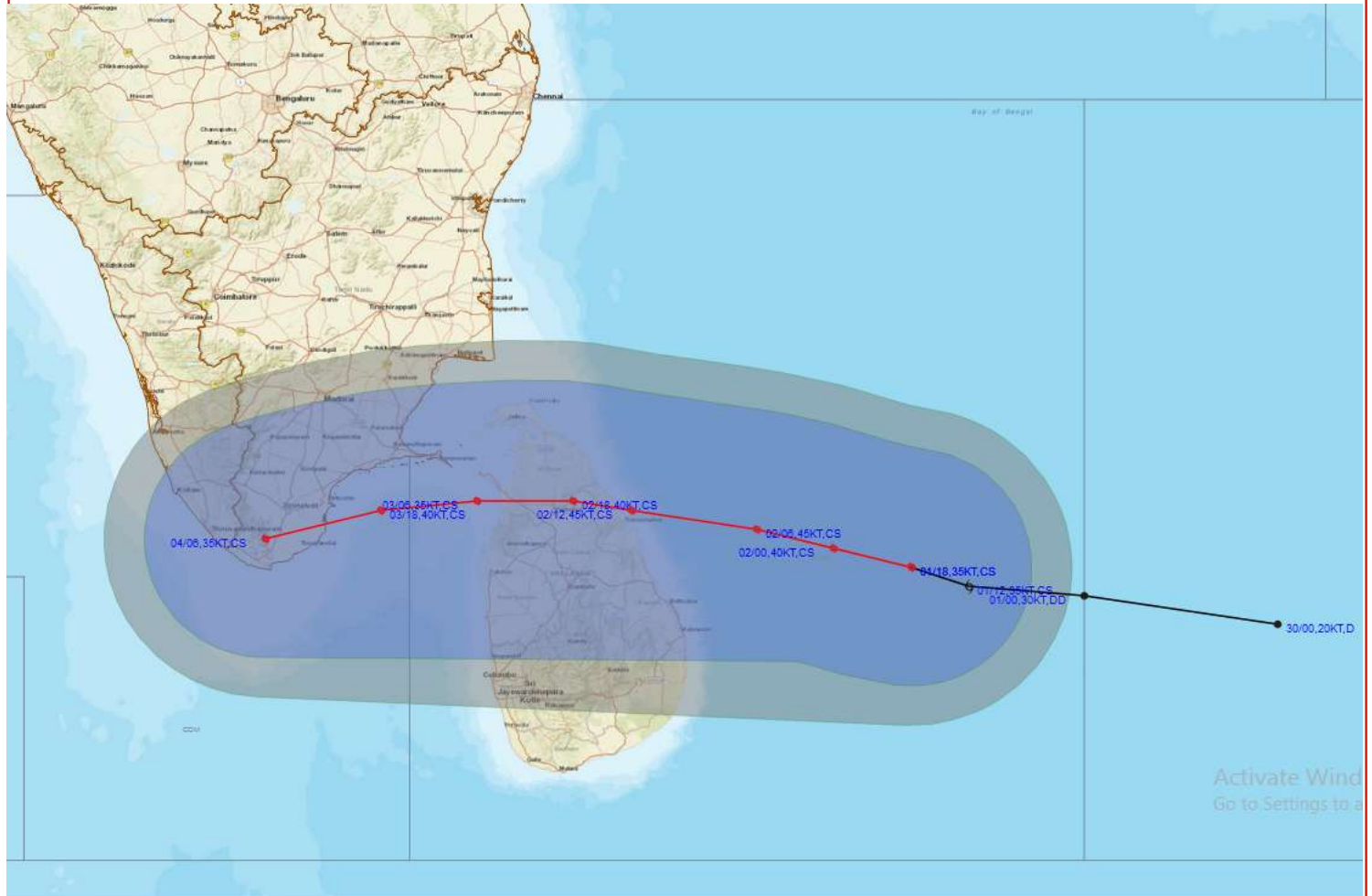
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ \geq 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 ● 34-47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamelkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

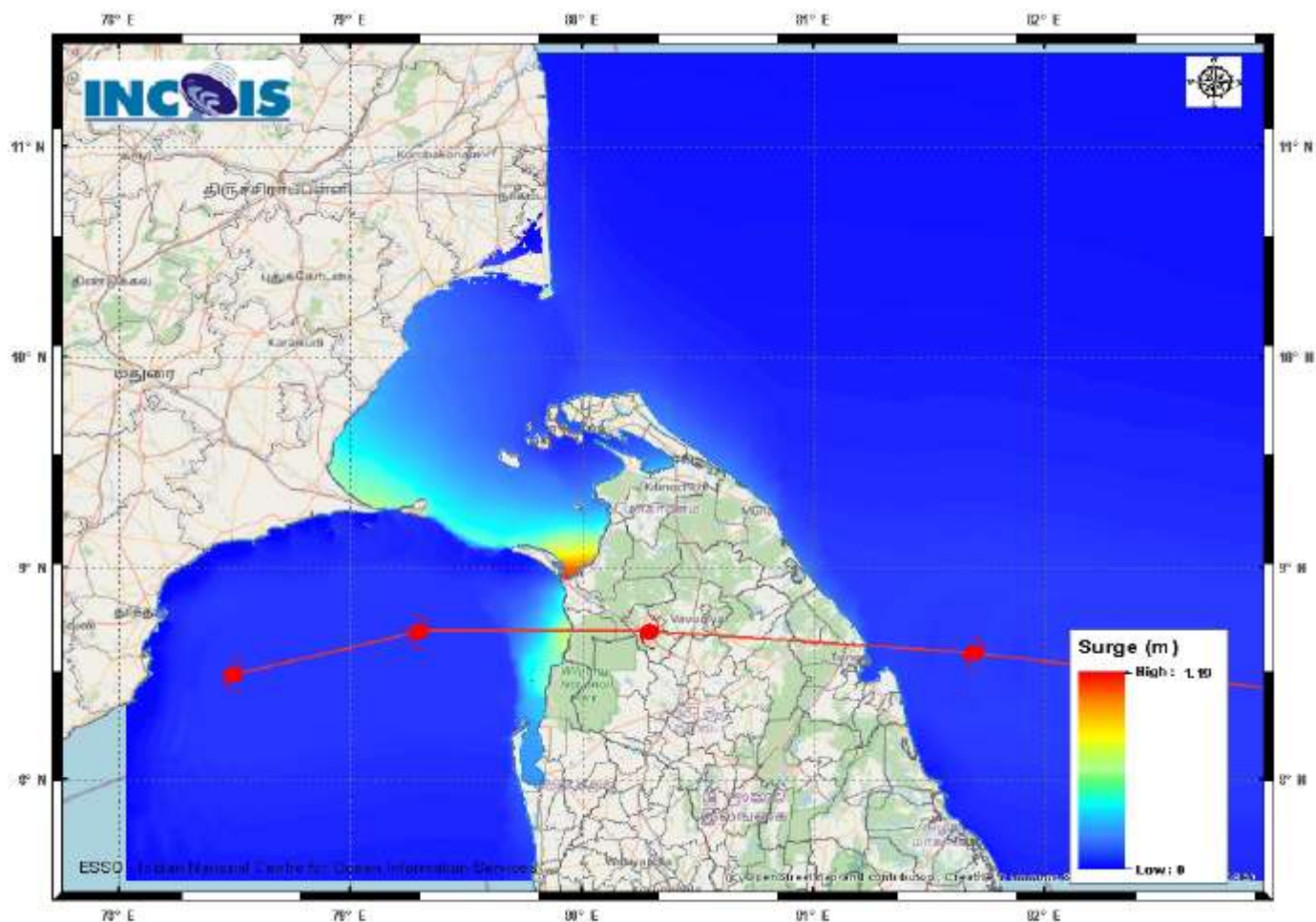


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 12(BOB/05/2020)

TIME OF ISSUE: 0530 HOURS IST

DATED: 02.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 12 kmph during past six hours and lay centered at 0230 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.2°N and Long. 83.9°E, about 300 km east-southeast of Trincomalee (Sri Lanka), 530 km east-southeast of Pamban (India) and 700 km nearly east of Kanniyakumari (India).

It is very likely to intensify further during next 06 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast between latitude 7.5°N and 9.0°N, close to Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 75-85 kmph gusting to 95 kmph. It is very likely to move nearly westwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/0230	8.2/83.9	65-75 gusting to 85	Cyclonic Storm
02.12.20/0530	8.3/83.4	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.5/82.6	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	8.7/81.3	75-85 gusting to 95	Cyclonic Storm
02.12.20/2330	8.8/80.7	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	8.8/79.7	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	8.7/78.7	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.4/77.5	65-75 gusting to 85	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Squally wind speed reaching 65-75 kmph gusting to 85 kmph very likely over southwest and adjoining Southeast Bay of Bengal during next 06 hours.
- It would gradually increase and becoming 70-80 kmph gusting to 90 kmph over southwest Bay of Bengal, along & off Sri Lanka coast from morning to night of 2nd December and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from evening of 3rd December for subsequent 12 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Sea condition

- Sea conditions is very rough to high over southwest and adjoining Southeast Bay of Bengal during next 06 hours and gradually improve thereafter over Southeast Bay of Bengal.
- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till night of 2nd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar & along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 4th December.

(iv) Fishermen warning

- **Total suspension** of fishing operation **during 2nd to 4th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southeast Bay of Bengal during 06 hours, southwest Bay of Bengal and along & off east Sri Lanka coast from **2nd to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from **3rd to 4th December**.
- Fishermen out at Sea are advised to return to the coast.

The next bulletin will be issued at 0830 hrs IST of 2nd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

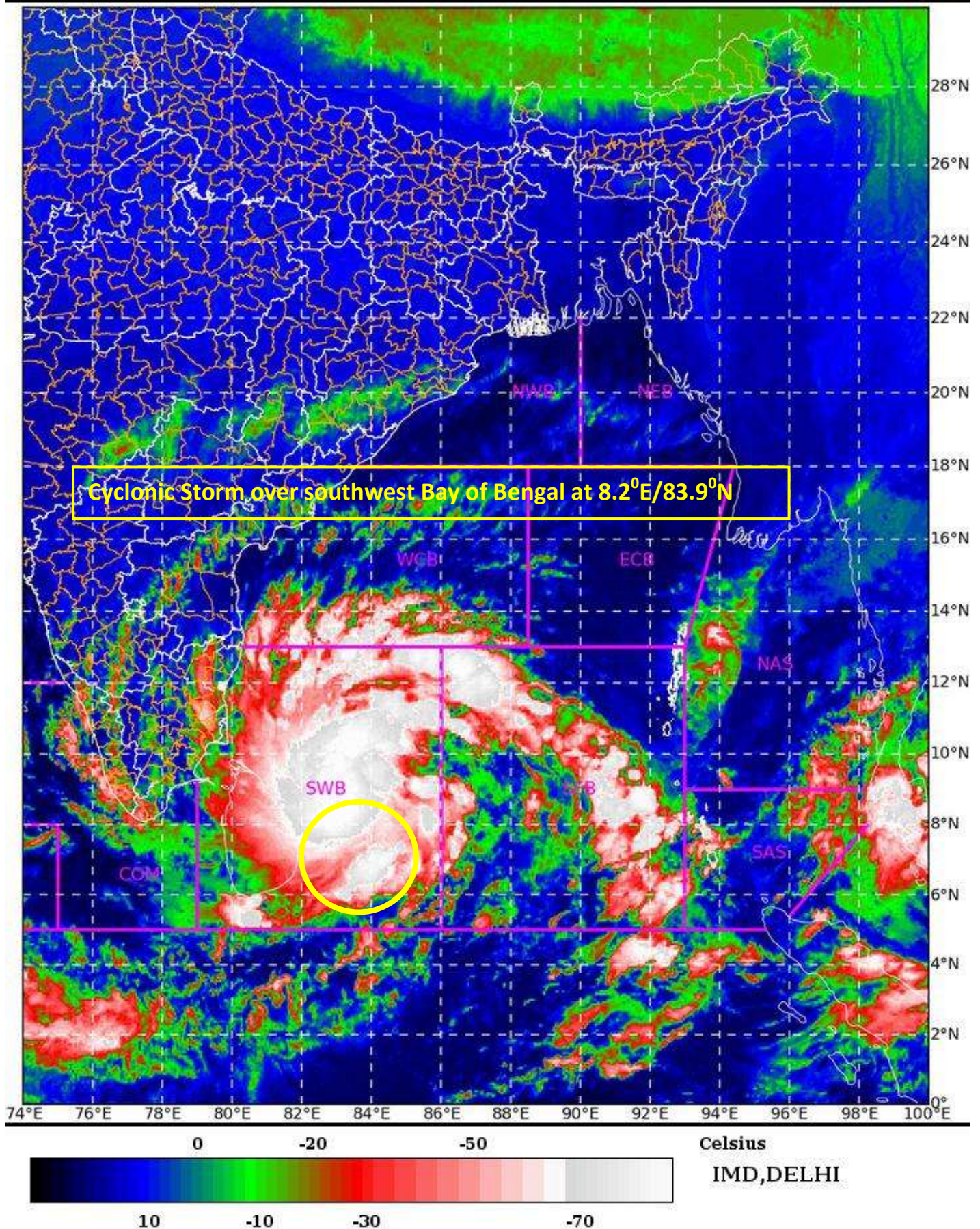
SAT : INSAT-3D IMG

01-12-2020/(2300 to 2326) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(0430 to 0456) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

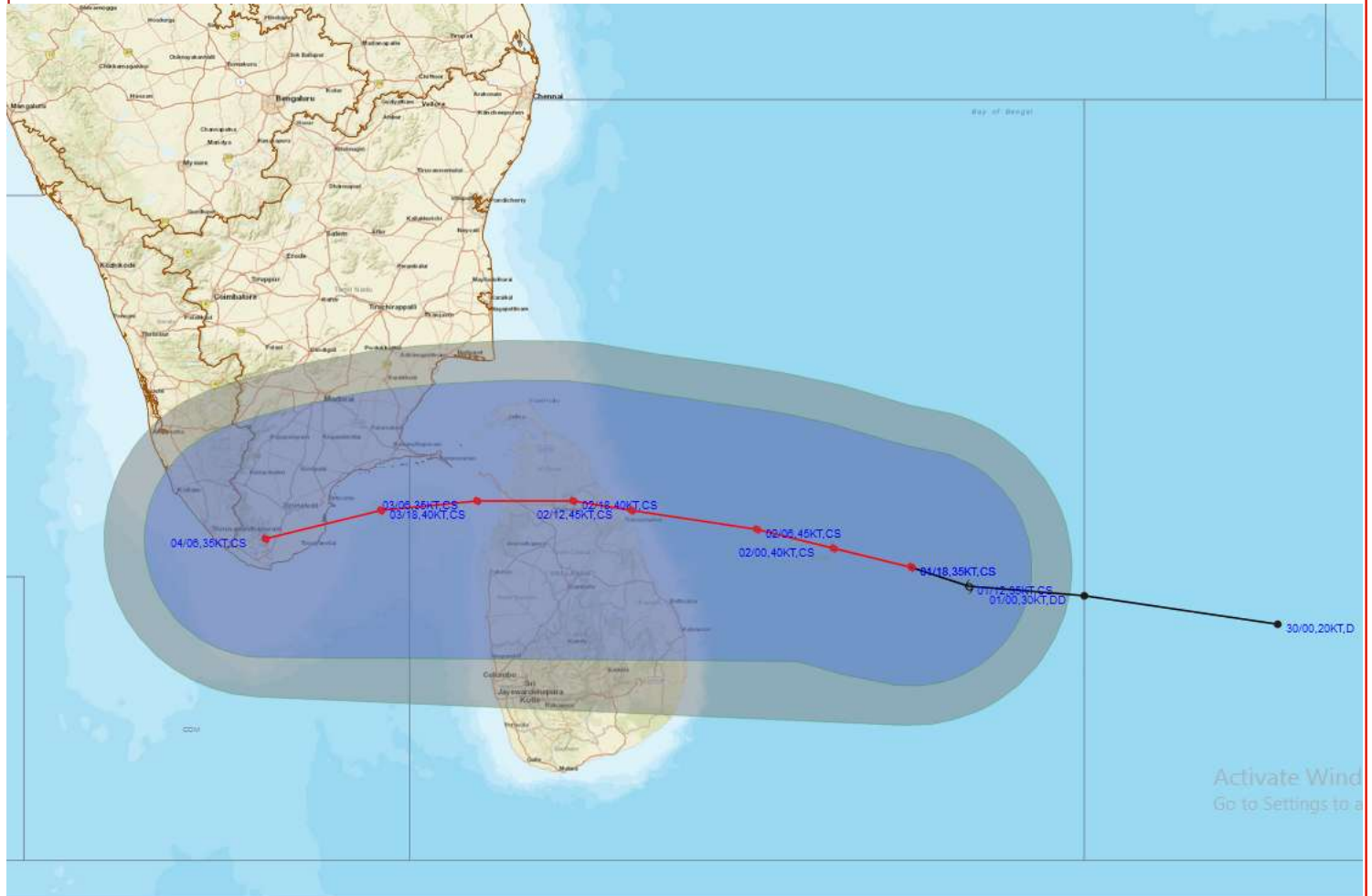


 LESS THAN 34 KT
 34-47 KT
 ≥ 48 KT
 OBSERVED TRACK
 FORECAST TRACK
 CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1800 UTC OF 1st DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 ● 34-47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Arantangi	Pudukkottai	Tamil Nadu	Manamelkudi	0.2-0.3	Nil
Peravurani	Thanjavur	Tamil Nadu	Adaikkathevan	0.2-0.3	Nil
Ramanathapuram	Ramanathapuram	Tamil Nadu	Devipattinam	0.2-0.6	Upto 0.57
Tiruvadanai	Ramanathapuram	Tamil Nadu	Vattanam	0.3-0.5	Upto 0.12

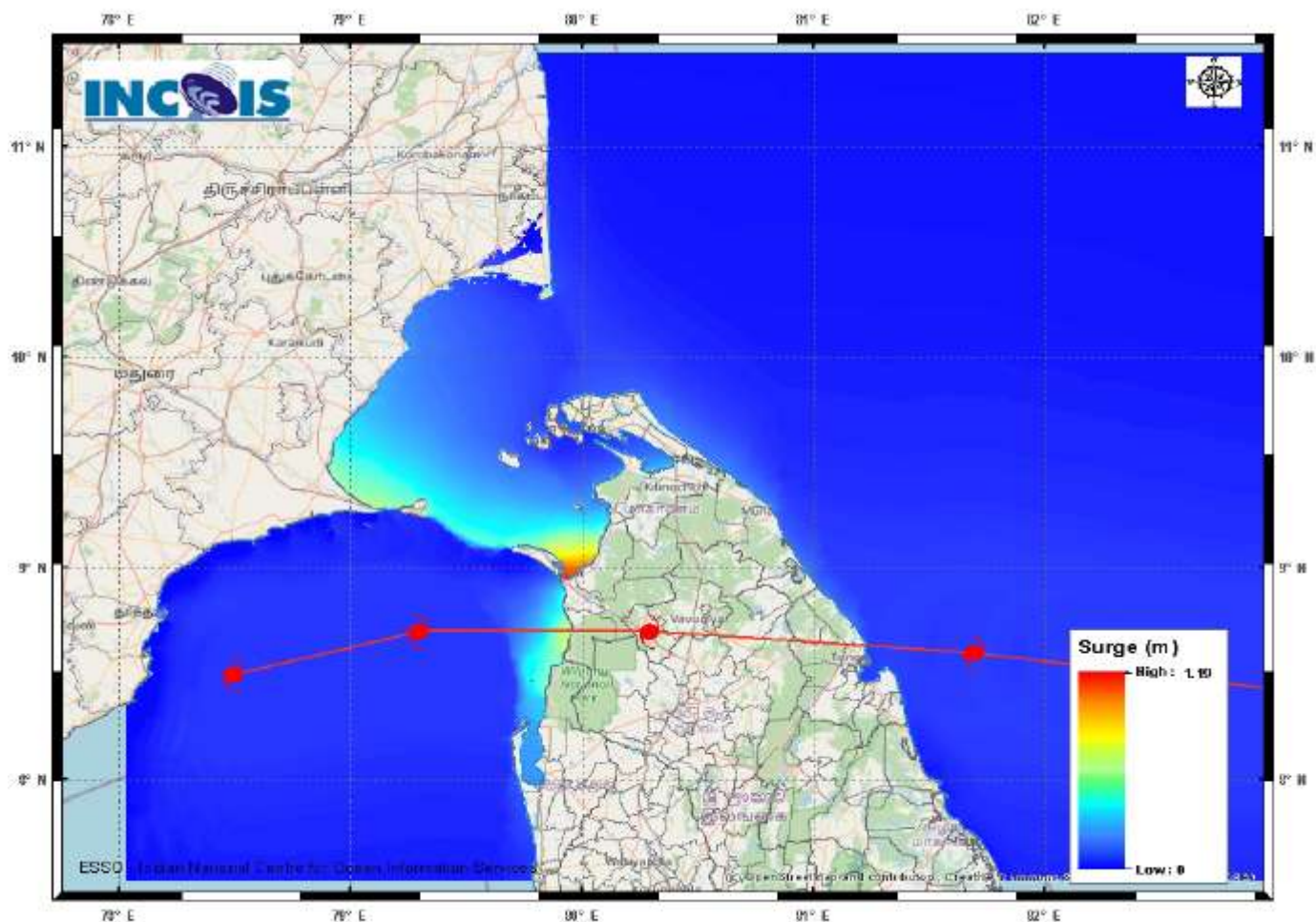


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 13(BOB/05/2020)

TIME OF ISSUE: 0900 HOURS IST

DATED: 02.12.2020

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)

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CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Alert for South Tamilnadu and South Kerala coasts: **Yellow Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 15 kmph during past six hours and lay centered at 0530 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.4°N and Long. 83.4°E, about 240 km east-southeast of Trincomalee (Sri Lanka), 470 km east-southeast of Pamban (India) and 650 km nearly east-northeast of Kanniyakumari (India).

It is very likely to intensify further during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, close to north of Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards and cross south Tamilnadu coast between Kanniyakumari and Pamban around early morning of 4th December as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/0530	8.4/83.4	70-80 gusting to 90	Cyclonic Storm
02.12.20/1130	8.7/82.4	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	9.0/81.3	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.1/80.7	80-90 gusting to 100	Cyclonic Storm
03.12.20/0530	9.2/80.2	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/79.2	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.9/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1730	8.5/77.4	65-75 gusting to 85	Cyclonic Storm
05.12.20/0530	8.1/76.4	55-65 gusting to 75	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) Rainfall

- **Heavy to very heavy rainfall** at a few places with isolated **Extremely heavy falls** very likely over **south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi, Tenkasi, Ramanathapuram and Sivagangai)** on 2nd and 3rd December, 2020; **over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah)** on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 2nd & 4th December 2020 and south Kerala on 3rd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 2nd & 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh on 2nd & 03rd December and over Lakshadweep on 03rd & 4th December, 2020.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Lakshadweep	Rainfall at most places	Rainfall at most places with heavy to very falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

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) Wind warning

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph prevails over southwest Bay of Bengal and along & off Sri Lanka coast. It is very likely to increase becoming 80-90 kmph gusting to 100 kmph from afternoon for subsequent 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (**Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts**) and south Kerala coast (**Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts**) from 2nd December forenoon. It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till night of 3rd December morning and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- **Total suspension** of fishing operation **during 2nd to 5th December** over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from **2nd to 3rd December**; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from **2nd to 4th December**, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea **from 3rd to 5th December**.

The next bulletin will be issued at 1130 hrs IST of 2nd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

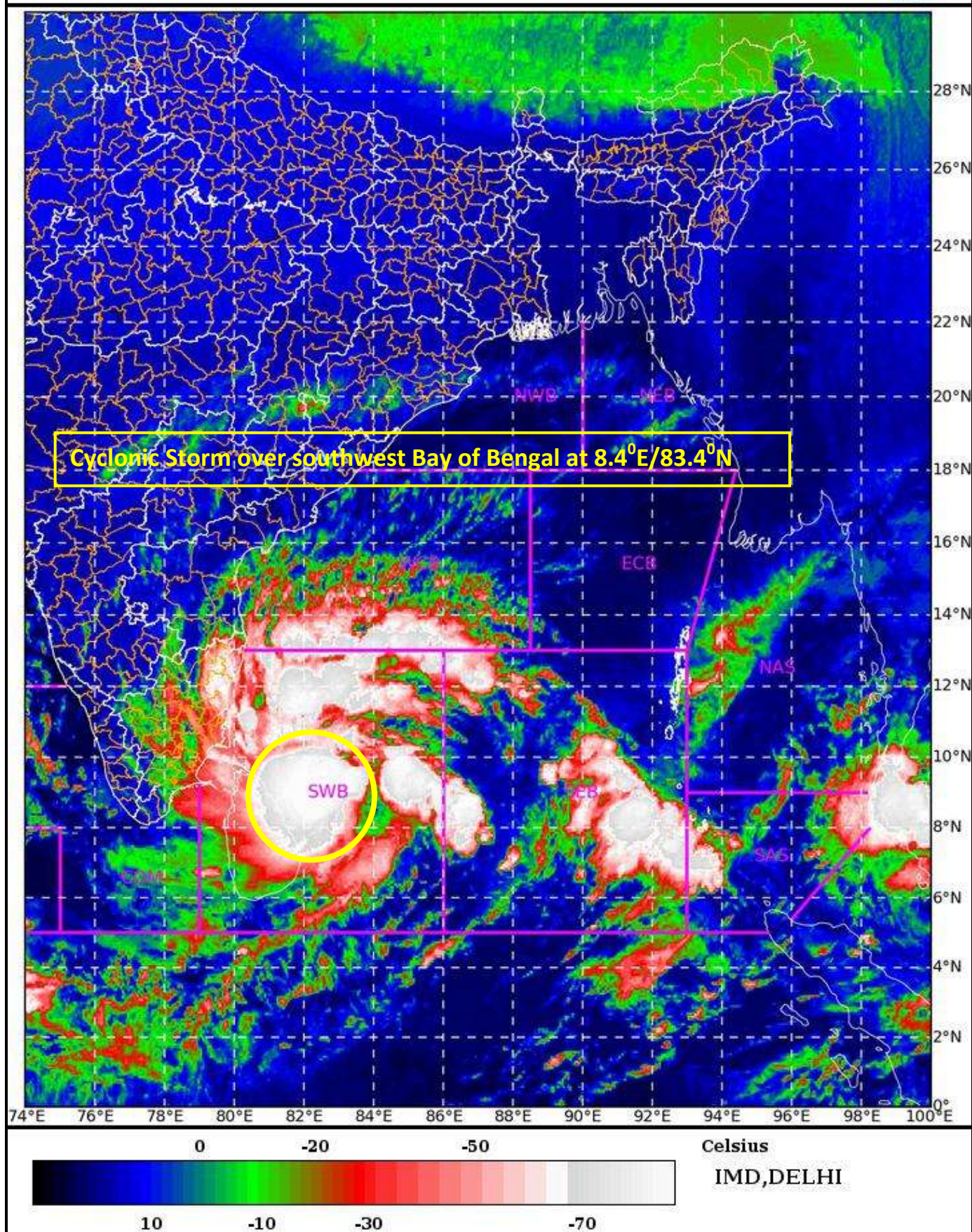
SAT : INSAT-3D IMG

02-12-2020/(0200 to 0227) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(0730 to 0757) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC OF 02nd DECEMBER, 2020.



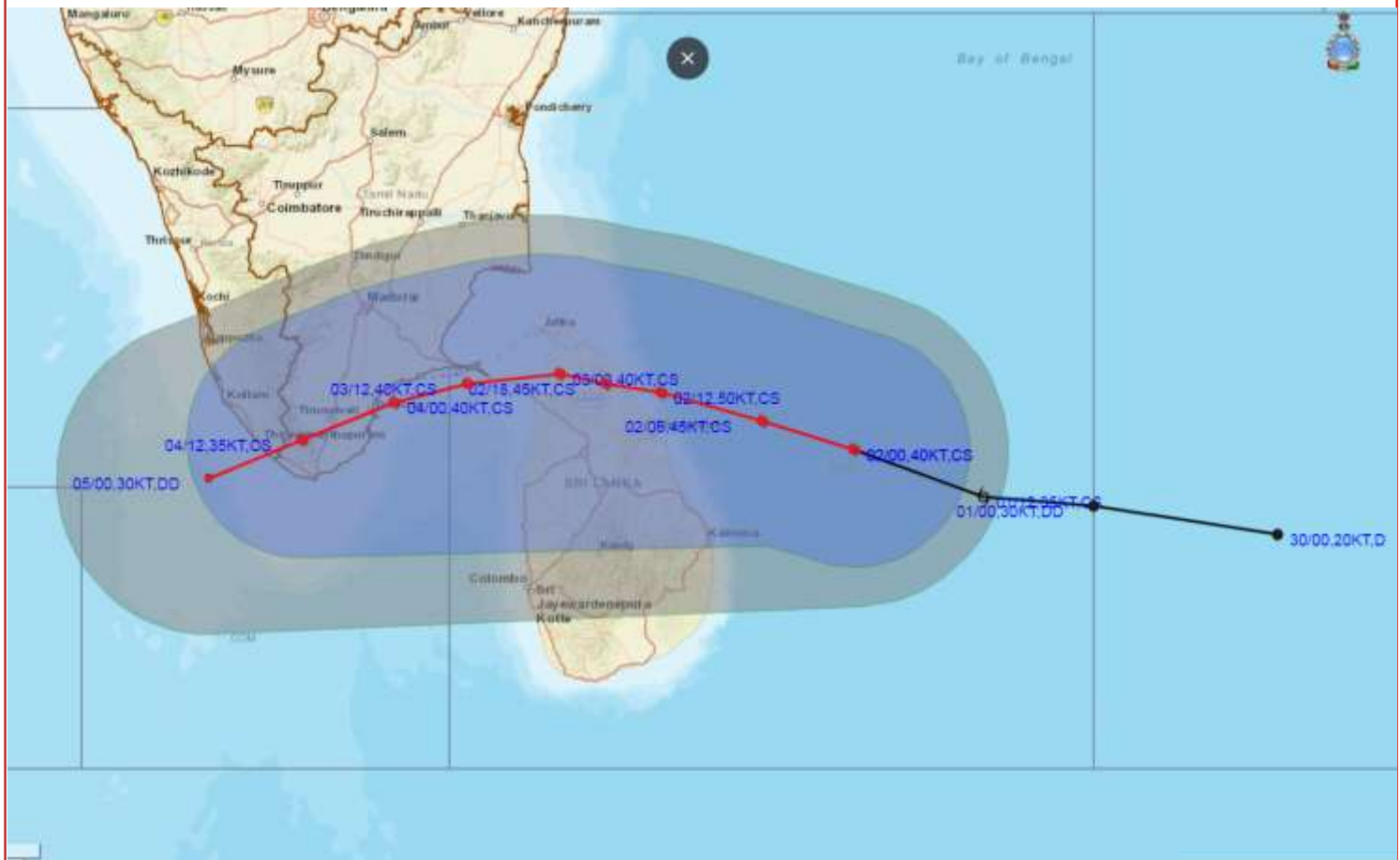
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34.47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 0000 UTC OF 02nd DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 6 34.47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Ramanathapuram	Ramanathapuram	Tamil Nadu	Nagachi	0.7-0.9	Upto 0.31
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.5-0.6	Upto 0.69
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.6	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.6	Upto 0.2
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamrudur	0.4-0.5	Nil
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.5	Upto 0.39
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.2-0.4	Upto 0.18
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.3-0.5	Nil
Srivaikuntam	Thoothukkudi	Tamil Nadu	Palayakkayal	0.4-0.5	Nil
Tiruchchendur	Thoothukkudi	Tamil Nadu	Kayalpattinam	0.3-0.5	Upto 0.28
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.3-0.6	Upto 0.8

Figure: Latest Track issued by IMD

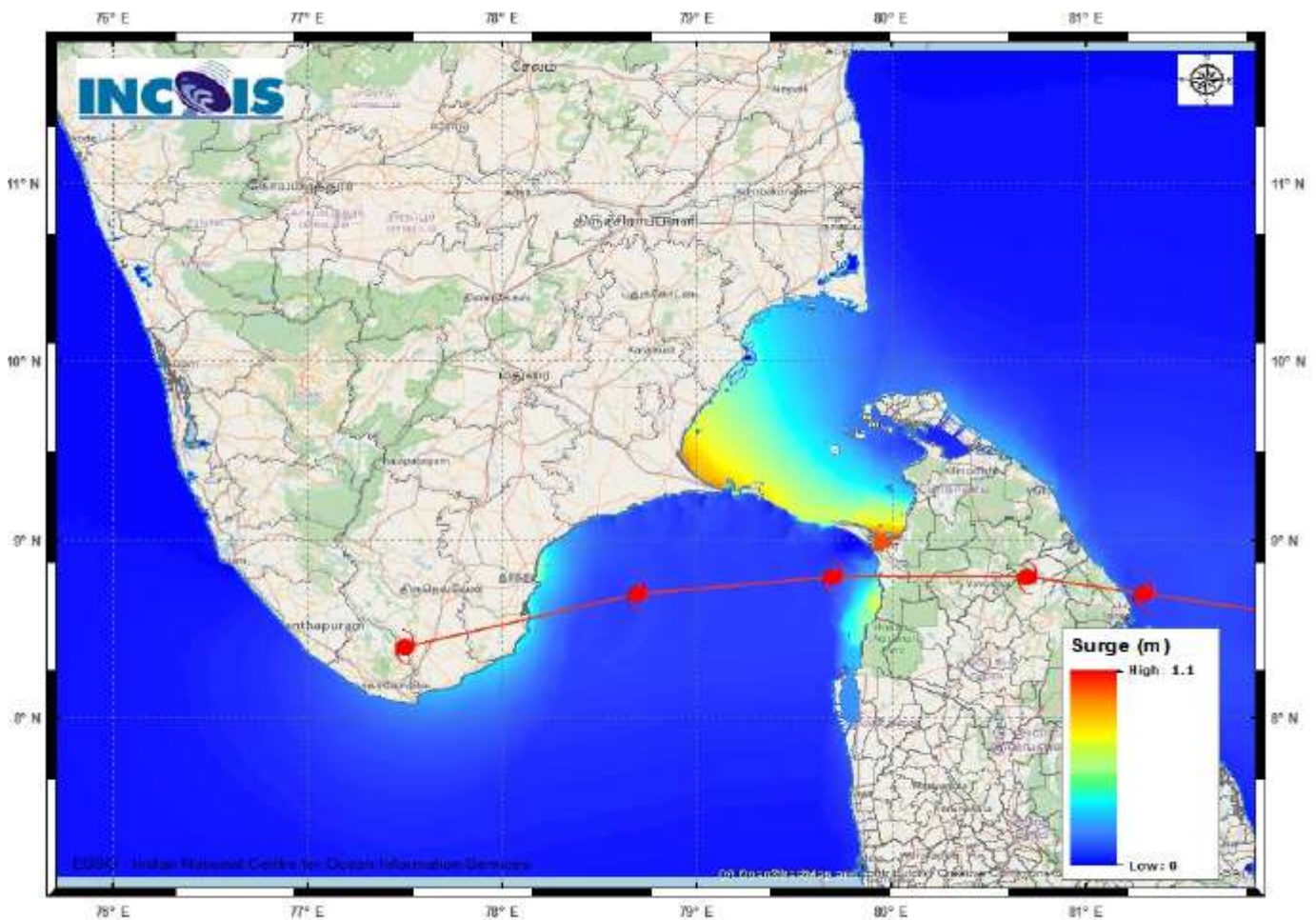


Figure:Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 14(BOB/05/2020)

TIME OF ISSUE: 1130 HOURS IST

DATED: 02.12.2020

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)

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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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Warning for South Tamilnadu and South Kerala coasts: Orange Message)

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 18 kmph during past six hours and lay centered at 0830 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.6°N and Long. 83.0°E, about 200 km east of Trincomalee (Sri Lanka), 420 km east-southeast of Pamban (India) and 600 km nearly east-northeast of Kanniyakumari (India).

It is very likely to intensify further during next 12 hours. It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, to north of Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards very close to coast slowly and cross south Tamilnadu coast between Kanniyakumari and Pamban during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district. Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/0830	8.6/83.0	75-85 gusting to 95	Cyclonic Storm
02.12.20/1130	8.8/82.5	75-85 gusting to 95	Cyclonic Storm
02.12.20/1730	9.0/81.3	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.1/80.7	80-90 gusting to 100	Cyclonic Storm
03.12.20/0530	9.2/80.2	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/79.2	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.9/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1730	8.5/77.4	65-75 gusting to 85	Cyclonic Storm
05.12.20/0530	8.1/76.4	55-65 gusting to 75	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) on 2nd & 3rd December, 2020; over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 4th December 2020 and south Kerala on 2nd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 2nd & 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 75-85 kmph gusting to 95 kmph prevails over southwest Bay of Bengal and along & off Sri Lanka coast. It is very likely to increase becoming 80-90 kmph gusting to 100 kmph from afternoon for subsequent 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram,

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.

Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 hours and decrease thereafter.

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December morning and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 2nd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from 2nd to 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 2nd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 1430 hrs IST of 2nd December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

*Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam
/CWC Thiruvananthapuram*

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.

