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

Press: Dated: 23 Sept, 2021

Subject: Current Weather Status and Extended range Forecast for next two weeks (23 Sept-7 Oct 2021)

1. Salient Features

- During the week ending on 22 Sept 2021, above normal rainfall activity was reported over India and weekly cumulative All India Monsoon Rainfall departure from its long period average(LPA) during the week was +28% (Refer Annex I, for week by week all India rainfall progress and Seasonal cumulative rainfall departure from LPA). This is the 3rd consecutive week when above normal rainfall activity continued for India as whole. Weekly all India % departure from LPA for last three weeks i.e. for week ending on 9th Sept, 16th Sept and 23rd Sept are +15%, + 53% and +28% (refer Annexure I). **The all India seasonal monsoon rainfall departure from its LPA, for the period from 1 June till 22 Sept, has improved to -3 % from -9% which was till the 1st Sept.**
- **The major reasons of such above normal rainfall during the week were as follows**
  - **i)The monsoon through lay south of the normal position and continued to remain active throughout the week.**
  - **ii)Development of 2 low pressure system/cyclonic circulation over Bay of Bengal and its west-northwestward movements:** 1st one was remnant of last week's deep depression moved from central parts of north Madhya Pradesh as a Low Pressure Area to central parts of East Rajasthan & adjoining West Madhya Pradesh during 16th-19th and then as a cyclonic circulation in the lower tropospheric levels to southwest Rajasthan & neighbourhood during 19th -23rd Then eh 2nd was system the remnant cyclonic circulation from northwest Pacific entered into East central Bay of Bengal & adjoining Myanmar coast on 17th and then moved over to Gangetic West Bengal & neighbourhood on 19th. Sept. It became a Low Pressure Area

over southern parts of Gangetic West Bengal & neighbourhood on 20th which gradually moved over to southwest Jharkhand and adjoining north Chhattisgarh by 22 Sept.

2. Rainfall distribution during the week 16-22 Sept 2021

- During the week ending on 22 Sept 2021, the monsoon remained active mainly over central and northwest India. Most of these areas received above normal rainfall, similar to the previous week. The weekly cumulative monsoon rainfall departure from its LPA during the week ending on 22 Sept 2021 over these regions, were +110% and +48% respectively while for week ending on 16 Sept, values were +150% and +53% respectively. The all India seasonal monsoon rainfall departure from its LPA, for the period from 1 June till 22 Sept, has further improved to -3 % from -4% till 16 Sept.(Refer Annex I). 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 II and III respectively.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	16.09.2021 TO 22.09.2021			01.06.2021 TO 22.09.2021		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	60.4	61.9	-2%	1196.4	1339.9	-11%
NORTH-WEST INDIA	43.2	20.6	+110%	545.1	582.2	-6%
CENTRAL INDIA	53.9	36.5	+48%	936.3	943.9	-1%
SOUTH PENINSULA	29.9	41.7	-28%	743.9	680.4	+9%
country as a whole	46.9	36.6	28%	819.6	844.0	-3%

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. 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 in Phase 4 with amplitude more than 1. It is likely to meander in Phase 4 with reduced amplitude (<1) during week 1. Then it is likely to propagate eastwards and enter into Phase 5 from the beginning of week 2 & further into Phase 6 towards the end of week 2 with amplitude remaining less than 1. Thus the MJO phase will support enhancement of convective activity over the Bay of Bengal (BoB) during the forecast period.

