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

Press: Dated: 16 Sept, 2021

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

1. Salient Features

- The first Monsoon Depression during the Season formed over Northwest Bay of Bengal, became a Deep Depression, crossed north Odisha coast, close to south of Chandbali in the early morning of 13th September. It moved across Odisha & north Chhattisgarh, during 13th – 14th Sept., and weakened into a Well Marked Low Pressure Area over northeast Madhya Pradesh on 15th. It caused active to vigorous monsoon conditions leading to extremely heavy rainfall at a few places over Odisha on 12th & 13th, at isolated places over Chhattisgarh on 13th and over East Madhya Pradesh on 14th. In conjunction with another low pressure area over Gujarat, extremely heavy rainfall at a few places also occurred over Saurashtra and north Konkan on 13th September. Low level convergence of wind & enhanced moisture incursion from the Bay of Bengal in association with a trough extending eastwards across the system also caused extremely heavy rains at isolated places over West Bengal on 14th September.
- Another low pressure system and its remnant also moved from central parts of Madhya Pradesh to south Gujarat region during the week.
- Due to presence and movement of these two monsoon disturbances during the week, monsoon trough remained south of the normal position and was active during all days of the week.
- **During the week ending on 15 Sept 2021, the monsoon remained active mainly over central and northwest India. The weekly cumulative monsoon rainfall**

departure from its long period average(LPA) during the week ending on 15 Sept 2021 over these regions, were +150% and +53% respectively. The all India seasonal monsoon rainfall departure from its LPA, for the period from 1 June till 15 Sept, has improved to -4% from -7% which was till the 8 Sept.

2. Rainfall during the week 9-15 Sept 2021

During the week ending on 15 Sept 2021, weekly cumulative monsoon rainfall departure from its long period average(LPA) over central and northwest India were very high with +150% and +53% respectively. Due to such active monsoon in the week, all India monsoon rainfall departure from its LPA, for the period from 1 June till 15 Sept, has improved to -4% from -7% till 8th Sept. (Refer Annex I, for week by week all India rainfall progress and Seasonal cumulative rainfall departure from LPA). This is the 2nd consecutive week, when all India rainfall departure from LPA has remained above normal. Details of the rainfall distribution over the four broad geographical regions of India are given in **Table 1** and Met sub-division-wise rainfall both for week and season are given in Annex II and III.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	09.09.2021 TO 15.09.2021			01.06.2021 TO 15.09.2021		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	53.2	72.8	-27%	1136.5	1278.0	-11%
NORTH-WEST INDIA	47.0	30.8	53%	501.9	561.6	-11%
CENTRAL INDIA	112.2	44.9	150%	882.3	907.4	-3%
SOUTH PENINSULA	24.9	33.6	-26%	713.8	638.7	12%
country as a whole	65.6	42.9	53%	772.7	807.4	-4%

3. Large scale features

- Neutral El-Nino Southern Oscillation (ENSO) conditions were observed over the equatorial Pacific. In the month, Equatorial SSTs were near-to-below average across most of the equatorial Pacific Ocean, and were above-average in the western and far eastern Pacific Ocean, Atlantic Ocean, and near Indonesia. The latest global model forecasts indicate that the current neutral ENSO conditions are likely to continue during the month over the equatorial Pacific Ocean. However, sea surface temperatures over central and east equatorial Pacific Ocean is showing cooling tendency.
- Negative Indian Ocean Dipole (IOD) conditions prevailed over the Indian Ocean.
- The madden Julian oscillation (MJO) index currently lies currently lies in Phase 3 with amplitude more than 1. It is likely to continue in same phase with amplitude gradually decreasing but remaining more than 1 during first half of week 1 and becoming less than 1 during later part of week 1. Thereafter, it will enter in phase 4 with amplitude becoming less than 1 during week 2. The MJO will thus support enhancement of convective activity during weeks 1 & 2 and support favorable monsoon conditions Bay of Bengal.