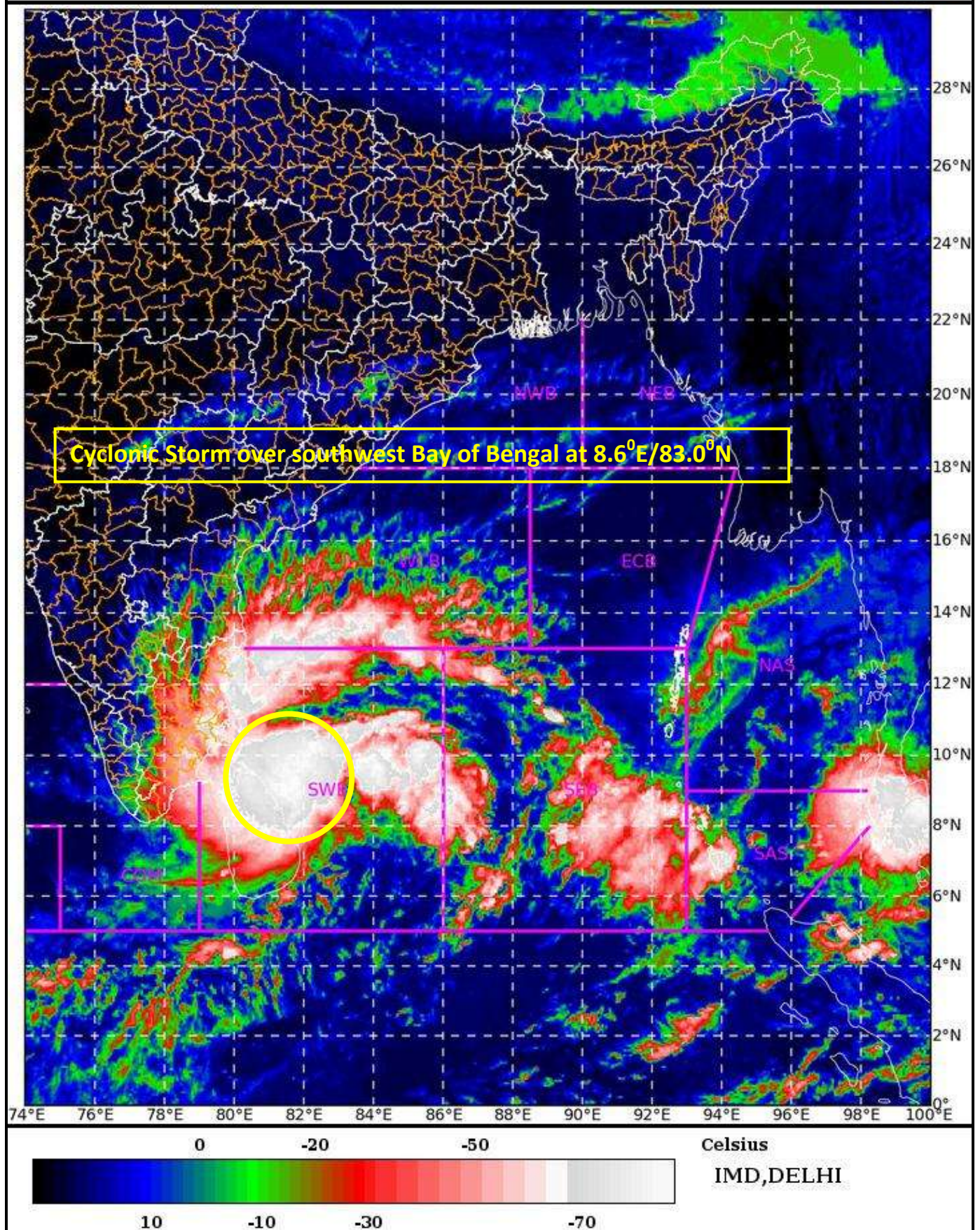
SAT : INSAT-3D IMG

02-12-2020/(0500 to 0527) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(1030 to 1057) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 0300 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

◐ 34-47 KT

◑ ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Ramanathapuram	Ramanathapuram	Tamil Nadu	Nagachi	0.7-0.9	Upto 0.31
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.5-0.6	Upto 0.69
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.6	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.6	Upto 0.2
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.4-0.5	Nil
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.5	Upto 0.39
Pathukottai	Thanjavur	Tamil Nadu	Palanjur	0.2-0.4	Upto 0.18
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.3-0.5	Nil
Srivaikuntam	Thoothukkudi	Tamil Nadu	Palayakkayal	0.4-0.5	Nil
Tiruchchendur	Thoothukkudi	Tamil Nadu	Kayalpattinam	0.3-0.5	Upto 0.28
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.3-0.6	Upto 0.8

Figure: Latest Track issued by IMD

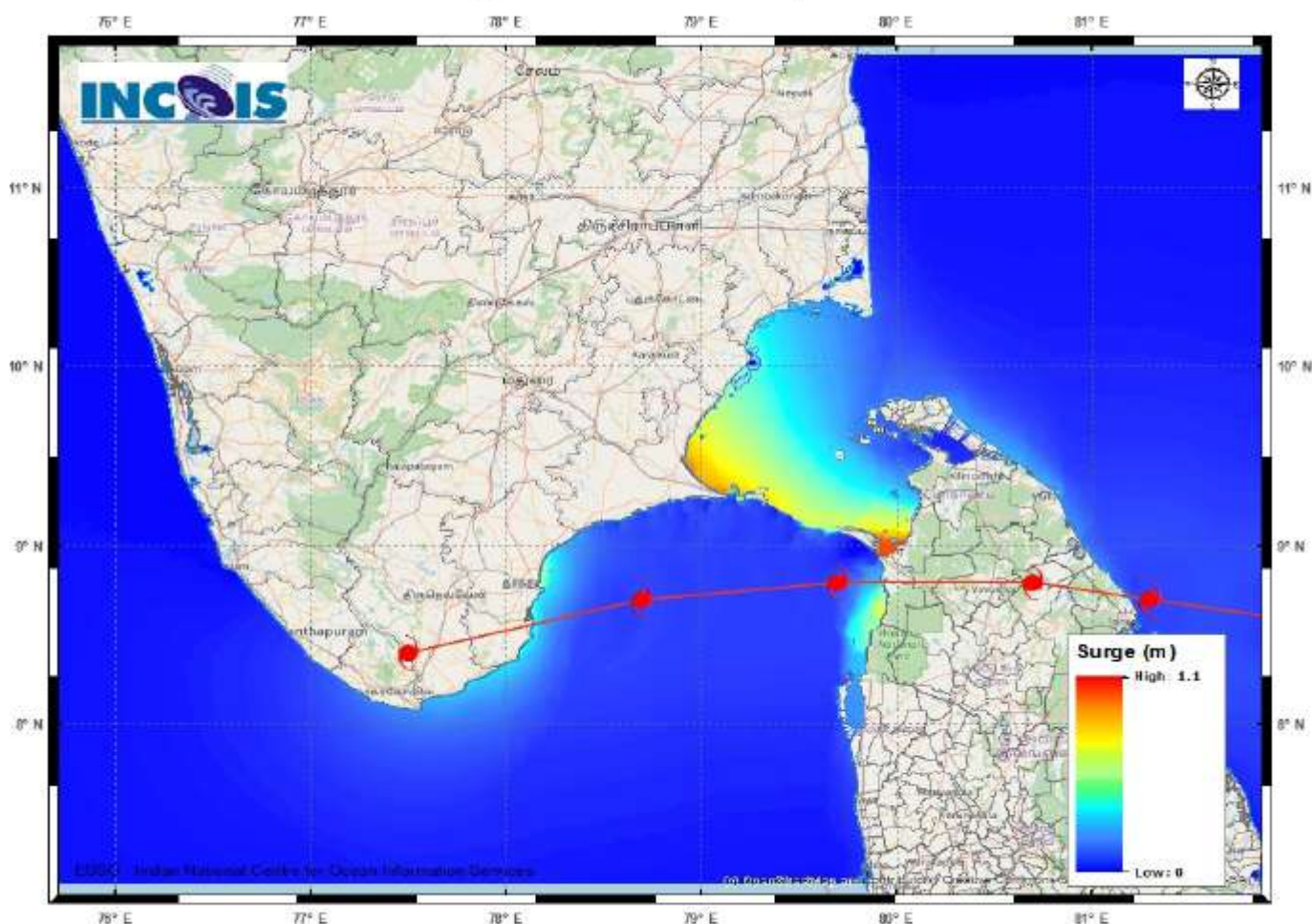


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 15 (BOB/05/2020)

TIME OF ISSUE: 1440 HOURS IST

DATED: 02.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Warning for South Tamilnadu and South Kerala coasts: Orange Message)

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 25 kmph during past six hours and lay centered at 1130 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.7°N and Long. 82.5°E, about 140 km nearly east of Trincomalee (Sri Lanka), 370 km east-southeast of Pamban (India) and 550 km nearly east-northeast of Kanniyakumari (India).

It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, to north of Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/1130	8.7/82.5	80-90 gusting to 100	Cyclonic Storm
02.12.20/1730	9.0/81.4	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.1/80.6	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	9.2/80.0	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.3	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.1/78.6	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	9.0/78.0	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.8/77.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) on 2nd & 3rd December, 2020; over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 4th December 2020 and south Kerala on 2nd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 2nd & 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph continues to prevails over southwest Bay of Bengal and along & off Sri Lanka coast during next 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 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 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December morning and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 2nd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from 2nd to 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 2nd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 1730 hrs IST of 2nd December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
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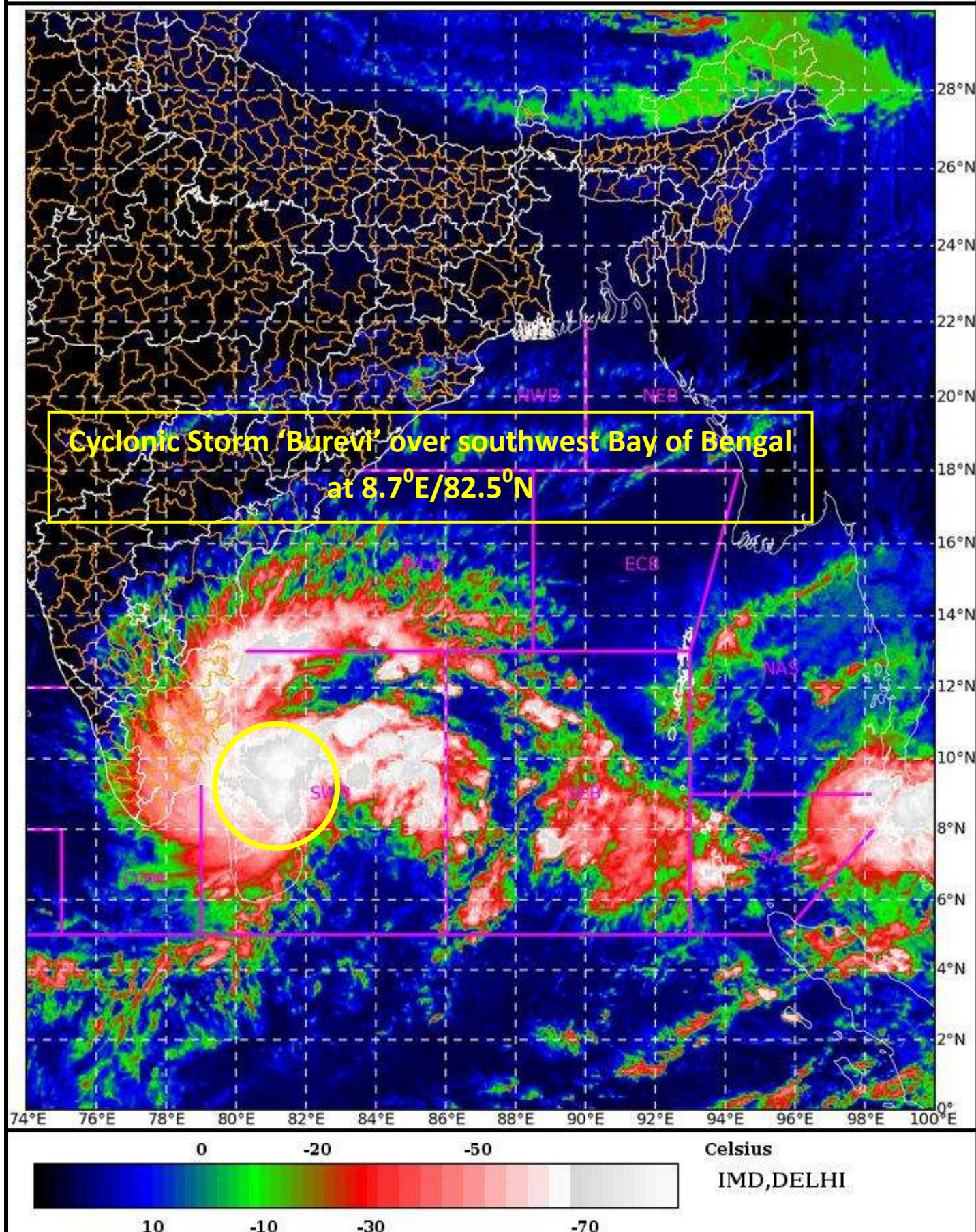
SAT : INSAT-3D IMG

02-12-2020/(0630 to 0657) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(1200 to 1227) IST

L1C Mercator



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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 2nd DECEMBER, 2020.



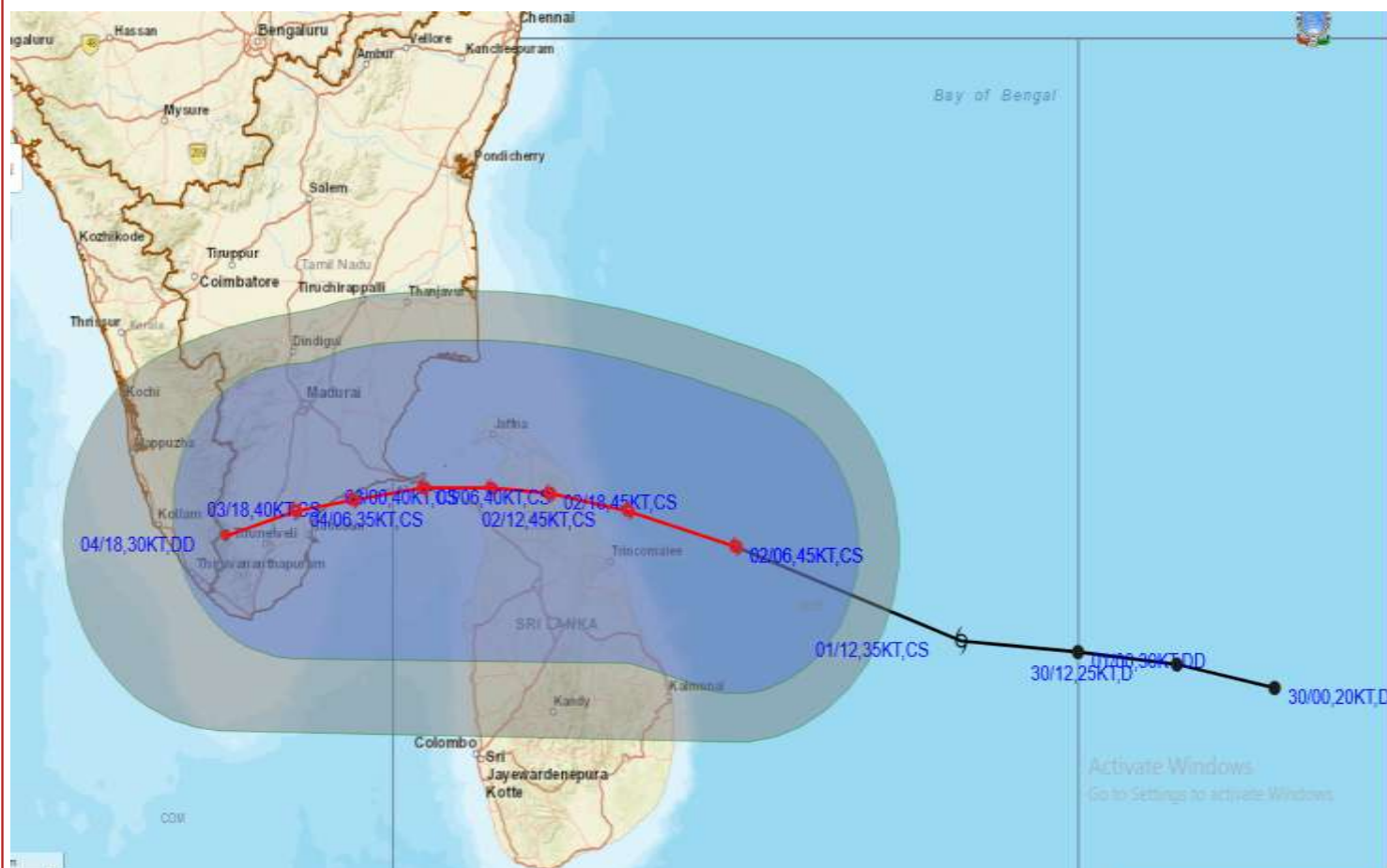
DATE/TIME IN UTC
IST=UTC + 0530
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DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

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SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

— CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

— 28-33 KT (52-61 KMPH)

— 34-49 KT (62-91 KMPH)

— 50-63 KT (92-117 KMPH)

— ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Ramanathapuram	Ramanathapuram	Tamil Nadu	Nagachi	1.1-1.3	Upto 0.47
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.7-1.1	Upto 0.69
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.8	Upto 0.39
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.4-0.8	Upto 1.2
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.5-0.7	Nil
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.6	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.6	Upto 0.2
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Srivaikuntam	Thoothukkudi	Tamil Nadu	Palayakkayal	0.4-0.4	Upto 0.23
Tiruchchendur	Thoothukkudi	Tamil Nadu	Kayalpattinam	0.2-0.3	Upto 0.28
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.3-0.4	Nil

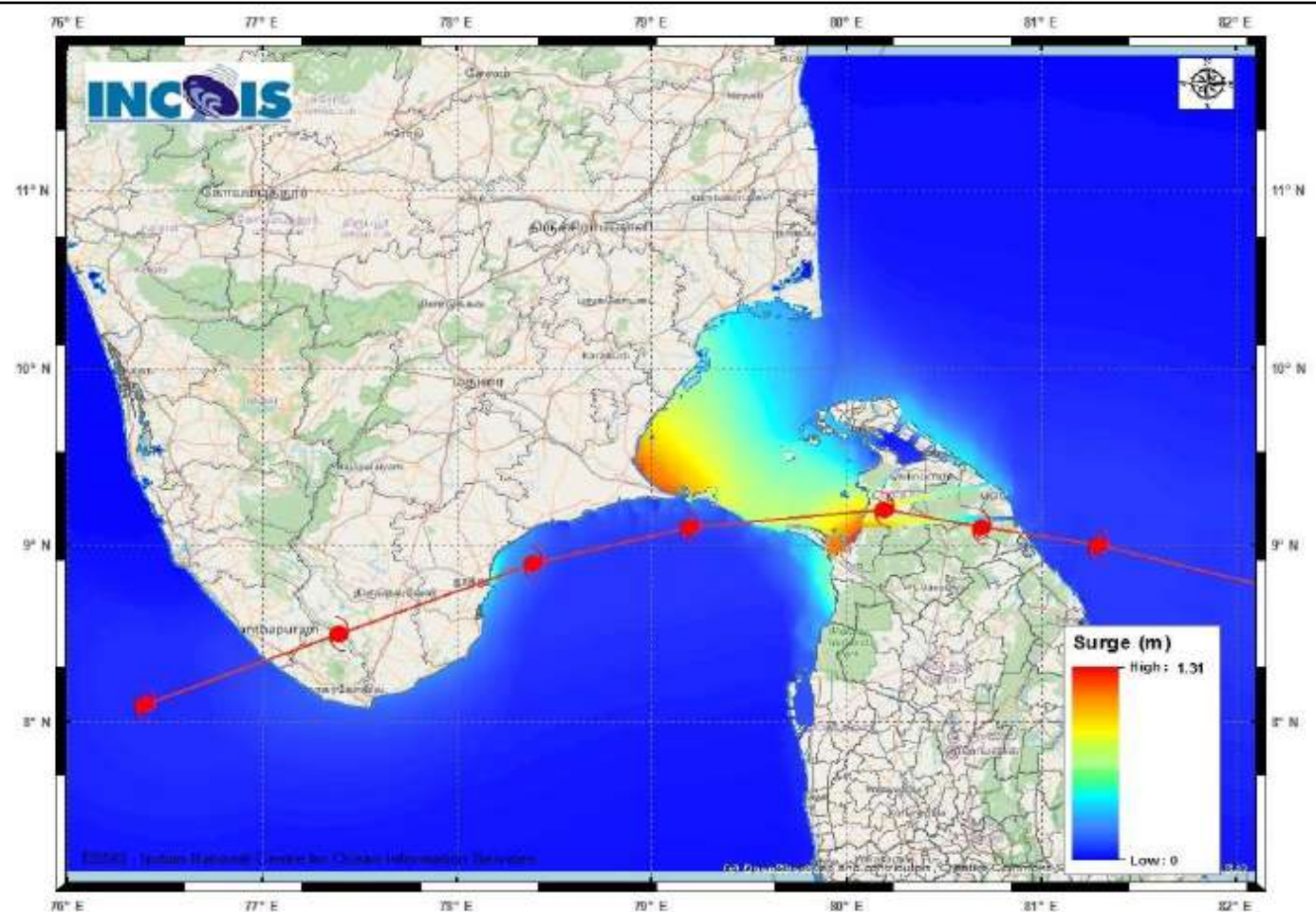


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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

(Ministry of Earth Sciences)

BULLETIN NO. : 16 (BOB/05/2020)

TIME OF ISSUE: 1640 HOURS IST

DATED: 02.12.2020

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)

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CHIEF SECRETARY, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Warning for South Tamilnadu and South Kerala coasts: **Orange Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 15 kmph during past six hours and lay centered at 1430 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.8°N and Long. 82.2°E, about 110 km east-northeast of Trincomalee (Sri Lanka), 330 km east-southeast of Pamban (India) and 520 km east-northeast of Kanniyakumari (India).

It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, to north of Trincomalee during evening/night of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/1430	8.8/82.2	80-90 gusting to 100	Cyclonic Storm
02.12.20/1730	9.0/81.4	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.1/80.6	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	9.2/80.0	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.3	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.1/78.6	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	9.0/78.0	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.8/77.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) on 2nd & 3rd December, 2020; over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 4th December 2020 and south Kerala on 2nd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 2nd & 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph continues to prevails over southwest Bay of Bengal and along & off Sri Lanka coast during next 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from 2nd December evening and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 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 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 2nd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from 2nd to 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 2nd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 2030 hrs IST of 2nd December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

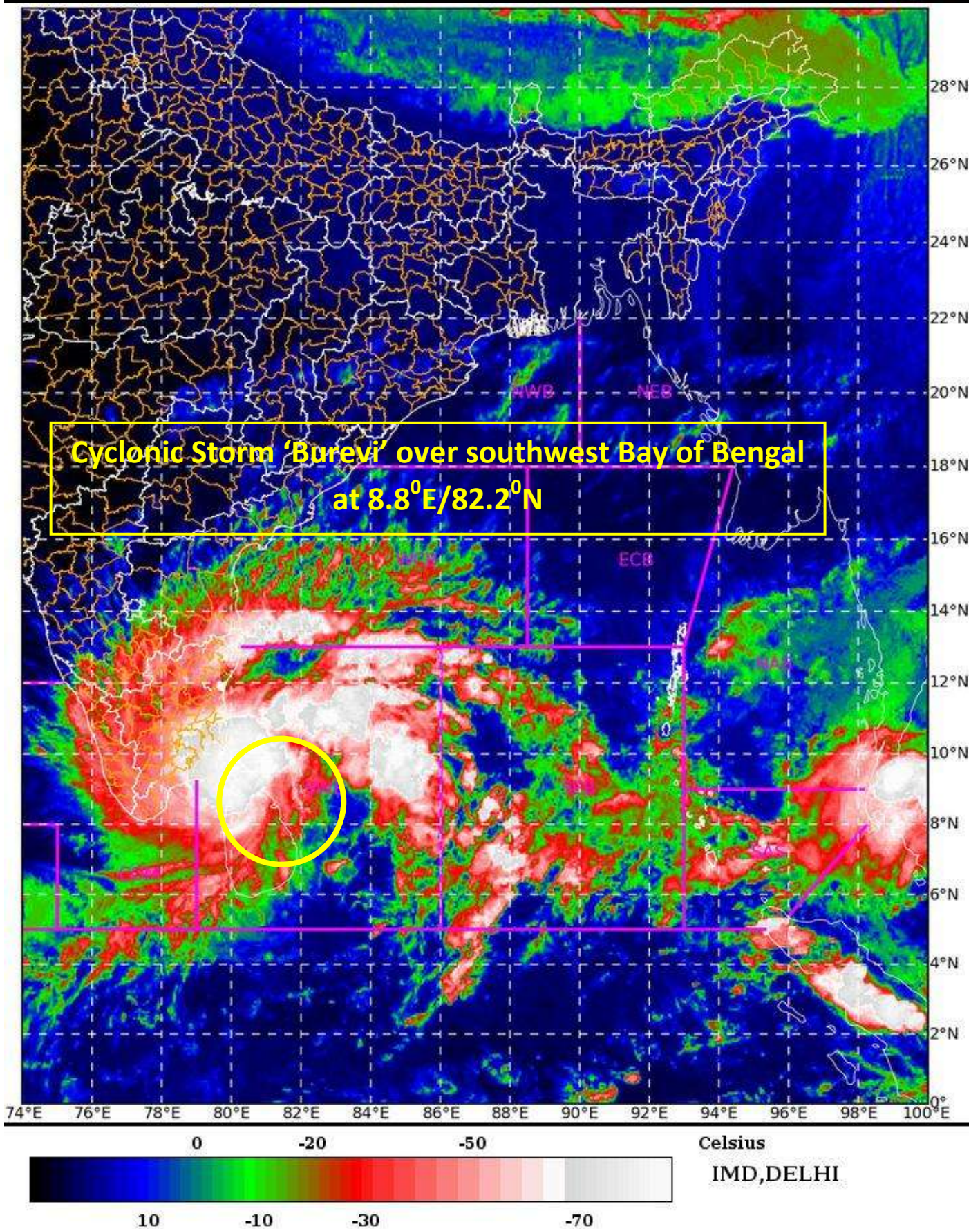
SAT : INSAT-3D IMG

02-12-2020/(1000 to 1026) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(1530 to 1556) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 2nd DECEMBER, 2020.



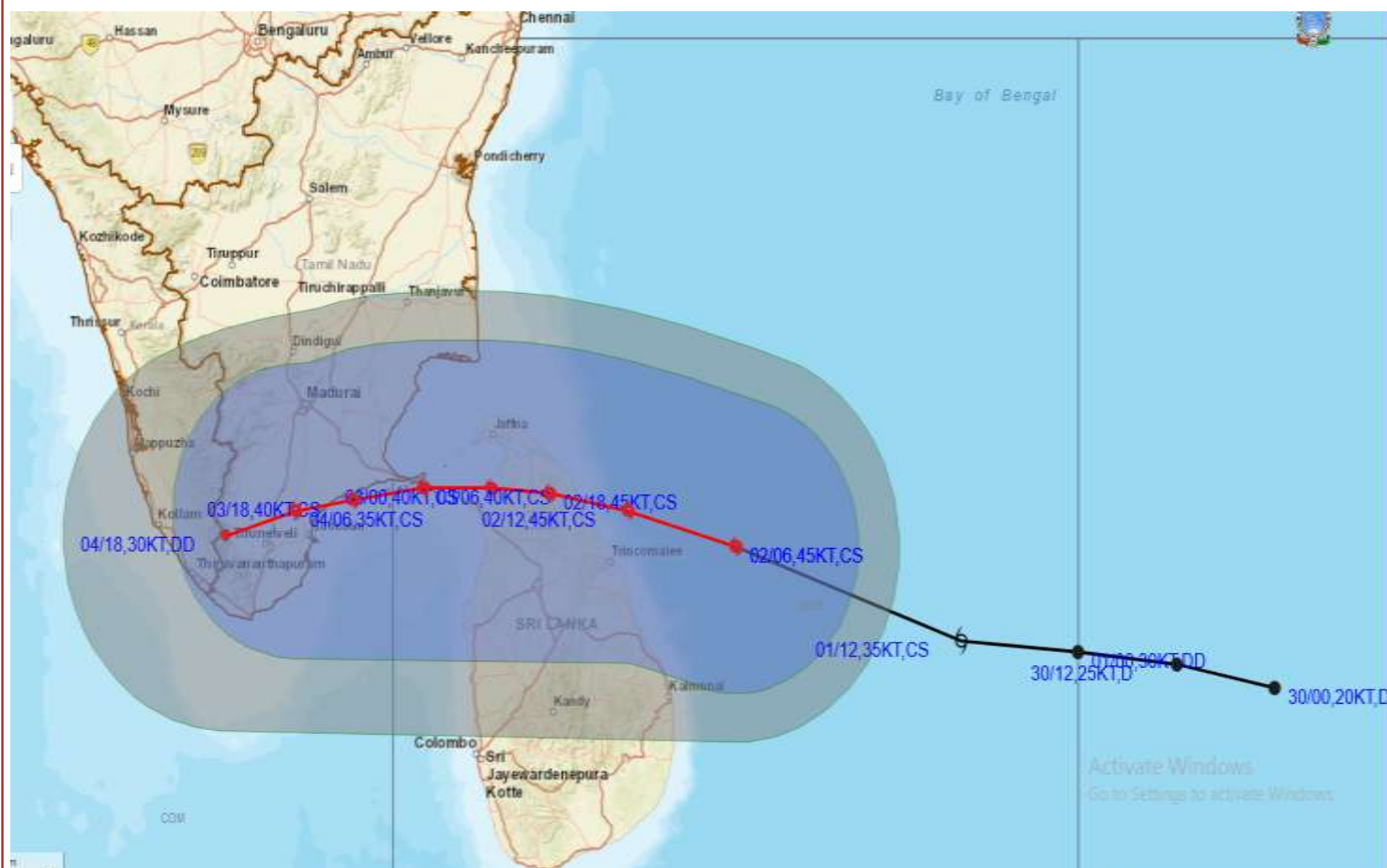
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 0600 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

— CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

— 28-33 KT (52-61 KMPH)

— 34-49 KT (62-91 KMPH)

— 50-63 KT (92-117 KMPH)

— ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Ramanathapuram	Ramanathapuram	Tamil Nadu	Nagachi	1.1-1.3	Upto 0.47
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.7-1.1	Upto 0.69
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.8	Upto 0.39
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.4-0.8	Upto 1.2
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.5-0.7	Nil
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.6	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.6	Upto 0.2
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Srivaikuntam	Thoothukkudi	Tamil Nadu	Palayakkayal	0.4-0.4	Upto 0.23
Tiruchchendur	Thoothukkudi	Tamil Nadu	Kayalpattinam	0.2-0.3	Upto 0.28
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.3-0.4	Nil

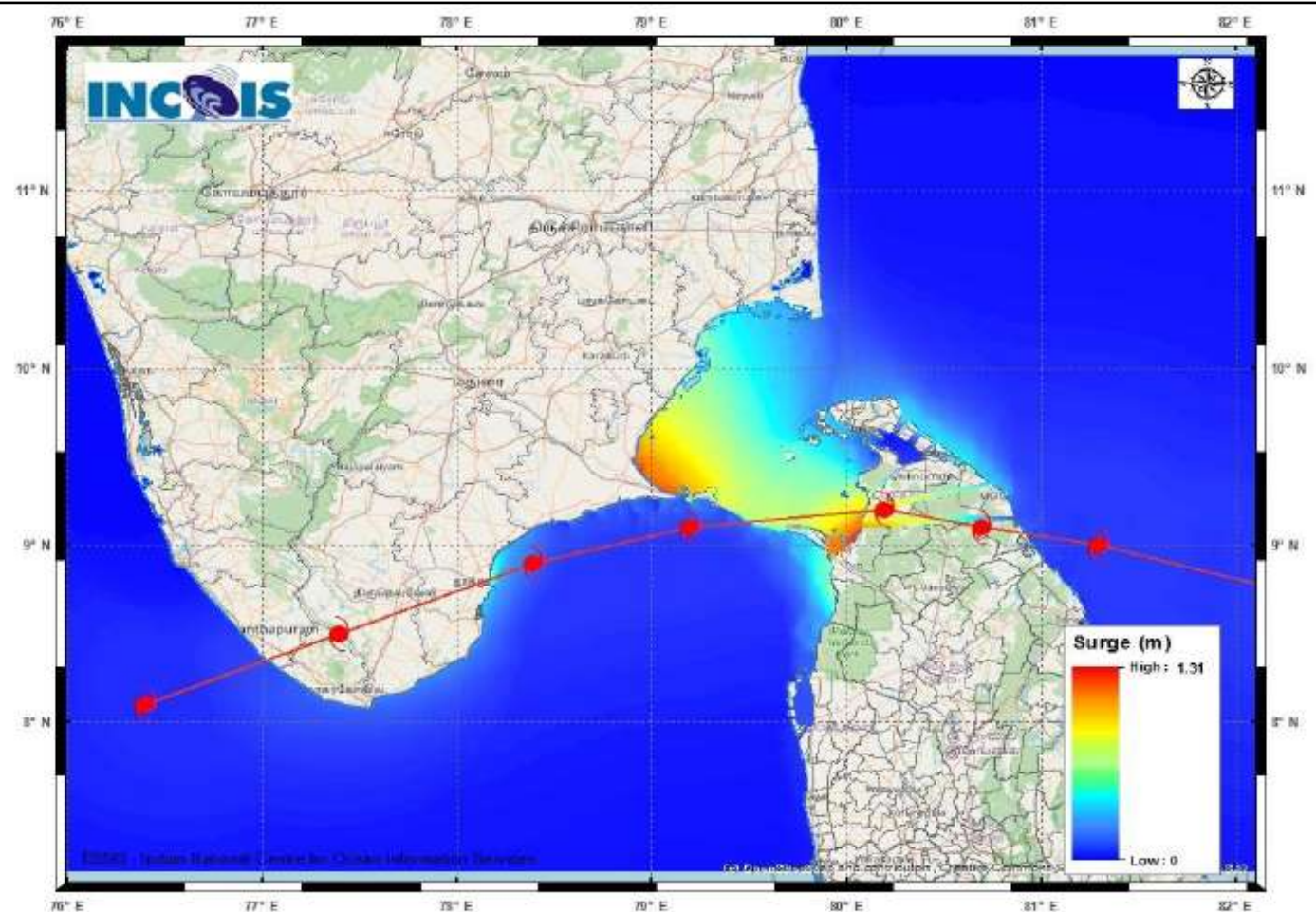


Figure: Storm Surge Map

Storm Surge Forecast by INCOIS Model based on 0300 UTC of 2nd December

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
(Ministry of Earth Sciences)

BULLETIN NO. : 17 (BOB/05/2020)

TIME OF ISSUE: 2050 HOURS IST

DATED: 02.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Warning for South Tamilnadu and South Kerala coasts: **Orange Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 13 kmph during past six hours and lay centered at 1730 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.8°N and Long. 81.8°E, about 70 km east-northeast of Trincomalee (Sri Lanka), 290 km east-southeast of Pamban (India) and 480 km east-northeast of Kanniyakumari (India).

It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, to north of Trincomalee by midnight of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/1730	8.8/81.8	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.0/81.0	80-90 gusting to 100	Cyclonic Storm
03.12.20/0530	9.2/80.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	9.0/78.1	60-70 gusting to 80	Cyclonic Storm
04.12.20/1730	8.8/77.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) on 2nd & 3rd December, 2020; over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 4th December 2020 and south Kerala on 2nd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 2nd & 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph continues to prevail over southwest Bay of Bengal and along & off Sri Lanka coast during next 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from early hours of 3rd December and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 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 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 2nd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from 2nd to 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 2nd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 2330 hrs IST of 2nd December, 2020.

(R.K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

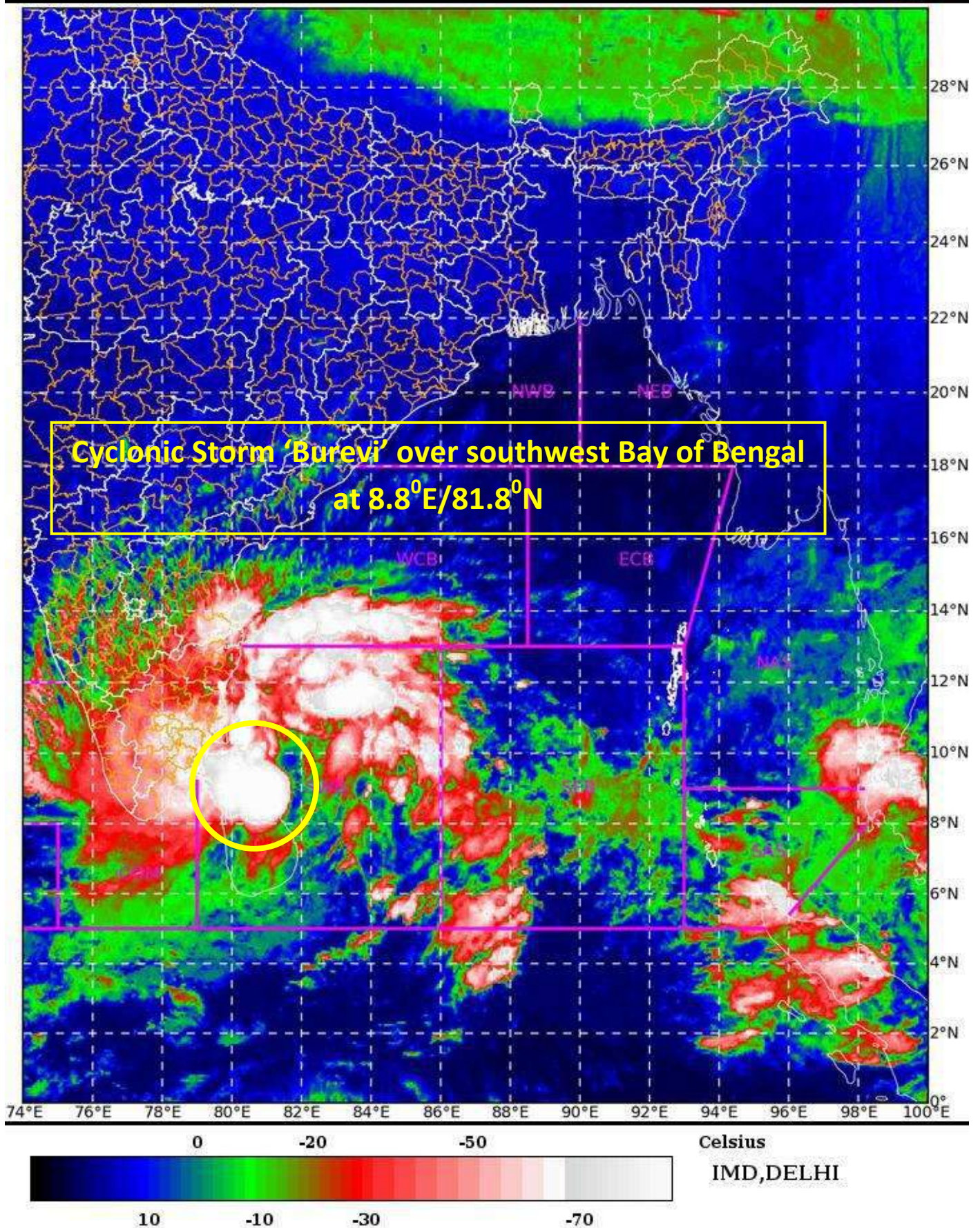
SAT : INSAT-3D IMG

02-12-2020/(1430 to 1456) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(2000 to 2026) IST

L1C Mercator

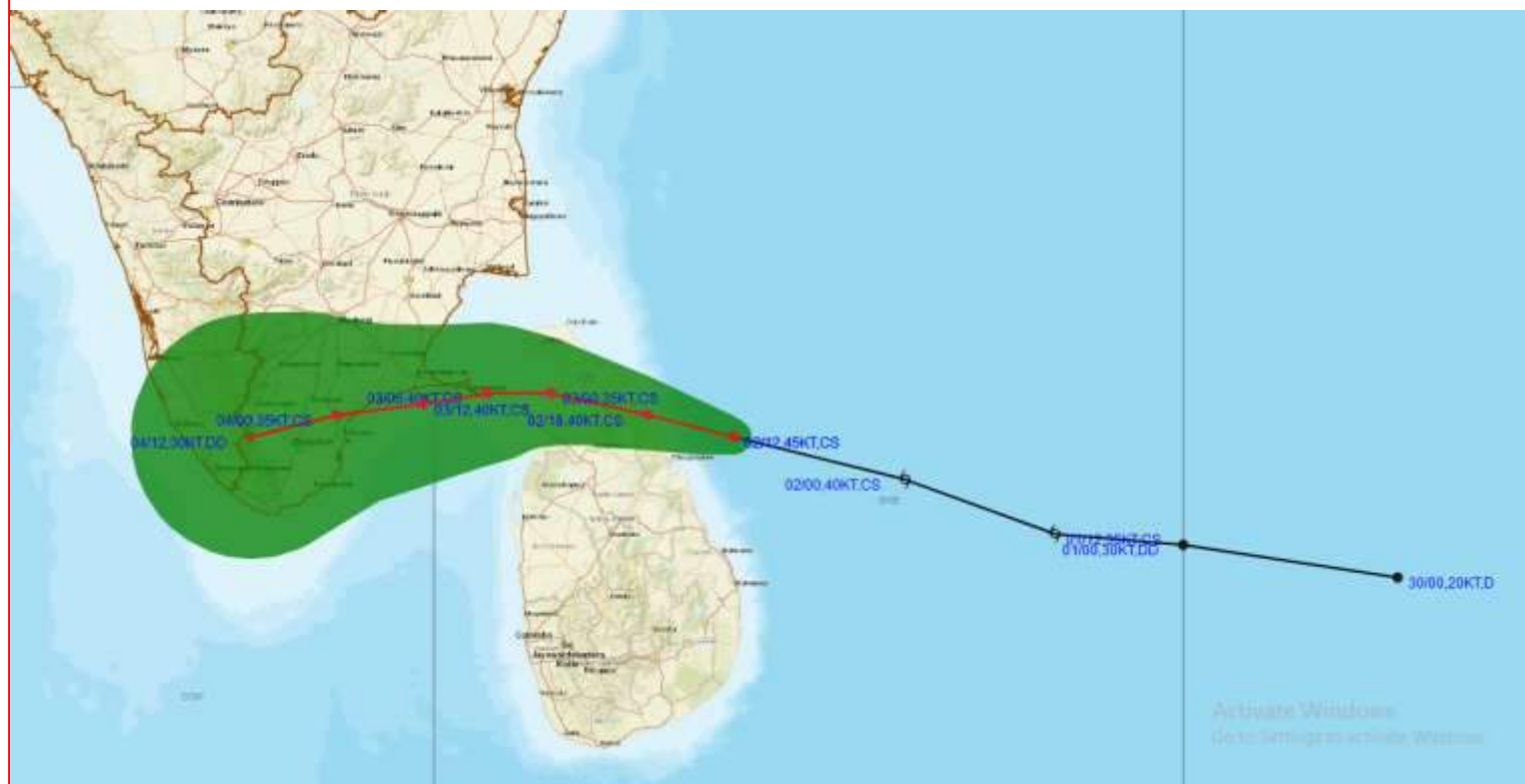


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 2nd DECEMBER, 2020.