4. Forecast for next two week

Refer Annexure IV

Forecast for next two week

Weather systems & associated Precipitation during Week 1 (23 to 29 September, 2021) and Week 2 (30 September to 06 October, 2021)

Rainfall for week 1: (23 to 29 September, 2021)

- The monsoon trough lies to the south of its normal position and likely to remain so during next one week.
- A cyclonic circulation lies over south Chhattisgarh & neighbourhood and extends upto middle tropospheric levels. It is very likely to move west-northwestwards across Madhya Pradesh during next 3 days.
- A cyclonic circulation lies over southwest Rajasthan & neighbourhood at lower tropospheric levels and likely to persist during next 2 days.
- A cyclonic circulation lies over Myanmar coast & adjoining Gulf of Martaban and extends upto middle tropospheric levels. It is likely to move northwestwards and emerge into

Eastcentral & adjoining Northeast Bay of Bengal. Under its influence, a Low Pressure Area is likely to form over the same region around 24th evening. It is very likely to move west-northwestwards towards Odisha coast during subsequent 48 hours**.**

- **Due to above meteorological conditions:**

✓ Fairly widespread to widespread rainfall with **isolated heavy falls** very likely over East Rajasthan, West Madhya Pradesh, Gujarat state and Coastal Andhra Pradesh during next 6-7 days and over Konkan & Goa during next 3 days. **Isolated very heavy falls** is also very likely over Gujarat Region on 25th & 26th; Saurashtra & Kutch on 26th & 27th and over Coastal Andhra Pradesh on 26th September, 2021.

✓ Due to likely formation of Low Pressure Area over Eastcentral & adjoining Northeast Bay of Bengal around 24th evening and its west-northwestwards movement, a fresh spell of fairly widespread to widespread rainfall with **isolated heavy falls** is very likely over Odisha and Gangetic West Bengal during second half of the week. Isolated heavy spell also likely over Konkan & Goa during second half of the week.

✓ Rainfall activity is likely to increase over Maharashtra, Chhattisgarh, Telangana and Kerala & Mahe with fairly widespread to widespread rainfall & isolated heavy falls during 2nd half of the week.

✓ Fairly widespread to widespread rainfall is also likely over Andaman & Nicobar Islands during the week. Isolated heavy falls is also likely during 1st half of the week.

✓ Scattered to fairly widespread rainfall with isolated heavy falls very likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, and Haryana today, the 23rd September and light to moderate isolated/scattered rainfall thereafter. **Isolated heavy rainfall** also likely over Punjab today, the 23rd September, 2021.

✓ Light to moderate isolated/scattered rainfall is likely over remaining parts of the country.

- **Overall rainfall activity is very likely to be above normal over the country outside, Assam & Meghalaya, West Bengal & Sikkim, Jharkhand, Bihar, Jammu & Kashmir and Karnataka, where it is likely to be below normal**.

Rainfall for week 2: (30 September to 06 October, 2021)

- The monsoon trough is very likely to be active and near normal/ south of its position during most days of the week.
- A low Pressure area is likely to form over central parts of the Bay of Bengal during the first half of the week.
- Fairly widespread to widespread rainfall activity with isolated heavy falls very likely over northwest and central India during most of the days.
- Overall above normal rainfall activity likely over the country.

5. On withdrawal of southwest Monsoon from Northwest India

In view of the expected synoptic systems as mentioned in above Sec4, conditions are not likely to be favorable for commencement of withdrawal of monsoon from parts of northwest India before the middle of the week 2.

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

Most of the numerical models including IMD GFS, NCEP-GFS, GEFS, NCUM, NEPS, ECMWF and MME ($CFSV_2$) are indicating emergence of the cyclonic circulation over Myanmar coast and adjoining areas as a low pressure area over central parts of the BoB during beginning of week 1. It is likely to move west-northwestwards towards northwest and adjoining westcentral BoB with no further intensification. Models are also indicating development of another cyclonic circulation (from remnant of tropical storm Dianmu over West Pacific) over east-central BoB during the second half of week 1 with west-northwestwards movement towards northwest BoB and no further intensification. Only the cyclogenesis potential derived from MME ($CFSV_2$), indicates about 50-60 % probability of cyclogenesis over north & adjoining central BoB during 27th – 28th Sept.