4. Forecast for next two week

Refer Annexure IV

Forecast for next two weeks: Week 1 (16 to 22 September, 2021) and Week 2 (23 to 29 September, 2021)

Likely weather systems and Rainfall for week 1: (16 to 22 September, 2021)

- A Well marked Low Pressure Area lies over central parts of north Madhya Pradesh & neighbourhood with associated cyclonic circulation extending upto mid tropospheric levels. It is very likely to weaken gradually during next 2 days. However, the associated cyclonic circulation is very likely to persist during subsequent 2-3 days.
- A trough runs from Northwest Arabian Sea to the cyclonic circulation associated with the well marked Low Pressure Area over central parts of north Madhya Pradesh and extends upto lower tropospheric levels.
- The monsoon trough lies south of its normal position. It is very likely to remain south of its normal position during most days of the week.

- A cyclonic circulation lies over Eastcentral Bay of Bengal & adjoining Myanmar coast and extends upto mid tropospheric levels tilting south-westwards with height. It is very likely to move west-northwestwards and reach Northwest Bay of Bengal off north Odisha-West Bengal coasts around 18th September, 202**1 and then movewestnorthwestwards across north Odisha, Jharkhand, north Chhatisgarh and north Madhya Pradesh during subsequent 2-3 days.**
- Due to above meteorological conditions:

- ✓ Under the influence of Well Marked Low Pressure area & associated cyclonic circulation and active monsoon trough; widespread rainfall with isolated heavy to very heavy & **extremely heavy falls** very likely over Uttar Pradesh today, the 16th September, scattered rainfall with isolated heavy falls on 17th September and decrease thereafter. Fairly widespread rainfall with **isolated heavy to very heavy falls** very likely over West Madhya Pradesh on 16th & 17th and isolated heavy falls from 18th to 21st September. Fairly widespread rainfall with **isolated heavy to very heavy falls** very likely over Uttrakhand today, the 16th September and with isolated heavy falls during 19th to 22nd September. Fairly widespread with **isolated heavy falls** is also likely over Haryana & Chandigarh today, the 16th September and decrease thereafter. Fairly widespread rainfall activity with isolated heavy falls very likely over East Rajasthan & Gujarat region on 16th & 17th and increase in intensity with isolated heavy to very heavy falls from 18th to 22nd September. Rainfall activity is also likely to increase over West Rajasthan and Saurashtra & Kutch with possibility of isolated heavy falls from 18th to 20th September.
- ✓ Rainfall activity is likely to increase over Odisha & Gangetic West Bengal with fairly widespread to widespread rainfall & isolated heavy falls over above areas from 18th to 20th September, and over Chhattisgarh, East Madhya Pradesh & Jharkhand during 20th to 22nd September, 2021.
- ✓ Fairly widespread rainfall with isolated heavy falls is also likely over northeastern states and Sub-Himalayan West Bengal & Sikkim on 16th & 17th September and decrease in intensity & distribution thereafter.
- ✓ Light to moderate isolated/scattered rainfall activity likely over rest parts of country during most days of the week.
- ✓ Increase in rainfall activity along Konkan region with isolated heavy falls towards second half of the week.

- **Overall rainfall activity is very likely to be above normal over northwest & central India, near normal over east & northeast India and below normal over south Peninsular India**.

Likely weather systems and Rainfall for week 2: (23 to 29 September, 2021)

- The monsoon trough is very likely to be active and near normal/ south of its position during most days of the week.
- A fresh cyclonic circulation is likely to develop over Eastcentral Bay of Bengal off Myanmar coast during the beginning of the week. It is very likely to move west-northwestwards and cause a fresh spell of rainfall activity over east & central India commencing from 25th September for subsequent 4-5 days.
- Fairly widespread to widespread rainfall activity with isolated heavy falls very likely over northwest, central India during most of the days.
- Overall above normal rainfall activity likely over northwest & central India, near normal over south Peninsular India and below normal over east & northeast India.