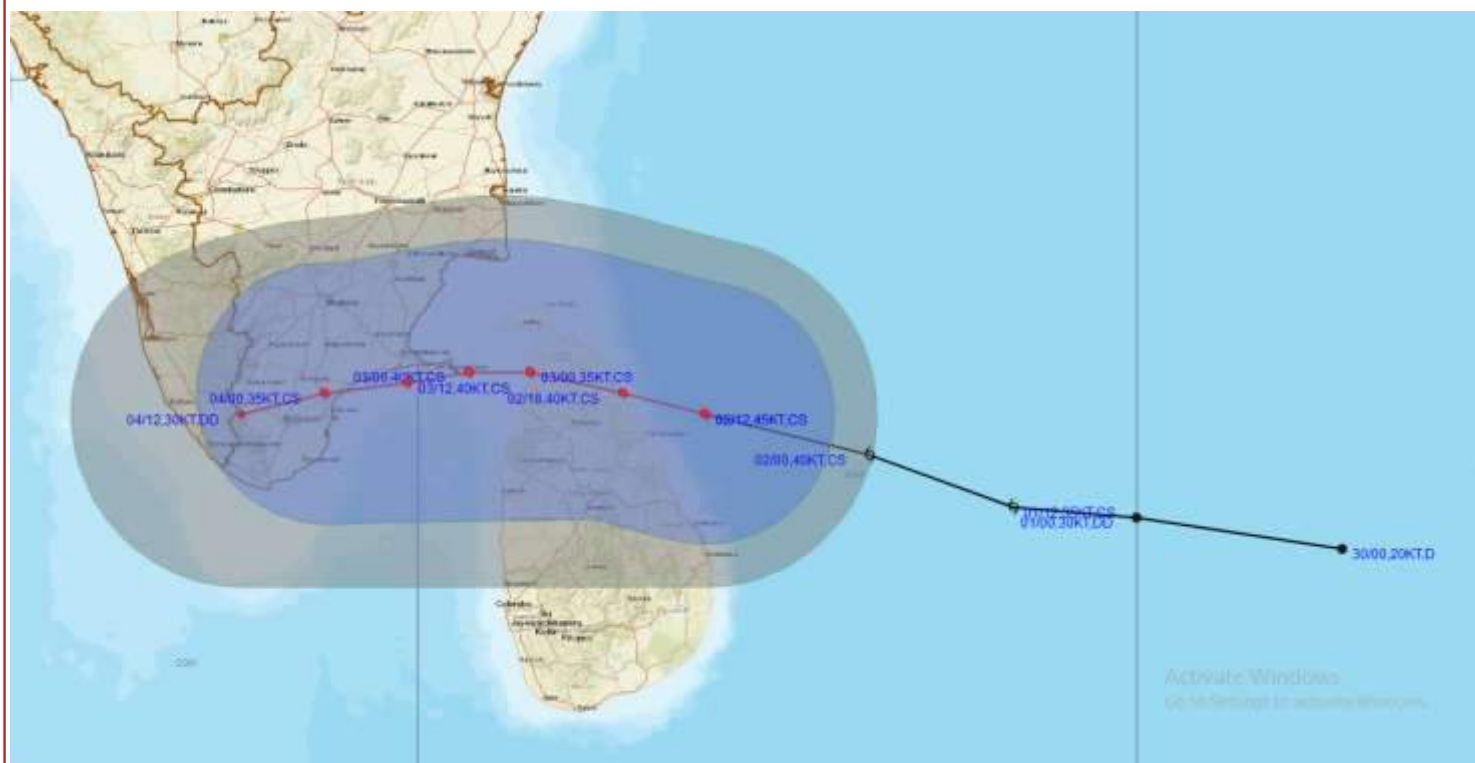
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
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 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
 ⚡ 34-47 KT
 ⚡ \geq 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

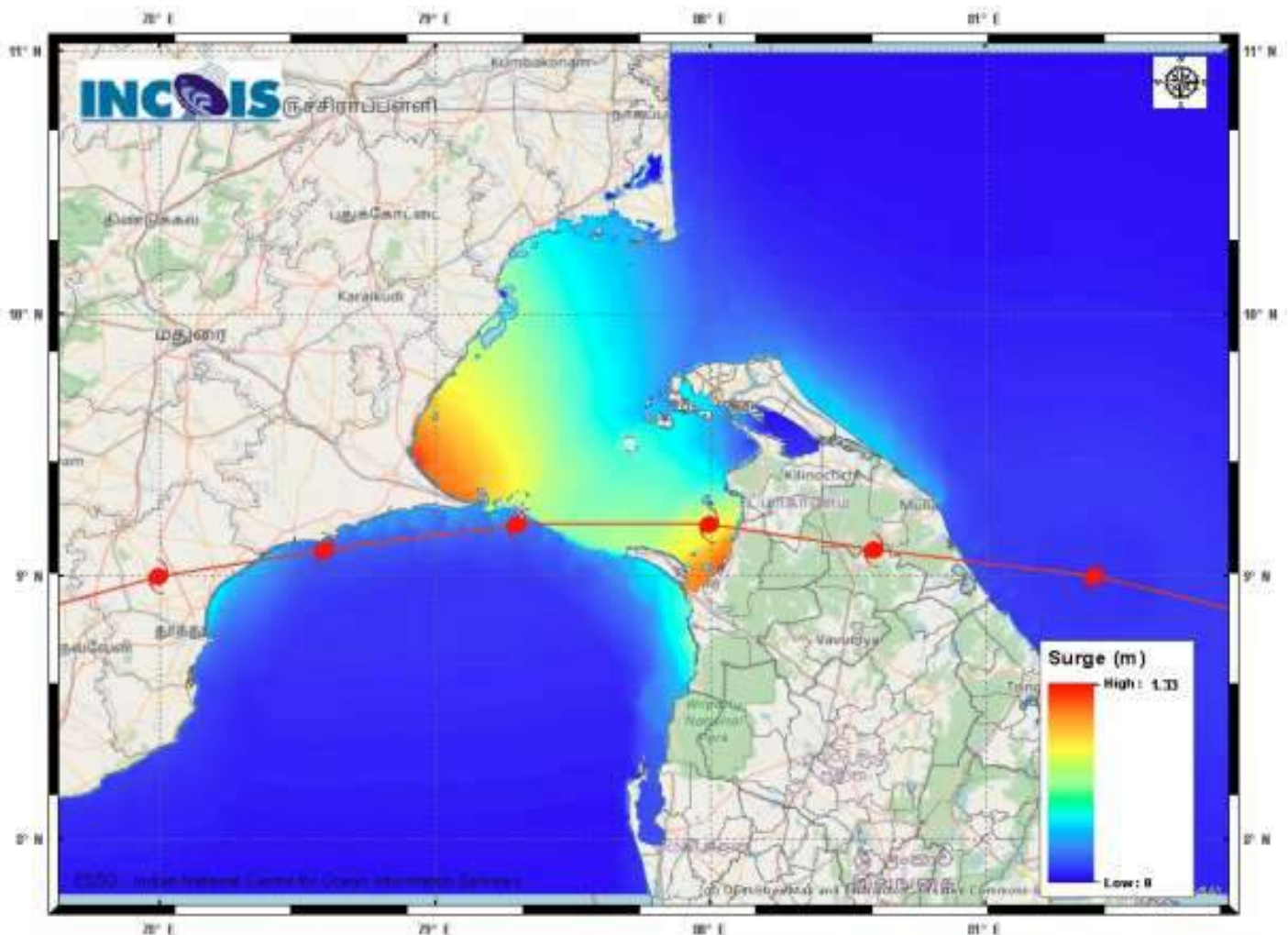
Spatial rainfall distribution: Isolated: $\leq 25\%$, A few: 26-50%, Many: 51-75%, Most: 76-100%

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

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.3-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.9	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamurudur	0.5-0.6	Nil
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.6	Upto 0.18
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.94
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil



Storm Surge Forecast by INCOIS Model based on 0600 UTC of 2nd December

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
(Ministry of Earth Sciences)

BULLETIN NO. : 18 (BOB/05/2020)

TIME OF ISSUE: 2240 HOURS IST

DATED: 02.12.2020

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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CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over southwest Bay of Bengal (Cyclone Warning for South Tamilnadu and South Kerala coasts: **Orange Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved nearly westwards with a speed of 15 kmph during past six hours and lay centered at 2030 hrs IST of today, the 02nd December 2020 over southwest Bay of Bengal near Lat. 8.8°N and Long. 81.4°E, about 30 km northeast of Trincomalee (Sri Lanka), 250 km east-southeast of Pamban (India) and 430 km east-northeast of Kanniyakumari (India).

It is very likely to move west-northwestwards and cross Sri Lanka coast around latitude 9.0°N, to north of Trincomalee by midnight of 2nd December as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It is very likely to move nearly west-northwestwards thereafter, emerge into Gulf of Mannar and adjoining Comorin area on 3rd December morning.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/2030	8.8/81.4	80-90 gusting to 100	Cyclonic Storm
02.12.20/2330	9.0/81.0	80-90 gusting to 100	Cyclonic Storm
03.12.20/0530	9.2/80.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	9.0/78.1	60-70 gusting to 80	Cyclonic Storm
04.12.20/1730	8.8/77.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) on 2nd & 3rd December, 2020; over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu on 4th December 2020 and south Kerala on 2nd & 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 2nd & 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	02 Dec 2020*	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 80-90 kmph gusting to 100 kmph continues to prevail over southwest Bay of Bengal and along & off Sri Lanka coast during next 12 hours. It will gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from early hours of 3rd December and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 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 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- It will be rough to very rough over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 2nd and very rough to high on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd – 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 2nd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast from 2nd to 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 2nd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 0230 hrs IST of 3rd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

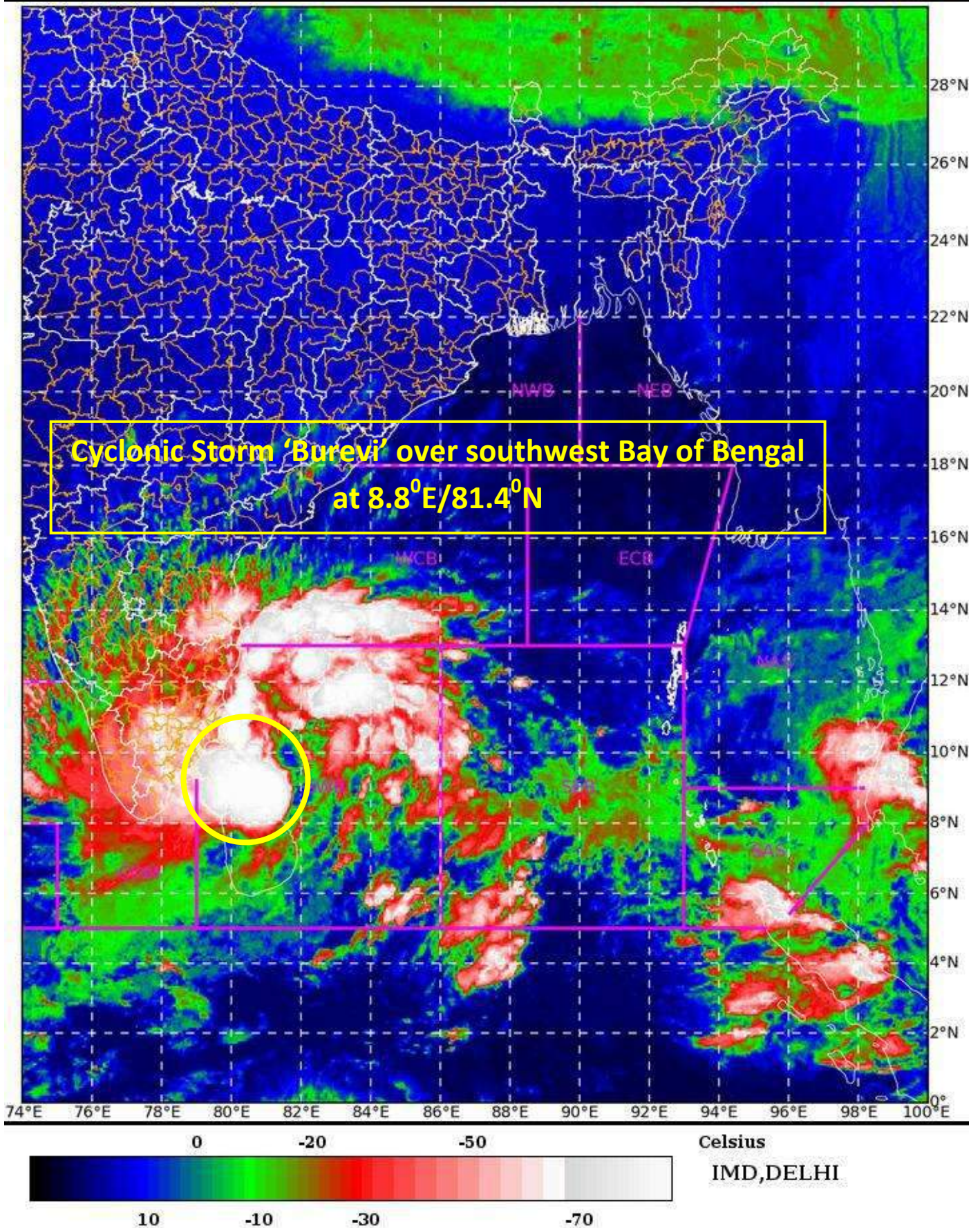
SAT : INSAT-3D IMG

02-12-2020/(1500 to 1526) GMT

IMG_TIR1_TEMP 10.8 um

02-12-2020/(2030 to 2056) IST

L1C Mercator

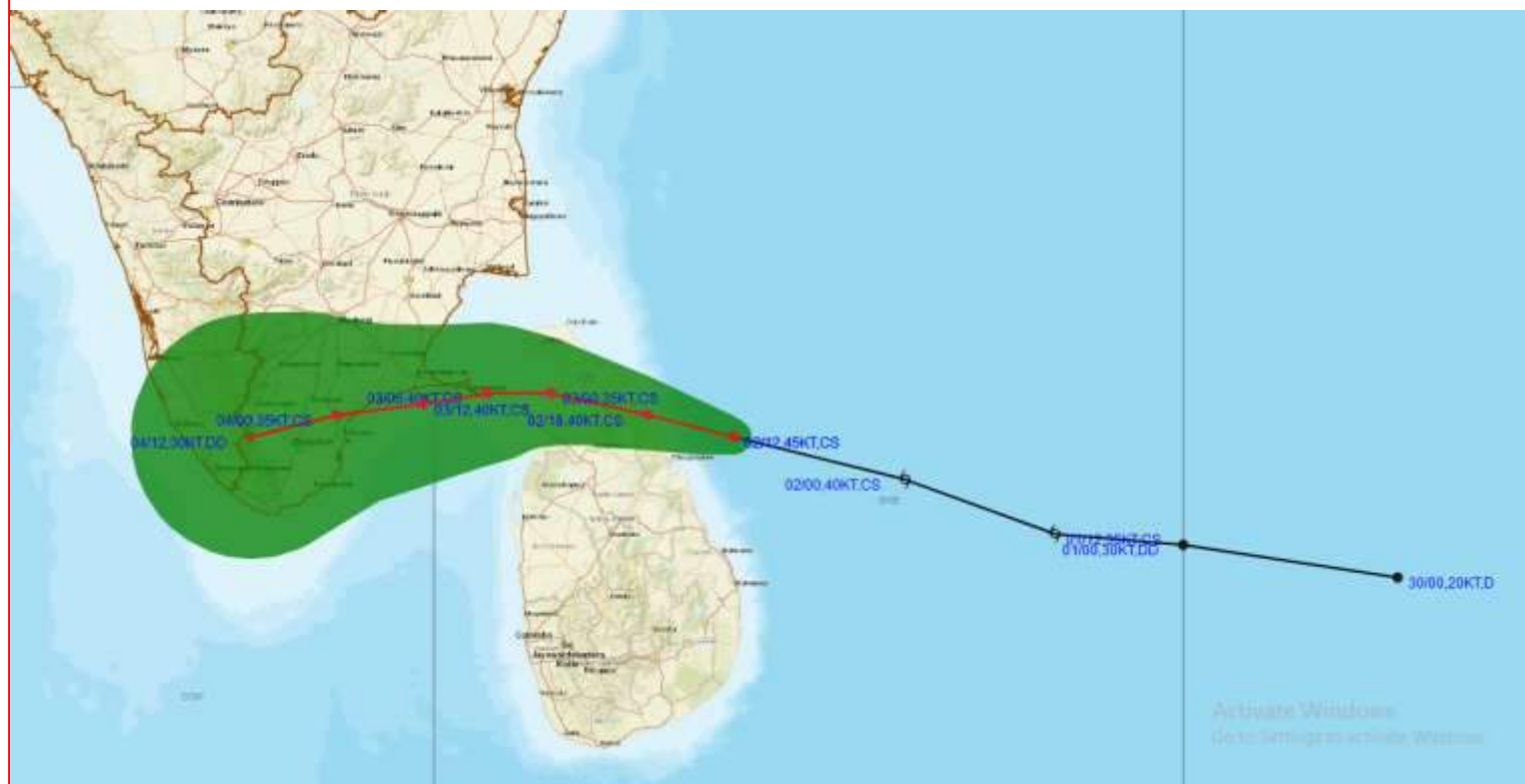


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 2nd DECEMBER, 2020.



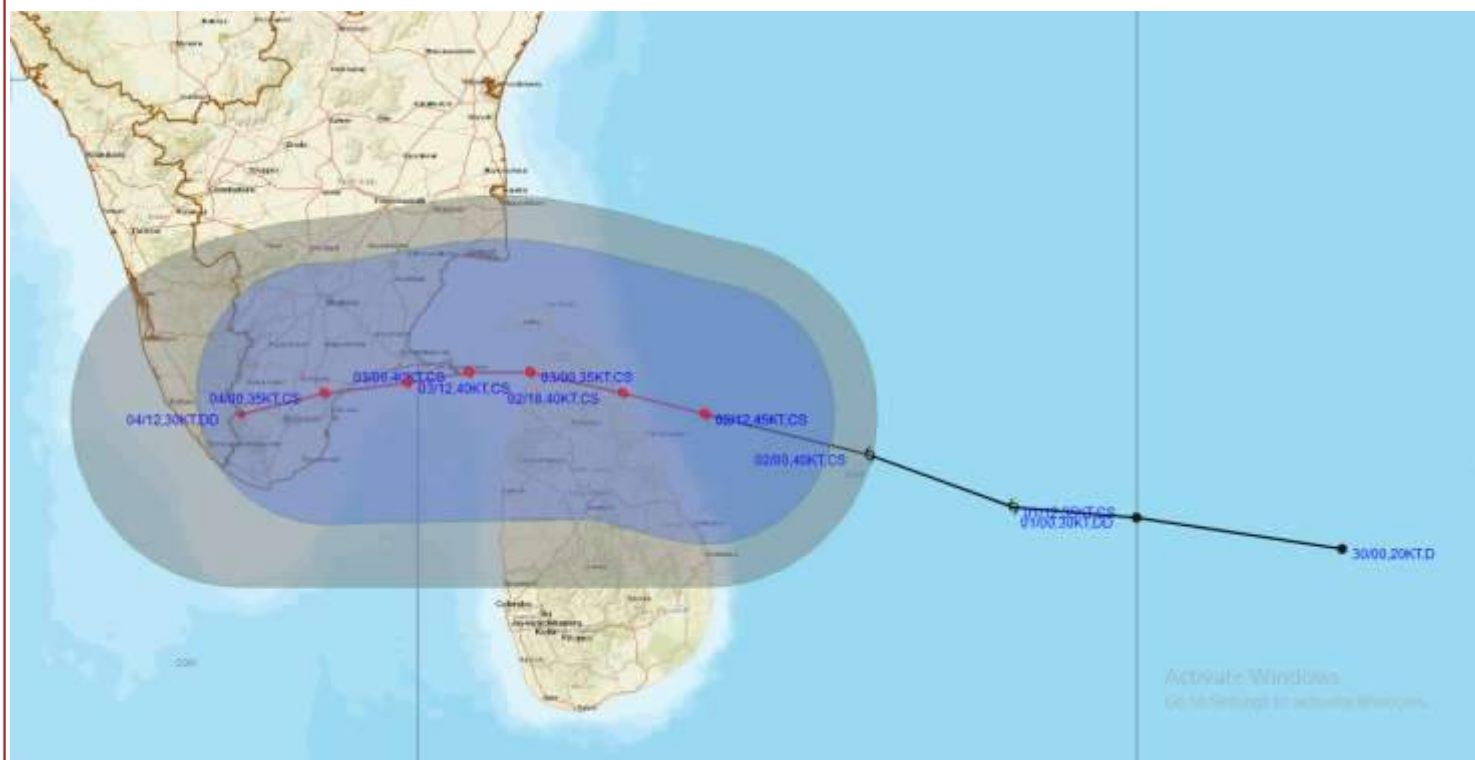
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

LESS THAN 34 KT
34-47 KT
 ≥ 48 KT
OBSERVED TRACK
FORECAST TRACK
CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SOUTHWEST BAY OF BENGAL BASED ON 1200 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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

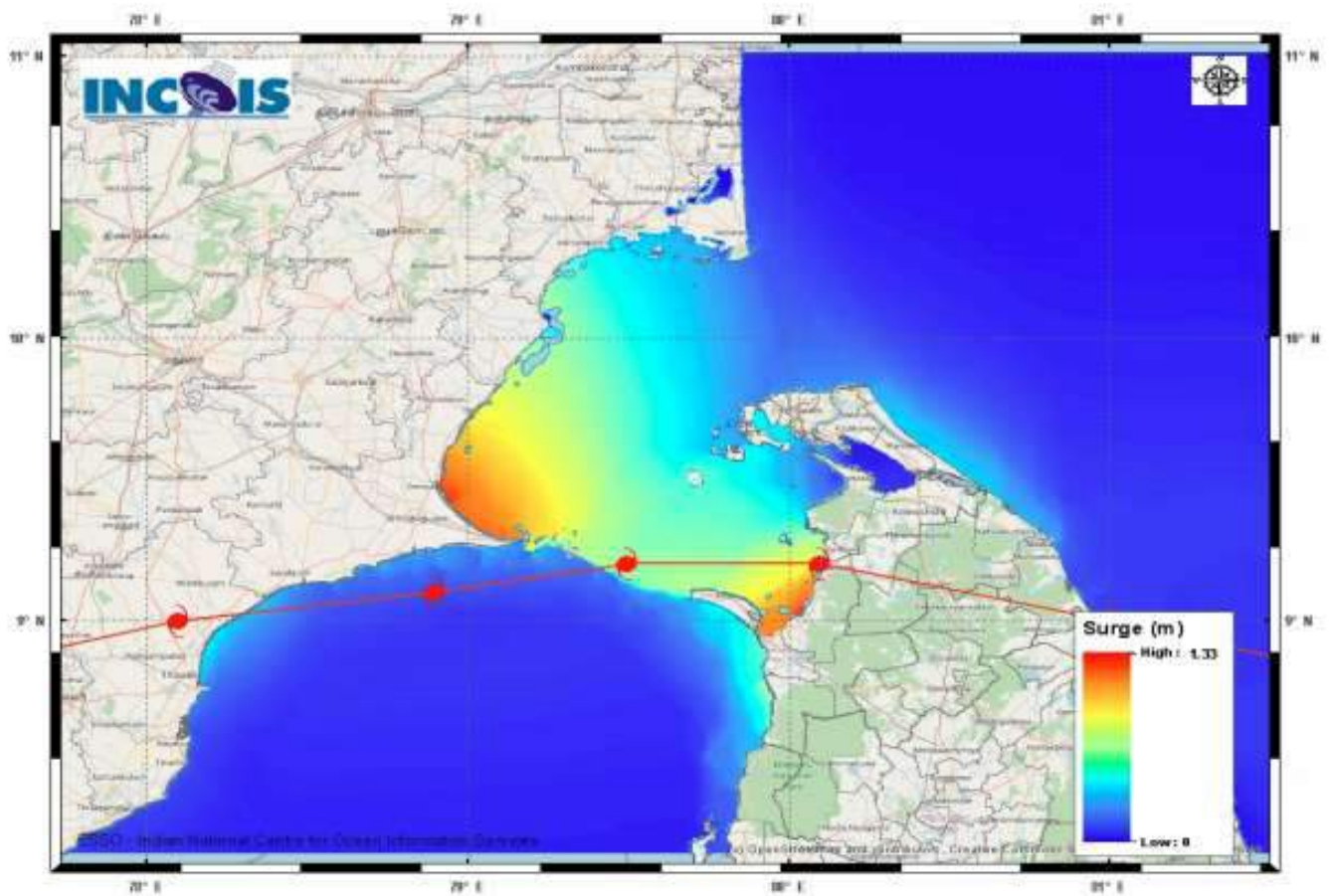
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

Storm Surge Forecast by INCOIS Model based on 1200 UTC of 2nd December

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.3-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.8	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamurudur	0.5-0.6	Nil
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.6	Upto 0.18
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.5	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.5	Upto 0.2
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.94
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil



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
(Ministry of Earth Sciences)

BULLETIN NO. : 19 (BOB/05/2020)

TIME OF ISSUE: 0230 HOURS IST

DATED: 03.12.2020

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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CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' crossed Sri Lanka coast near Trincomalee (Cyclone Warning for South Tamilnadu and South Kerala coasts: **Orange Message)**

The **Cyclonic Storm 'Burevi'** over southwest Bay of Bengal moved west-northwestwards with a speed of 15 kmph during past six hours and crossed Sri Lanka coast close to north of Trincomalee near Lat. 8.85°N and Long. 81.0°E between 2230 and 2330 hours IST of 2nd December 2020 as a Cyclonic Storm with a wind speed of 80-90 kmph gusting to 100 kmph. It lay centered at 2330 hrs IST of 02nd December over Sri Lanka (close to north of Trincomalee) near Lat. 8.9°N and Long. 80.9°E, about 40 km north-northwest of Trincomalee, 190 km east-southeast of Pamban (India) and 380 km east-northeast of Kanniyakumari (India).

It is very likely to move nearly west-northwestwards and emerge into Gulf of Mannar on 3rd December morning. **The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December.** It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
02.12.20/2330	8.9/80.9	80-90 gusting to 100	Cyclonic Storm
03.12.20/0530	9.1/80.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.9/77.7	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.7/77.0	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) and over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Prevailing Gale wind speed reaching 80-90 kmph gusting to 100 kmph over southwest Bay of Bengal and along & off Sri Lanka coast will continue for next 6 hours and gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from early hours of 3rd December and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during 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.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- It will be very rough to high over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 0530 hrs IST of 3rd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

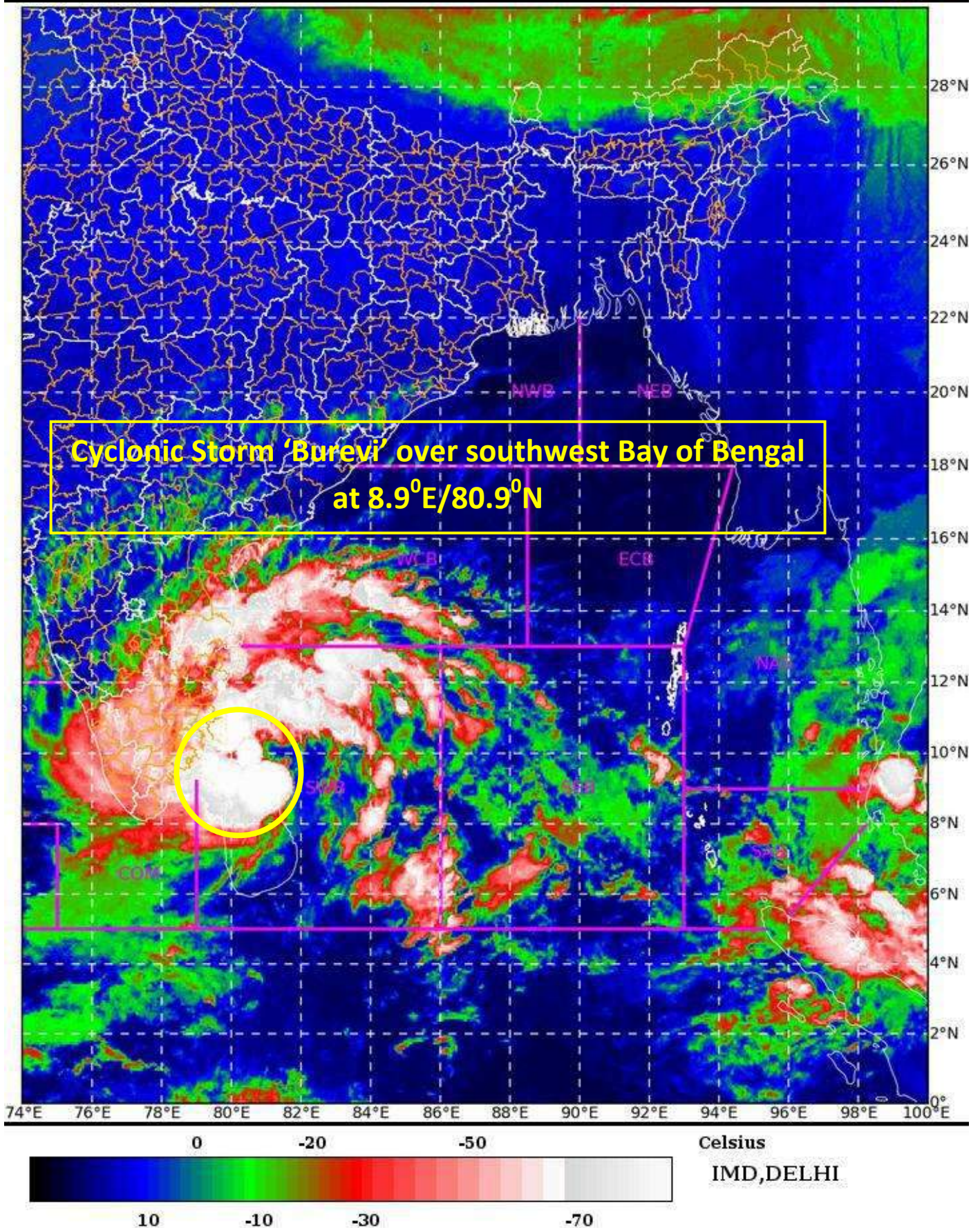
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02-12-2020/(1930 to 1956) GMT

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03-12-2020/(0100 to 0126) IST

L1C Mercator

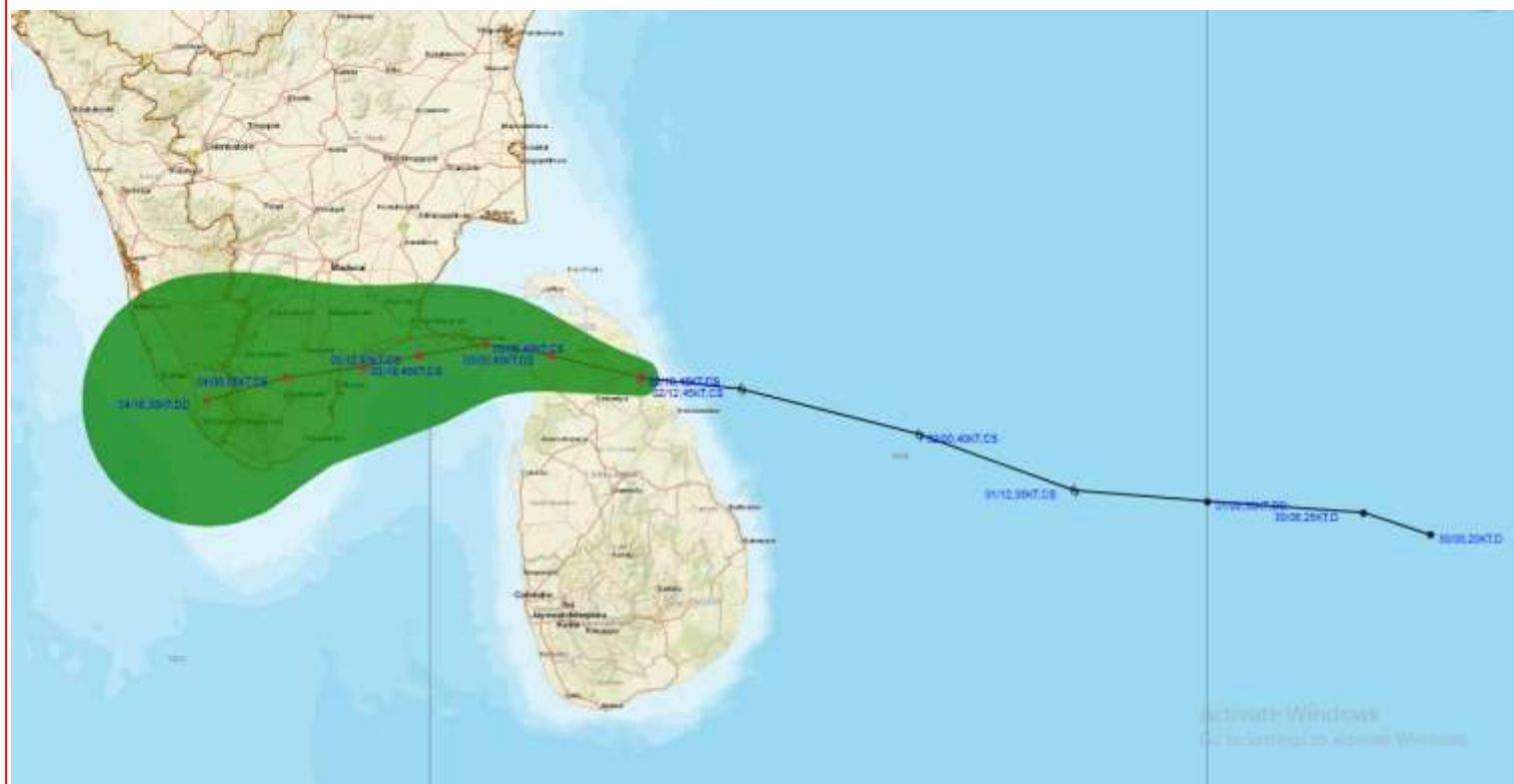


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 1800 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
 ⚡ 34.47 KT
 ⚡ \geq 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 1800 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63 KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 6 34-47 KT
 ● ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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

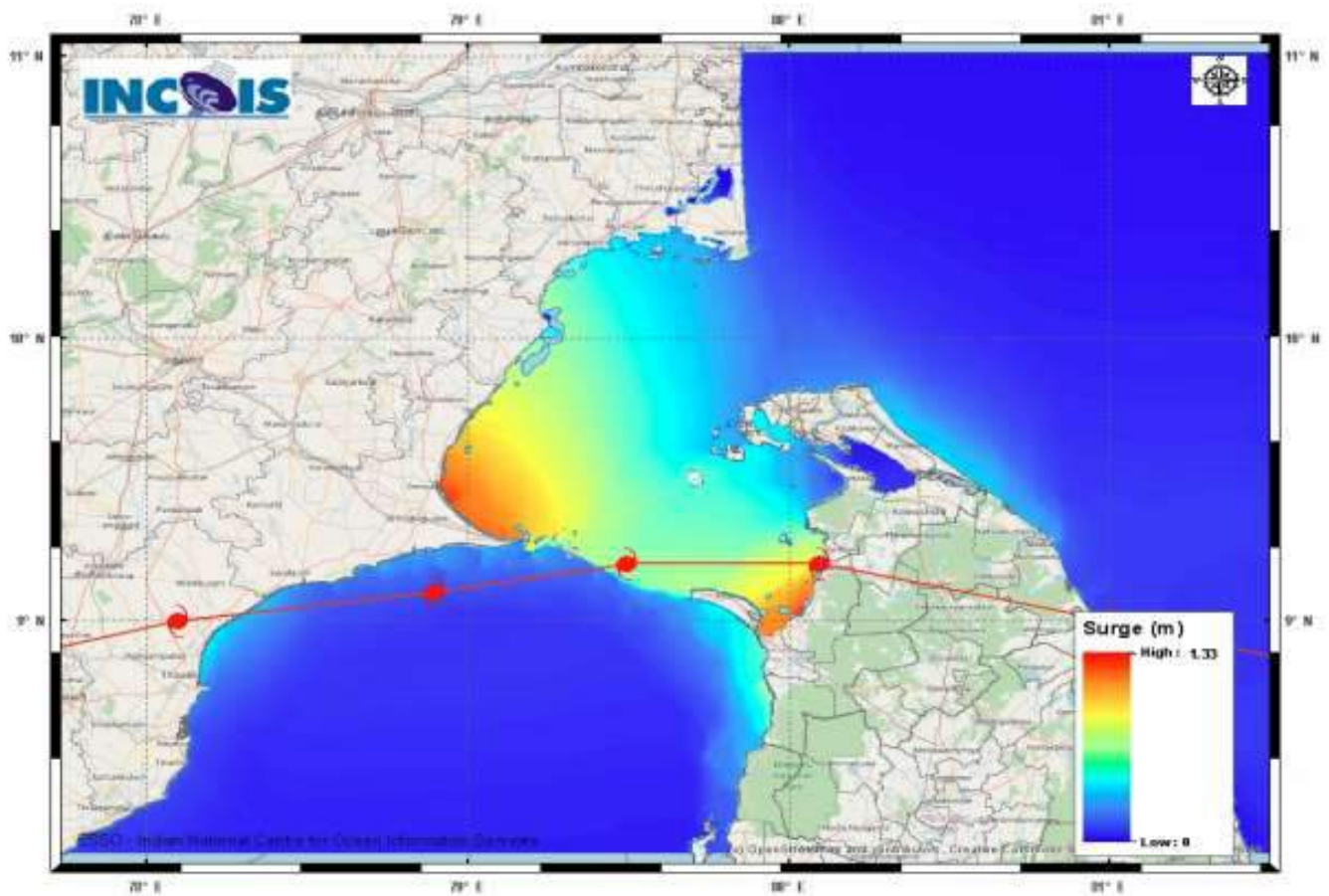
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

Storm Surge Forecast by INCOIS Model based on 1200 UTC of 2nd December

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.3-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.8	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamurudur	0.5-0.6	Nil
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.6	Upto 0.18
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.5	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.5	Upto 0.2
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.94
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil



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
(Ministry of Earth Sciences)**

BULLETIN NO. : 20 (BOB/05/2020)

TIME OF ISSUE: 0430 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

**Sub: Cyclonic Storm 'Burevi' over Sri Lanka (Cyclone Warning for South Tamilnadu and South Kerala coasts:
Orange Message)**

The **Cyclonic Storm 'Burevi'** over Sri Lanka (close to north of Trincomalee) moved west-northwestwards with a speed of 12 kmph during past six hours and lay centered at 0230 hrs IST of 03rd December over Sri Lanka near Lat. 9.0°N and Long. 80.8°E, about 60 km northwest of Trincomalee, 180 km east-southeast of Pamban (India) and 380 km east-northeast of Kanniyakumari (India).

It is very likely to move nearly west-northwestwards and emerge into Gulf of Mannar on 3rd December morning. **The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December.** It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/0230	9.0/80.8	75-85 gusting to 95	Cyclonic Storm
03.12.20/0530	9.1/80.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.9/77.7	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.7/77.0	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) and over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Prevailing Gale wind speed reaching 75-85 kmph gusting to 95 kmph over southwest Bay of Bengal and along & off Sri Lanka coast will continue for next 12 hours and gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Comorin Area, Gulf of Mannar and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). It will gradually increase becoming 55-65 kmph gusting to 75 kmph from early hours of 3rd December and 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 hours and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from 3rd December morning for next 48 hours.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during 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.