As on today, a cyclonic circulation persists over Myanmar coast & adjoining Gulf of Martaban. It is likely to move northwestwards and emerge into east-central & adjoining northeast BoB. Under its influence, an LPA is likely to form over the same region during 24th evening. It is likely to move west-northwestwards towards Odisha coast during the subsequent 48 hours. There is also likelihood of development of another cyclonic circulation over east- central BoB during the second half of week 1 with a near similar pattern of movement as the previous 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. 30 Sept 2021(last date of this monsoon season for rainfall account)

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

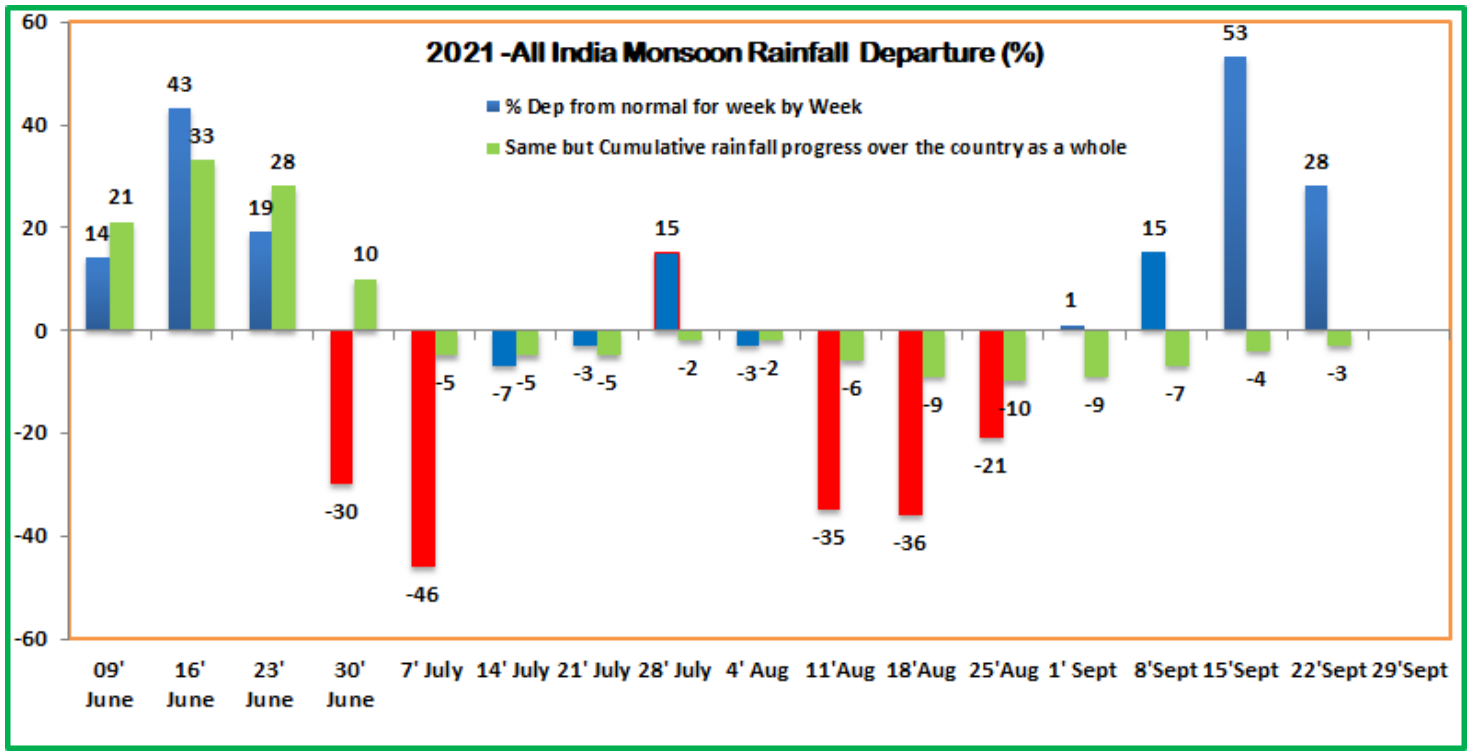
SPATIAL DISTRIBUTION (% of Stations reporting)