5. On withdrawal of southwest Monsoon from Northwest India

Conditions are not likely to be favorable for commencement of withdrawal of monsoon from parts of northwest India before the end of the week 2. This is due to the expected normal to active monsoon conditions and as a consecutive formation of two cyclonic circulations over the Bay of Bengal and their west-northwestwards movement across Central & adjoining northwest India.

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

Considering the ongoing active phase of southwest monsoon, the extension of seasonal mean sea level trough upto west Pacific and the model guidance, it may be inferred that there would be formation of cyclonic circulations over the north Indian Ocean at regular intervels. As on today, a cyclonic circulation has formed over eastcentral BoB and adjoining Myanmar coast. It is likely to move towards northwest BoB off Odisha – West Bengal coasts during the first half of week 1 with subsequent west-northwestward movement across east & central India. There is also likelihood of development of another cyclonic circulation over east-central BoB during the beginning of week 2 with a near similar pattern of movement as the first one. However, the probability of cyclogenesis is

NIL over the region during the forecast period.

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

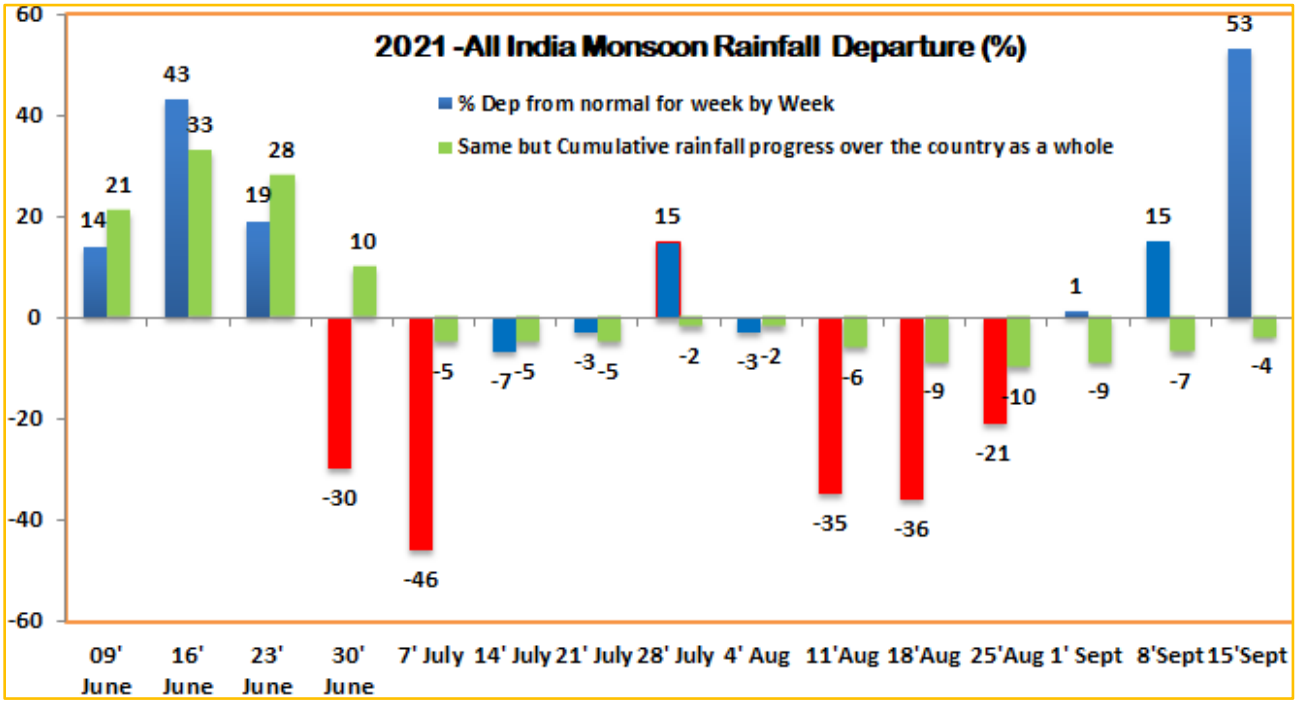
SPATIAL DISTRIBUTION (% of Stations reporting)