(iii) Sea condition

- Sea conditions is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- It will be very rough to high over Comorin Area, Gulf of Mannar, along & off south Tamilnadu-Kerala and west Sri Lanka coast on 3rd and 4th December.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 0830 hrs IST of 3rd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

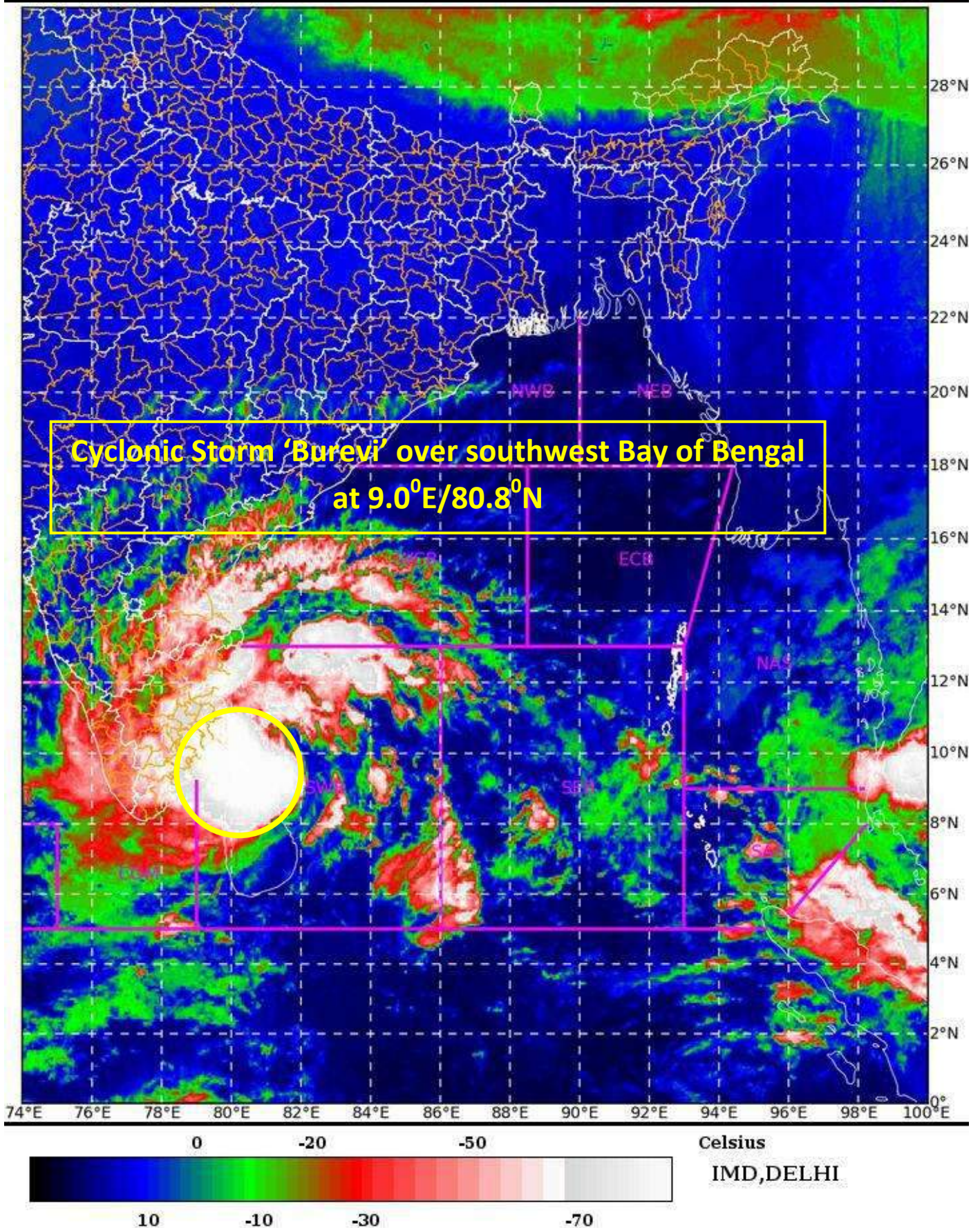
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02-12-2020/(2130 to 2156) GMT

IMG_TIR1_TEMP 10.8 um

03-12-2020/(0300 to 0326) IST

L1C Mercator

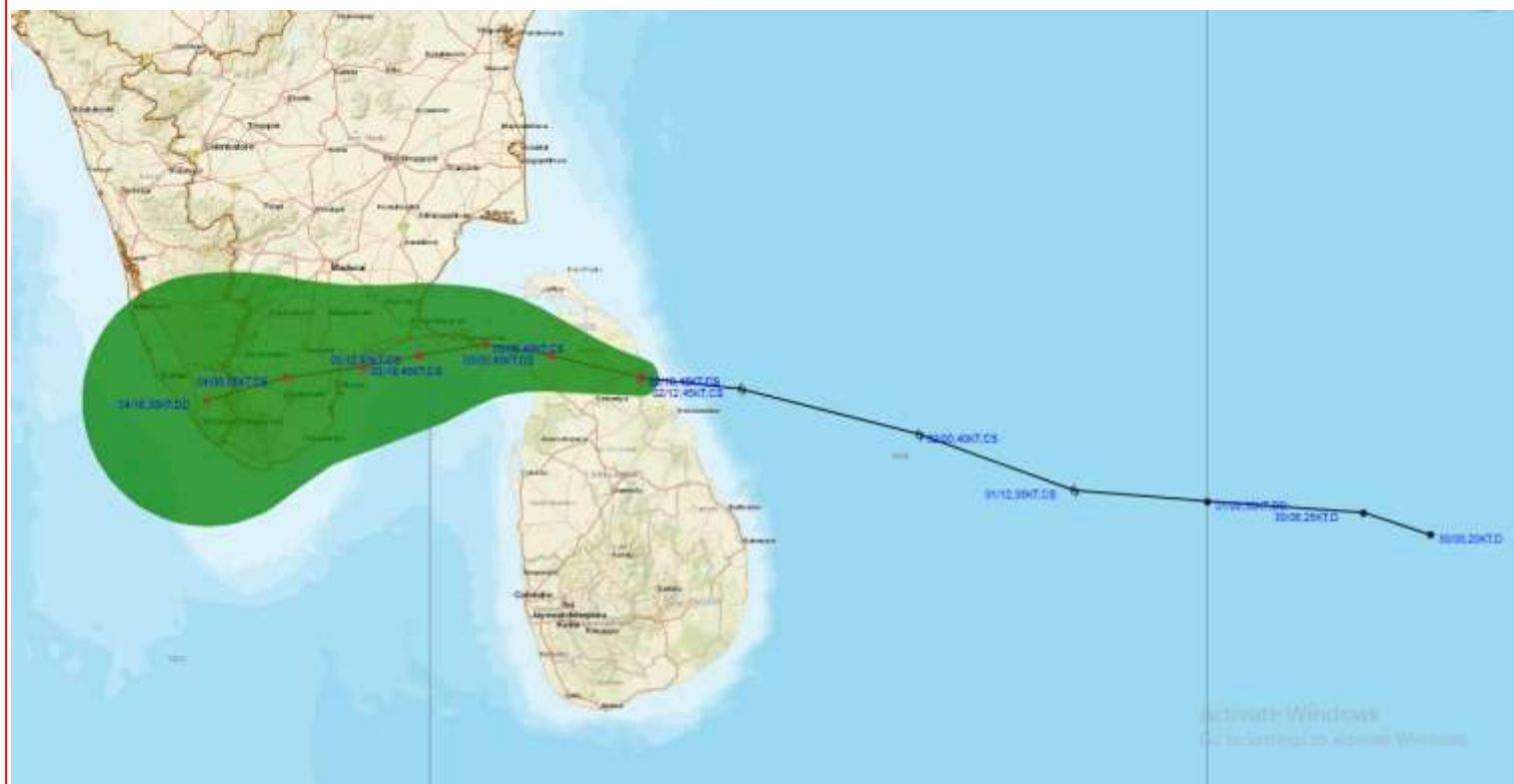


Spatial rainfall distribution: Isolated: $\leq 25\%$, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 1800 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

LESS THAN 34 KT
 34.47 KT
 ≥ 48 KT
 OBSERVED TRACK
 FORECAST TRACK
 CONE OF UNCERTAINTY

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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 1800 UTC OF 2nd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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

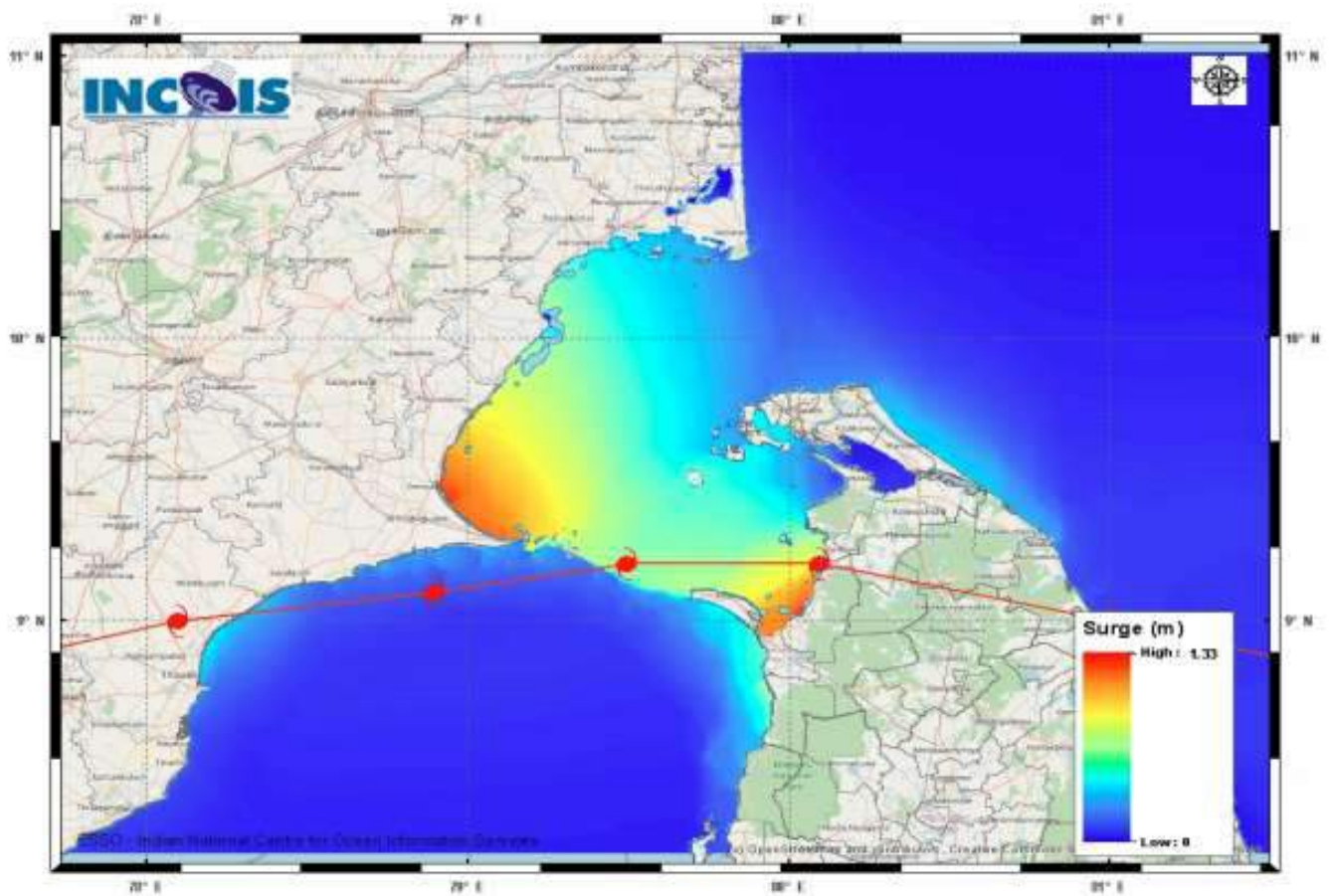
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.

Storm Surge Forecast by INCOIS Model based on 1200 UTC of 2nd December

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.3-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.5-0.8	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.7	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamurudur	0.5-0.6	Nil
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.6	Upto 0.18
Thoothukkudi	Tuticorin	Tamil Nadu	Hare Island	0.4-0.5	Nil
Thoothukkudi	Tuticorin	Tamil Nadu	Tuticorin Bay	0.4-0.5	Upto 0.2
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.94
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil



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
(Ministry of Earth Sciences)

BULLETIN NO. : 21 (BOB/05/2020)

TIME OF ISSUE: 0830 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over Sri Lanka (Cyclone Warning for South Tamilnadu and South Kerala coasts: Red Message)

The **Cyclonic Storm 'Burevi'** over Sri Lanka moved west-northwestwards with a speed of 11 kmph during past six hours and lay centered at 0530 hrs IST of 03rd December over Sri Lanka near Lat. 9.0°N and Long. 80.3°E, about 40 km east of Mannar, 120 km east-southeast of Pamban (India) and 320 km east-northeast of Kanniyakumari (India). It is very likely to move west-northwestwards and emerge into Gulf of Mannar near Mannar coast during next 3 hours.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/0530	9.0/80.3	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.5	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.9/77.7	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.7/77.0	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi and Sivagangai districts) and over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph very likely over Gulf of Mannar, Comorin Area and along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) and west Sri Lanka coast. It will gradually increase becoming 70-80 kmph gusting to 90 kmph from 3rd December forenoon for subsequent 24 hours and decrease thereafter.
- Prevailing Gale wind speed reaching 55-65 kmph gusting to 75 kmph over southwest Bay of Bengal and along & off Sri Lanka coast will continue for next 12 hours and gradually decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 3rd and 4th December.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and northwest Sri Lanka coast during the time of landfall.

(iii) Sea condition

-

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.

- Sea condition is very rough to high over Gulf of Mannar, along & off south Tamilnadu-Kerala, west Sri Lanka coast and Comorin Area on 3rd and 4th December.
- Sea condition is very rough to high over southwest Bay of Bengal and along & off east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 1130 hrs IST of 3rd December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

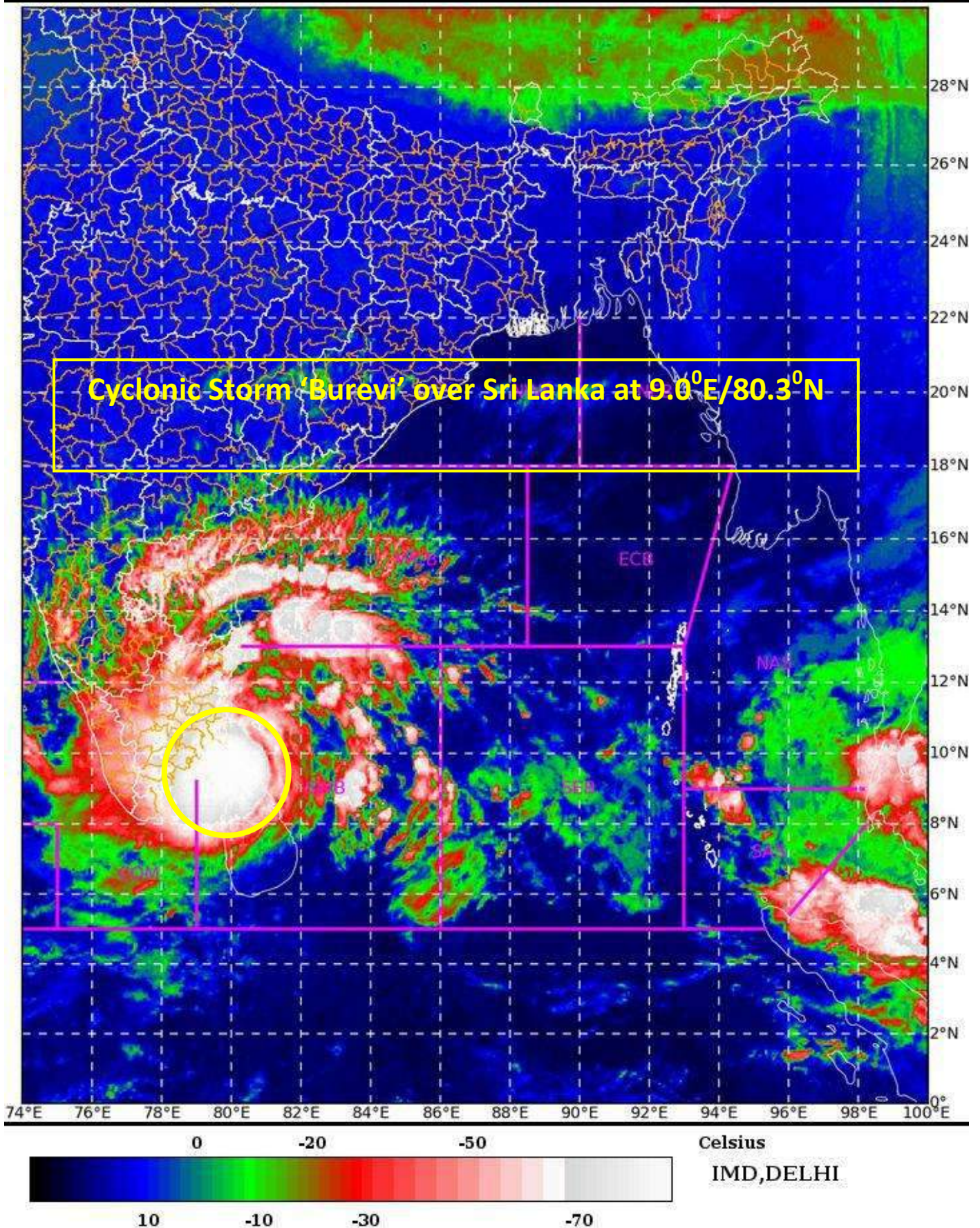
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03-12-2020/(0030 to 0057) GMT

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03-12-2020/(0600 to 0627) IST

L1C Mercator

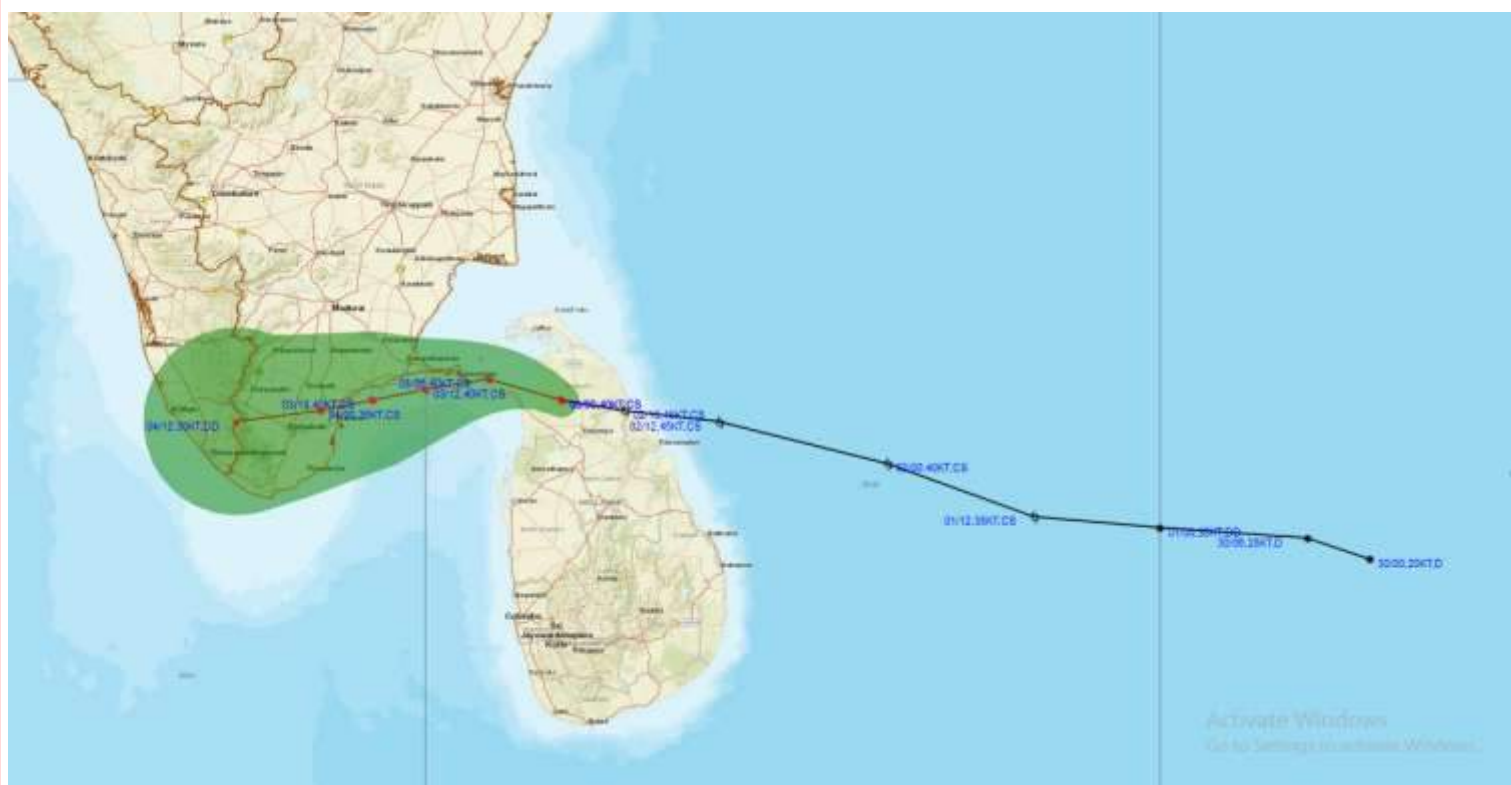


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 0000 UTC OF 3rd DECEMBER, 2020.



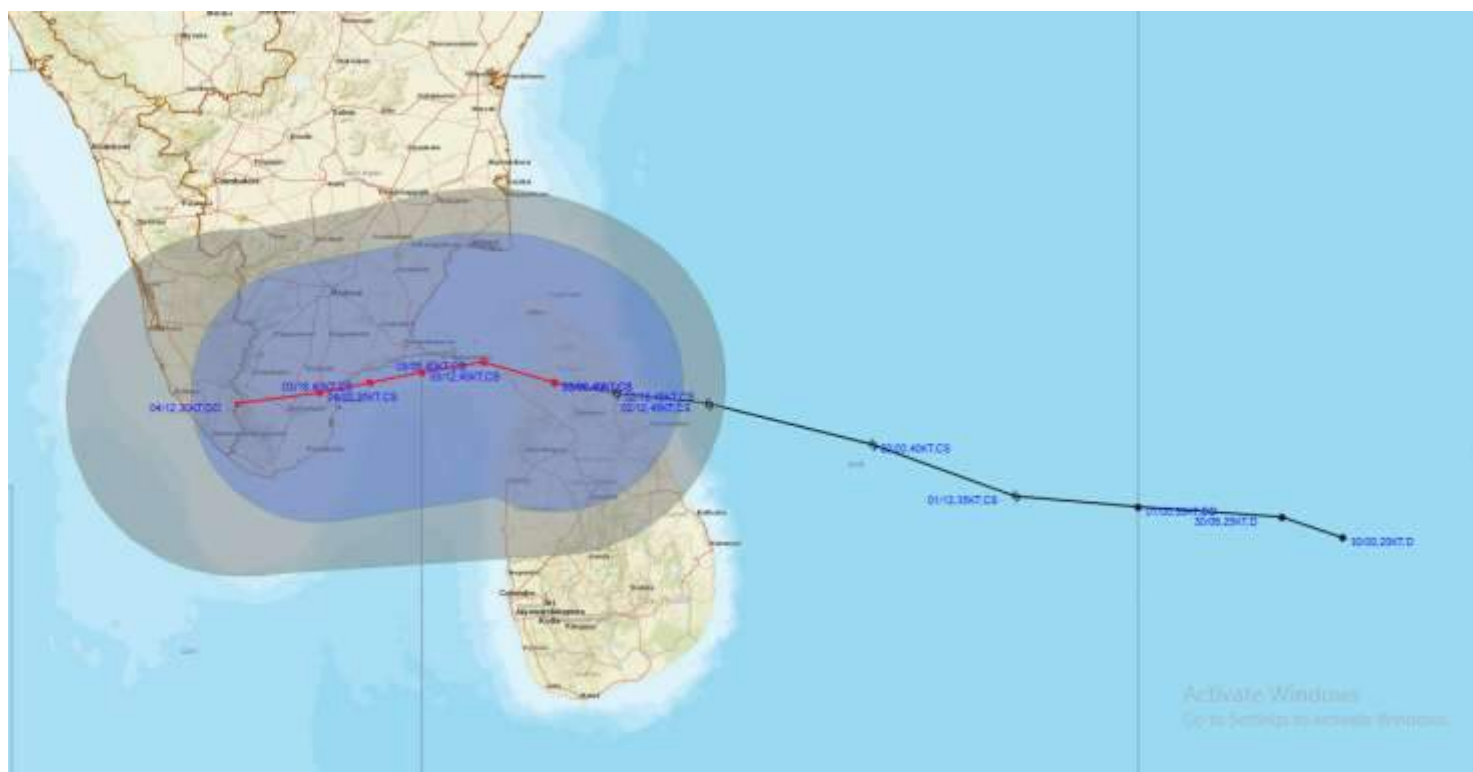
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT
 ⚡ 34-47 KT
 ⚡ \geq 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SRI LANKA BASED ON 0000 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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.

Storm Surge Forecast by INCOIS Model based on 1800 UTC of 2nd December

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.2	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.2-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.7	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.6	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamurudur	0.5-0.6	Upto 0.14
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.9
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil

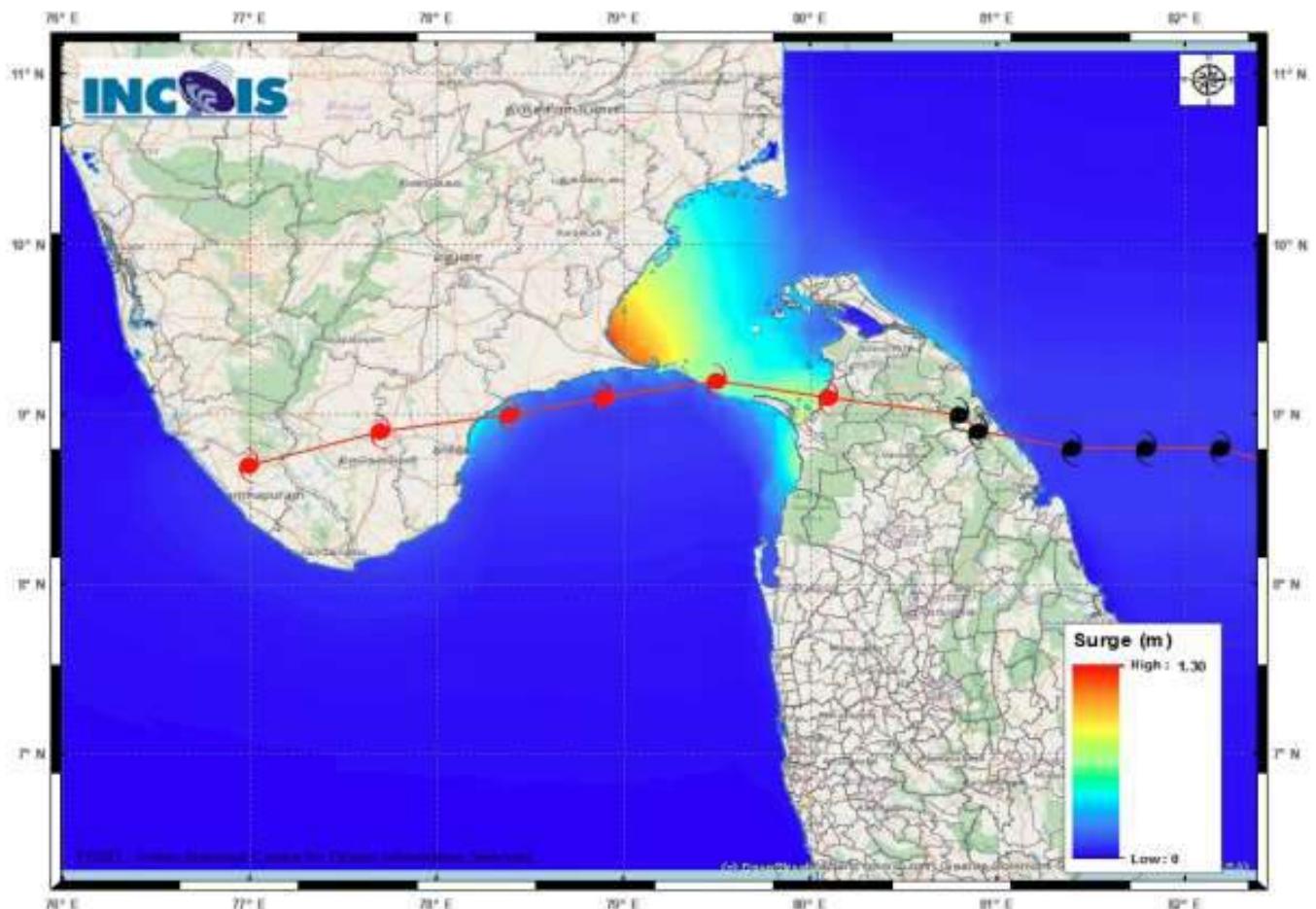


Figure: Storm Surge Map

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 22 (BOB/05/2020)

TIME OF ISSUE: 1030 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over north Sri Lanka and adjoining Gulf of Mannar

(Cyclone Warning for South Tamilnadu and South Kerala coasts: Red Message)

The **Cyclonic Storm 'Burevi'** over north Sri Lanka moved west-northwestwards with a speed of 11 kmph during past six hours and lay centered at 0830 hrs IST of 03rd December over north Sri Lanka and adjoining Gulf of Mannar near Lat. 9.1°N and Long. 80.2°E, about 30 km east-northeast of Mannar, 110 km east-southeast of Pamban (India) and 310 km east-northeast of Kanniyakumari (India). It is very likely to move west-northwestwards and emerge into Gulf of Mannar during next 3 hours.

The Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph would be centered very close to Pamban around noon of 3rd December. It would then move nearly west-southwestwards across Pamban area by afternoon and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early morning as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus its impact on south Tamilnadu coastal districts is very likely to commence from 3rd December forenoon initially over Ramanathapuram district and gradually towards Kanniyakumari district.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/0830	9.1/80.2	70-80 gusting to 90	Cyclonic Storm
03.12.20/1130	9.2/79.7	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.1/78.9	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.4	70-80 gusting to 90	Cyclonic Storm
04.12.20/1130	8.9/77.7	60-70 gusting to 80	Cyclonic Storm
04.12.20/2330	8.7/77.0	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi, Virudhunagar, Theni, Madurai and Sivagangai districts) and over south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta, Idukki and Alappuzah) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places with heavy falls at isolated places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph prevails around the system centre covering extreme north Sri Lanka and adjoining areas of Gulf of Mannar & southwest Bay of Bengal.
-
- Squally wind speed reaching 55-65 kmph gusting to 75 kmph prevails along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and 30-40 kmph gusting to 50 kmph prevails along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts).
- It will gradually increase becoming 70-80 kmph gusting to 90 kmph from 3rd December noon for subsequent 24 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and 55-65 kmph gusting to 75 kmph prevails along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts). and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 3rd and 4th December.

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.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall and northwest Sri Lanka coast during next 06 hours.

(iii) Sea condition

- Sea condition is very rough to high over Gulf of Mannar, along & off south Tamilnadu, west Sri Lanka coast and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 3rd and 4th December.
- Sea condition is very rough to high over southwest Bay of Bengal and along & off north east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

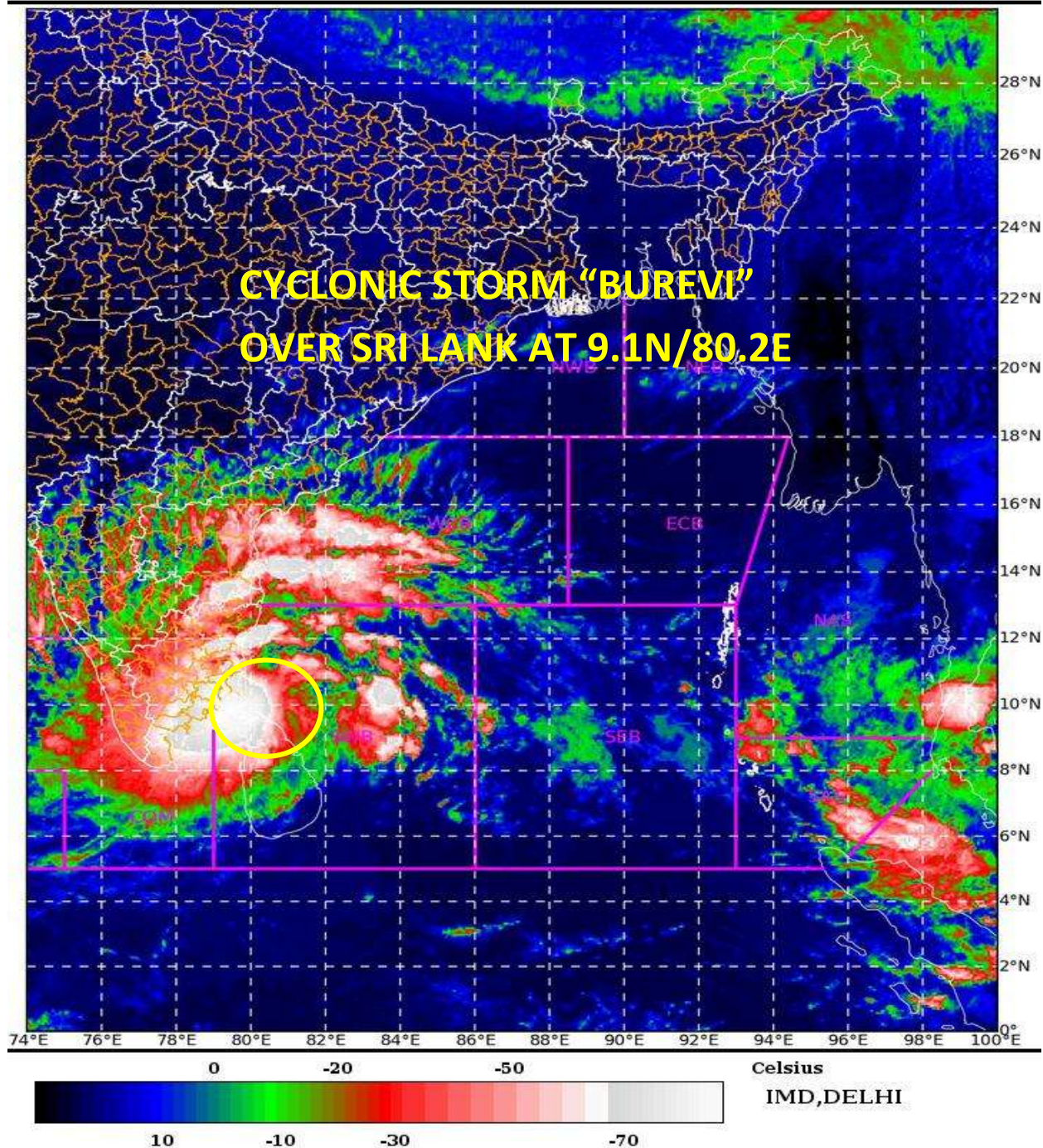
The next bulletin will be issued at 1430 hrs IST of 3rd December, 2020.

**(R. K. Jenamani)
Scientist-F, RSMC, New Delhi**

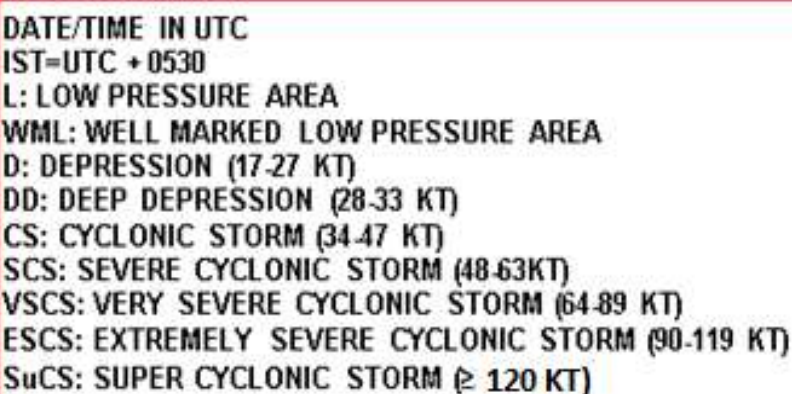
Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

SAT : INSAT-3D IMG 03-12-2020/(0400 to 0427) GMT
IMG_TIR1_TEMP 10.8 um 03-12-2020/(0930 to 0957) IST
L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

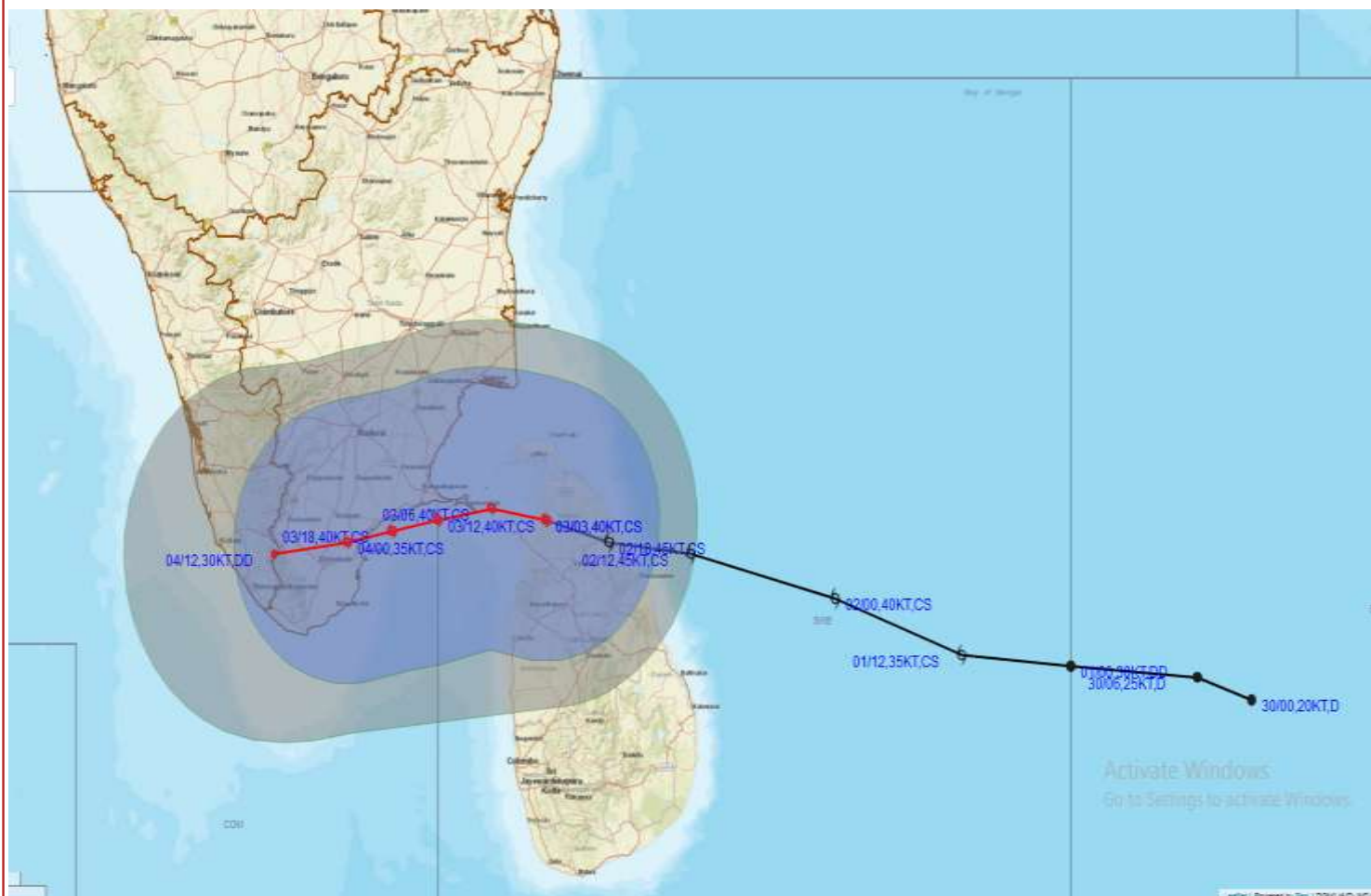


-  LESS THAN 34 KT
-  34-47 KT
-  ≥ 48 KT
-  OBSERVED TRACK
-  FORECAST TRACK
-  CONE OF UNCERTAINTY

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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 0300 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

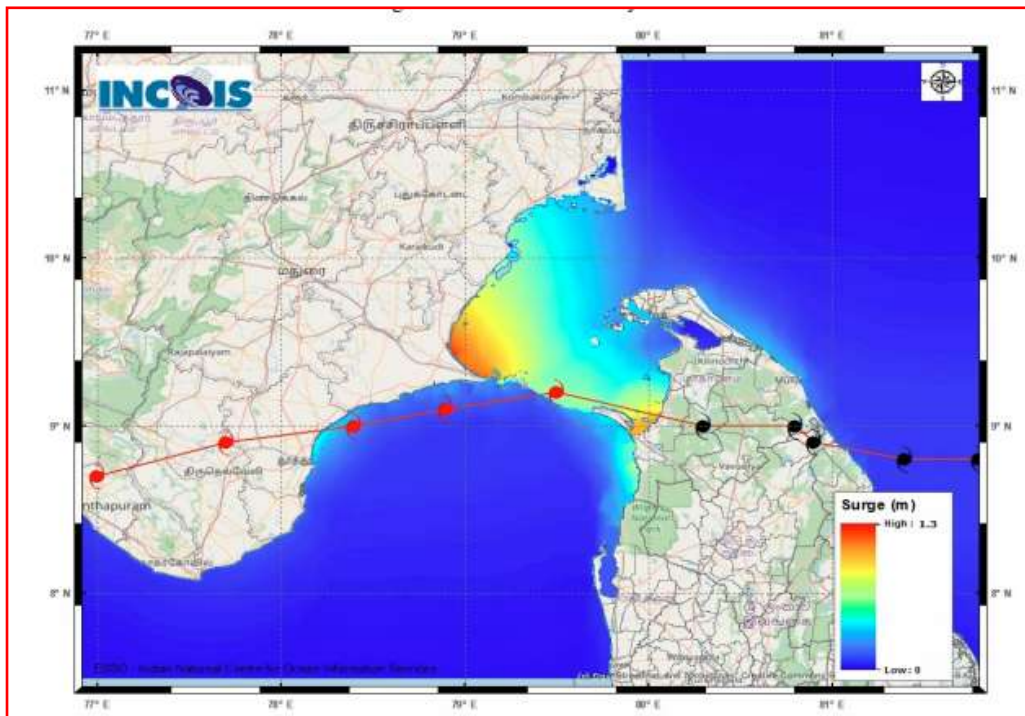
■ ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

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

Storm Surge Forecast by INCOIS Model based on 0000 UTC of 3rd December



STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.2-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.7	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.6	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.5-0.6	Upto 0.14
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.9
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil

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
(Ministry of Earth Sciences)

BULLETIN NO. : 23 (BOB/05/2020)

TIME OF ISSUE: 1400 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over Gulf of Mannar

(Cyclone Warning for South Tamilnadu and South Kerala coasts: Red Message)

The **Cyclonic Storm 'Burevi'** over north Sri Lanka moved west-northwestwards with a speed of 13 kmph during past six hours and lay centered at 1130 hrs IST of 03rd December over Gulf of Mannar near Lat. 9.2°N and Long. 79.6°E, about 40 km west-northwest of Mannar, 40km east-southeast of Pamban (India) and 260 km east-northeast of Kanniyakumari (India). **The associated wind speed is about 70-80 gusting to 90 kmph.**

The cyclonic storm '**Burevi**' would move nearly westwards across Pamban area by afternoon. It would then move west-southwestwards and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early hours as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus, its impact would continue over Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts of south Tamilnadu and adjoining districts of south Kerala till early hours of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/1130	9.2/79.6	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.2/79.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.5	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.9/78.0	60-70 gusting to 80	Cyclonic Storm
04.12.20/1130	8.8/77.4	50-60 gusting to 70	Deep Depression
04.12.20/2330	8.7/76.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (**Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi, Virudhunagar, Theni, Madurai and Sivagangai districts**) and over south Kerala (**Thiruvananthapuram, Kollam, Pathanamthitta, Idukki and Alappuzah**) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph is very likely during next 24 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and 55-65 kmph gusting to 75 kmph prevails along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 3rd and 4th December.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall and northwest Sri Lanka coast during next 06 hours.