% 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)

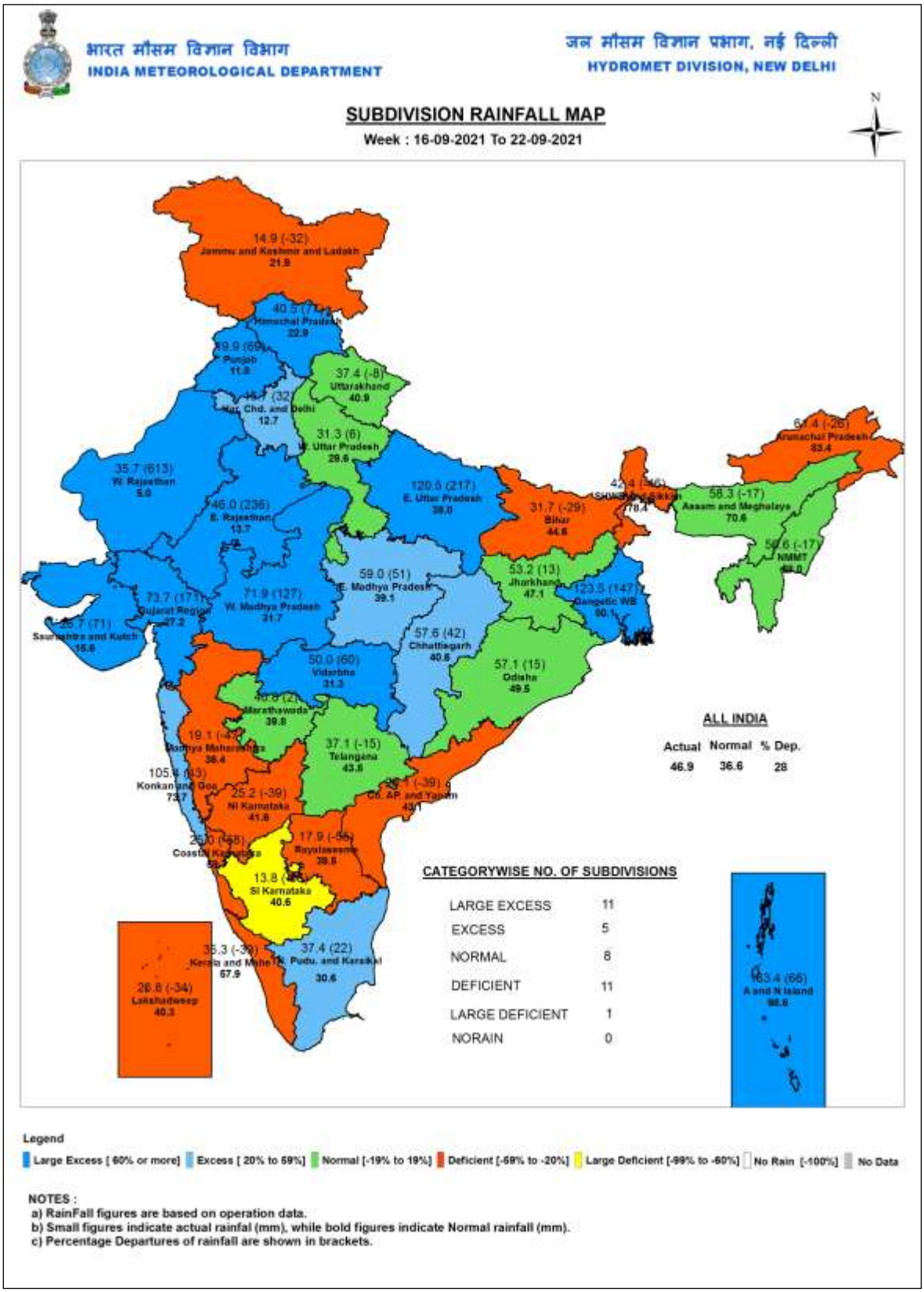
Probabilistic Forecast

