Government of India
Earth System Science Organization
Ministry of Earth Sciences
India Meteorological Department

Press: Dated: 16 Dec, 2021

Subject: Current Weather Status and Extended range Forecast for next two weeks (16-29 Dec 2021)

1. Salient Features for week ending on 15 Dec 2021

- No major heavy rainfall event was observed during the week over any parts of India due to absence of major weather systems affecting the region
- No cold wave was observed during the week over any parts of India. **However, isolated dense to very dense fog was reported towards end of the week from isolated pockets of Punjab on 15th morning. Amritsar airport reported 1st time in this season a prolonged very dense fog hours of almost 19-hours with visibility of <50m for very longer period during since 1730 hrs IST of 15th till till1230 hrs IST of 16th Dec.**
- Rainfall distribution during the current week of 9-15 Dec 2021 and Post-monsoon Rainfall Scenario (01 Oct to 15 Dec, 2021): During the week ending on 15 Dec 2021, for the country as a whole, the weekly cumulative All India Rainfall departure from its long period average (LPA) during the week was **-56%** with weekly cumulative over south Peninsular India reported above normal of **-24%,** while all India cumulative rainfall during this year's post-monsoon season till 15 Dec, 2021 is above LPA by **+48%** and over south Peninsular India, it is above LPA by **+66%**. Details of the rainfall distribution over the four broad geographical regions of India are given in **Table 1** and Meteorological sub-division-wise rainfall both for week and season are given in Annex I and II respectively.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	09.12.2021 TO 15.12.2021			01.10.2021 TO 15.12.2021		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	2.4	4.6	-49%	177.1	160.4	+10%
NORTH-WEST INDIA	0.0	4.3	-100%	75.7	41.4	+83%
CENTRAL INDIA	0.7	2.1	-65%	96.3	73.7	+31%
SOUTH PENINSULA	7.1	9.4	-24%	441.7	265.9	+66%
country as a whole	2.0	4.6	-56%	170.8	115.3	+48%

2. Large scale features

- Currently La Niña conditions are prevailing over the Equatorial Pacific Ocean and neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The latest global model forecasts indicate that the La Niña conditions are likely to prevail until March 2022 and neutral IOD conditions are likely to continue during the upcoming seasons.
- The Madden Julian Oscillation (MJO) index currently lies in Phase 6 with amplitude more than 1. It is likely to continue in same phase during early part of week 1. Thereafter, it will enter into phase 7 with amplitude remaining more than 1 during rest of the forecast period. Thus, MJO phase is not conducive for enhancement of convective activity and hence cyclogenesis over the Bay of Bengal (BoB) and the Arabian Sea (AS) during entire forecast period.

4. Forecast for next two week

Weather systems & associated Precipitation during Week 1 (16 to 22 December, 2021) and Week 2 (23 to 29 December, 2021)

Rainfall for week 1 (16 to 22 December, 2021):

- A Western Disturbance as a cyclonic circulation lies over north Pakistan & neighbourhood in middle & upper tropospheric levels. Under its influence; light to moderate rainfall/snowfall at isolated places very likely over Jammu, Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand during next 2 days and isolated light rainfall over northern parts of Punjab, Haryana on today the 16th December.
- A fresh Western Disturbance likely to affect Western Himalayan Region from 22nd December and it is very likely to cause isolated to scattered rainfall/snowfall over Western Himalayan region on 22nd & 23rd December.
- Light rainfall at isolated places very likely over Tamilnadu-Puducherry-Karaikal during 1st half of the week and over Kerala-Mahe during next 5-6 days.
- A cyclonic circulation lies over Equatorial Indian Ocean to the south of Sri Lanka and extends upto 5.8 km above mean sea level. Under its influence, a Low Pressure Area is likely to form over Equatorial Indian Ocean & adjoining Southwest Bay of Bengal during next 48 hours.
- Light to moderate rainfall at a few/many places over Andaman & Nicobar Islands during the week and heavy rainfall at isolated places is also likely over Nicobar Islands on 20th & 21st December, 2021.
- Squally weather (wind speed 40-50 kmph gusting to 60 kmph) very likely over Equatorial Indian Ocean & adjoining South Bay of Bengal during 19th to 21st December. Fishermen are advised not to venture into these areas during same period.
- Dry weather very likely over remaining parts of the country during next 5 days.