(iii) Sea condition

- Sea condition is very rough to high over Gulf of Mannar, along & off south Tamilnadu, west Sri Lanka coast and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 3rd and 4th December.
- Sea condition is very rough to high over southwest Bay of Bengal and along & off north east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 1730 hrs IST of 3rd December, 2020.

(R. K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

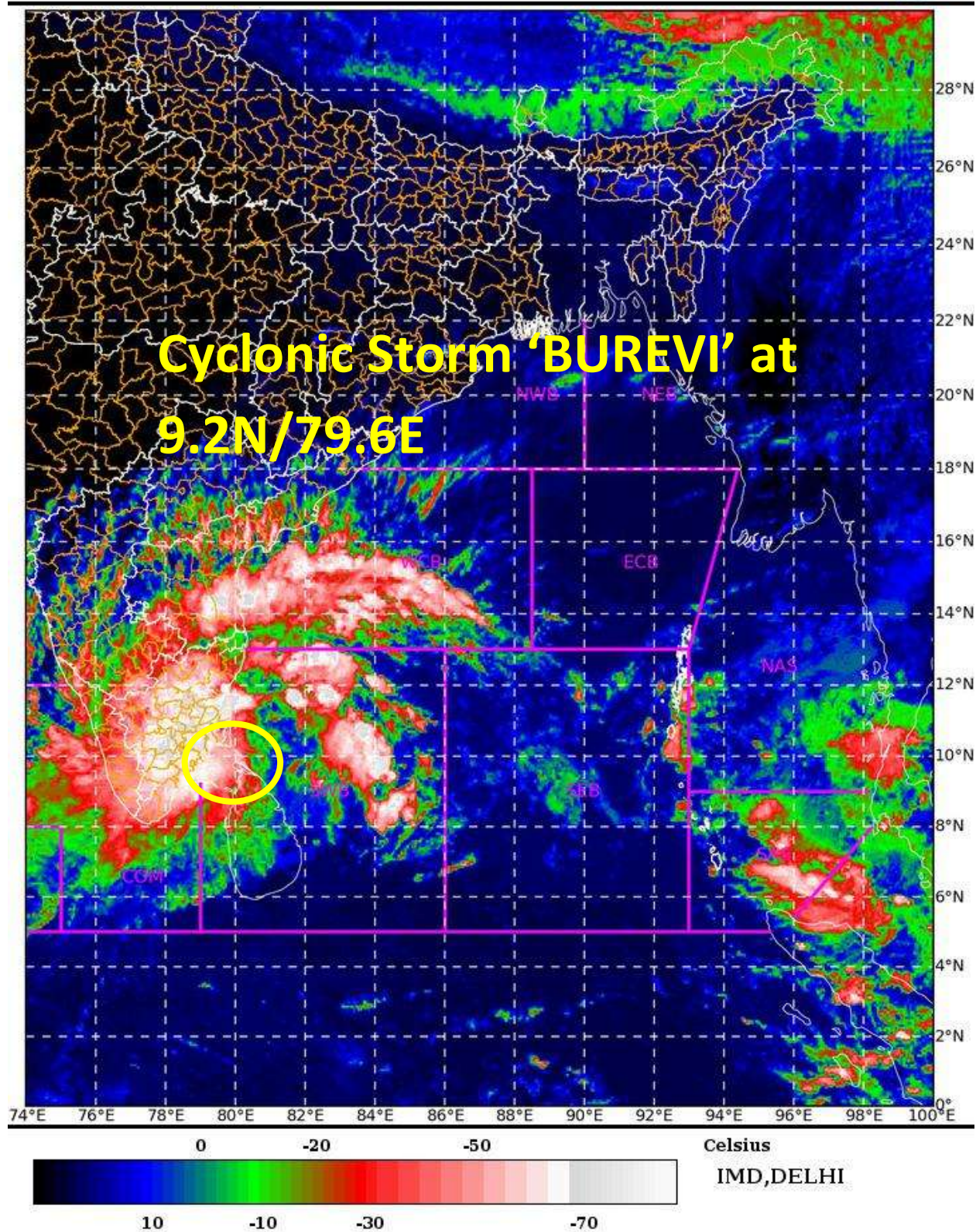
SAT : INSAT-3D IMG

03-12-2020/(0730 to 0757) GMT

IMG_TIR1_TEMP 10.8 um

03-12-2020/(1300 to 1327) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 0600 UTC OF 3rd DECEMBER, 2020.



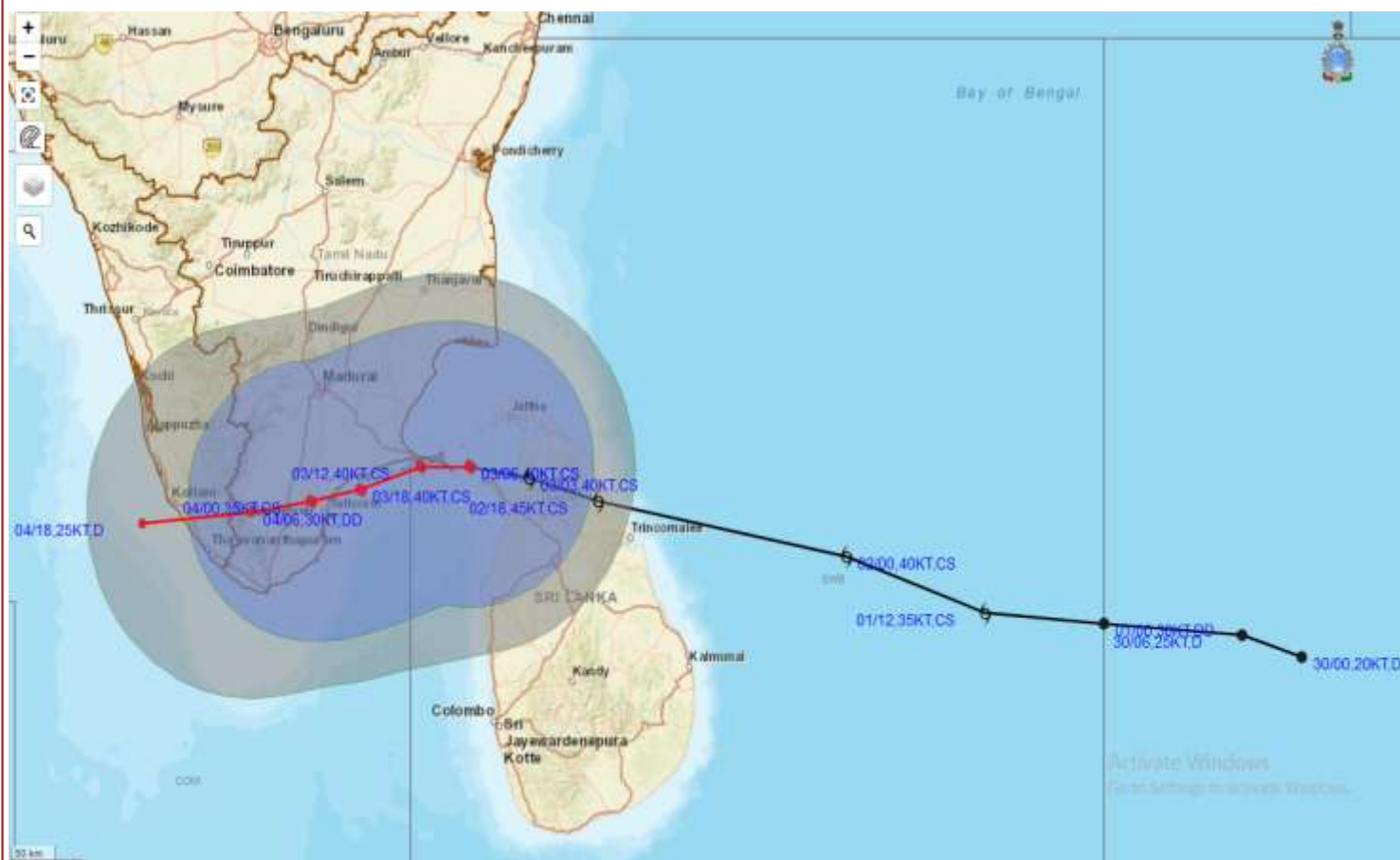
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 0600 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 ○ 34-47 KT
 ○ ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 ■ 28-33 KT (52-61 KMPH)
 ■ 34-49 KT (62-91 KMPH)
 ■ 50-63 KT (92-117 KMPH)
 ■ ≥ 64 KT (≥ 118 KMPH)

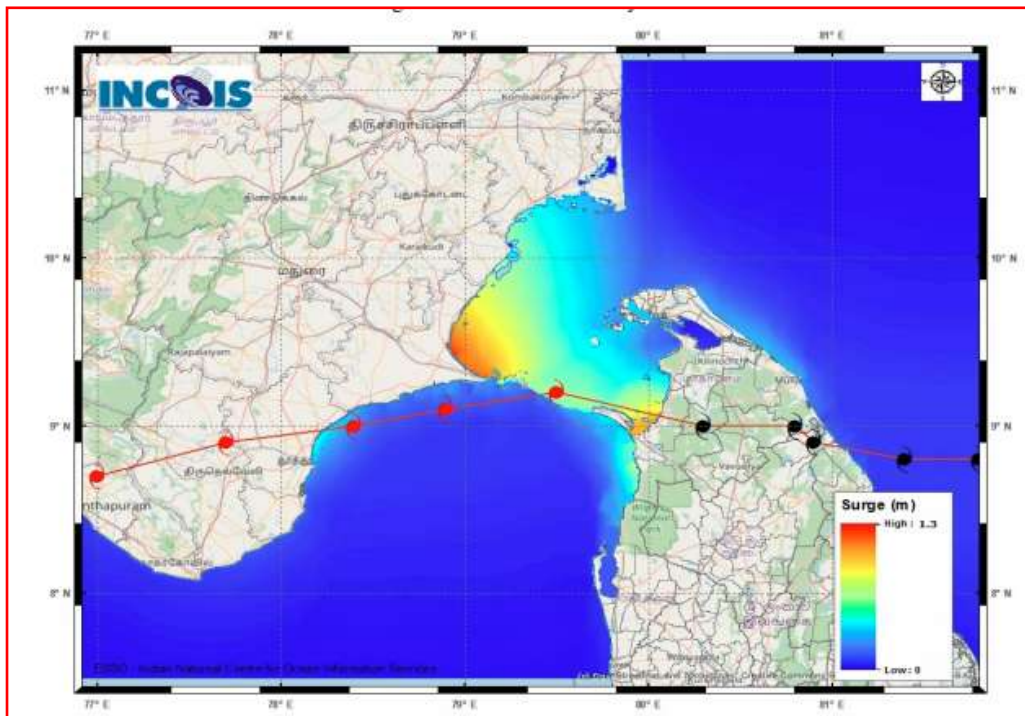
IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

Storm Surge Forecast by INCOIS Model based on 0000 UTC of 3rd December



STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.2-1.2	Upto 0.47
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.7	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.6	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.5-0.6	Upto 0.14
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.9
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil

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
(Ministry of Earth Sciences)

BULLETIN NO. : 24 (BOB/05/2020)

TIME OF ISSUE: 1600 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over Gulf of Mannar

(Cyclone Warning for South Tamilnadu and South Kerala coasts: Red Message)

The **Cyclonic Storm 'Burevi'** over Gulf of Mannar moved westwards with a speed of 16 kmph during past six hours and lay centered at 1430 hrs IST of 03rd December over the same region near Lat. 9.2°N and Long. 79.3°E, close to Pamban (India) about 70 km west-northwest of Mannar, and 230 km east-northeast of Kanniyakumari (India). **The associated wind speed is about 70-80 gusting to 90 kmph.**

The cyclonic storm '**Burevi**' would move across Pamban area during next 3 hours. It would then move west-southwestwards and cross south Tamilnadu coast between Pamban and Kanniyakumari during 3rd December night and 4th December early hours as a Cyclonic Storm with wind speed of 70-80 gusting to 90 kmph. Thus, its impact would continue over Ramanathapuram and Thoothukudi districts and gradually over Tirunelveli and Kanniyakumari districts of south Tamilnadu and adjoining districts of south Kerala till early hours of 4th December.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/1430	9.2/79.3	70-80 gusting to 90	Cyclonic Storm
03.12.20/1730	9.2/79.1	70-80 gusting to 90	Cyclonic Storm
03.12.20/2330	9.0/78.5	70-80 gusting to 90	Cyclonic Storm
04.12.20/0530	8.9/78.0	60-70 gusting to 80	Cyclonic Storm
04.12.20/1130	8.8/77.4	50-60 gusting to 70	Deep Depression
04.12.20/2330	8.7/76.3	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) Rainfall

- Heavy to very heavy rainfall at a few places with isolated Extremely heavy falls very likely over south Tamilnadu (**Ramanathapuram, Thoothukudi, Tirunelveli, Kanniyakumari, Tenkasi, Virudhunagar, Theni, Madurai and Sivagangai districts**) and over south Kerala (**Thiruvananthapuram, Kollam, Pathanamthitta, Idukki and Alappuzah**) on 3rd December and isolated heavy to very heavy rainfall likely over south Tamilnadu and south Kerala on 4th December, 2020.
- Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry, Mahe & Karaikal and north Kerala on 3rd December, isolated heavy rainfall on 4th December.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
South Kerala	Rainfall at most places with heavy to very heavy rainfall at few places and extremely heavy fall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
North Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at a few places with heavy fall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Gale wind speed reaching 70-80 kmph gusting to 90 kmph is very likely during next 24 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and 55-65 kmph gusting to 75 kmph prevails along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) and decrease thereafter.
- Squally wind speed reaching 45-55 kmph gusting to 65 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 3rd and 4th December.

(iii) Storm Surge:

- Storm surge of about 1.0 m height above astronomical tide is very likely to inundate low lying areas of south coastal Tamilnadu (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during the time of landfall and northwest Sri Lanka coast during next 06 hours.

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.

(iii) Sea condition

- Sea condition is very rough to high over Gulf of Mannar, along & off south Tamilnadu, west Sri Lanka coast and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 3rd and 4th December.
- Sea condition is very rough to high over southwest Bay of Bengal and along & off north east Sri Lanka coast and the same will continue till mid-night of 3rd December and gradually improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during 3rd to 5th December.

(iv) Damage expected over south Tamilnadu (Kanniyakumari, Tirunelveli, Thoothukudi and Ramanathapuram districts) and south Kerala (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.

(v) Fishermen warning and Action suggested

- Total suspension of fishing operation during 3rd to 5th December over the areas as mentioned below.
- Fishermen are advised not to venture into southwest Bay of Bengal and along & off east Sri Lanka coast on 3rd December; Comorin Area, Gulf of Mannar and south Tamilnadu-Kerala and west Sri Lanka coasts from 3rd to 4th December, over Lakshadweep-Maldives area & adjoining southeast Arabian Sea from 3rd to 5th December.

The next bulletin will be issued at 1930 hrs IST of 3rd December, 2020.

**(R. K. Jenamani)
Scientist-F, RSMC, New Delhi**

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

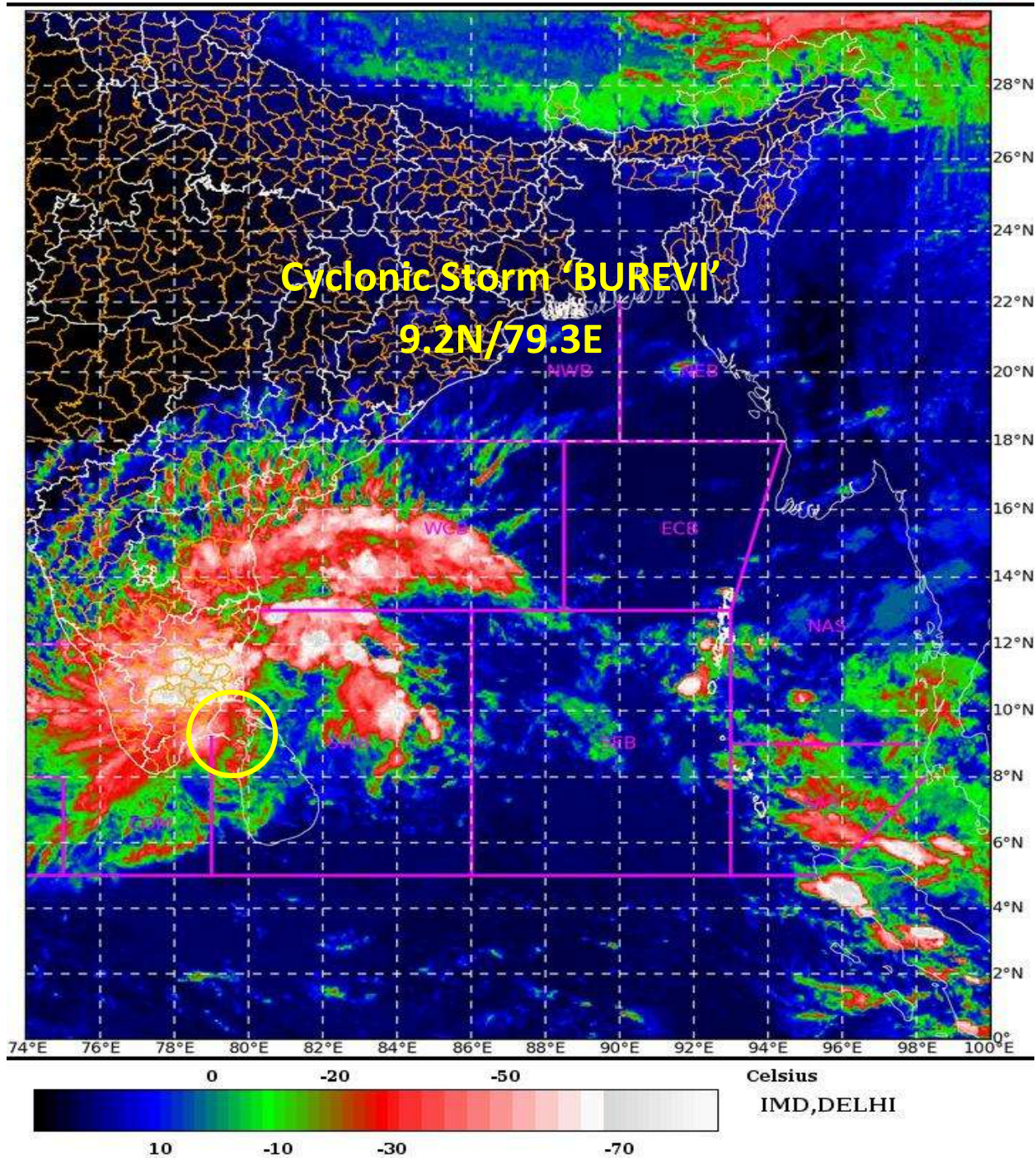
SAT : INSAT-3D IMG

03-12-2020/(0930 to 0956) GMT

IMG_TIR1_TEMP 10.8 um

03-12-2020/(1500 to 1526) IST

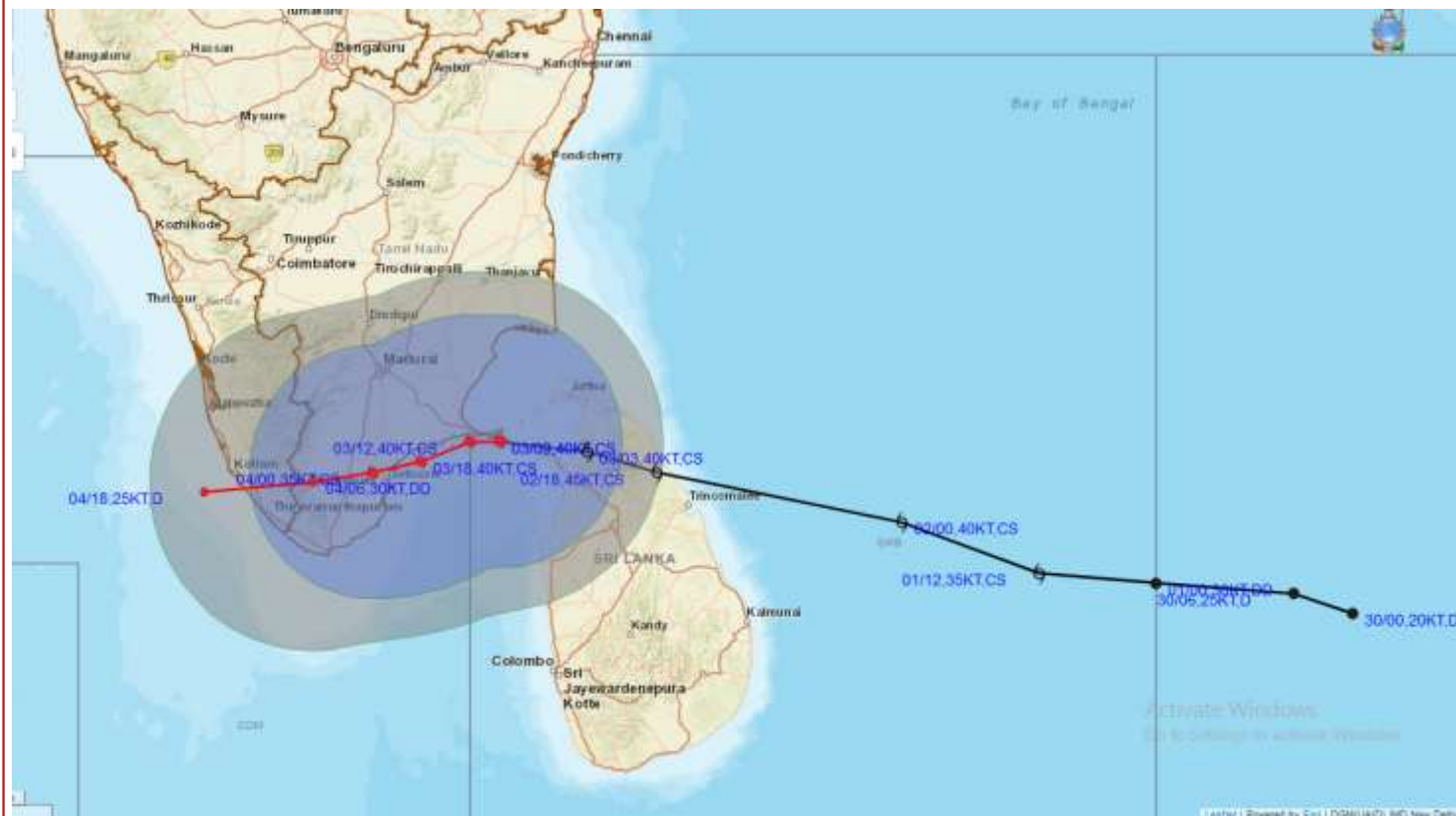
L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF CYCLONIC STORM “BUREVI” OVER SRI LANKA BASED ON 0900 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

● 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

— CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

28-33 KT (52-61 KMPH)

34-49 KT (62-91 KMPH)

50-63 KT (92-117 KMPH)

≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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 ALONGWITH CONE OF UNCERTAINTY OF CYCLONIC STORM "BUREVI" OVER SRI LANKA BASED ON 0900 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

● 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

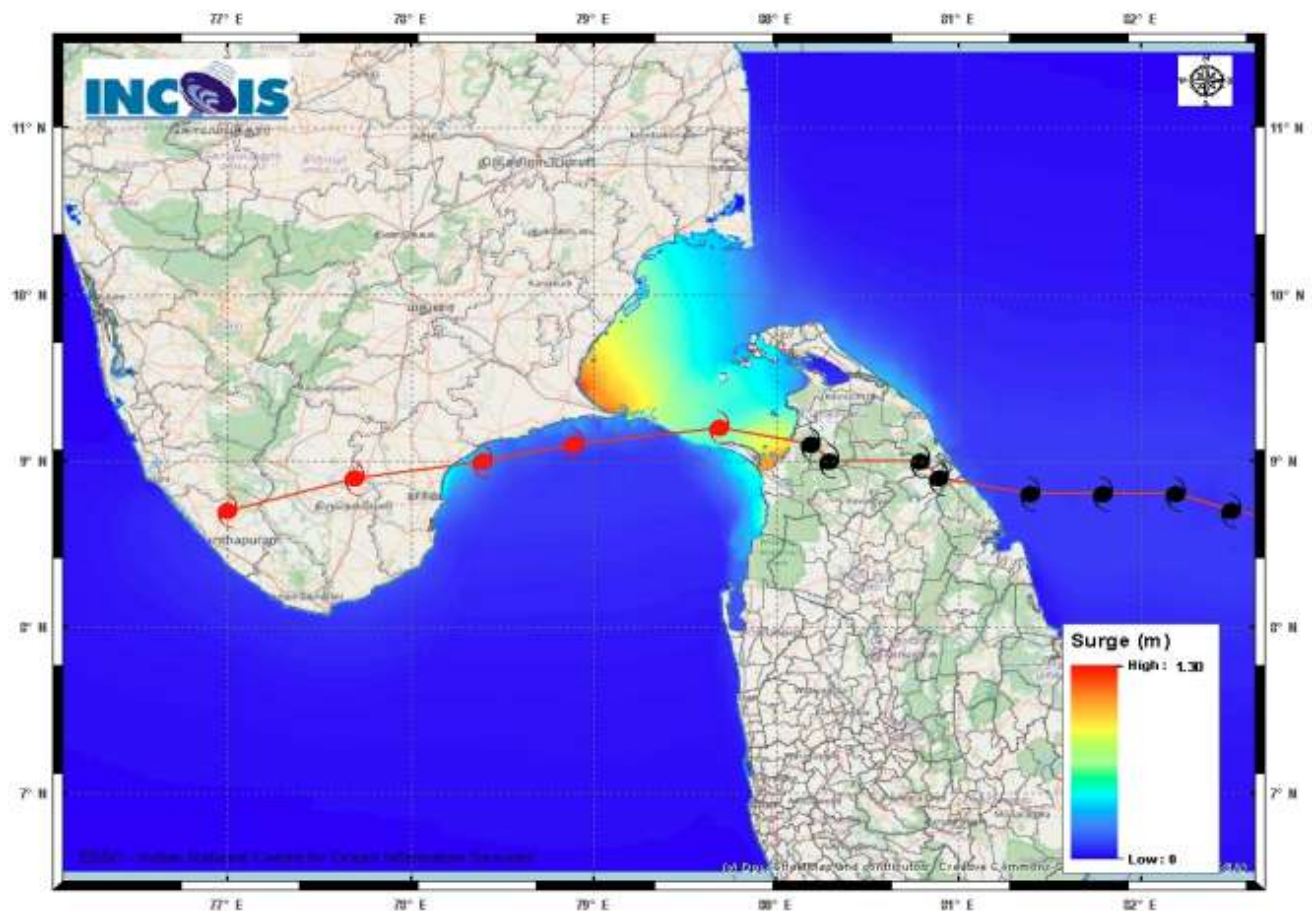
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

Storm Surge Forecast by INCOIS Model based on 0300 UTC of 3rd December

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m) *	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.8-1.3	Upto 0.69
Ramanathapuram	Ramanathapuram	Tamil Nadu	Pathanendal	0.2-1.1	Upto 0.47
Tirutturaippundi	Nagappattinam	Tamil Nadu	Pointkalimere R.F.	0.7-1.0	Upto 0.20
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.8	Upto 0.39
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.6-0.6	Nil
Ottapidaram	Thoothukkudi	Tamil Nadu	Pattanamardur	0.5-0.6	Upto 0.14
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.4-0.5	Upto 0.18
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.2-0.5	Upto 1.9
Vilattikulam	Thoothukkudi	Tamil Nadu	Vaippar	0.4-0.5	Nil



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 25 (BOB/05/2020)

TIME OF ISSUE: 2030 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Cyclonic Storm 'Burevi' over Gulf of Mannar weakened into a Deep Depression

The **Cyclonic Storm 'Burevi'** over Gulf of Mannar close to Pamban moved westwards with a speed of 9kmph during past six hours, weakened into a Deep Depression and lay centered at 1730 hrs IST of 03rd December over Gulf of Mannar near Lat. 9.2°N and Long. 79.1°E close to Ramanathapuram District coast, about 20km southwest of Pamban and 210 km east-northeast of Kanniyakumari. **The associated wind speed is about 55-65 gusting to 75 kmph.**

The deep depression would move west-southwestwards and cross Ramanathapuram and Thoothukudi districts during 3rd December night to 4th December early hours with wind speed of 50-60 gusting to 70 kmph. It is very likely to weaken further into a Depression (wind speed 40-50kmph gusting to 60 kmph) by tomorrow, the 4th December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/1730	9.2/79.1	55-65 gusting to 75	Deep Depression
03.12.20/2330	9.1/78.5	50-60 gusting to 70	Deep Depression
04.12.20/0530	8.9/78.0	45-55 gusting to 65	Depression
04.12.20/1130	8.8/77.4	40-50 gusting to 60	Depression
04.12.20/1730	8.7/76.8	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) Rainfall

- **Rainfall at most places with heavy to very heavy rainfall at isolated places very likely** over Tamilnadu and Kerala during next 24-hours
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely during next 6 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 45-55 kmph gusting to 65 kmph by tomorrow morning the 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) during next 24-hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 4th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts till morning of the 4th December and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 4th December.

(v) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar and adjoining southwest Bay of Bengal and along & off south Tamilnadu coast and north Sri Lanka coasts during next 12- and along and off Kerala coast, Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24-hours.

The next bulletin will be issued at 2330 hrs IST of 3rd December, 2020.

**(R. K. Jenamani)
Scientist-F, RSMC, New Delhi**

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

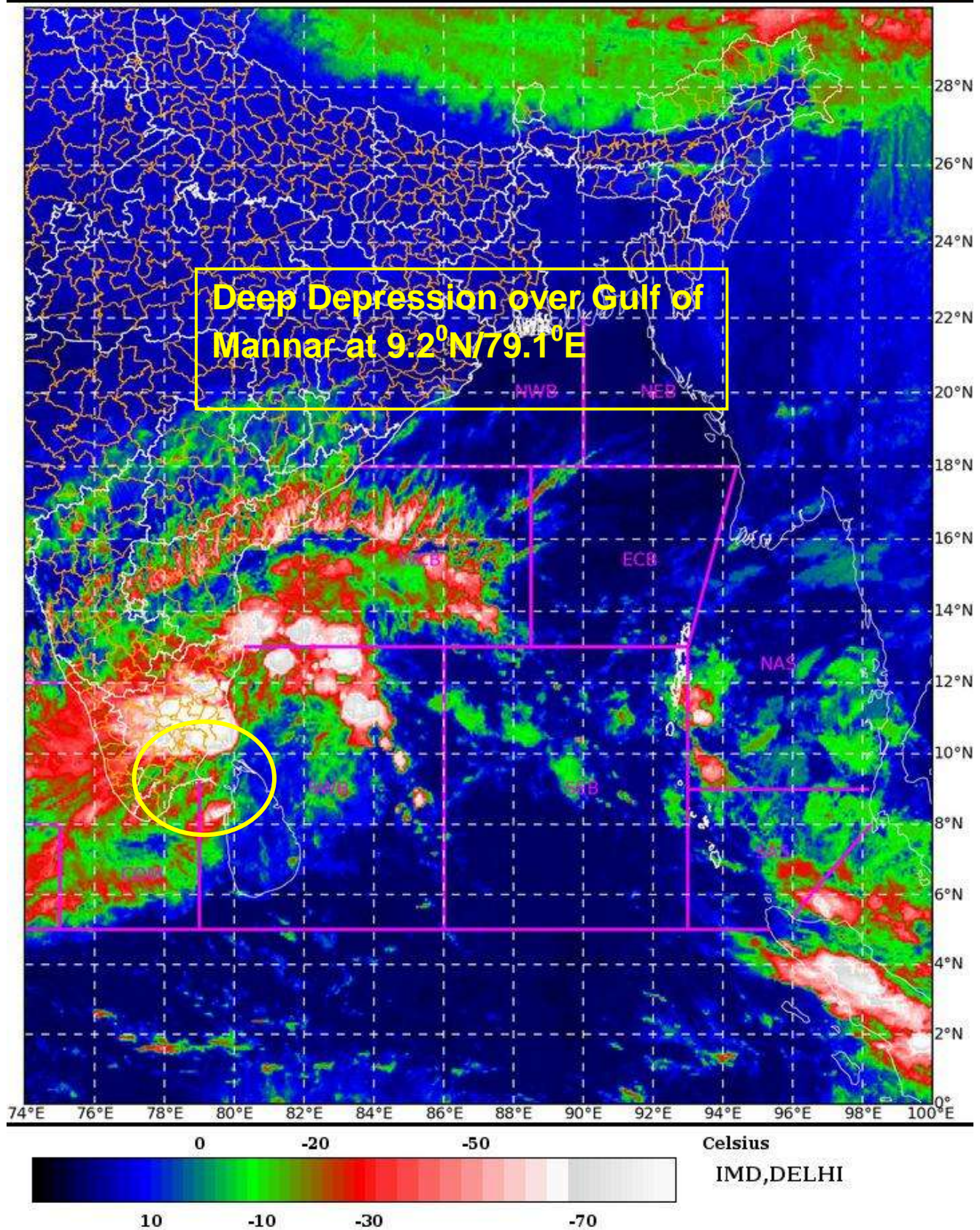
SAT : INSAT-3D IMG

03-12-2020/(1330 to 1356) GMT

IMG_TIR1_TEMP 10.8 um

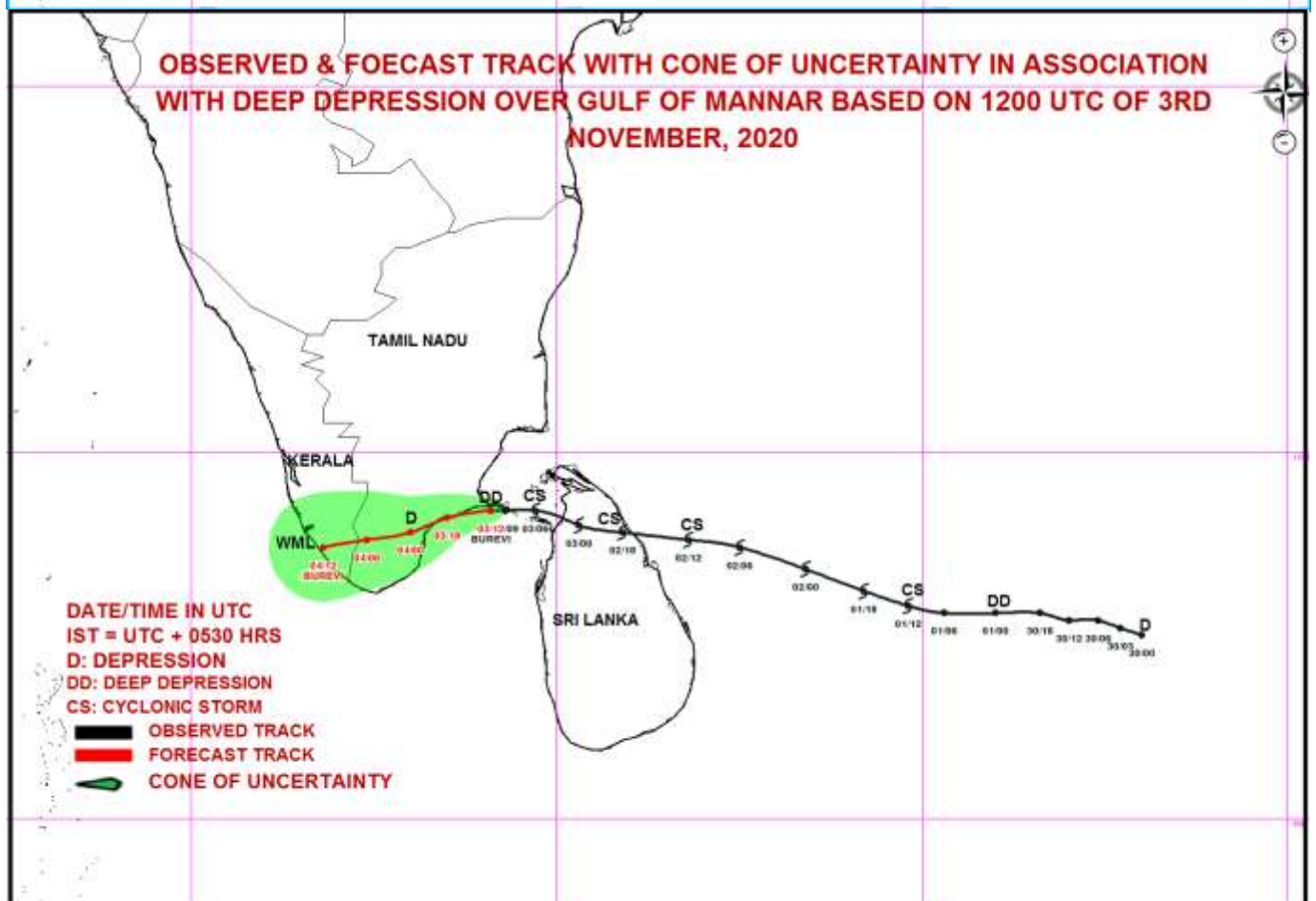
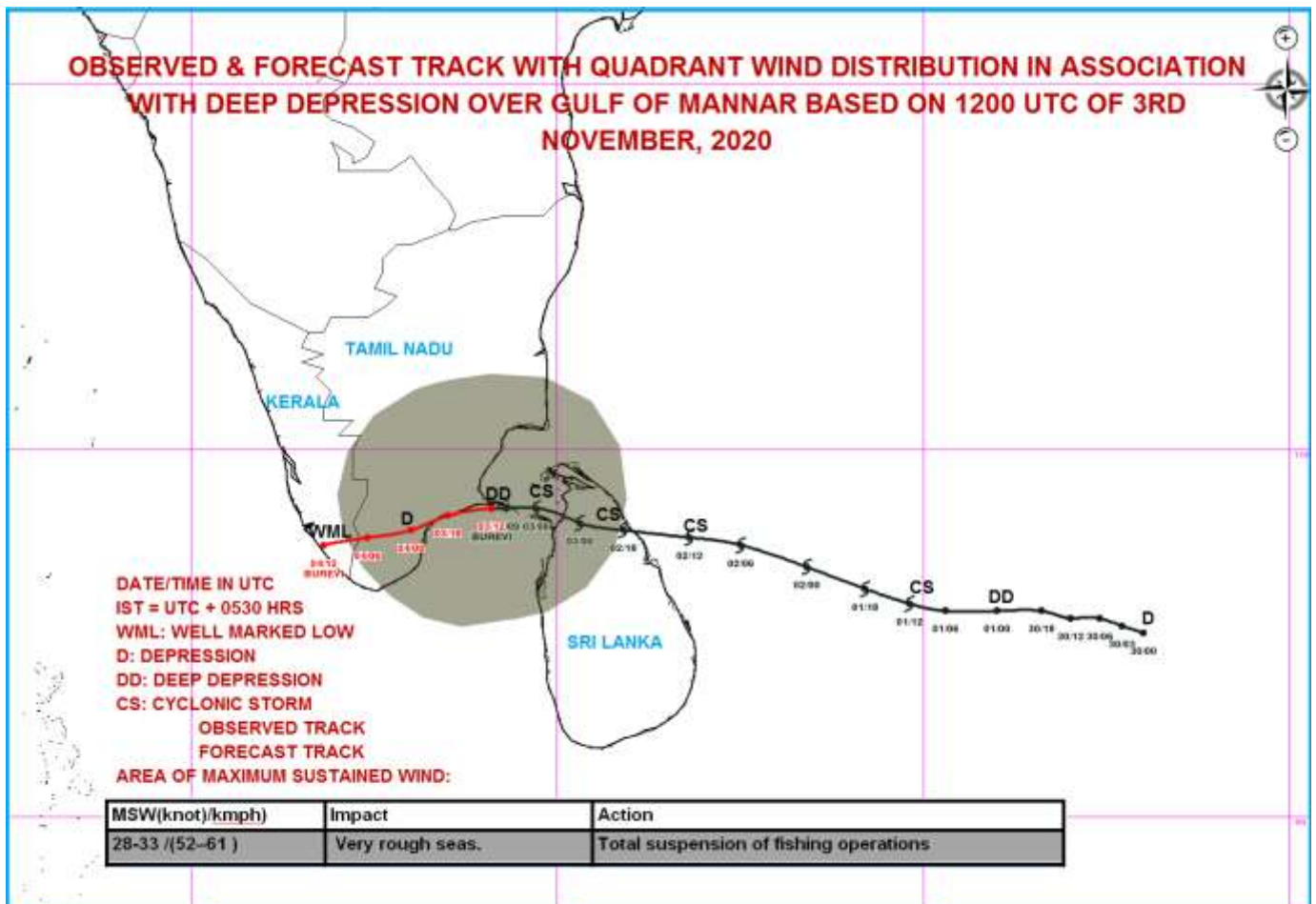
03-12-2020/(1900 to 1926) IST

L1C Mercator



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: $\leq 25\%$, 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
(Ministry of Earth Sciences)

BULLETIN NO. : 26 (BOB/05/2020)

TIME OF ISSUE: 2200 HOURS IST

DATED: 03.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)

CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)

CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)

CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)

CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)

CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)

CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The **Deep Depression** over Gulf of Mannar close to Ramanathapuram District coast moved westwards with a speed of 07 kmph during past six hours and lay centered at 2030 hrs IST of 03rd December over Gulf of Mannar near Lat. 9.2°N and Long. 78.9°E close to Ramanathapuram District coast, about 20 km south of Ramanathapuram, 30 km west-southwest of Pamban and 190 km east-northeast of Kanniyakumari. **The associated wind speed is about 55-65 gusting to 75 kmph.**

The Deep Depression would move west-southwestwards and cross Ramanathapuram and Thoothukudi districts by early hours of 4th December with wind speed of 50-60 gusting to 70 kmph. It is very likely to weaken further into a Depression (wind speed 40-50kmph gusting to 60 kmph) by 4th December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/2030	9.2/78.9	55-65 gusting to 75	Deep Depression
03.12.20/2330	9.1/78.5	50-60 gusting to 70	Deep Depression
04.12.20/0530	8.9/78.0	45-55 gusting to 65	Depression
04.12.20/1130	8.8/77.4	40-50 gusting to 60	Depression
04.12.20/1730	8.7/76.8	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) Rainfall

- Rainfall at most places with heavy to very heavy rainfall at isolated places very likely over Tamilnadu and Kerala during next 24-hours.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 3rd & 04th December.