% 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)

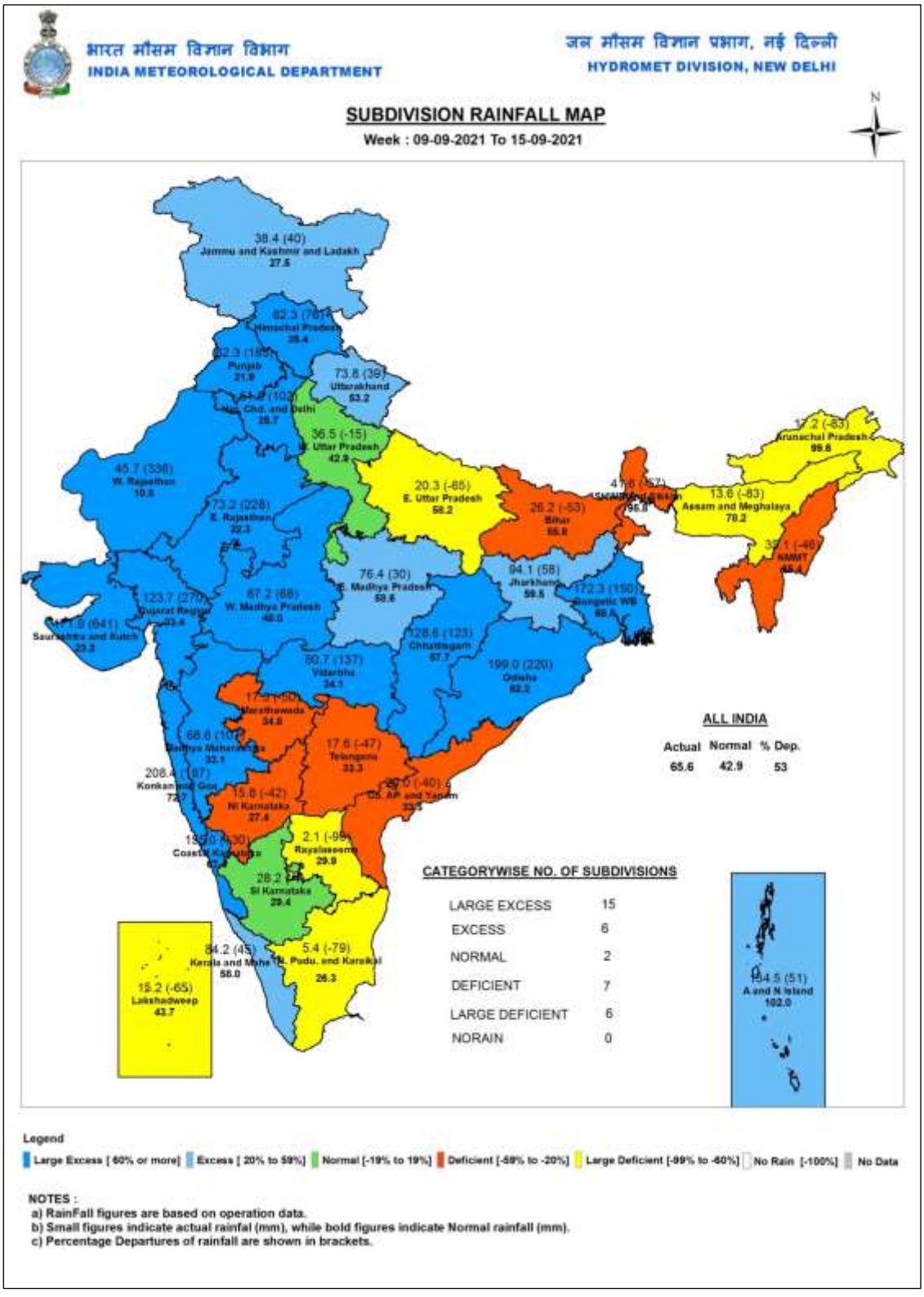
Probabilistic Forecast

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

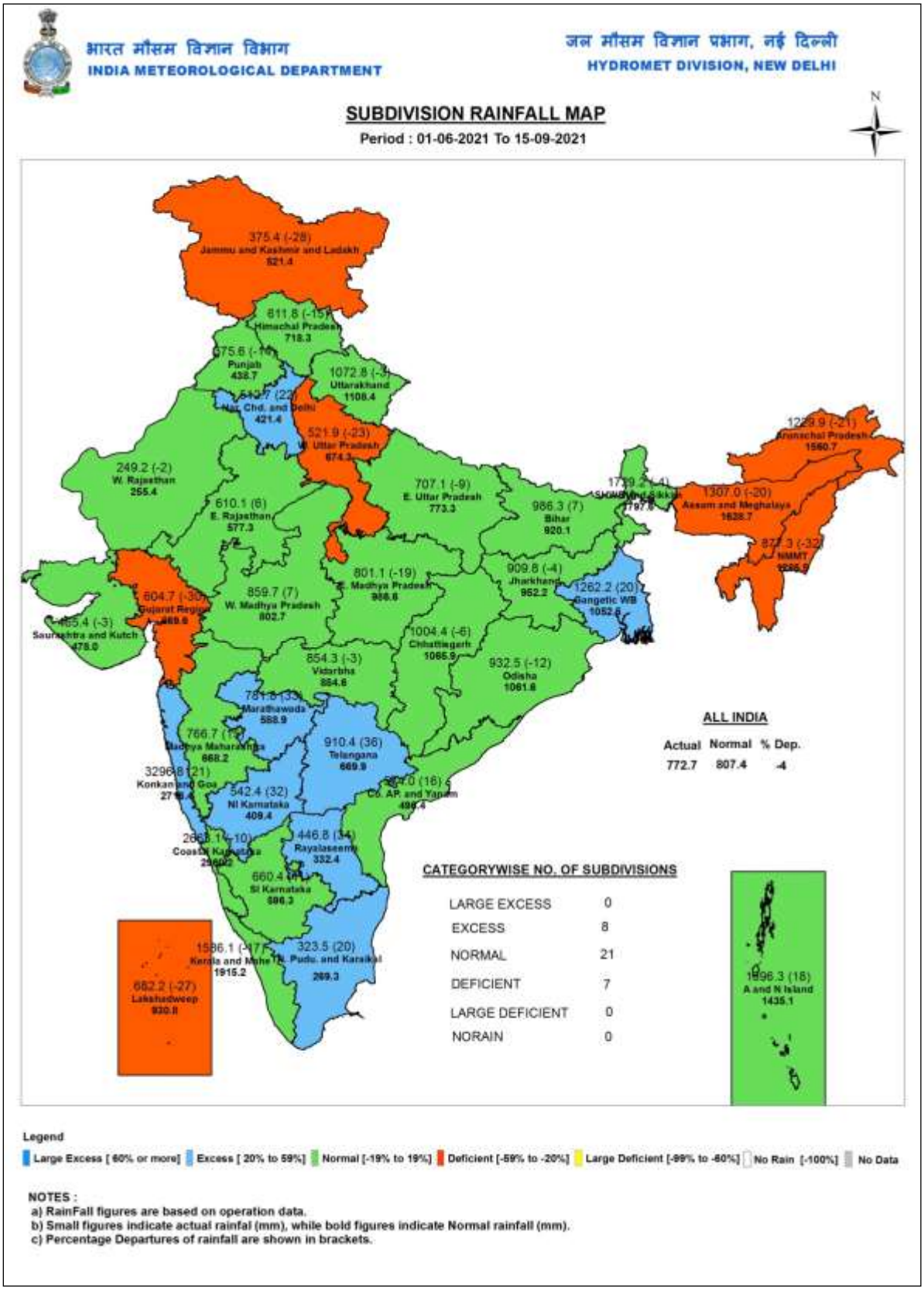
Annex I



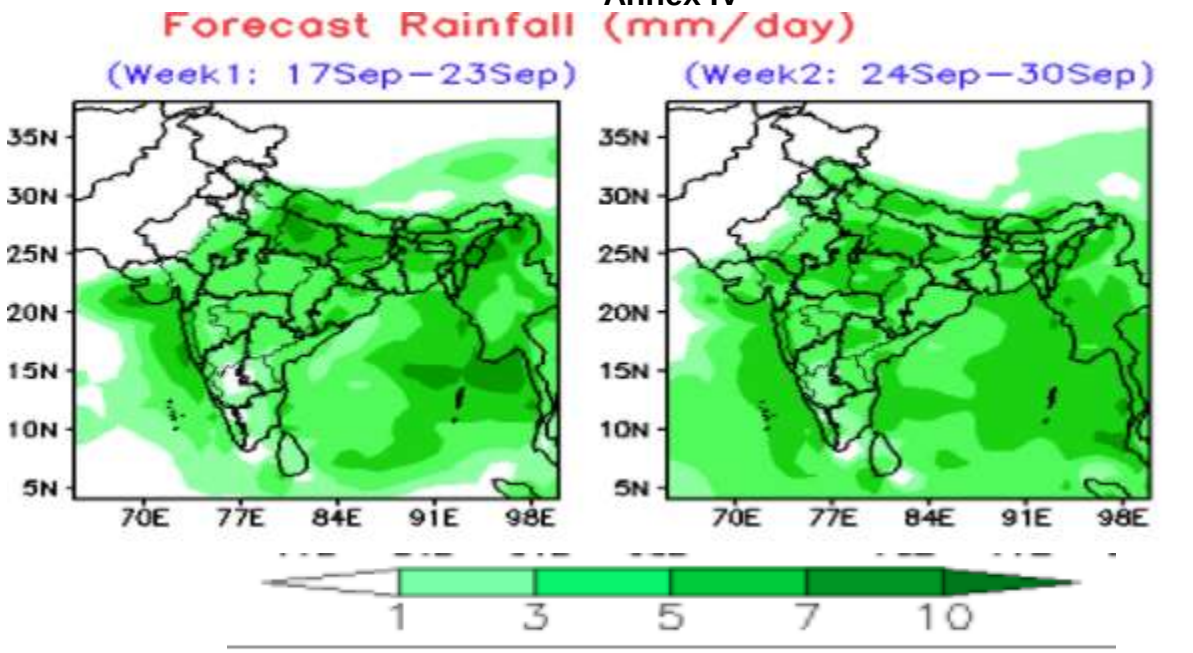
Annexure II

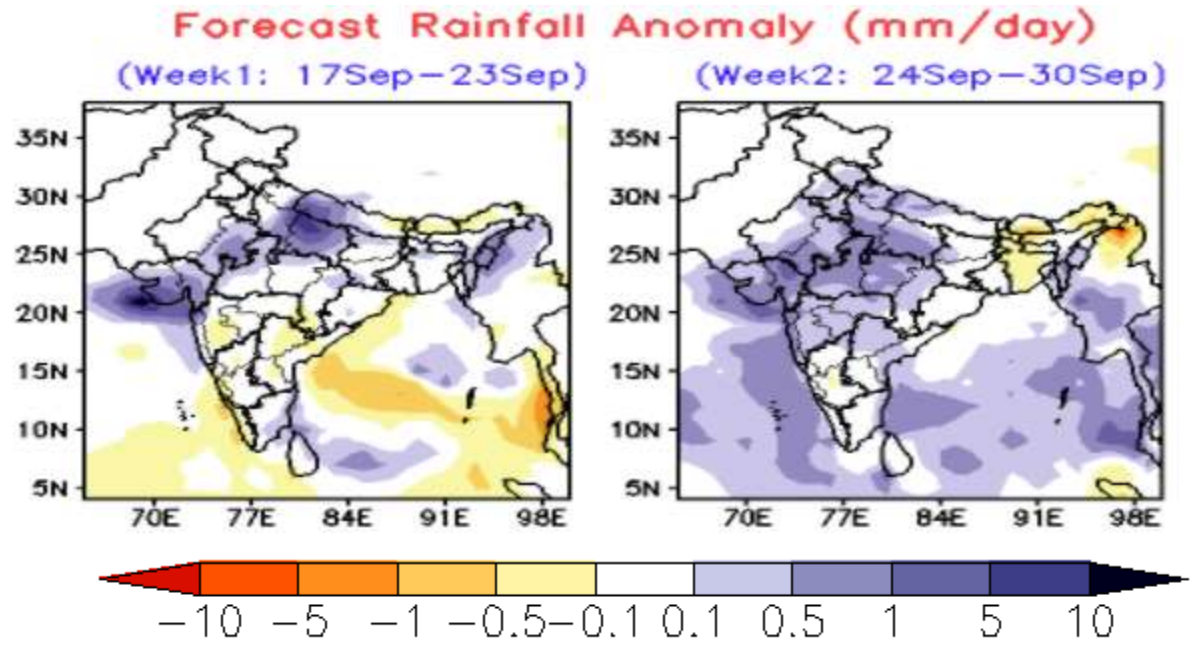

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT
जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI
SUBDIVISION RAINFALL MAP
Week : 09-09-2021 To 15-09-2021
N
38.4 (40)
Jammu and Kashmir and Ladakh
27.5
82.3 (78)
Himachal Pradesh
28.4
82.3 (186)
Punjab
21.9
73.8 (39)
Uttarakhand
53.2
54.8 (102)
Hr. Chd. and Delhi
25.7
36.5 (-15)
W. Uttar Pradesh
42.9
45.7 (338)
W. Rajasthan
10.8
20.3 (-65)
E. Uttar Pradesh
58.2
73.2 (228)
E. Rajasthan
22.3
26.2 (-53)
Bihar
55.8
13.6 (-83)
Assam and Meghalaya
78.2
Arunachal Pradesh
99.8
76.4 (30)
E. Madhya Pradesh
59.6
94.1 (58)
Jharkhand
59.5
67.2 (68)
W. Madhya Pradesh
40.0
123.7 (270)
Gujarat Region
33.4
128.6 (123)
Chhattisgarh
57.7
80.7 (137)
Vidarbha
34.1
199.0 (220)
Odisha
62.2
66.6 (102)
Madhya Maharashtra
33.1
17.6 (-47)
Telangana
33.3
208.4 (87)
Konkan and Goa
72.7
15.6 (-42)
NI Karnataka
27.4
2.1 (-99)
Rayalaseema
29.9
28.2 (-13)
SI Karnataka
29.4
84.2 (45)
Kerala and Mahe
56.0
5.4 (-79)
TN, Pudu. and Karaikal
26.3
18.2 (-65)
Lakshadweep
43.7
94.5 (51)
A and N Island
102.0
ALL INDIA
Actual Normal % Dep.
65.6 42.9 53
CATEGORYWISE NO. OF SUBDIVISIONS
LARGE EXCESS 15
EXCESS 6
NORMAL 2
DEFICIENT 7
LARGE DEFICIENT 6
NORAIN 0
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 III



Annex IV


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


Forecast Rainfall Anomaly (mm/day)
(Week1: 17Sep−23Sep)
(Week2: 24Sep−30Sep)
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