Rainfall for week 2 (23 to 29 December, 2021):

- A Western Disturbance is likely to affect Western Himalayan Region & adjoining plains from 24th December and it is likely to cause light/moderate scattered to fairly widespread rainfall/snowfall over Western Himalayan region and light light/moderate isolated to scattered rainfall over plains of northwest India & over adjoining areas of central India during 1st half of the week.
- Rainfall activity is likely to be above normal over northwest, central & east India; and below normal likely over south Peninsular India.

Minimum Temperatures for week 1(16 to 22 December, 2021) and week 2(23 to 29 December, 2021)

Minimum Temperatures, cold wave and fog for Week 1(16 to 22 December, 2021):

- Minimum temperatures are below normal by 2° to 4°C over many parts of Western Himalayan Region, Punjab, Haryana, West Rajasthan, Bihar and Saurashtra & Kutch. These are near normal or above normal over most parts of rest India.
- Minimum temperatures are very likely to fall by 2-4°C over most parts of Northwest & adjoining Central India and Gujarat State during 1st half of the week and rise by 2-3°C over most parts of northwest India thereafter. It is likely to fall by 2-3°over most parts of East India & Maharashtra during 1st half of the week and no significant change thereafter.
- No significant change in minimum temperatures likely over rest parts of the country during the week.
- Overall, these are likely to be below normal over most parts of the country except many parts of south Peninsular India & northeastern states, where these are likely to be near normal or slightly above normal.
- Cold Wave/Severe Cold Wave conditions very likely over Punjab, Haryana, Chandigarh and Saurashtra & Kutch during 17th to 21st; over north Rajasthan during 18th to 21st; over West Uttar Pradesh during 19th to 21st and over Gujarat region on 19th & 20th December, 2021.
- Dense/Very dense fog in the morning hours at isolated pockets over Punjab and Haryana on 17th & 18th; over northwest Rajasthan, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 17th December, 2021.

Minimum Temperatures for week 2 (23 to 29 December, 2021):

- Due to likely influence of Western Disturbance, rise in minimum temperatures very likely over the most parts of northwest India.
- These are likely to be normal to above normal over most parts of northwest, east & Peninsular India and slightly below normal over central India.
- No significant cold wave is likely over any parts of the country. (Refer Annex IV)

5. Cyclogenesis forecast for North Indian Ocean during next 2 weeks

Most of the models including IMD GFS, NCEP GFS, GEFS, NCUM, NEPS, ECMWF and ECMWF ensemble and the current environmental conditions indicate,a low pressure area is likely to form over EIO and adjoining southwest BoB during next 48 hours with east-northeastwards movement subsequently. There is also low probability of it's intensification into a depression during later part of week 1 (around 21st December).

Next weekly update will be issued on next Thursday i.e. 23 Dec 2021

Legends: **Heavy Rain:** 64.5 to 115.5 mm **Very Heavy Rain:** 115.6 to 204.4 mm, **Extremely Heavy Rain** > 204.4 mm