Sub-Divisions	03 Dec 2020*	04 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy fall at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy rainfall at isolated places	Rainfall at many places with heavy to very heavy rainfall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at many places	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely during next 6 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 45-55 kmph gusting to 65 kmph by tomorrow morning the 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) during next 24-hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on 4th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts till morning of the 4th December and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 4th December.

(v) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar and adjoining southwest Bay of Bengal and along & off south Tamilnadu coast and north Sri Lanka coasts during next 12- and along and off Kerala coast, Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24-hours.

The next bulletin will be issued at 0230 hrs IST of 4th December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

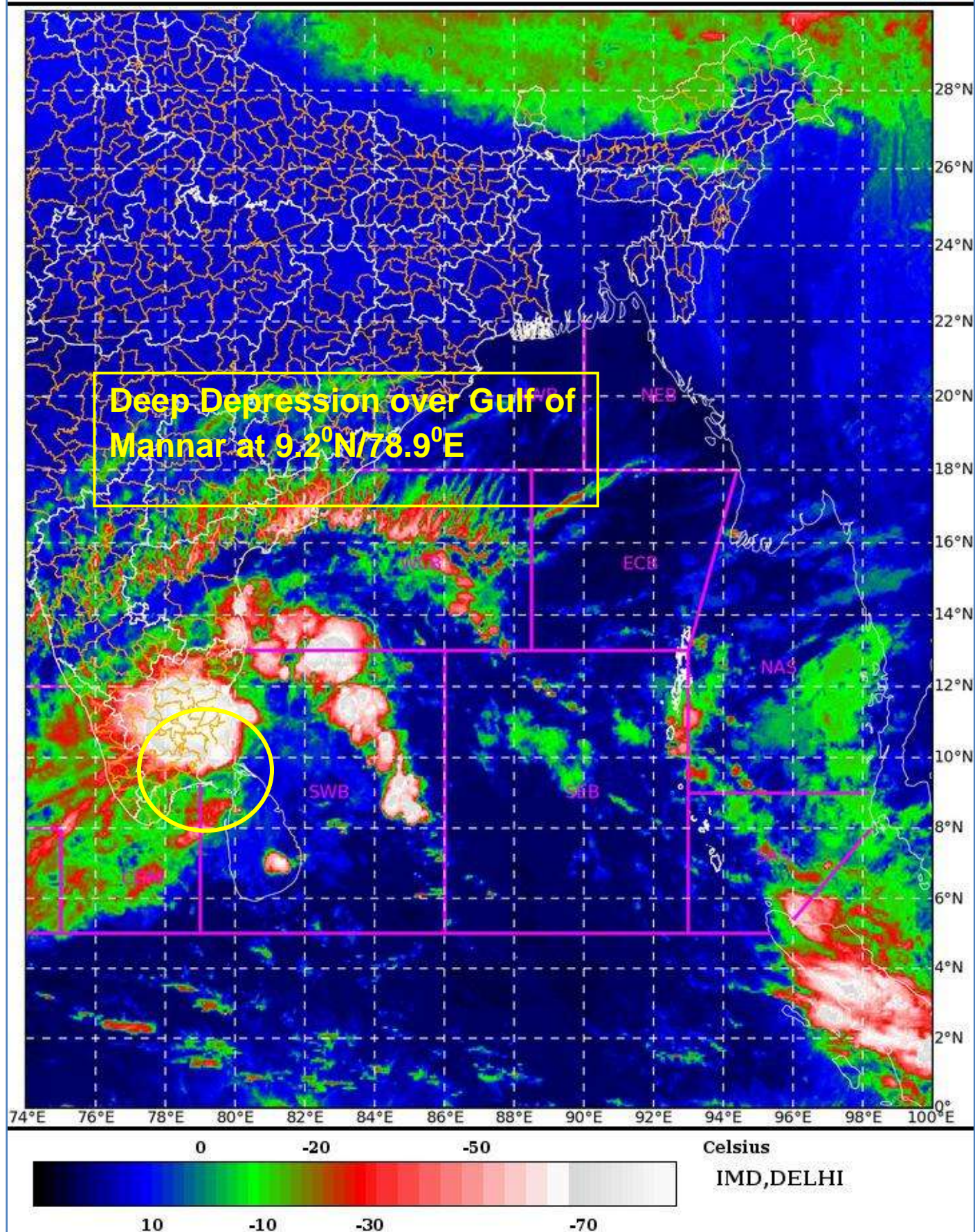
SAT : INSAT-3D IMG

03-12-2020/(1530 to 1556) GMT

IMG_TIR1_TEMP 10.8 um

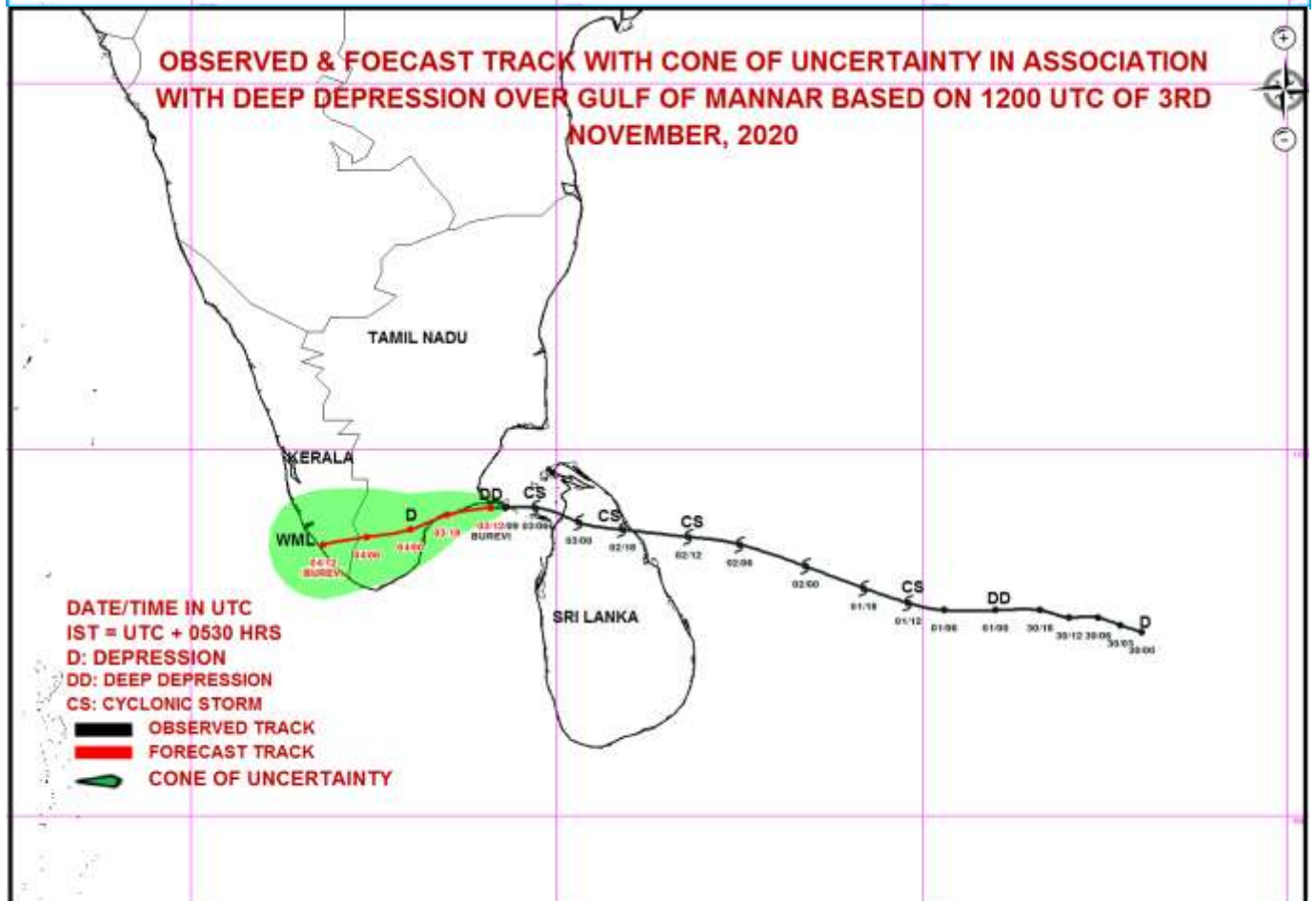
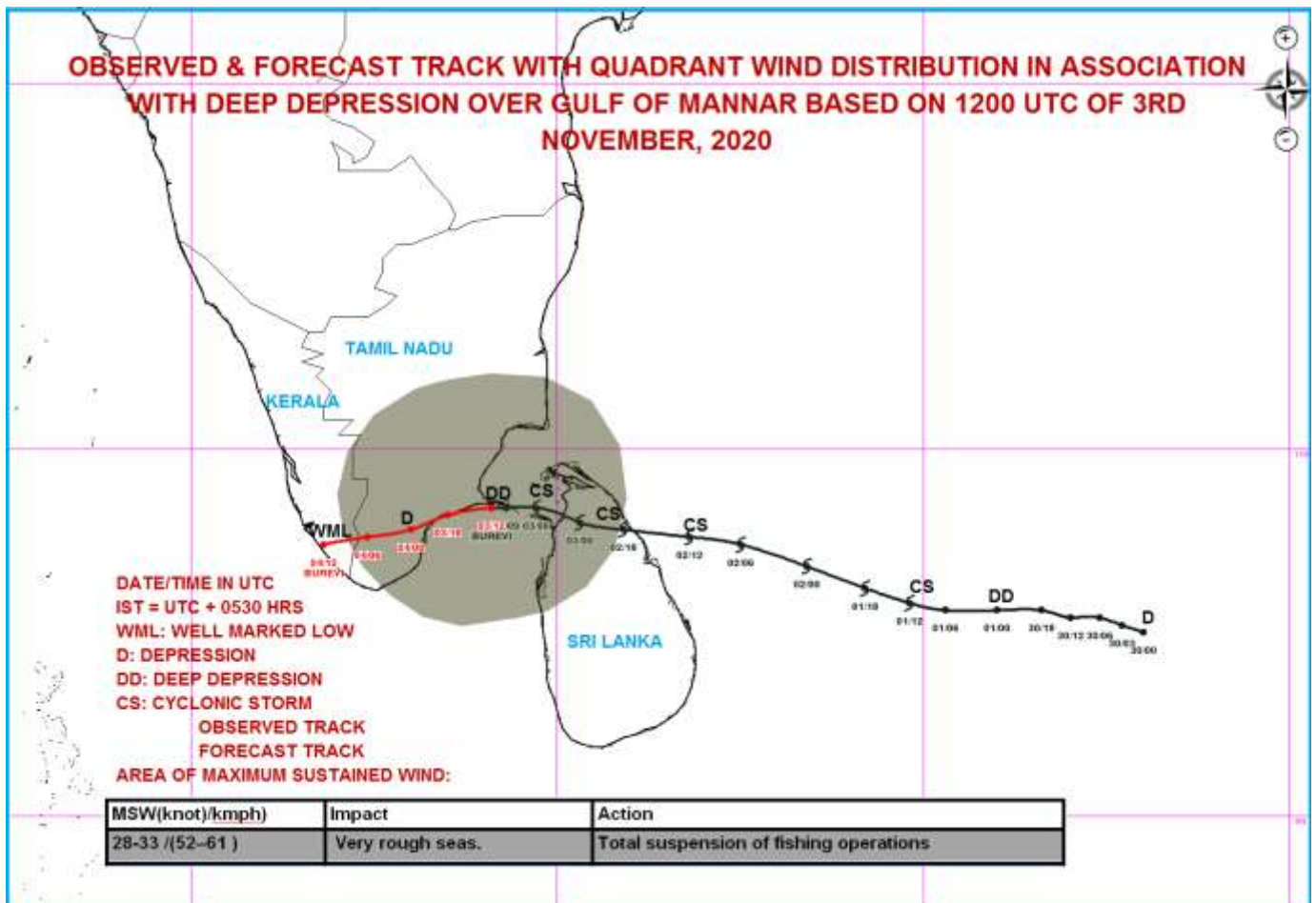
03-12-2020/(2100 to 2126) IST

L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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: $\leq 25\%$, 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.

STORM SURGE HEIGHT INFORMATION:

* The below listed surge heights are over and above astronomical tide.

MANDAL/TALUK	DISTRICT	STATE / UNION TERRITORY	NEAREST PLACE OF HABITATION	STORM SURGE (m)	EXPECTED INUNDATION EXTENT (km)
Tiruvadanai	Ramanathapuram	Tamil Nadu	Marungur	0.5-0.9	Upto 0.7
Ramanathapuram	Ramanathapuram	Tamil Nadu	Nagachi	0.6-0.8	Upto 0.3
Arantangi	Pudukkottai	Tamil Nadu	Enadi	0.4-0.7	Upto 0.4
Ottapidaram	Thoothukkudi	Tamil Nadu	Tharuvaikulam	0.3-0.4	Nil
Pattukkottai	Thanjavur	Tamil Nadu	Palanjur	0.2-0.4	Upto 0.18
Peravurani	Thanjavur	Tamil Nadu	Sendalaivayal	0.3-0.4	Nil
Tuticorin	Thoothukkudi	Tamil Nadu	Mappilaiurani	0.3-0.4	Nil

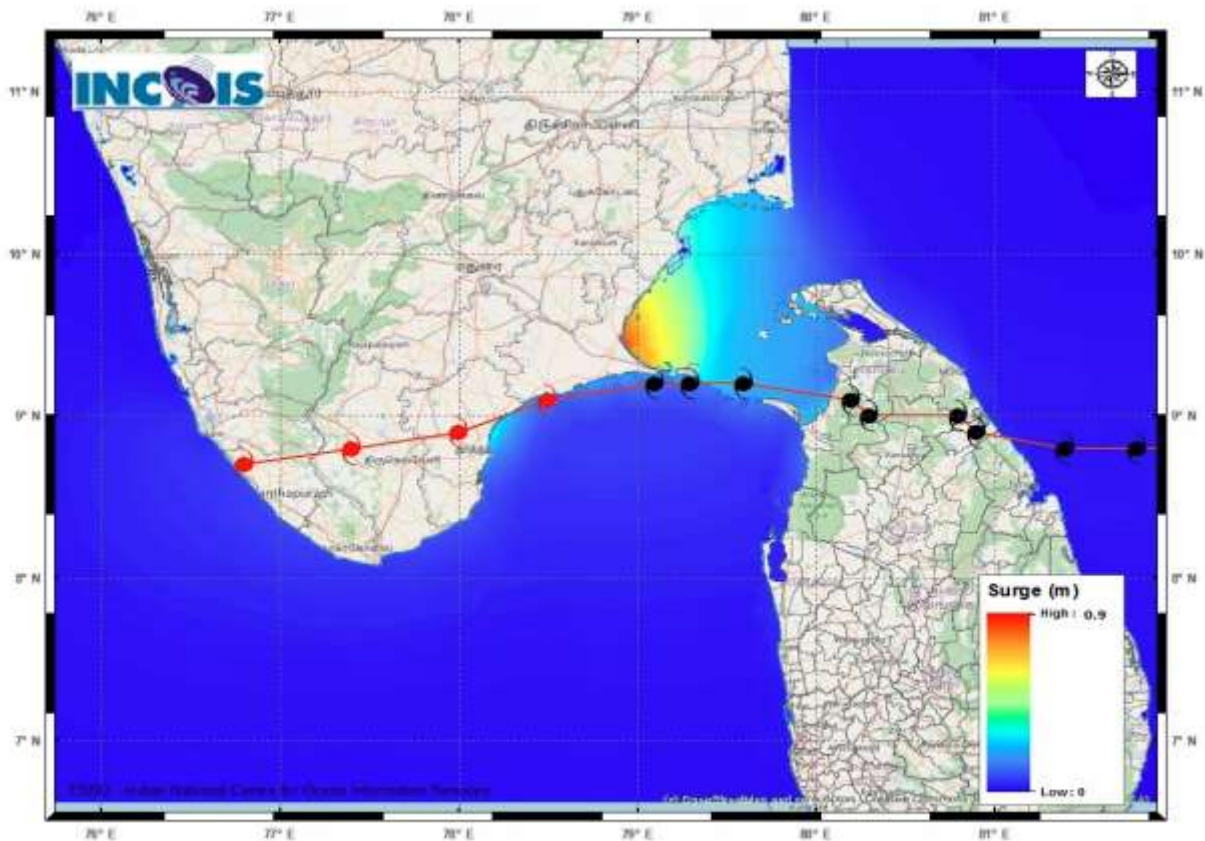


Figure:Storm Surge Map

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 27 (BOB/05/2020)

TIME OF ISSUE: 0200 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The **Deep Depression** over Gulf of Mannar close to Ramanathapuram District coast moved west-southwestwards with a speed of 09 kmph during past six hours and lay centered at 2330 hrs IST of 03rd December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. **The associated wind speed is about 50-60 gusting to 70 kmph.**

The Deep Depression would move west-southwestwards and cross Ramanathapuram and adjoining Thoothukudi districts within a few hours with wind speed of 50-60 gusting to 70 kmph. It is very likely to weaken further into a Depression (wind speed 40-50kmph gusting to 60 kmph) by 4th December morning.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
03.12.20/2330	9.1/78.6	50-60 gusting to 70	Deep Depression
04.12.20/0530	8.9/78.0	45-55 gusting to 65	Depression
04.12.20/1130	8.8/77.4	40-50 gusting to 60	Depression
04.12.20/1730	8.7/76.8	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) Rainfall

- Heavy to very heavy rainfall at a few places very likely over south Tamilnadu and at isolated places over Kerala & Mahe during next 24 hours. Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry & Karaikal during next 24 hours.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 04th December.

Sub-Divisions	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy falls at a few places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy fall at isolated places
Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph is very likely during next 6 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 45-55 kmph gusting to 65 kmph by morning of 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts) during next 24-hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea on today, the 4th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts till morning of today, the 4th December and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast on 4th December.

(v) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar and adjoining southwest Bay of Bengal and along & off south Tamilnadu coast and north Sri Lanka coasts during next 12 hours and along and off Kerala coast, Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24-hours.

The next bulletin will be issued at 0530 hrs IST of 4th December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

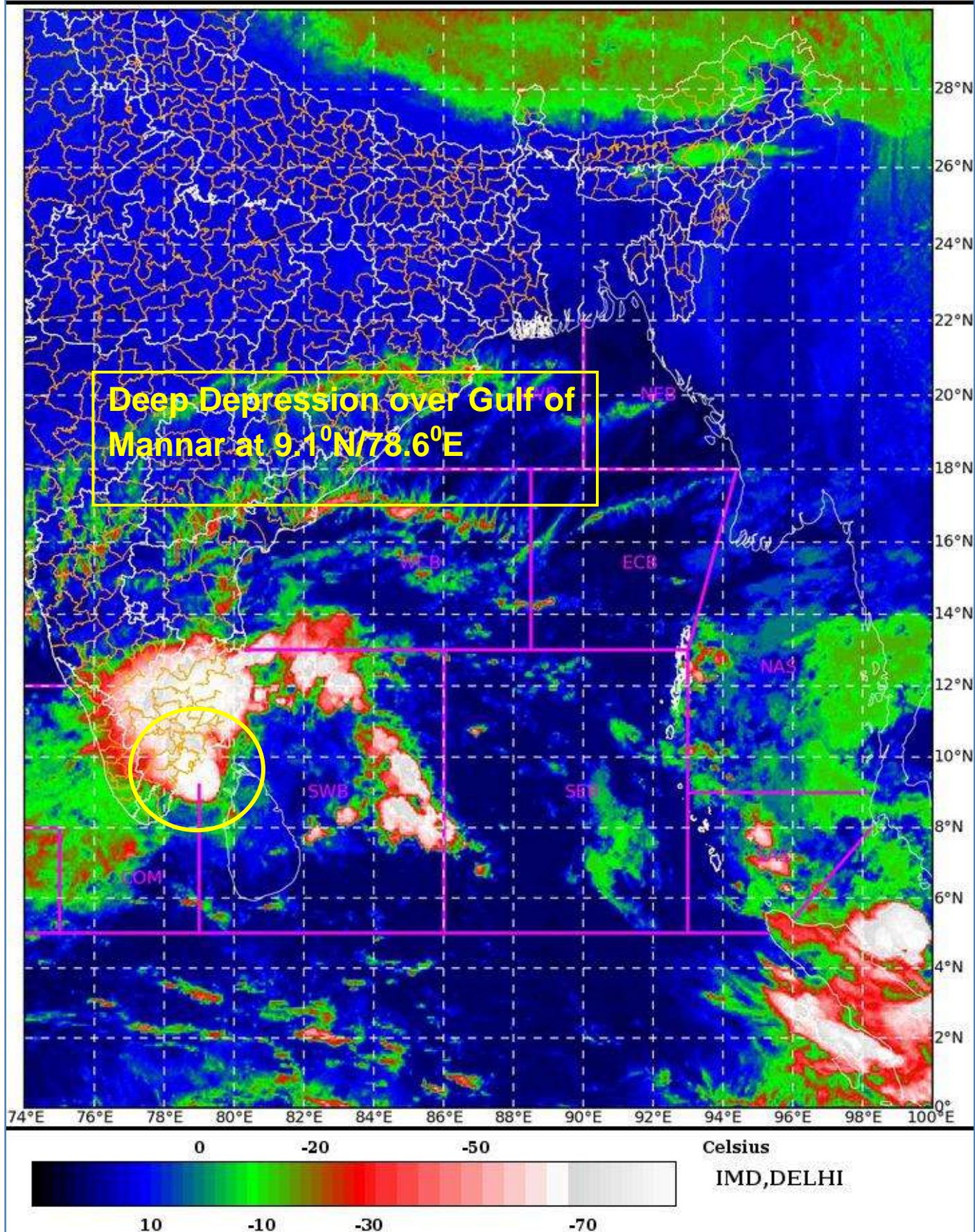
SAT : INSAT-3D IMG

03-12-2020/(1930 to 1956) GMT

IMG_TIR1_TEMP 10.8 um

04-12-2020/(0100 to 0126) IST

L1C Mercator

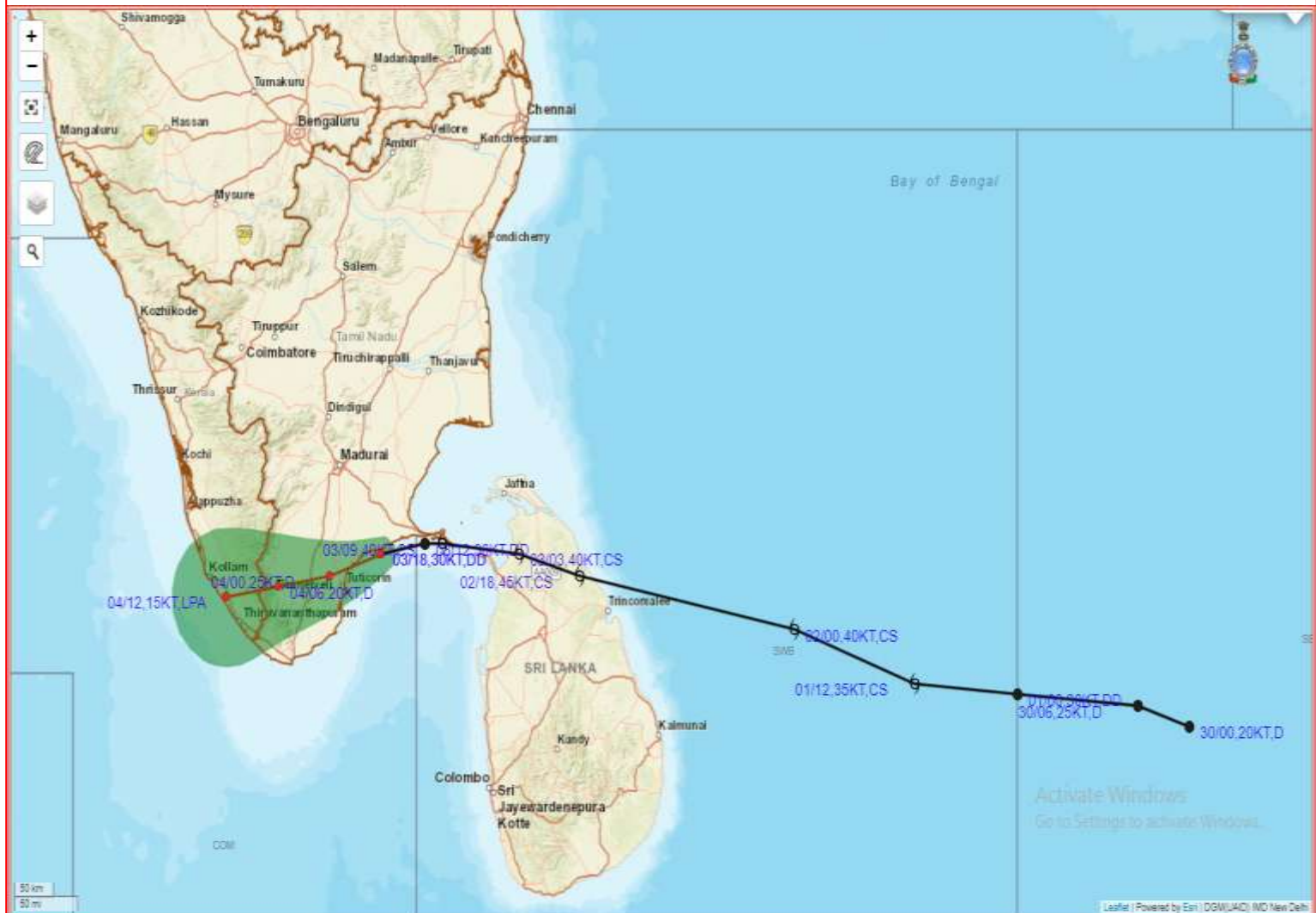


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 1800 UTC OF 3rd DECEMBER, 2020.



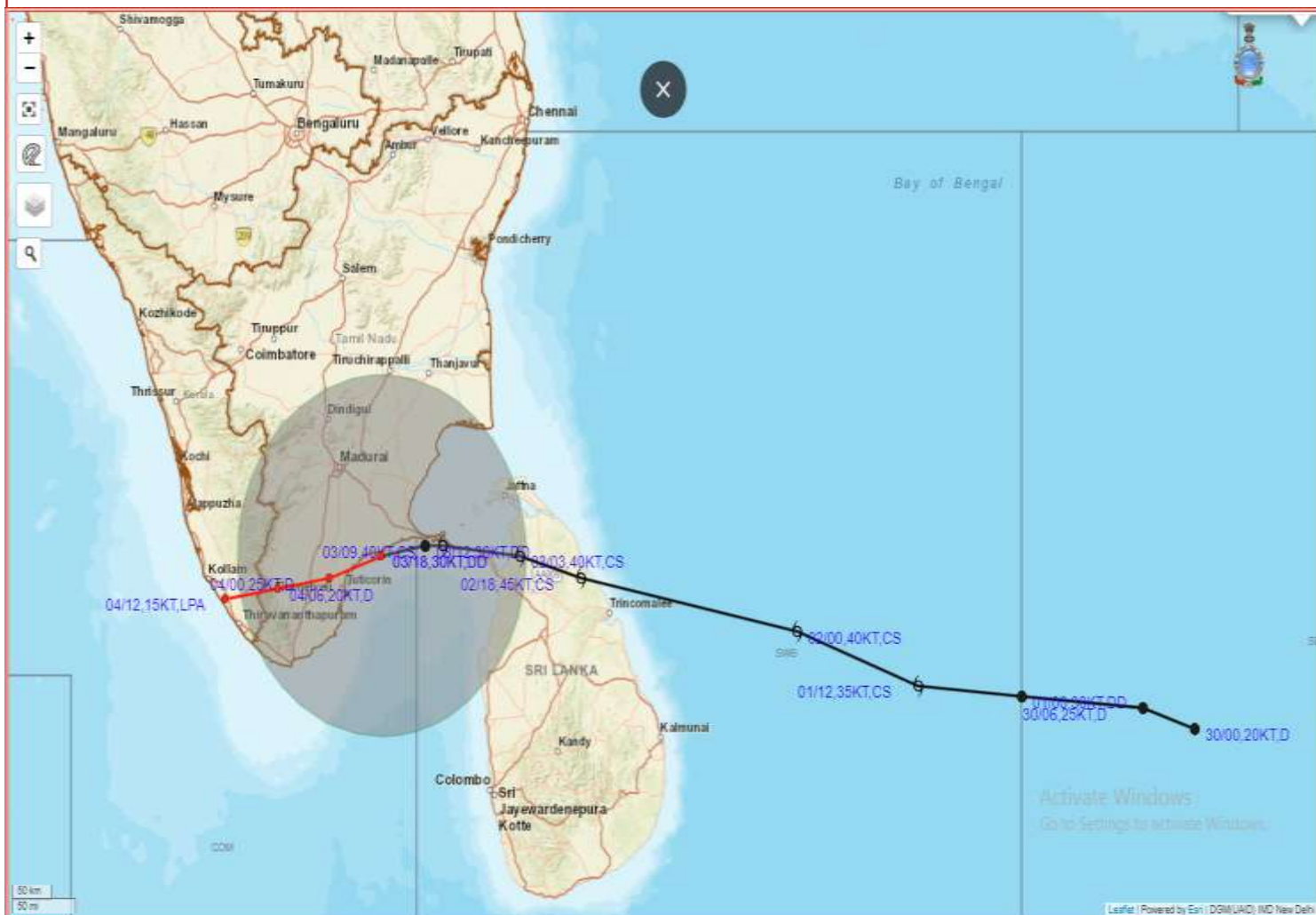
DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
● 34-47 KT
● ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 1800 UTC OF 3rd DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

● ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

AREA OF MAXIMUM SUSTAINED WIND SPEED:

■ 28-33 KT (52-61 KMPH)

■ 34-49 KT (62-91 KMPH)

■ 50-63 KT (92-117 KMPH)

■ ≥ 64 KT (≥118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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
(Ministry of Earth Sciences)
BULLETIN NO. : 28 (BOB/05/2020)

TIME OF ISSUE: 0415 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The **Deep Depression** over Gulf of Mannar close to Ramanathapuram District coast **remains practically stationary** during past three hours and lay centered at 0230 hrs IST of 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. **The associated wind speed is about 55-65 gusting to 75 kmph.**

The Deep Depression likely to move west-southwestwards and cross Ramanathapuram and adjoining Thoothukudi districts during next 06 hours with wind speed of 50-60 gusting to 70 kmph. It is very likely to weaken further into a Depression (wind speed 45-55 kmph gusting to 65 kmph) during next 24 hours.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
04.12.20/0230	9.1/78.6	55-65 gusting to 75	Deep Depression
04.12.20/0530	8.9/78.0	55-65 gusting to 75	Deep Depression
04.12.20/1130	8.8/77.4	50-60 gusting to 70	Deep Depression
04.12.20/1730	8.7/76.8	45-55 gusting to 65	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) Rainfall

- Heavy to very heavy rainfall at a few places very likely over south Tamilnadu and at isolated places over Kerala & Mahe during next 24 hours. Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry & Karaikal during next 24 hours.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 04th December.

Sub-Divisions	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy falls at a few places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy fall at isolated places
Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely during next 06 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 45-55 kmph gusting to 65 kmph by evening of 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts) during next 24 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during next 24 hours.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts during next 12 hours and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast by evening of 4th December.

(v) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar and adjoining southwest Bay of Bengal and along & off south Tamilnadu coast and north Sri Lanka coasts during next 12 hours and along and off Kerala coast, Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24-hours.

The next bulletin will be issued at 0830 hrs IST of 4th December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

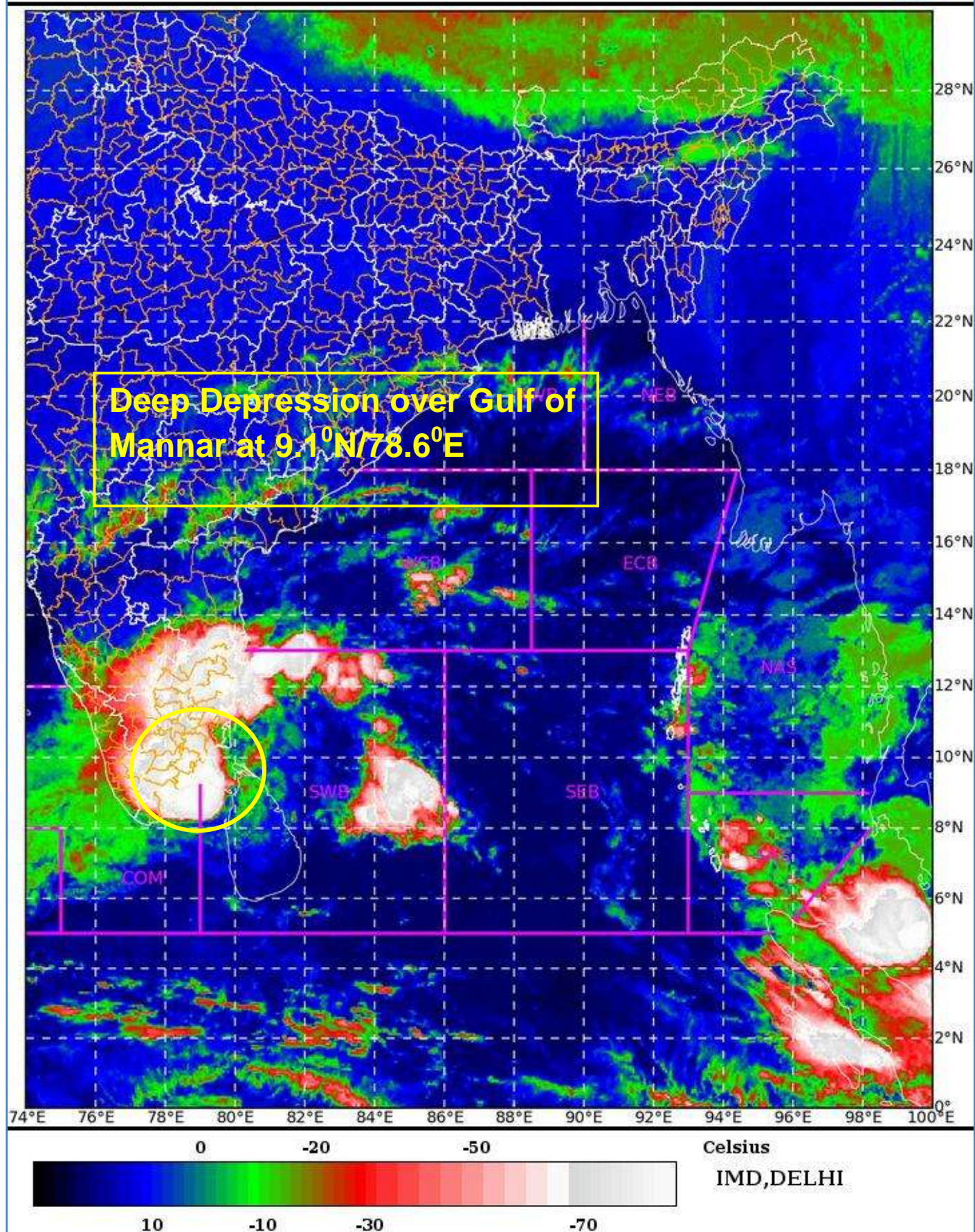
SAT : INSAT-3D IMG

03-12-2020/(2200 to 2226) GMT

IMG_TIR1_TEMP 10.8 um

04-12-2020/(0330 to 0356) IST

L1C Mercator

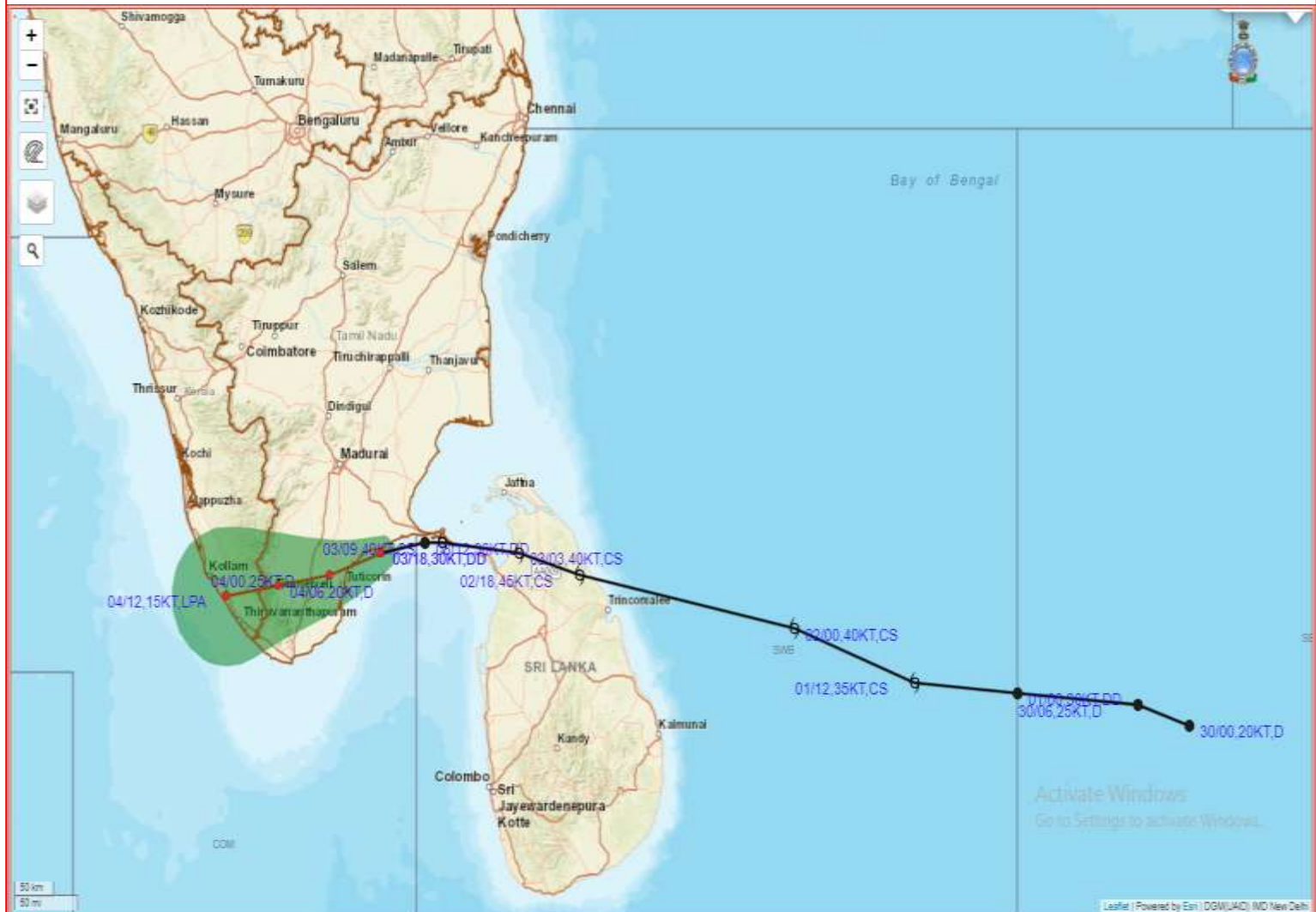


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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



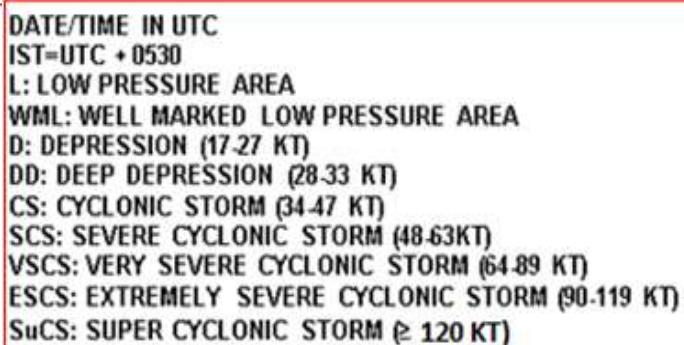
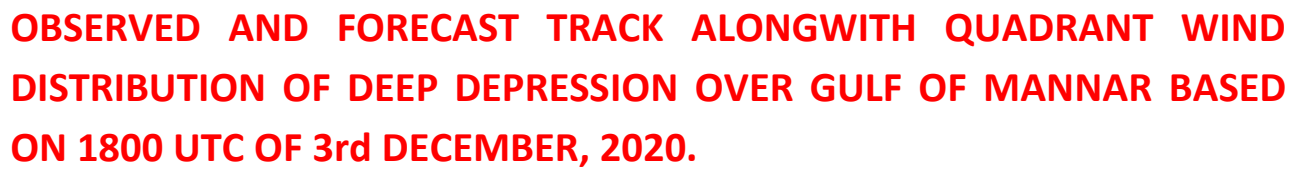
OBSERVED AND FORECAST TRACK ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 1800 UTC OF 3rd DECEMBER, 2020.












DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.



-  LESS THAN 34 KT
 34-47 KT
 ≥ 48 KT
 OBSERVED TRACK
 FORECAST TRACK
 CONE OF UNCERTAINTY
AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥118 KMPH)

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥118)	Phenomenal	Total suspension of fishing operations

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
(Ministry of Earth Sciences)
BULLETIN NO. : 29 (BOB/05/2020)

TIME OF ISSUE: 0800 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The **Deep Depression** over Gulf of Mannar close to Ramanathapuram District coast **remained practically stationary** during past three hours and lay centered at 0530 hrs IST of 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. **The associated wind speed is about 55-65 gusting to 75 kmph.**

The Deep Depression likely to move slowly west-southwestwards and cross Ramanathapuram and adjoining Thoothukudi districts during next 06 hours with wind speed of 50-60 gusting to 70 kmph. It is very likely to weaken further into a Depression (wind speed 45-55 kmph gusting to 65 kmph) during next 12 hours.

Forecast track and intensity are given below:

Date/Time(IST)	Position (Lat. °N/ long. °E)	Maximum sustained surface wind speed (Kmph)	Category of cyclonic disturbance
04.12.20/0530	9.1/78.6	55-65 gusting to 75	Deep Depression
04.12.20/1130	9.0/78.2	50-60 gusting to 70	Deep Depression
04.12.20/1730	8.9/77.8	45-55 gusting to 65	Depression
04.12.20/2330	8.8/77.4	25-35 gusting to 45	Low Pressure Area

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) Rainfall

- Heavy to very heavy rainfall at a few places very likely over south Tamilnadu and at isolated places over Kerala & Mahe during next 24 hours. Heavy to very heavy rainfall at isolated places very likely over north Tamilnadu, Puducherry & Karaikal during next 24 hours.
- Heavy rainfall at isolated places very likely over south Coastal Andhra Pradesh and Lakshadweep on 04th December.

Sub-Divisions	04 Dec 2020*
South Tamilnadu	Rainfall at most places with heavy to very heavy falls at a few places
North Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy fall at isolated places
Kerala & Mahe	Rainfall at many places with heavy to very heavy rainfall at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at most places with heavy to very falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 55-65 kmph gusting to 75 kmph is very likely during next 06 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 45-55 kmph gusting to 65 kmph by evening of 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzah districts) during next 24 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during next 24 hours.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts during next 12 hours and rough to very rough over Comorin Area, adjoining southeast Arabian Sea and along & off Kerala coast by evening of 4th December.

(v) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar and adjoining southwest Bay of Bengal and along & off south Tamilnadu coast and north Sri Lanka coasts during next 12 hours and along and off Kerala coast, Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24-hours.

The next bulletin will be issued at 1130 hrs IST of 4th December, 2020.

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

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

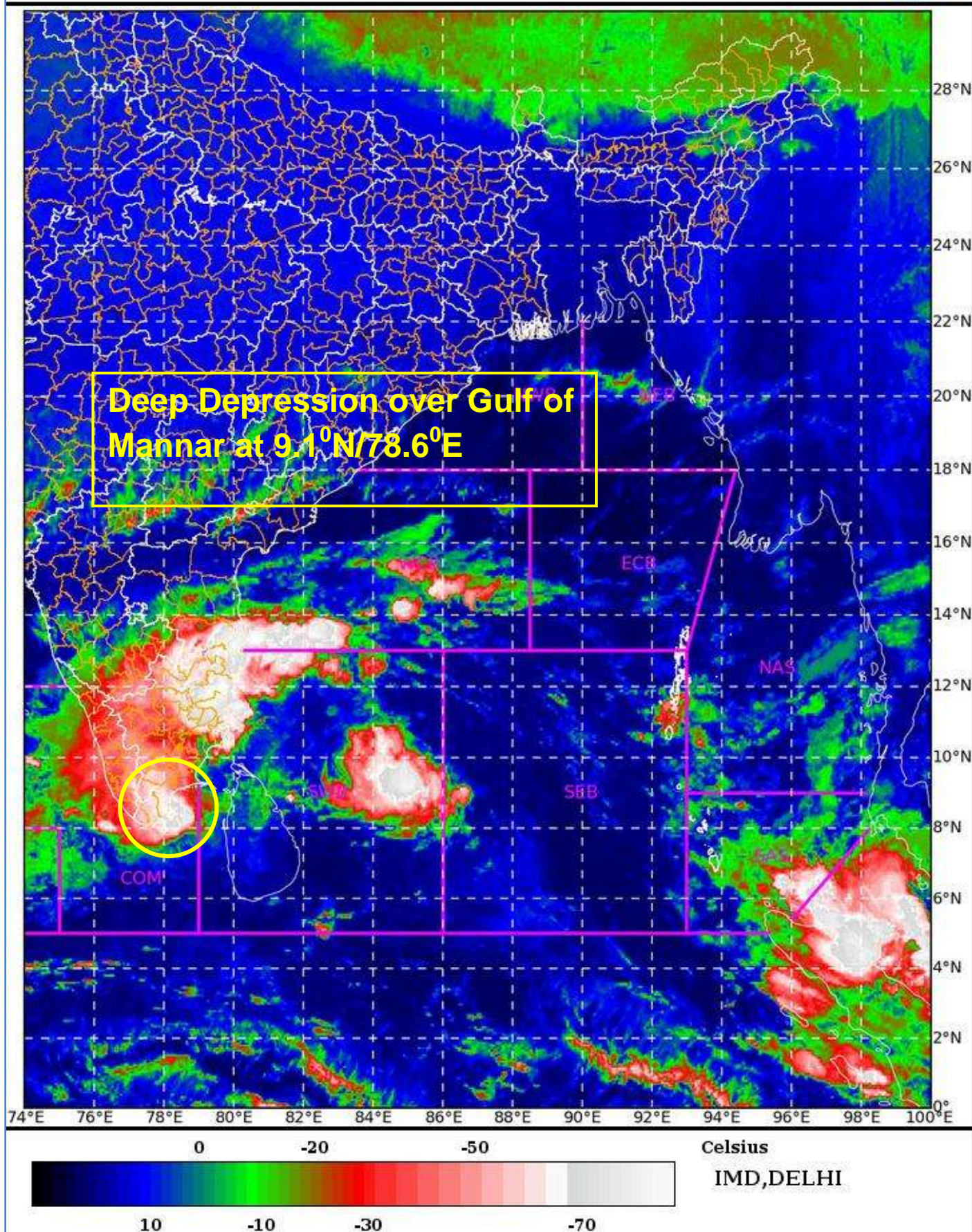
SAT : INSAT-3D IMG

04-12-2020/(0130 to 0157) GMT

IMG_TIR1_TEMP 10.8 um

04-12-2020/(0700 to 0727) IST

L1C Mercator

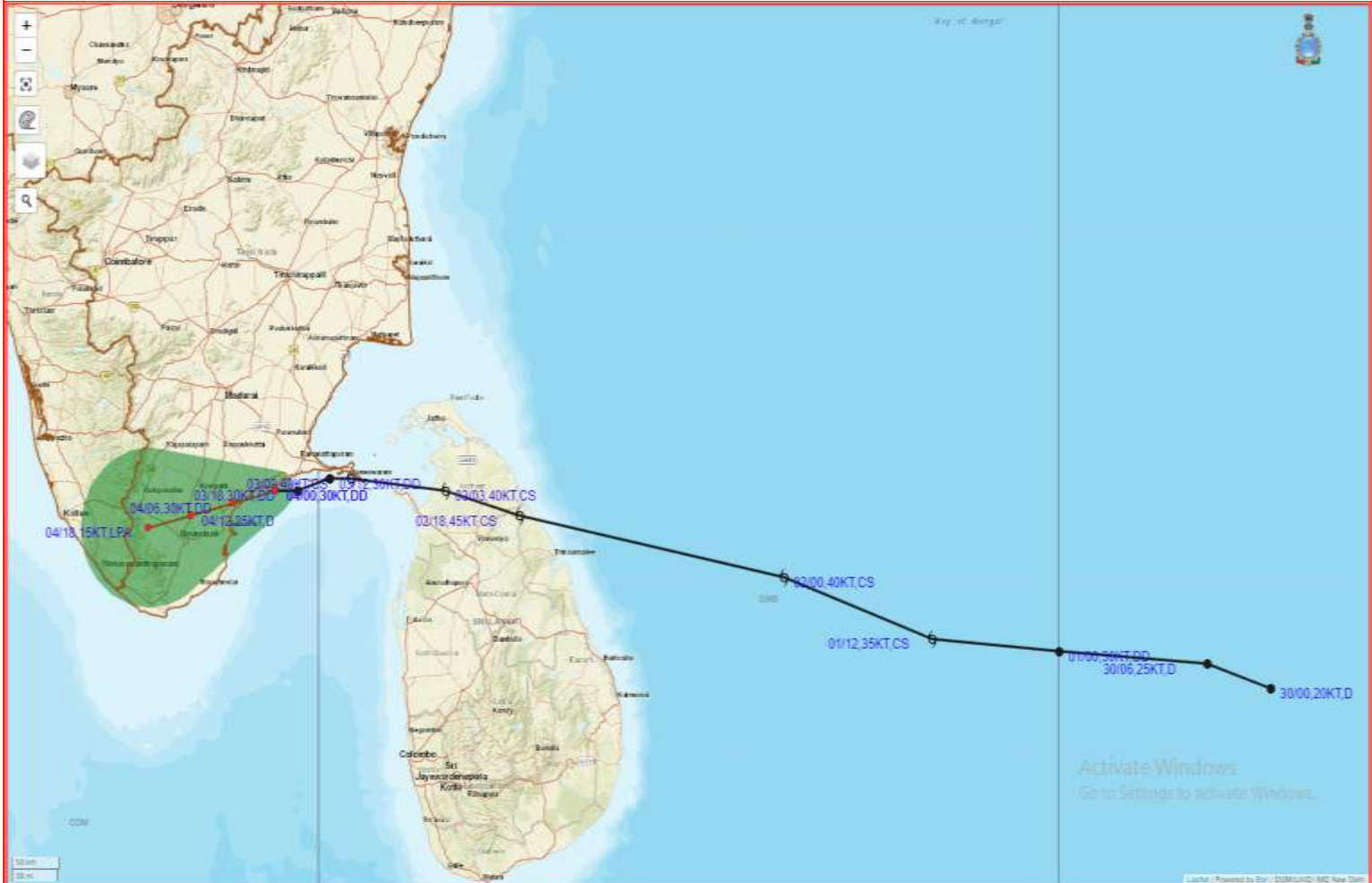


Spatial rainfall distribution: Isolated: $\leq 25\%$, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 0000 UTC OF 4TH DECEMBER, 2020.



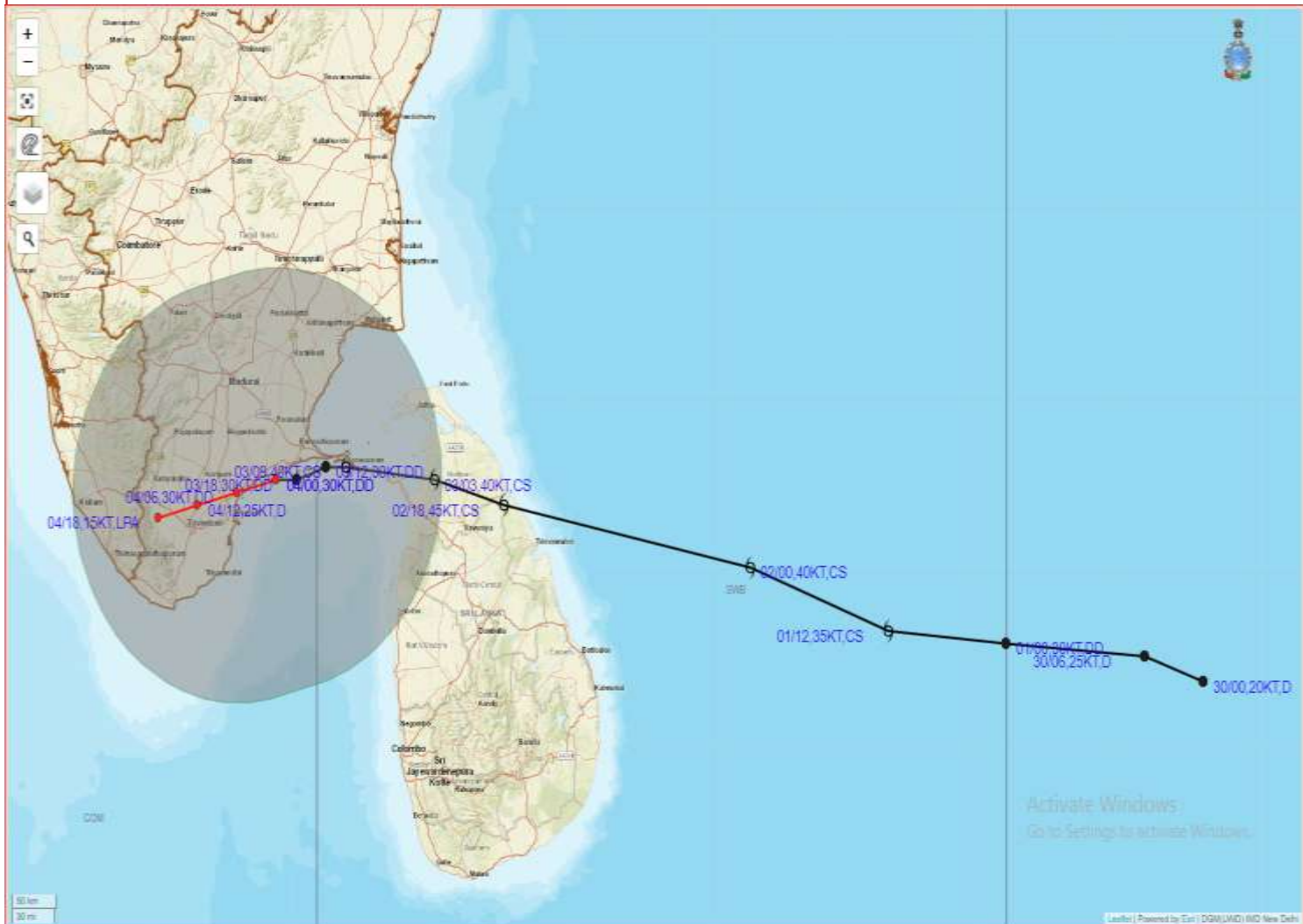
DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH QUADRANT WIND DISTRIBUTION OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 0000 UTC OF 4TH DECEMBER, 2020.



DATE/TIME IN UTC
 IST=UTC + 0530
 L: LOW PRESSURE AREA
 WML: WELL MARKED LOW PRESSURE AREA
 D: DEPRESSION (17-27 KT)
 DD: DEEP DEPRESSION (28-33 KT)
 CS: CYCLONIC STORM (34-47 KT)
 SCS: SEVERE CYCLONIC STORM (48-63 KT)
 VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
 ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
 SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
 6 34-47 KT
 6 ≥ 48 KT
 — OBSERVED TRACK
 — FORECAST TRACK
 ▲ CONE OF UNCERTAINTY
 AREA OF MAXIMUM SUSTAINED WIND SPEED:
 28-33 KT (52-61 KMPH)
 34-49 KT (62-91 KMPH)
 50-63 KT (92-117 KMPH)
 ≥ 64 KT (≥ 118 KMPH)

IMPACT OVER THE SEA

MSW (knot/kmph)	Impact	Action
28-33 (52-61)	Very rough seas	Total suspension of fishing operations
34-49 (62-91)	High to very high seas	Total suspension of fishing operations
50-63 (92-117)	Very high seas	Total suspension of fishing operations
≥ 64 (≥ 118)	Phenomenal	Total suspension of fishing operations

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 30 (BOB/05/2020)

TIME OF ISSUE: 1130 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The Deep Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past six hours and lay centered at 0830 hrs IST of today, the 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. The associated wind speed is about 50-60 gusting to 70 kmph.

The Deep Depression is likely to remain practically stationary over the same region and weaken into a Depression during next 12 hours. Thereafter it will move slowly west-southwestwards across Ramanathapuram district towards south Kerala and weaken into a Well marked Low Pressure Area during subsequent 24 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places with extremely heavy falls at isolated places very likely over Tamilnadu, Puducherry and Karaikal today, the 4th December and heavy to very heavy rainfall at isolated places on 05th December.
- Heavy to very heavy rainfall at isolated places very likely over Kerala & Mahe on 04th & 05th December.

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.

- Heavy rainfall at isolated places very likely over south coastal Andhra Pradesh on 04th & 05th December and over Lakshadweep on 05th December.

Sub-Divisions	04 Dec 2020*	05 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with Heavy to very heavy rainfall with extremely heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at most places with heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph is very likely during next 12 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 40-50 kmph gusting to 60 kmph by night of 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast (Thiruvananthapuram, Kollam, Pathanamthitta and Alappuzha districts) from tonight for subsequent 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from early morning of 05th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts during next 24 hours and rough to very rough over Comorin Area, adjoining southeast Arabian Sea, Lakshadweep-Maldives areas and along & off Kerala coast by night of 4th December for subsequent 48 hours.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal and along & off south Tamilnadu coast, north Sri Lanka & south Kerala coasts and Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24 hours.

CHIEF AMOUNTS OF RAINFALL (≥ 7 CM.) during past 24 hours (from 0830 hrs IST of 03rd December to 0830 hrs IST of 04th December) is placed at Annexure 1.

The next bulletin will be issued at 1430 hrs IST of 4th December, 2020.

(R. K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.

CHIEF AMOUNTS OF RAINFALL (≥ 7 CM.) during past 24 hours(from 0830 hrs IST of 03rd December to 0830 hrs IST of 04th December over Tamilnadu, Puducherry & Karaikal

12-04-2020: Kollidam (dist Nagapattinam) **36,**

Chidambaram (dist Cuddalore) **34,**

Parangipettai (dist Cuddalore) **26,**

Manalmedu (dist Nagapattinam) , Kurinjipadi (dist Cuddalore) **25 each,**

Thiruthuraipoondi (dist Tiruvarur) **22,**

Sirkali (dist Nagapattinam) , Kodavasal (dist Tiruvarur) **21 each,**

Rameswaram (dist Ramanathapuram) **20,**

Peravurani (dist Thanjavur) , Manjalaru (dist Thanjavur) , Bhuvanagiri (dist Cuddalore) , Mayiladuthurai (dist Nagapattinam) **19 each,**

Karambakudi (dist Pudukkottai) , Pattukottai (dist Thanjavur) **17 each,**

Madukkur (dist Thanjavur) **16,**

Srimushnam (dist Cuddalore) **15,**

Tindivanam (dist Villupuram) , Nannilam (dist Tiruvarur) , Thiruvidaimaruthur (dist Thanjavur) 14 each, Kumbakonam (dist Thanjavur) , Ayyampettai (dist Thanjavur) , Valangaiman (dist Tiruvarur) , Panruti (dist Cuddalore), Ulundurpet (dist Villupuram) **13 each,**

Aduthurai (dist Thanjavur) , Alangudi (dist Pudukkottai) , Pandavaiyar Head (dist Tiruvarur) 12 each, Tiruvarur (dist Tiruvarur) , Budalur (dist Thanjavur) , Mahabalipuram (dist Chengalpattu) , Mannargudi (dist Tiruvarur) **11 each ,**

Vallam (dist Thanjavur) , Perambalur (dist Perambalur) , Thanjavur (dist Thanjavur) , Thirumanur (dist Ariyalur) , Needamangalam (dist Tiruvarur) **10 each,**

Sendurai (dist Ariyalur) , Tirukattupalli (dist Thanjavur) , Vilupuram (dist Villupuram) , Mylam Aws (dist Villupuram) , Cholavaram (dist Tiruvallur) , Vanur (dist Villupuram) , Gandarvakottai (dist Pudukkottai) , Marakkanam (dist Villupuram) , Chengalpattu (dist Chengalpattu) , Gingee (dist Villupuram) **9 each,**

Keeranur (dist Pudukkottai) , Thalaigaiyer (dist Nagapattinam) , Agaram Seegoor (dist Perambalur) , Eraiyur (dist Perambalur) , Gummidipoondi (dist Tiruvallur) , Adirampatnam (dist Thanjavur) , Manamelkudi (dist Pudukkottai) , Pullambadi (dist Trichy) , Annavasal (dist Pudukkottai) , Samayapuram (dist Trichy) , Pamban (dist Ramanathapuram) , Perungalur (dist Pudukkottai) , Tarangambadi (dist Nagapattinam) **8 each ,**

Labbaikudikadu (dist Perambalur) , Tozhudur (dist Cuddalore) , Tirukoilur (dist Villupuram) , Thuvakudi Imti (dist Trichy) , Uthukottai (dist Tiruvallur) , Ariyalur (dist Ariyalur) , Anna Uty Arg (dist Chennai) , Uthiramerur (dist Chengalpattu) , Tirupoondi (dist Nagapattinam) , Tirumayam (dist Pudukkottai) , Tondi (dist Ramanathapuram) , Trp Town (dist Trichy) **7 each,**

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.

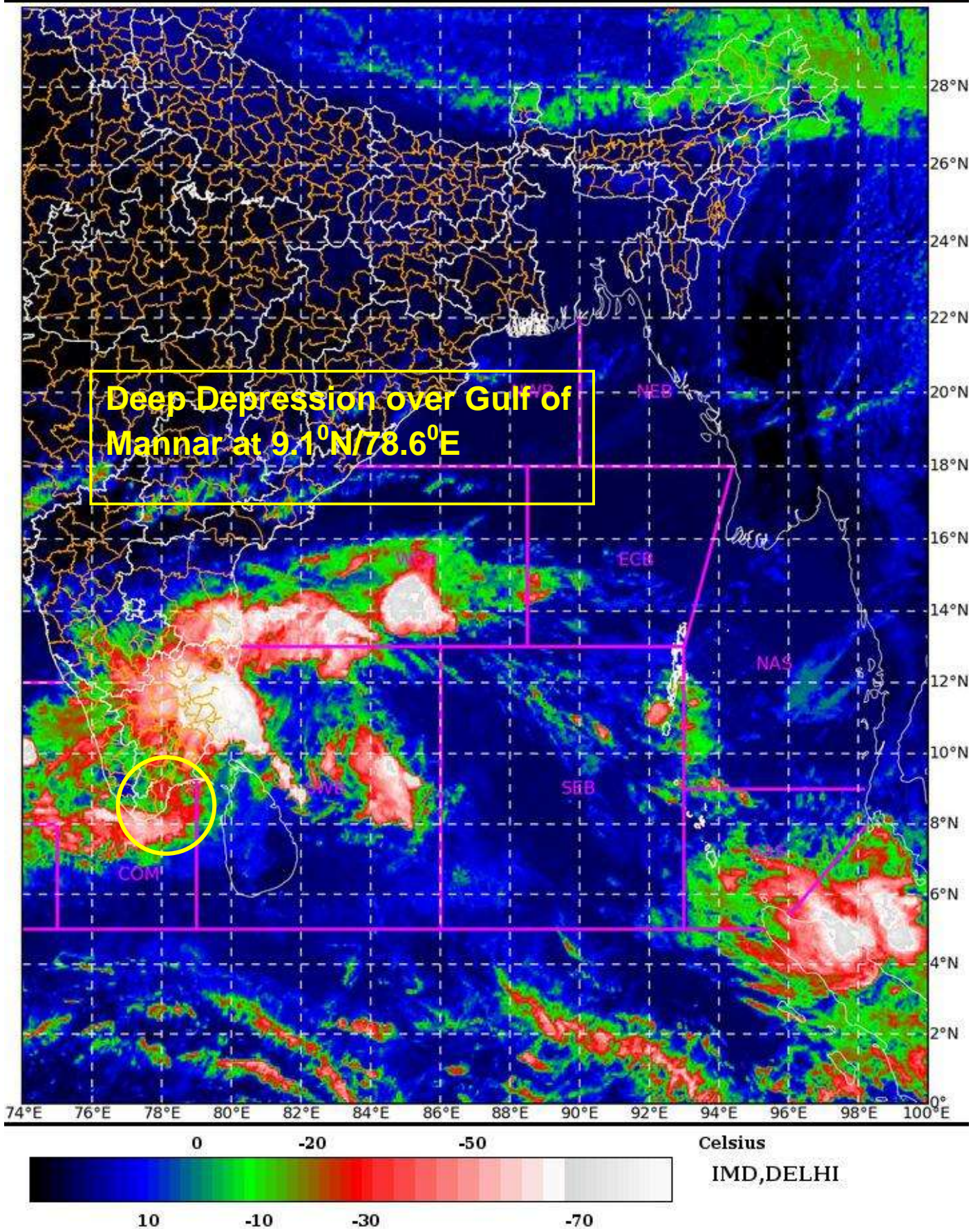
SAT : INSAT-3D IMG

04-12-2020/(0500 to 0527) GMT

IMG_TIR1_TEMP 10.8 um

04-12-2020/(1030 to 1057) IST

L1C Mercator

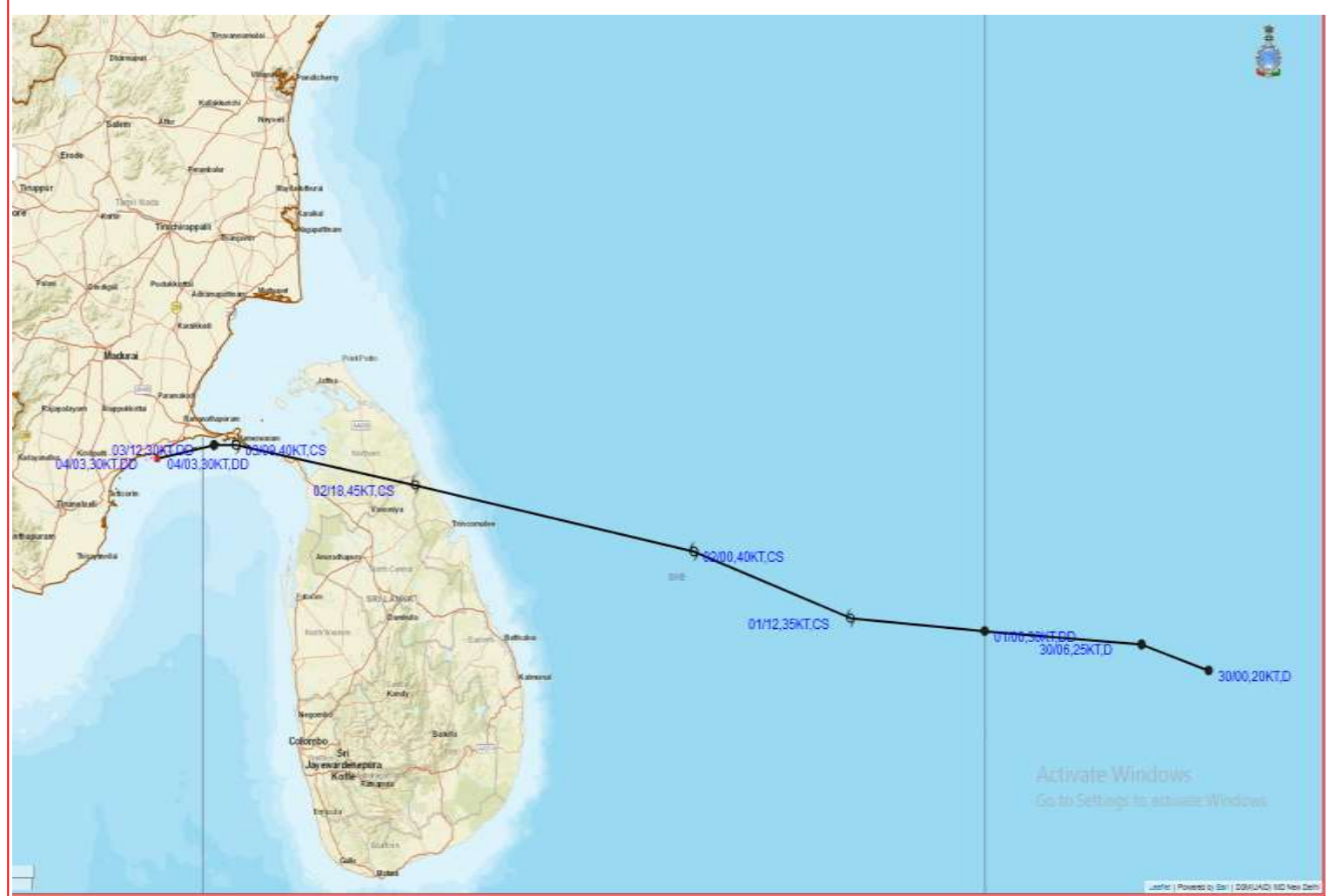


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 0300 UTC OF 4TH DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 31 (BOB/05/2020)

TIME OF ISSUE: 1330 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression over Gulf of Mannar

The Deep Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past 12 hours and lay centered at 1130 hrs IST of today, the 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban and 160 km northeast of Kanniyakumari. The associated wind speed is about 50-60 gusting to 70 kmph.

The Deep Depression is likely to remain practically stationary over the same region and weaken into a Depression during next 12 hours. Thereafter it will move slowly west-southwestwards across Ramanathapuram district towards south Kerala and weaken into a Well marked Low Pressure Area during subsequent 24 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places with extremely heavy falls at isolated places very likely today, the 4th December and heavy to very heavy rainfall at isolated places on 05th December over Tamilnadu and Puducherry.
- Heavy to very heavy rainfall at isolated places very likely over Kerala & Mahe on 04th & 05th December.

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.

- Heavy rainfall at isolated places very likely over south coastal Andhra Pradesh on 04th & 05th December and over Lakshadweep on 05th December.

Sub-Divisions	04 Dec 2020*	05 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with Heavy to very heavy rainfall with extremely heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at most places with heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 50-60 kmph gusting to 70 kmph is very likely during next 12 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) and it will gradually decrease to 40-50 kmph gusting to 60 kmph by night of 4th December.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast from tonight for subsequent 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from early morning of 05th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts during next 24 hours and rough to very rough over Comorin Area, adjoining southeast Arabian Sea, Lakshadweep-Maldives areas and along & off Kerala coast by night of 4th December for subsequent 48 hours.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal and along & off south Tamilnadu, north Sri Lanka & south Kerala coasts and Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24 hours.

The next bulletin will be issued at 2030 hrs IST of 4th December, 2020.

(R. K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

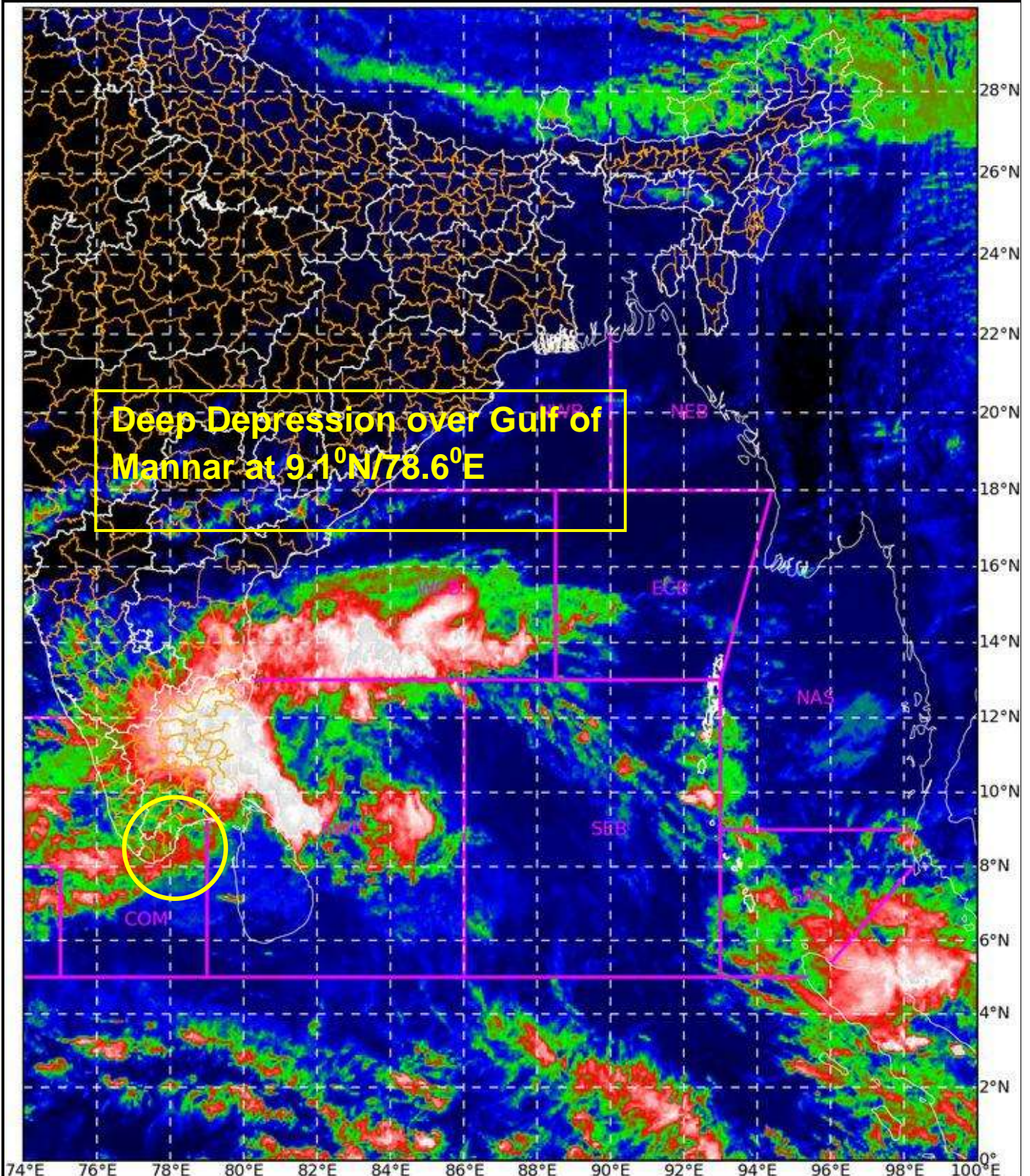
SAT : INSAT-3D IMG

04-12-2020/(0730 to 0757) GMT

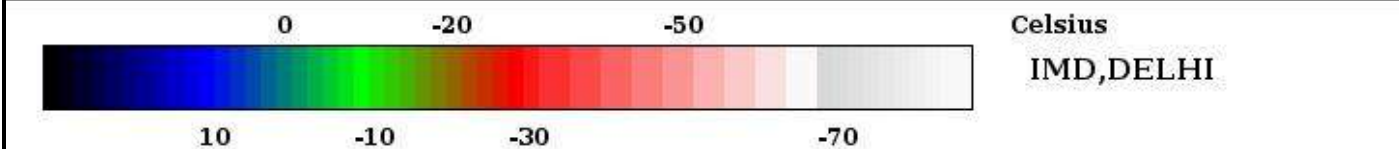
IMG_TIR1_TEMP 10.8 um

04-12-2020/(1300 to 1327) IST

L1C Mercator



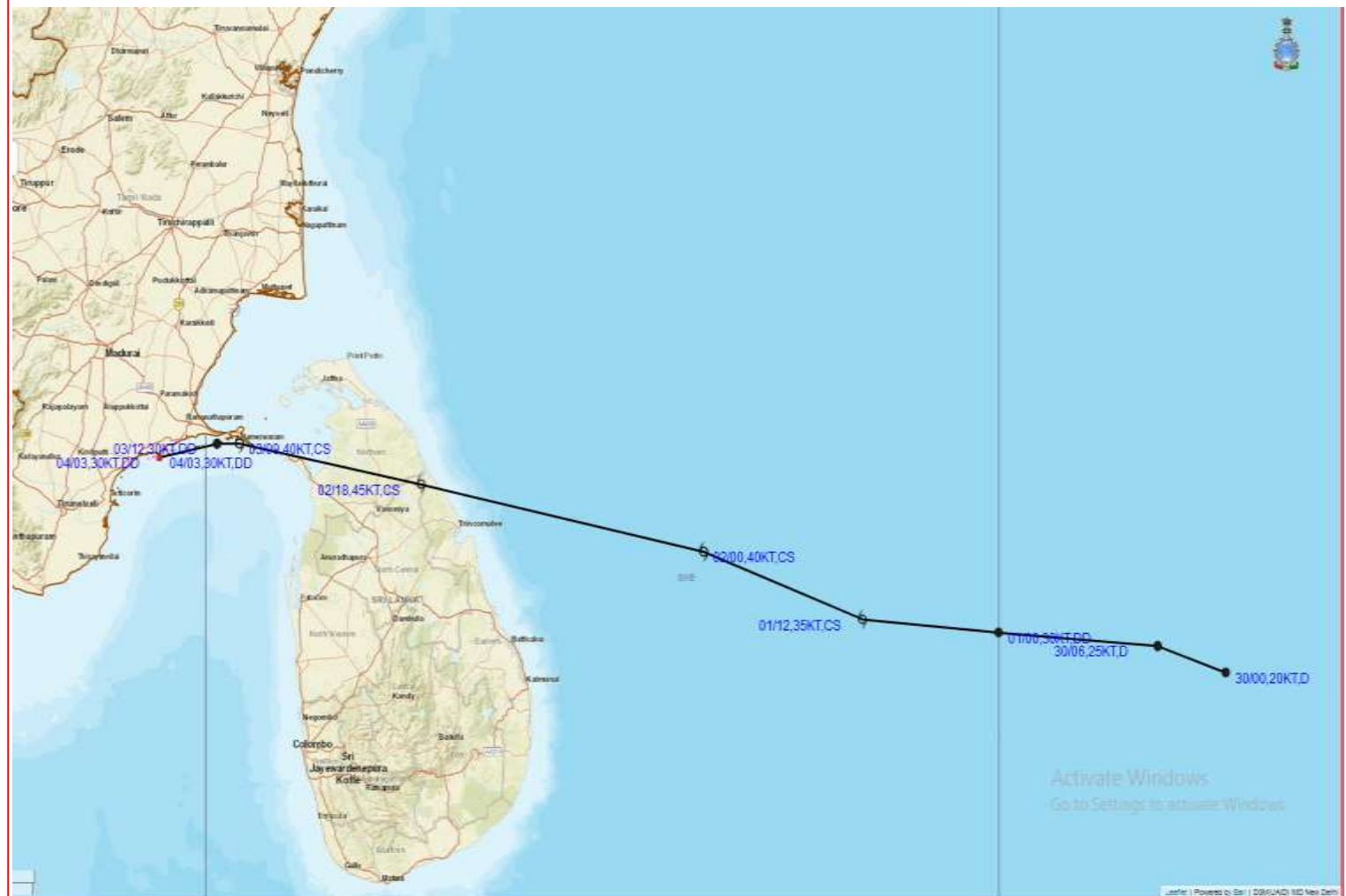
Deep Depression over Gulf of Mannar at 9.1°N/78.6°E



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 ALONGWITH CONE OF UNCERTAINTY OF DEEP DEPRESSION OVER GULF OF MANNAR BASED ON 0300 UTC OF 4TH DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥20 KT)

- LESS THAN 34 KT
- 34-47 KT
- ≥ 48 KT
- OBSERVED TRACK
- FORECAST TRACK
- ▲ CONE OF UNCERTAINTY

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
(Ministry of Earth Sciences)
BULLETIN NO. : 32 (BOB/05/2020)

TIME OF ISSUE: 2000 HOURS IST

DATED: 04.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Deep Depression weakened into a Depression over Gulf of Mannar

The Deep Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past 18 hours, weakened into a Depression and lay centered at 1730 hrs IST of today, the 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban. The associated wind speed is about 45-55 gusting to 65 kmph.

The Depression is likely to remain practically stationary over the same region and weaken into a Well marked Low Pressure Area during next 12 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places very likely over Tamilnadu and Puducherry during next 24 hours.
- Heavy to very heavy rainfall at isolated places very likely over Kerala & Mahe on 04th & 05th December.
- Heavy rainfall at isolated places very likely over south coastal Andhra Pradesh on 04th & 05th December and over Lakshadweep on 05th December.

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.

Sub-Divisions	04 Dec 2020*	05 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with Heavy to very heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at a few places	Rainfall at most places with heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely during next 6 hours along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts). It will gradually decrease to 30-40 kmph gusting to 50 kmph by 5th December Morning.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast during next 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from early morning of 05th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts during next 24 hours and rough to very rough over Comorin Area, adjoining southeast Arabian Sea, Lakshadweep-Maldives areas and along & off Kerala coast by night of 4th December for subsequent 24 hours.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal and along & off south Tamilnadu, north Sri Lanka & south Kerala coasts and Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24 hours.

The next bulletin will be issued at 0230 hrs IST of tomorrow, the 05th December, 2020.