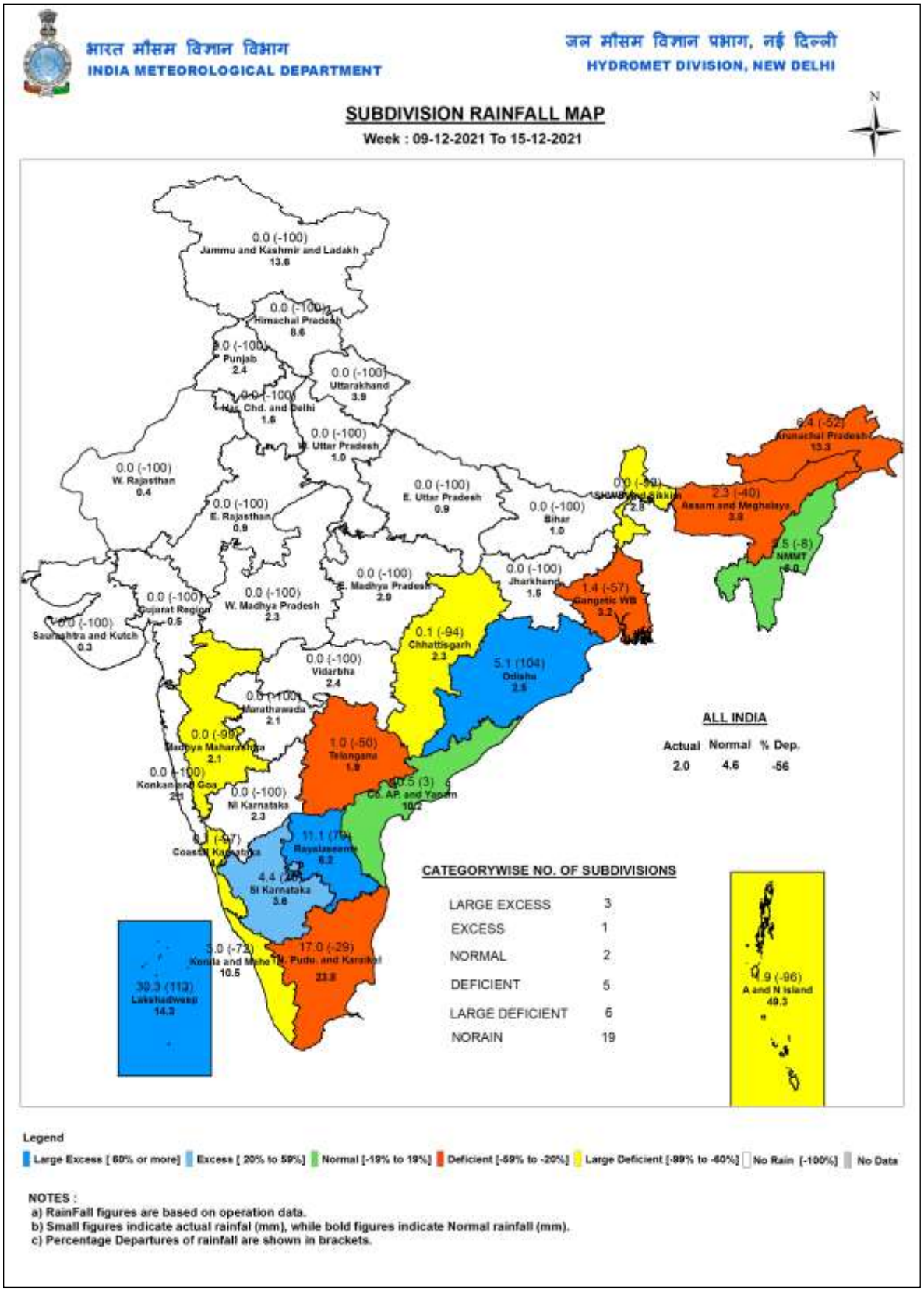
SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

Annex I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INDIA METEOROLOGICAL DEPARTMENT
जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI
SUBDIVISION RAINFALL MAP
Week : 09-12-2021 To 15-12-2021
N
0.0 (-100) Jammu and Kashmir and Ladakh 13.6
0.0 (-100) Himachal Pradesh 8.6
0.0 (-100) Punjab 2.4
0.0 (-100) Uttarakhand 3.9
0.0 (-100) Hry. Chd. and Delhi 1.6
0.0 (-100) W. Uttar Pradesh 1.0
0.0 (-100) W. Rajasthan 0.4
0.0 (-100) E. Rajasthan 0.9
0.0 (-100) E. Uttar Pradesh 0.9
0.0 (-100) Bihar 1.0
0.0 (-100) Sikkim 2.8
2.3 (-40) Assam and Meghalaya 3.8
6.4 (-52) Arunachal Pradesh 13.3
5.5 (-8) NMMT 6.0
0.0 (-100) Jharkhand 1.6
1.4 (-57) Gangetic WB 3.2
0.0 (-100) E. Madhya Pradesh 2.9
0.0 (-100) W. Madhya Pradesh 2.3
0.0 (-100) Gujarat Region 0.5
0.0 (-100) Saurashtra and Kutch 0.3
0.1 (-94) Chhattisgarh 2.3
5.1 (104) Odisha 2.5
0.0 (-100) Vidarbha 2.4
0.0 (-100) Marathawada 2.1
0.0 (-99) Madhya Maharashtra 2.1
0.0 (-100) Konkan and Goa 2.1
1.0 (-50) Telangana 1.9
0.0 (-100) N. Karnataka 2.3
0.5 (3) Co. AP. and Yanam 10.2
11.1 (70) Rayalaseema 6.2
4.4 (-26) S. Karnataka 3.8
3.0 (-72) Kerala and Mahe 10.5
17.0 (-29) T.N. Pudu. and Karaikal 23.8
39.3 (112) Lakshadweep 14.3
0.9 (-96) A and N Island 49.3
ALL INDIA
Actual Normal % Dep.
2.0 4.6 -56
CATEGORYWISE NO. OF SUBDIVISIONS
LARGE EXCESS 3
EXCESS 1
NORMAL 2
DEFICIENT 5
LARGE DEFICIENT 6
NORAIN 19
Legend
Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data
NOTES :
a) RainFall figures are based on operation data.
b) Small figures indicate actual rainfal (mm), while bold figures indicate Normal rainfall (mm).
c) Percentage Departures of rainfall are shown in brackets.

Annexure II

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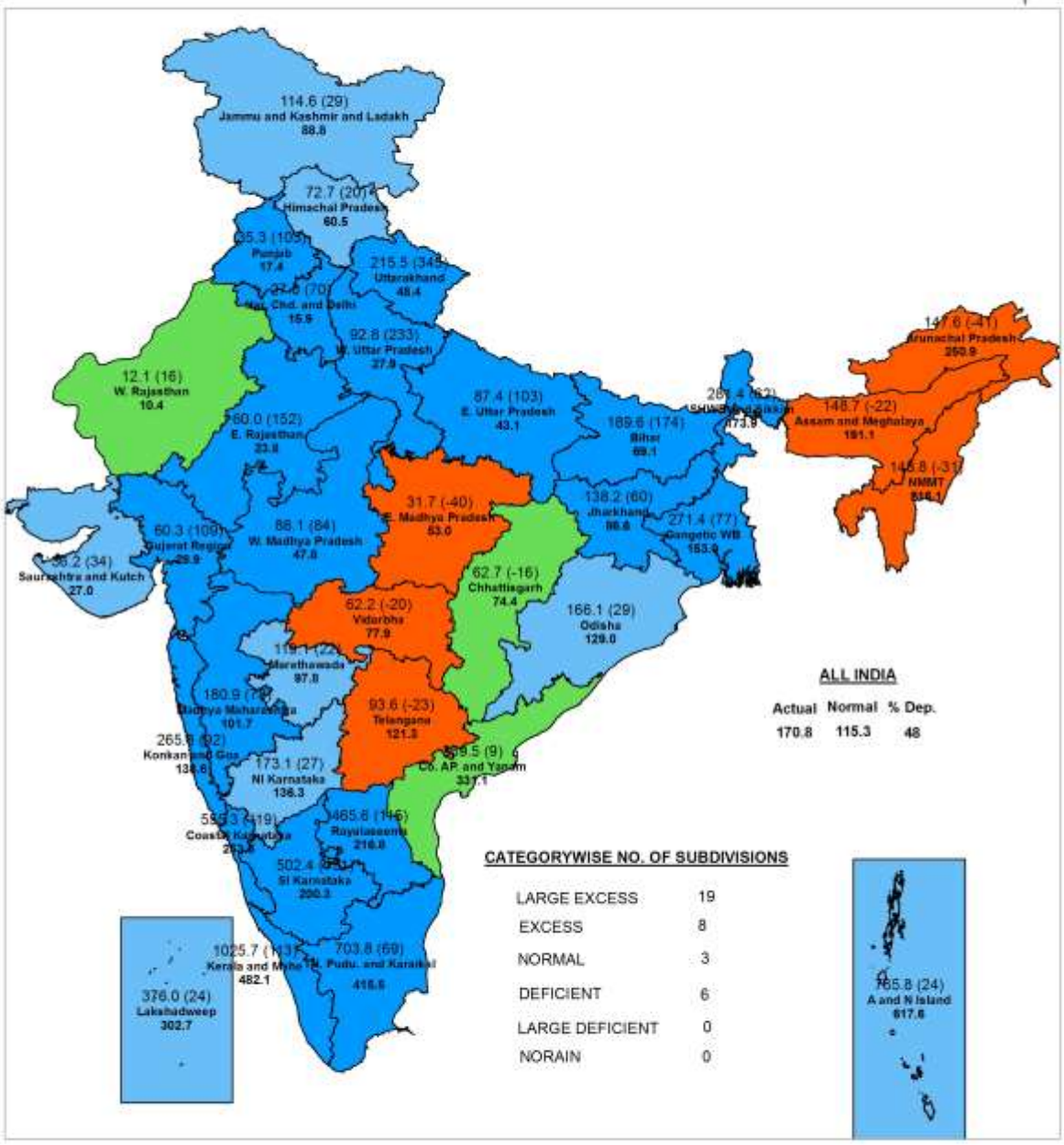
INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-10-2021 To 15-12-2021