(R. K. Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

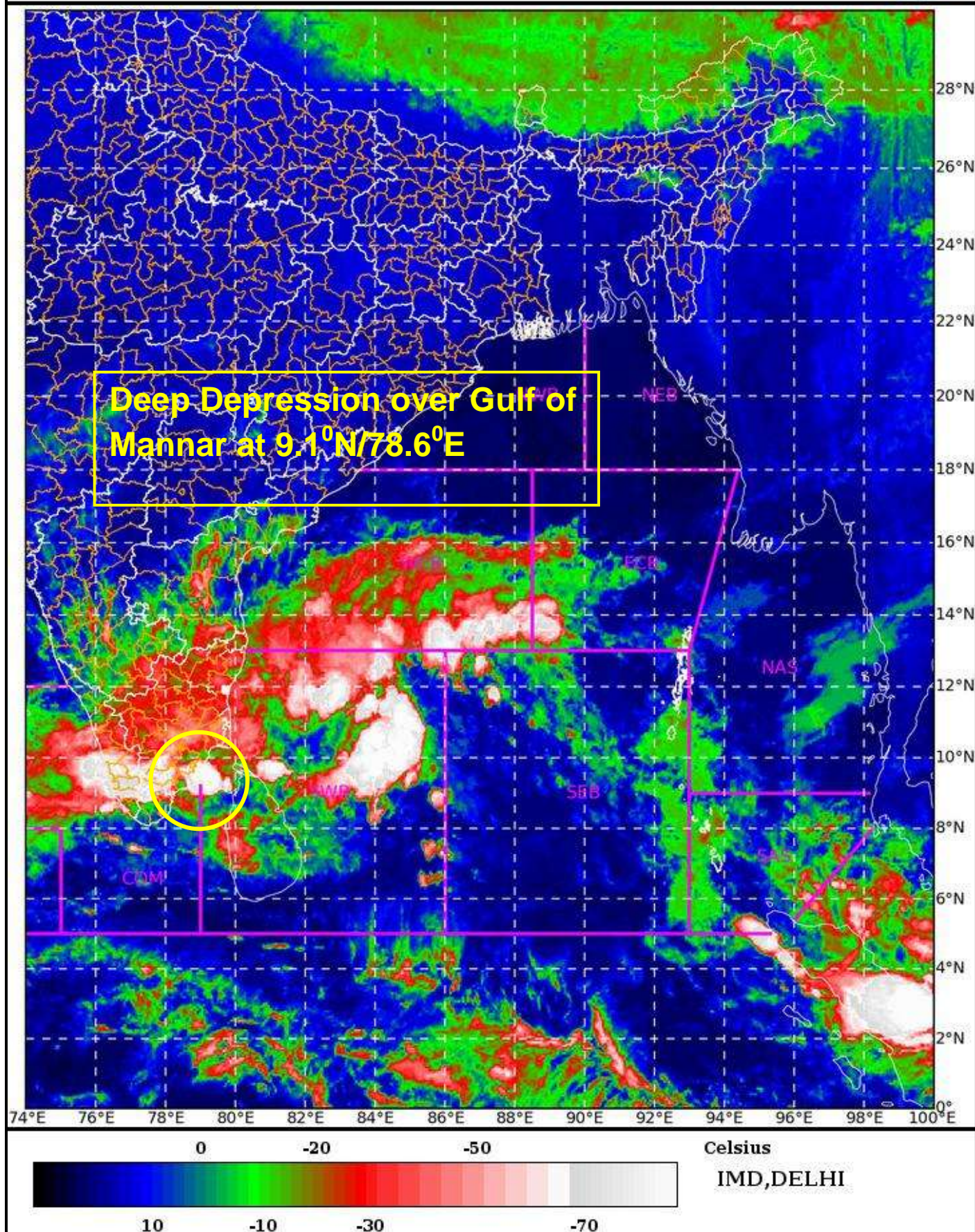
SAT : INSAT-3D IMG

04-12-2020/(1330 to 1356) GMT

IMG_TIR1_TEMP 10.8 um

04-12-2020/(1900 to 1926) IST

L1C Mercator



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 TRACK OF DEPRESSION OVER GULF OF MANNAR BASED ON 1200 UTC OF 4TH DECEMBER, 2020.



DATE/TIME IN UTC
IST=UTC + 0530
L: LOW PRESSURE AREA
WML: WELL MARKED LOW PRESSURE AREA
D: DEPRESSION (17-27 KT)
DD: DEEP DEPRESSION (28-33 KT)
CS: CYCLONIC STORM (34-47 KT)
SCS: SEVERE CYCLONIC STORM (48-63KT)
VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)
ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)
SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT
⌀ 34-47 KT
⌀ ≥ 48 KT
— OBSERVED TRACK
— FORECAST TRACK
▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 33 (BOB/05/2020)

TIME OF ISSUE: 0100 HOURS IST

DATED: 05.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over Gulf of Mannar

The Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past 24 hours and lay centered at 2330 hrs IST of 04th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban. The associated wind speed is about 45-55 gusting to 65 kmph.

The Depression is likely to remain practically stationary over the same region and weaken into a Well Marked Low Pressure Area during next 12 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places very likely over Tamilnadu & Puducherry and Kerala & Mahe on 05th December.
- Heavy rainfall at isolated places very likely over south coastal Andhra Pradesh and Lakshadweep on 05th December.

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.

Sub-Divisions	05 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with heavy to very heavy falls at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy falls at isolated places
South Coastal Andhra Pradesh	Rainfall at a few places with heavy rainfall at isolated places
Lakshadweep	Rainfall at most places with heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 45-55 kmph gusting to 65 kmph is very likely along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during next 12 hours. It will gradually decrease to 30-40 kmph gusting to 50 kmph by 5th December Morning.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast during next 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea from early morning of 05th December.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts, Comorin Area, adjoining southeast Arabian Sea, Lakshadweep-Maldives areas and along & off Kerala coast during next 24 hours.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal and along & off south Tamilnadu, north Sri Lanka & south Kerala coasts and Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24 hours.

The next bulletin will be issued at 0830 hrs IST of today, the 05th December, 2020.

(S.P. Singh)
Scientist-C, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

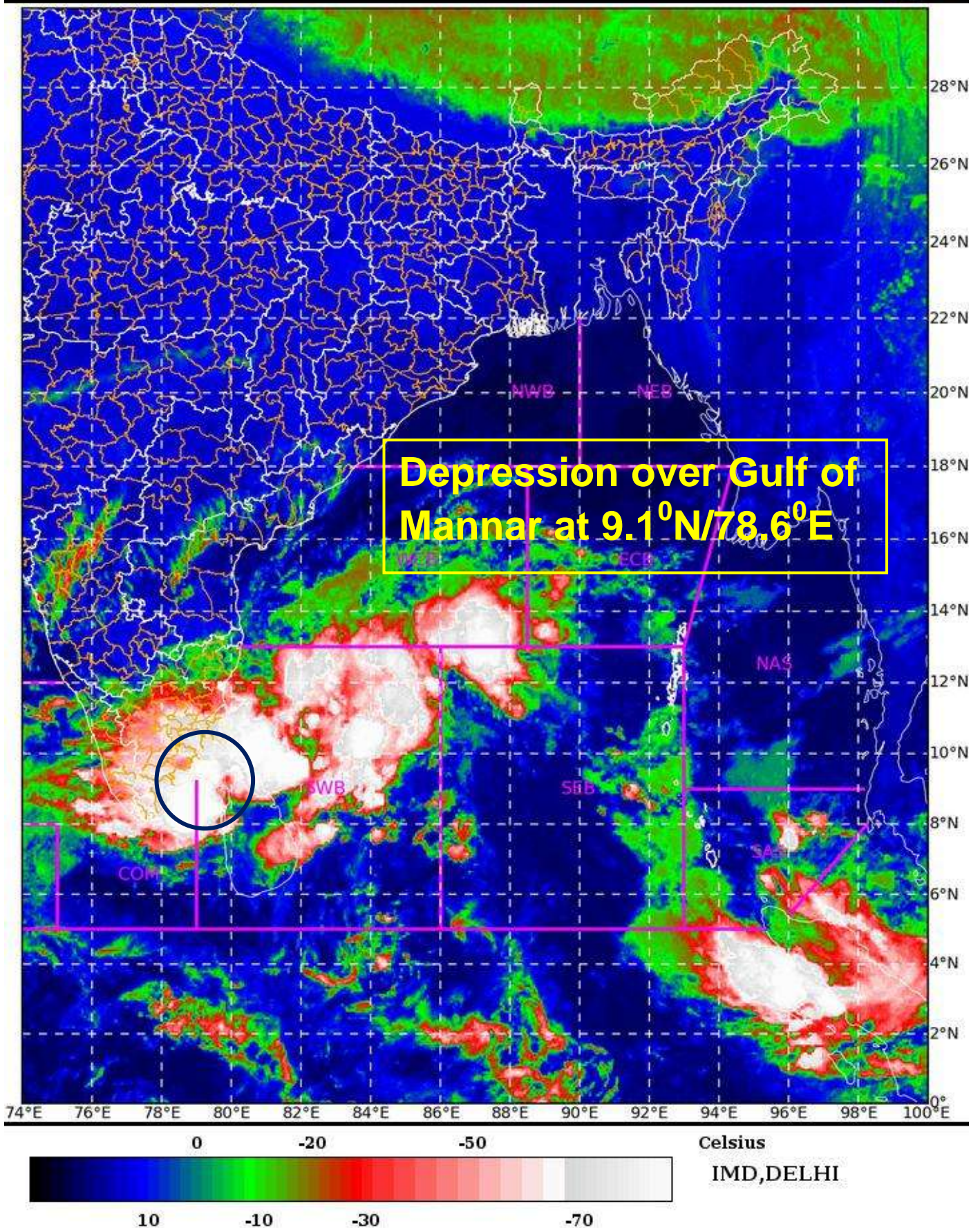
SAT : INSAT-3D IMG

04-12-2020/(1830 to 1856) GMT

IMG_TIR1_TEMP 10.8 um

05-12-2020/(0000 to 0026) IST

L1C Mercator



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 TRACK OF DEPRESSION OVER GULF OF MANNAR BASED ON 1800 UTC OF 4TH DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (\geq 120 KT)

● LESS THAN 34 KT

⌀ 34-47 KT

⌀ \geq 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: \leq 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
(Ministry of Earth Sciences)
BULLETIN NO. : 34 (BOB/05/2020)

TIME OF ISSUE: 0740 HOURS IST

DATED: 05.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over Gulf of Mannar

The Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past 30 hours and lay centered at 0530 hrs IST of 05th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban. The associated wind speed is about 40-50 gusting to 60 kmph.

The Depression is likely to remain practically stationary over the same region and weaken into a Well Marked Low Pressure Area during next 12 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places very likely over Tamilnadu & Puducherry and Kerala & Mahe on 05th & 06th December.
- Heavy rainfall at isolated places very likely over Lakshadweep on 05th & 06th December.

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.

Sub-Divisions	05 Dec 2020*	06 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
Kerala & Mahe	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
Lakshadweep	Rainfall at most places with heavy falls at isolated places	Rainfall at most places with heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely along and off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during next 12 hours. It will gradually decrease to 30-40 kmph gusting to 50 kmph thereafter.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail along & off south Kerala coast during next 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives area and adjoining southeast Arabian Sea during next 24 hours.

(iii) Sea condition

- Sea condition is rough to very rough over Gulf of Mannar and adjoining southwest Bay of Bengal, along & off south Tamilnadu, west Sri Lanka coasts, Comorin Area, adjoining southeast Arabian Sea, Lakshadweep-Maldives areas and along & off Kerala coast during next 24 hours.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal and along & off south Tamilnadu, north Sri Lanka & south Kerala coasts and Lakshadweep-Maldives area & adjoining southeast Arabian Sea during next 24 hours.

The next bulletin will be issued at 1130 hrs IST of today, the 05th December, 2020.

(S.P. Singh)
Scientist-C, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

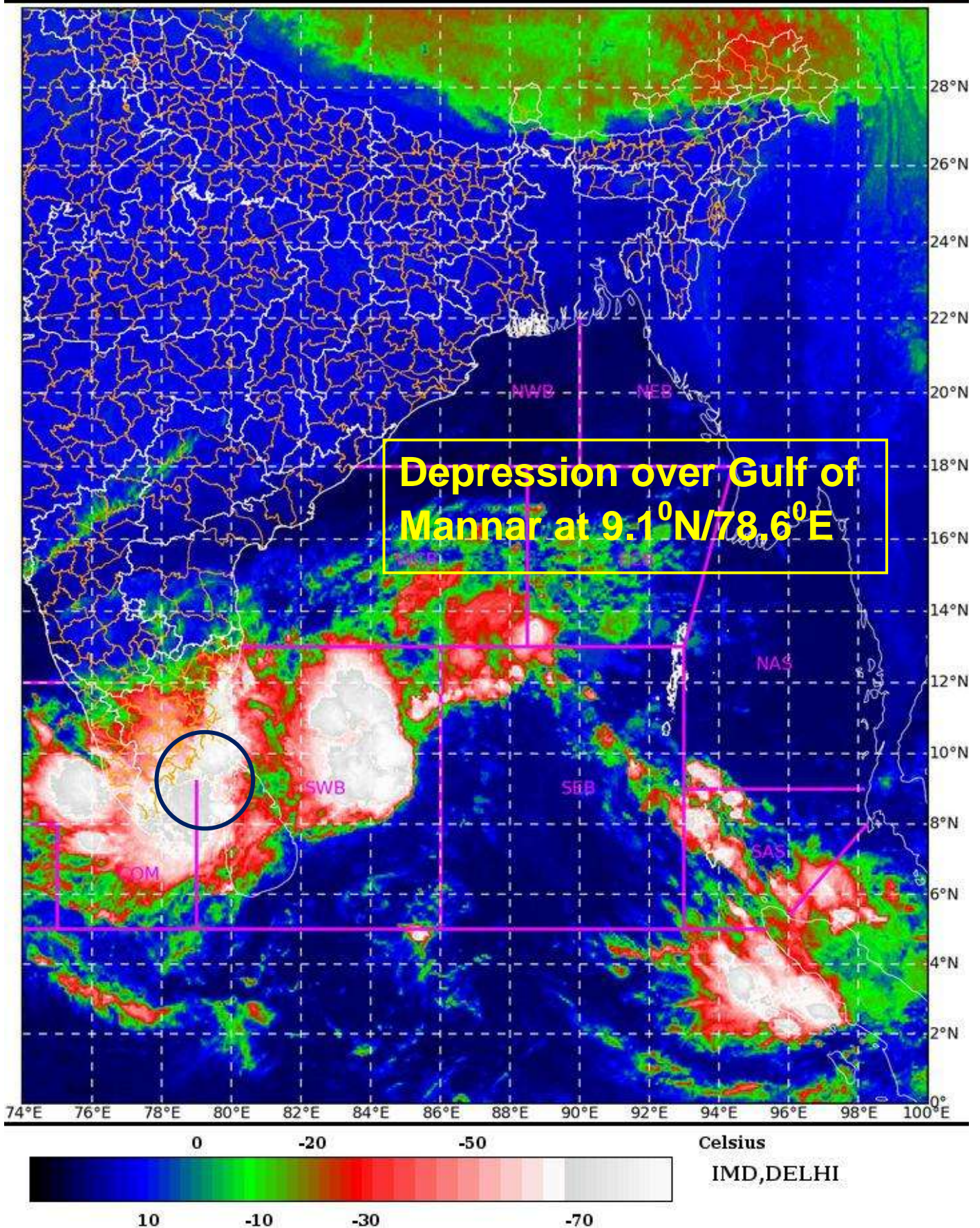
SAT : INSAT-3D IMG

05-12-2020/(0100 to 0126) GMT

IMG_TIR1_TEMP 10.8 um

05-12-2020/(0630 to 0656) IST

L1C Mercator

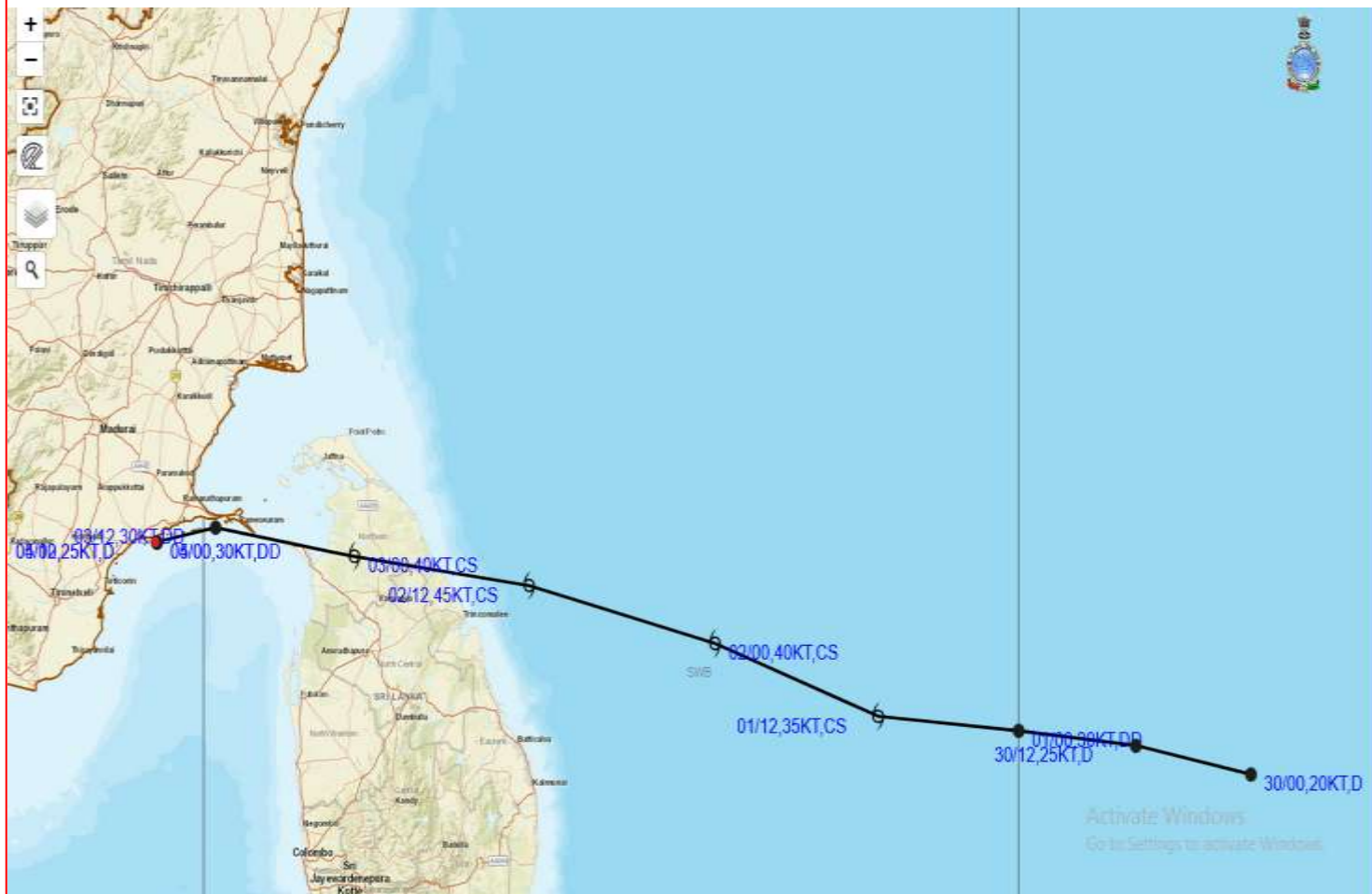


Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%

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



OBSERVED TRACK OF DEPRESSION OVER GULF OF MANNAR BASED ON 0000 UTC OF 5TH DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)



LESS THAN 34 KT



34-47 KT



≥ 48 KT



OBSERVED TRACK



FORECAST TRACK



CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 35 (BOB/05/2020)

TIME OF ISSUE: 1100 HOURS IST

DATED: 05.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression over Gulf of Mannar

The Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary during past 33 hours and lay centered at 0830 hrs IST of 05th December over Gulf of Mannar near Lat. 9.1°N and Long. 78.6°E close to Ramanathapuram District coast, about 40 km southwest of Ramanathapuram, 70 km west-southwest of Pamban. The associated wind speed is about 40-50 gusting to 60 kmph.

The Depression is likely to remain practically stationary over the same region and weaken into a Well Marked Low Pressure Area during next 12 hours.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places very likely over Tamilnadu & Puducherry on 05th & 06th December.
- Heavy rainfall at isolated places over south Kerala & Mahe on 05th and heavy to very heavy rainfall at isolated places very likely over Kerala on 06th December.
- Heavy to very heavy rainfall at isolated places very likely over Lakshadweep on 05th & 06th December.

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.

Sub-Divisions	05 Dec 2020*	06 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
South Kerala	Rainfall at most places with heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
North Kerala & Mahe	Rainfall at many places	Rainfall at most places with heavy to very heavy falls at isolated places
Lakshadweep	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 40-50 kmph gusting to 60 kmph is very likely over Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during next 12 hours. It will gradually decrease to 35-45 kmph gusting to 55 kmph for subsequent 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

(iii) Sea condition

- Sea condition will be rough to very rough over Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) on 5th December and improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

(iv) Fishermen warning and Action suggested

- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast on 5th.
- Fishermen are advised not to venture into Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

The next bulletin will be issued at 1430 hrs IST of today, the 05th December, 2020.

(R K Jenamani)
Scientist-F, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

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.

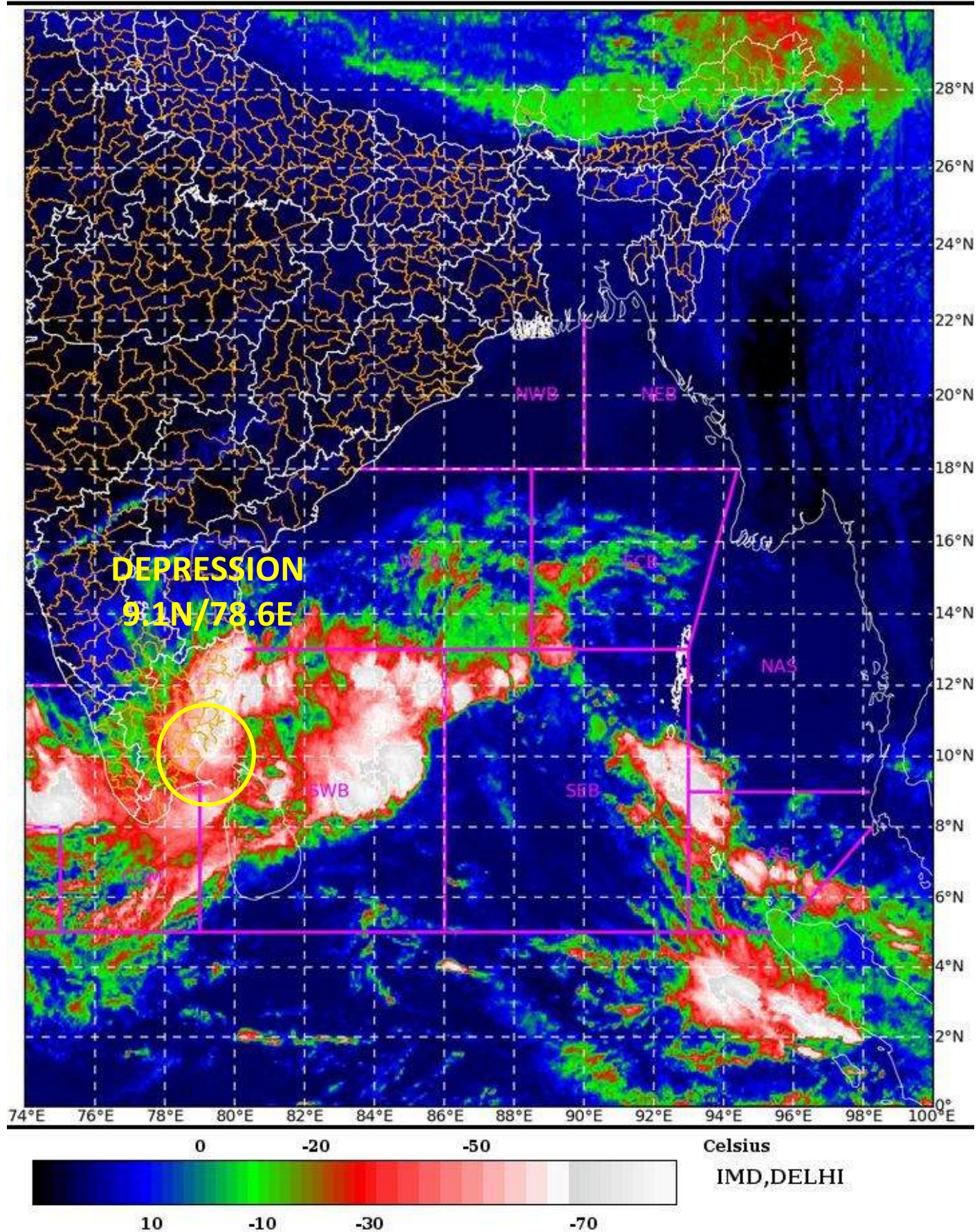
SAT : INSAT-3D IMG

05-12-2020/(0430 to 0457) GMT

IMG_TIR1_TEMP 10.8 um

05-12-2020/(1000 to 1027) IST

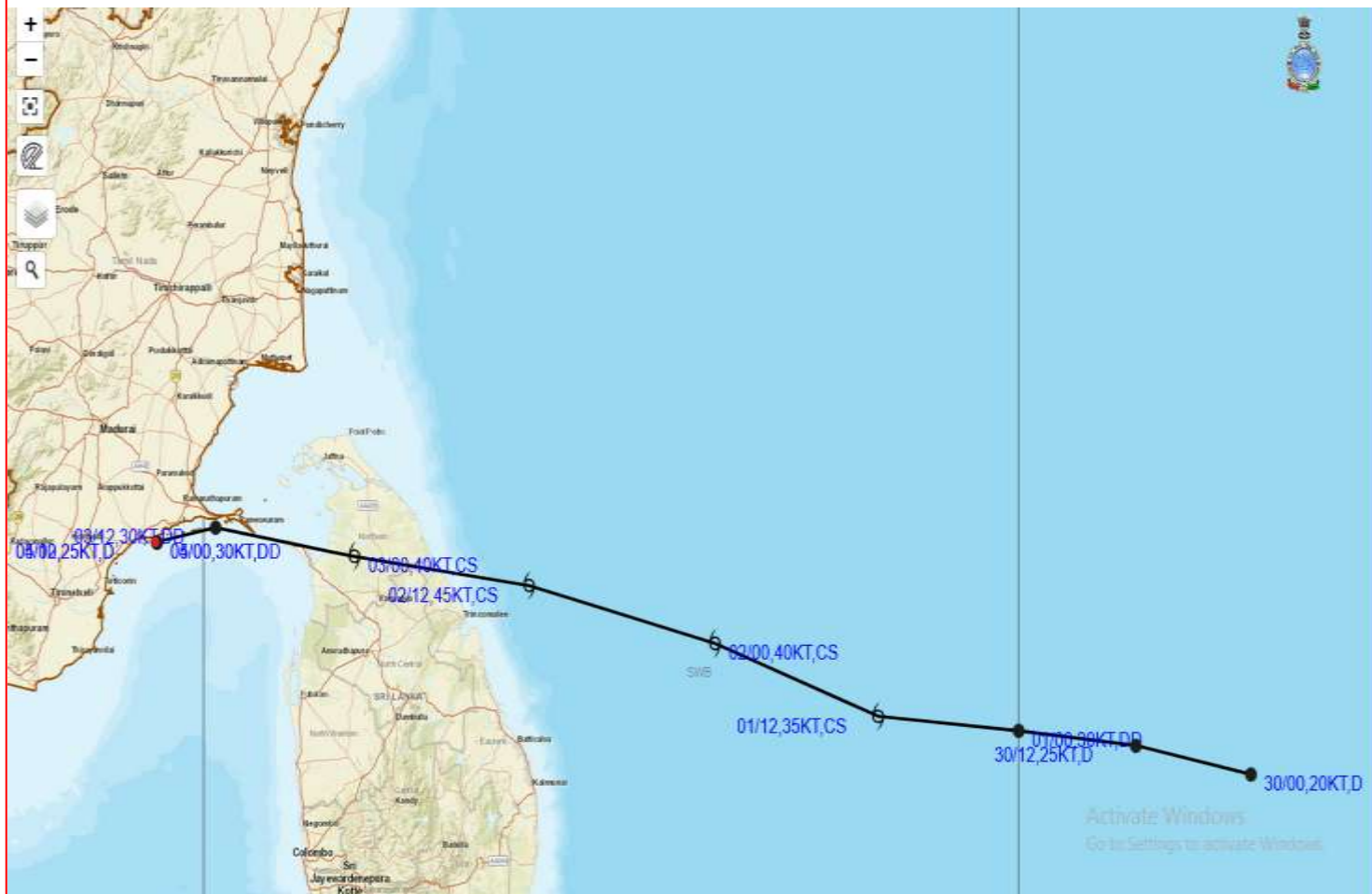
L1C Mercator



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 TRACK OF DEPRESSION OVER GULF OF MANNAR BASED ON 0300 UTC OF 5TH DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)

● LESS THAN 34 KT

○ 34-47 KT

⊙ ≥ 48 KT

— OBSERVED TRACK

— FORECAST TRACK

▲ CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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
(Ministry of Earth Sciences)
BULLETIN NO. : 36 (BOB/05/2020)

TIME OF ISSUE: 1400 HOURS IST

DATED: 05.12.2020

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, KARNATAKA (FAX NO. 080-22256360, 22258913)
CHIEF SECRETARY, KERALA (FAX NO. 0471-233315)
CHIEF SECRETARY, LAKSHADWEEP ISLANDS (FAX NO. 04896-262184)
CHIEF SECRETARY, ANDAMAN & NICOBAR ISLANDS (FAX NO. 03192- 232656)
CHIEF SECRETARY, ANDHRA PRADESH (FAX NO. 0863-2441029, 08645-246600)
CHIEF SECRETARY, TAMIL NADU (FAX NO. 044-25672304)
CHIEF SECRETARY, PUDUCHERRY (FAX NO. 0413-2337575, 2334145)

Sub: Depression weakened into Well Marked Low Pressure Area over Gulf of Mannar

The Depression over Gulf of Mannar close to Ramanathapuram District coast remained practically stationary, weakened into a Well Marked Low Pressure Area and lay centered over Gulf of Mannar at 1130 hrs IST of today, the 05th December. The associated wind speed is about 30-40 gusting to 50 kmph.

Warnings:

(i) Rainfall

- Heavy to very heavy rainfall at isolated places very likely over Tamilnadu & Puducherry on 05th & 06th December.
- Heavy rainfall at isolated places over south Kerala & Mahe on 05th and heavy to very heavy rainfall at isolated places very likely over Kerala on 06th December.
- Heavy to very heavy rainfall at isolated places very likely over Lakshadweep on 05th & 06th December.

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.

Sub-Divisions	05 Dec 2020*	06 Dec 2020*
Tamilnadu, Puducherry & Karaikal	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
South Kerala	Rainfall at most places with heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places
North Kerala & Mahe	Rainfall at many places	Rainfall at most places with heavy to very heavy falls at isolated places
Lakshadweep	Rainfall at most places with heavy to very heavy falls at isolated places	Rainfall at most places with heavy to very heavy falls at isolated places

(ii) Wind warning

- Squally wind speed reaching 30-40 kmph gusting to 50 kmph is very likely over Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) during next 12 hours.
- Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely over Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

(iii) Sea condition

- Sea condition will be rough to very rough over Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast (Ramanathapuram, Thoothukudi, Tirunelveli and Kanniyakumari districts) on 5th December and improve thereafter.
- Sea condition will be rough to very rough over Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

(iv) Fishermen warning and Action suggested

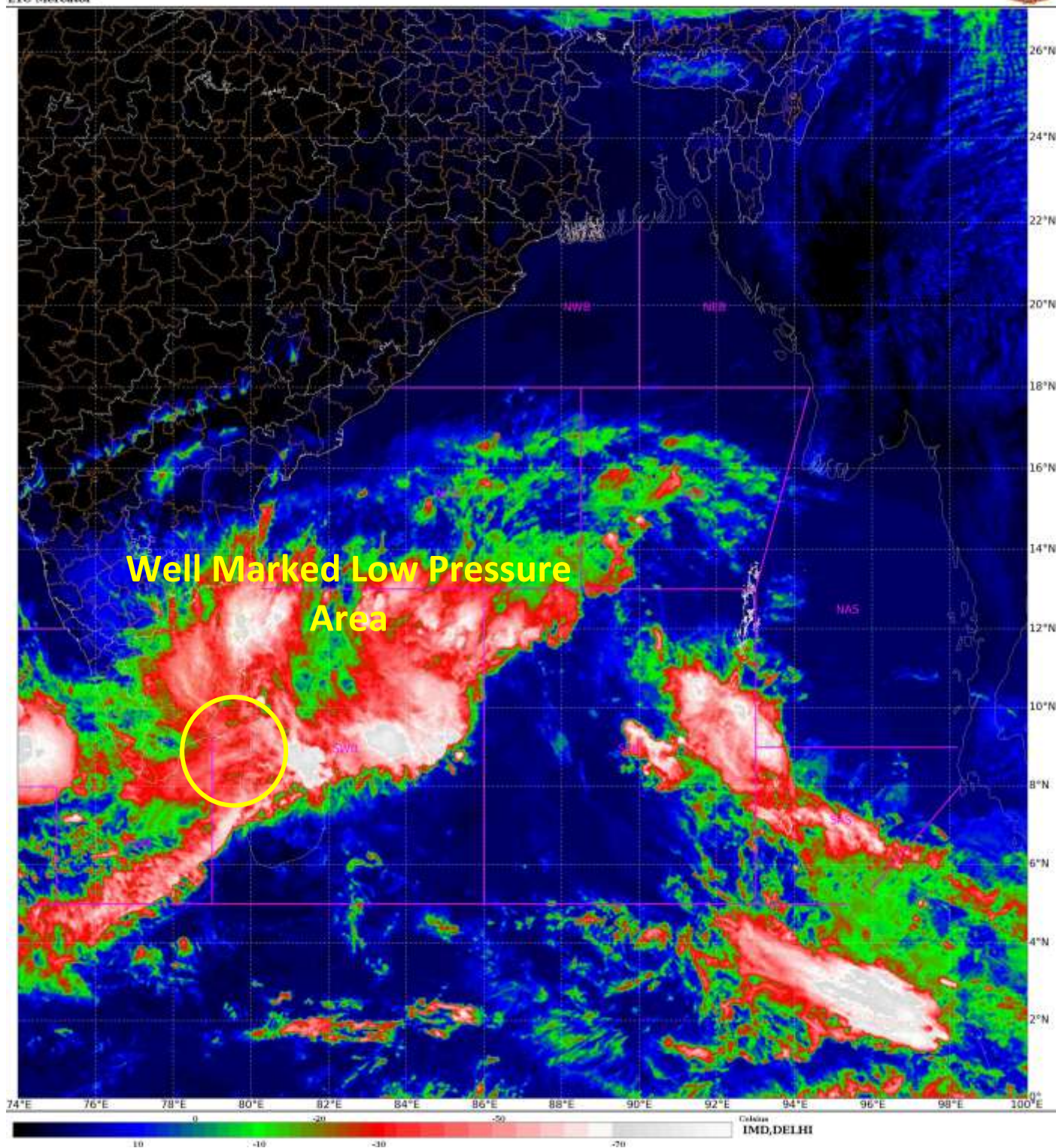
- Fishermen are advised not to venture into Gulf of Mannar & adjoining southwest Bay of Bengal, along & off south Tamilnadu coast on 5th.
- Fishermen are advised not to venture into Lakshadweep-Maldives & Comorin area, southeast Arabian Sea and along & off south Kerala coast on 5th and 6th December.

This is the last Bulletin pertaining to this System. However, Regular weather Bulletins will continue from the National Weather Forecasting Centre, New Delhi, RMC Chennai and MC Thiruvananthapuram in association with the Low Pressure System.

(Krishna Mishra)
Scientist-C, RSMC, New Delhi

Copy to: ACWC Kolkata/Chennai/CWC Bhubaneswar/CWC Visakhapatnam/CWC Thiruvananthapuram

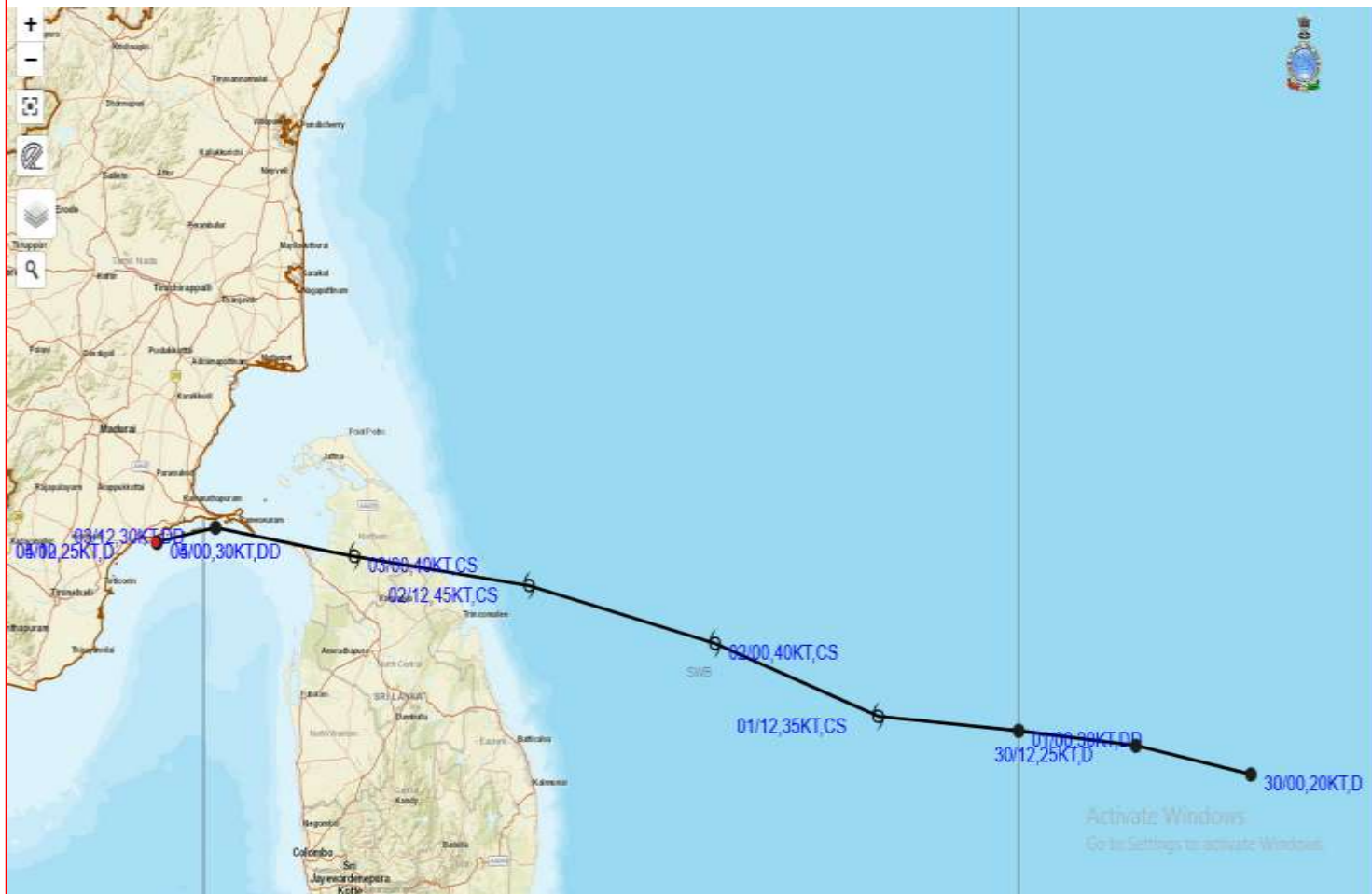
Spatial rainfall distribution: Isolated: ≤25%, A few: 26-50%, Many: 51-75%, Most: 76-100%
Rainfall amount (mm): Heavy rain: 64.5 – 115.5, Very heavy rain: 115.6 – 204.4, Extremely heavy rain: 204.5 or more.



Spatial rainfall distribution: Isolated: $\leq 25\%$, 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 TRACK OF CYCLONIC STORM BUREVI OVER BAY OF BENGAL DURING 30TH NOVEMBER - 05TH DECEMBER, 2020.



DATE/TIME IN UTC

IST=UTC + 0530

L: LOW PRESSURE AREA

WML: WELL MARKED LOW PRESSURE AREA

D: DEPRESSION (17-27 KT)

DD: DEEP DEPRESSION (28-33 KT)

CS: CYCLONIC STORM (34-47 KT)

SCS: SEVERE CYCLONIC STORM (48-63 KT)

VSCS: VERY SEVERE CYCLONIC STORM (64-89 KT)

ESCS: EXTREMELY SEVERE CYCLONIC STORM (90-119 KT)

SuCS: SUPER CYCLONIC STORM (≥ 120 KT)



LESS THAN 34 KT



34-47 KT



≥ 48 KT



OBSERVED TRACK



FORECAST TRACK



CONE OF UNCERTAINTY

Spatial rainfall distribution: Isolated: $\leq 25\%$, 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.