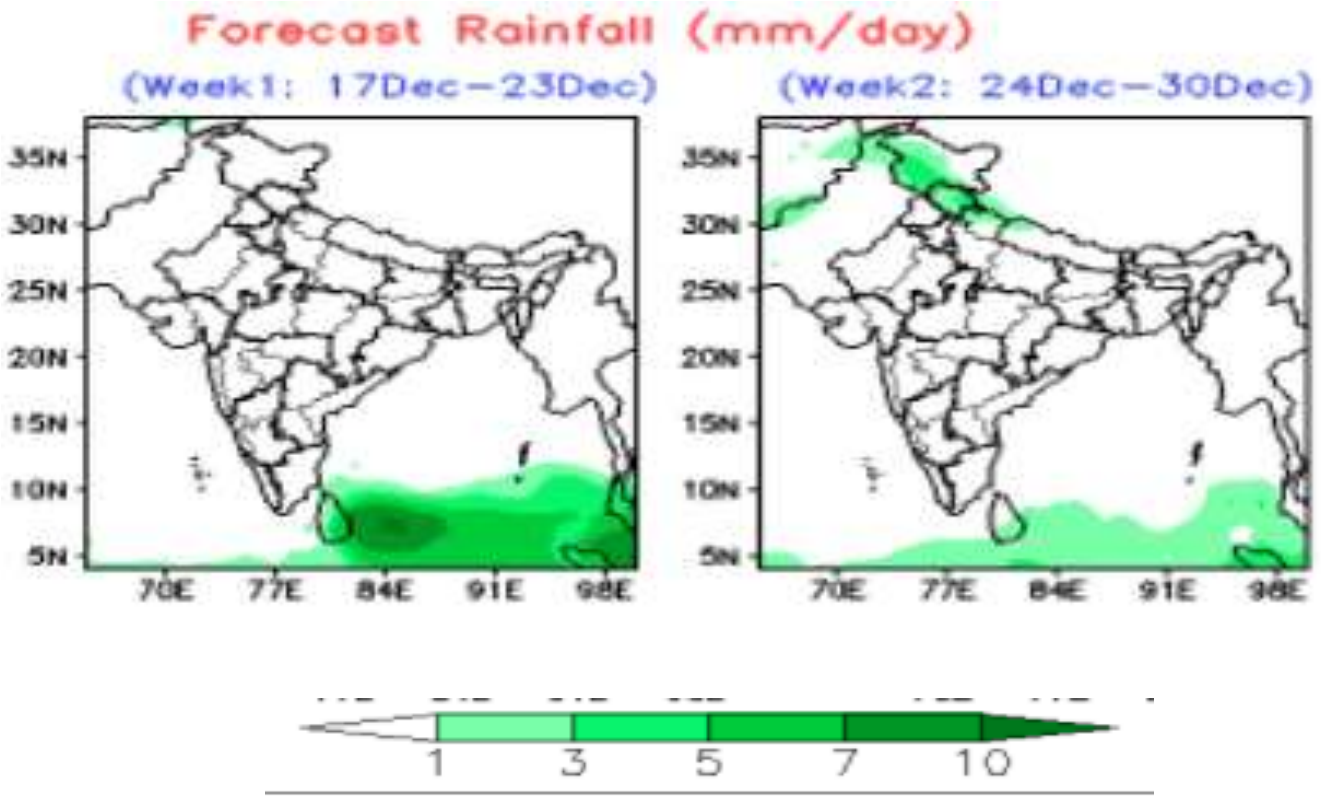


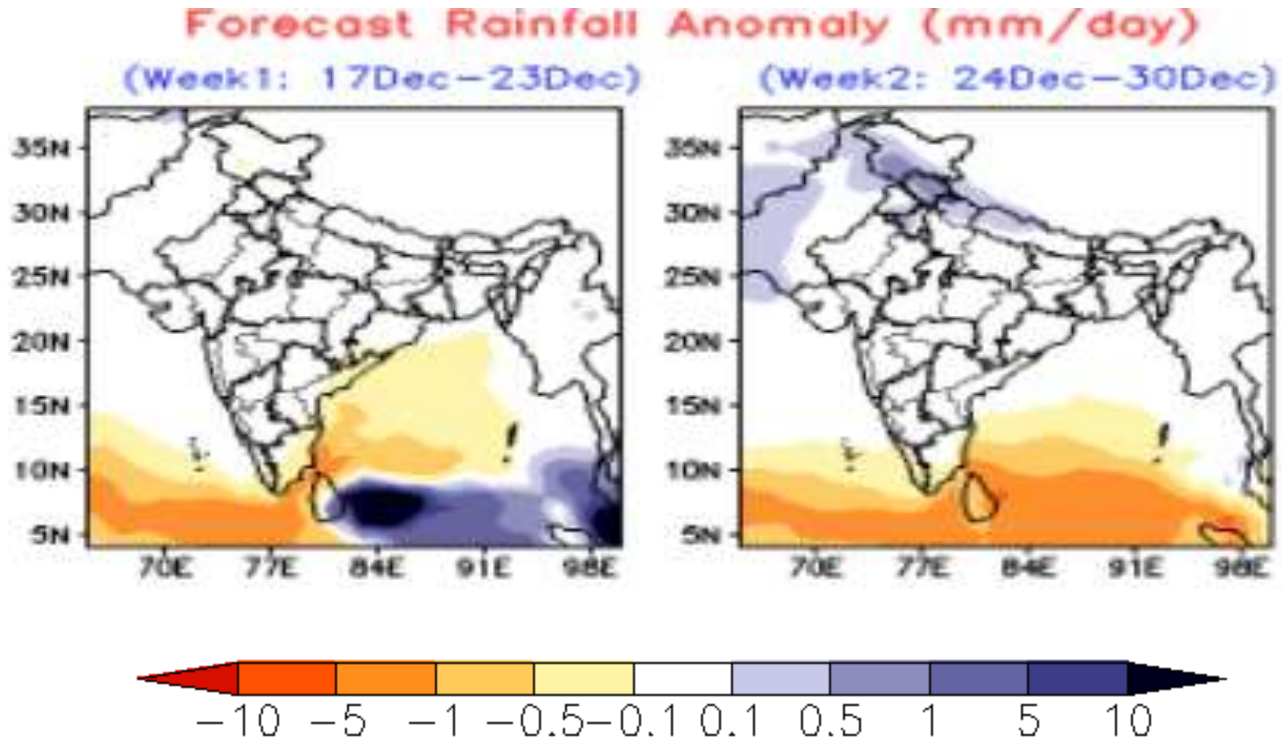
Legend

Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data

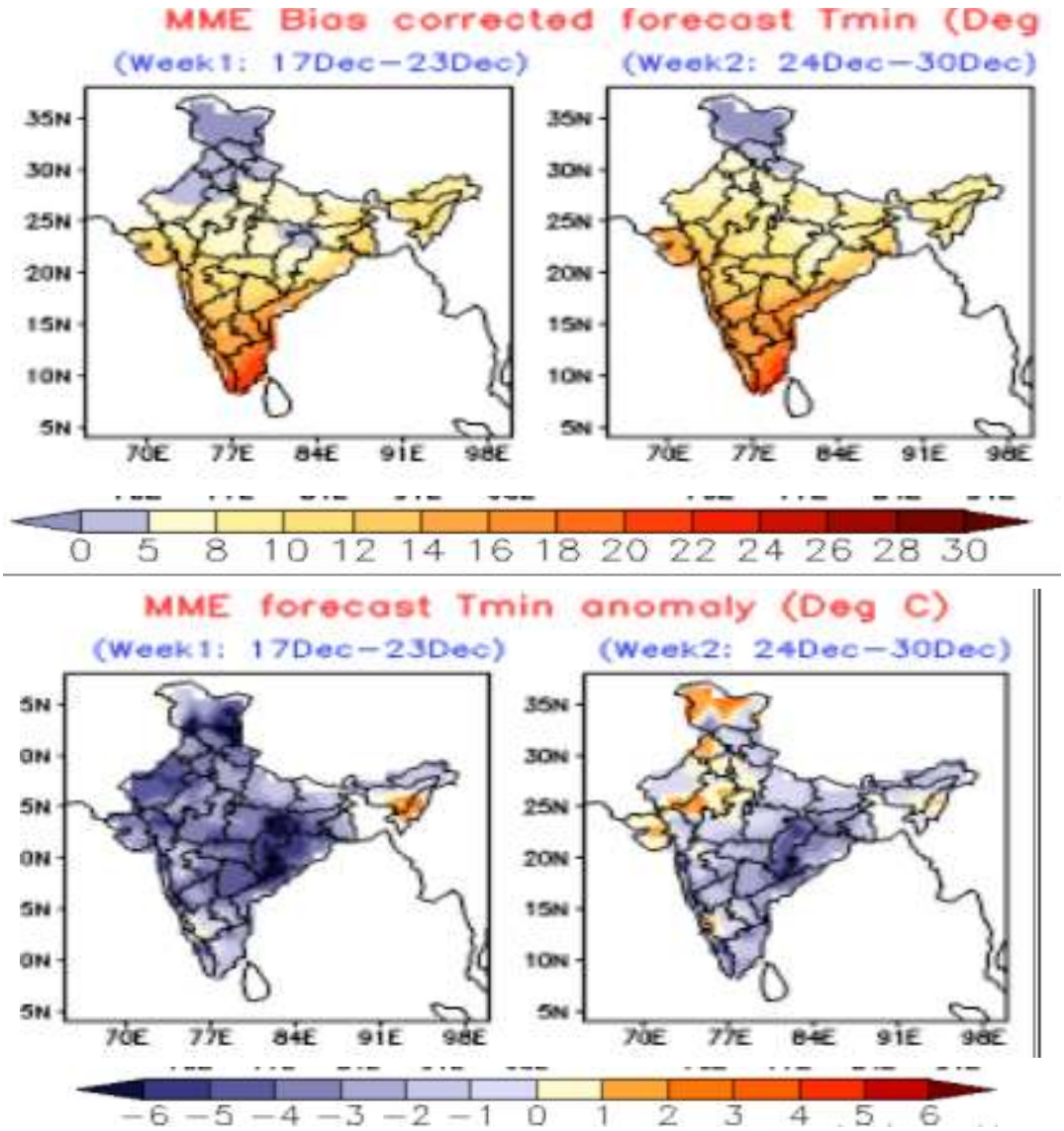
NOTES :
a) RainFall figures are based on operation data.
b) Small figures indicate actual rainfal (mm), while bold figures indicate Normal rainfall (mm).
c) Percentage Departures of rainfall are shown in brackets.

Annex III


Forecast Rainfall (mm/day)
(Week1: 17Dec–23Dec)
(Week2: 24Dec–30Dec)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
1
3
5
7
10


Forecast Rainfall Anomaly (mm/day)
(Week1: 17Dec–23Dec)
(Week2: 24Dec–30Dec)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
−10
−5
−1
−0.5
−0.1
0.1
0.5
1
5
10

Annex IV


MME Bias corrected forecast Tmin (Deg
(Week1: 17Dec−23Dec)
(Week2: 24Dec−30Dec)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
0 5 8 10 12 14 16 18 20 22 24 26 28 30
MME forecast Tmin anomaly (Deg C)
(Week1: 17Dec−23Dec)
(Week2: 24Dec−30Dec)
−6 −5 −4 −3 −2 −1 0 1 2 3 4 5 6