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

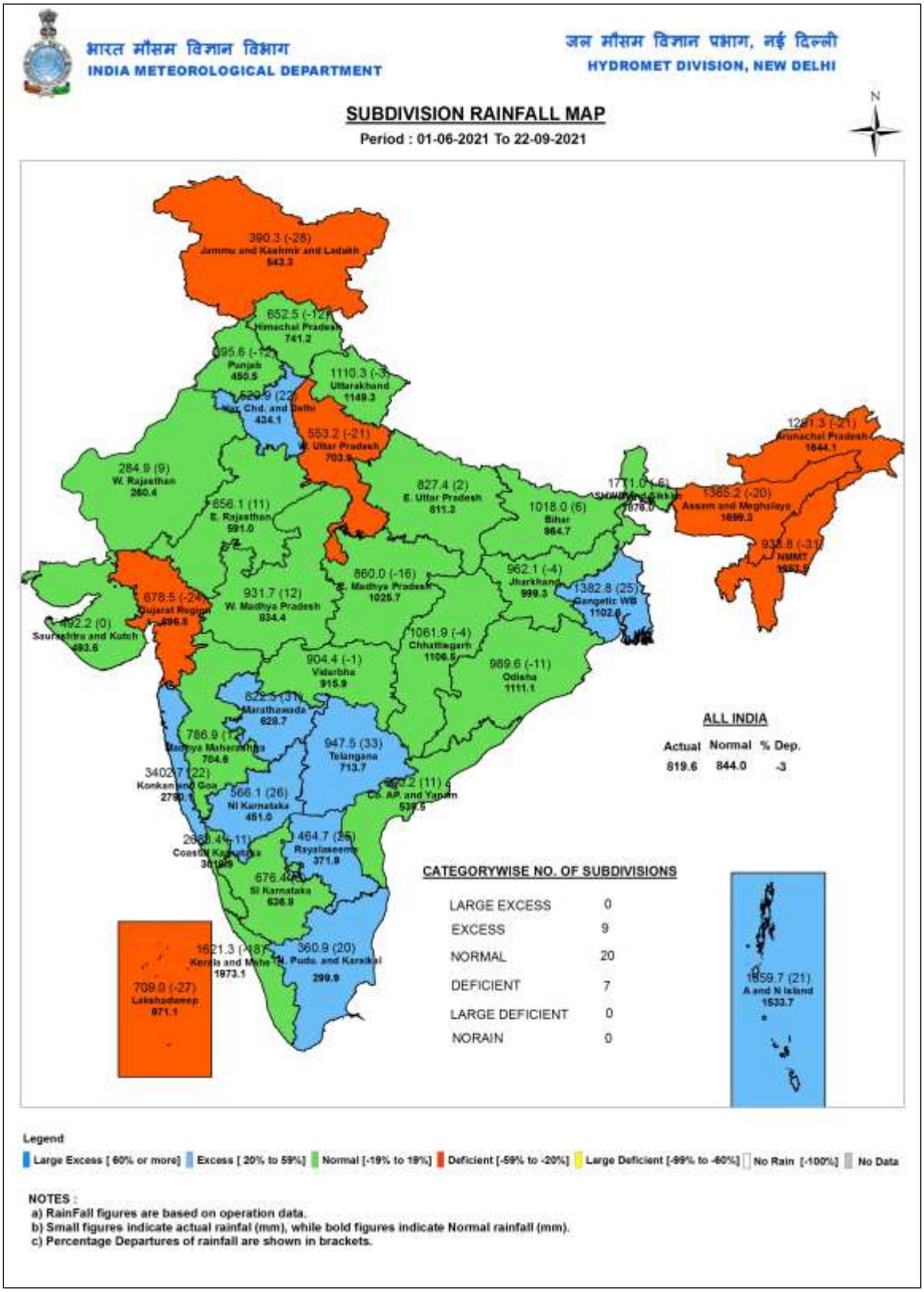
Annex I



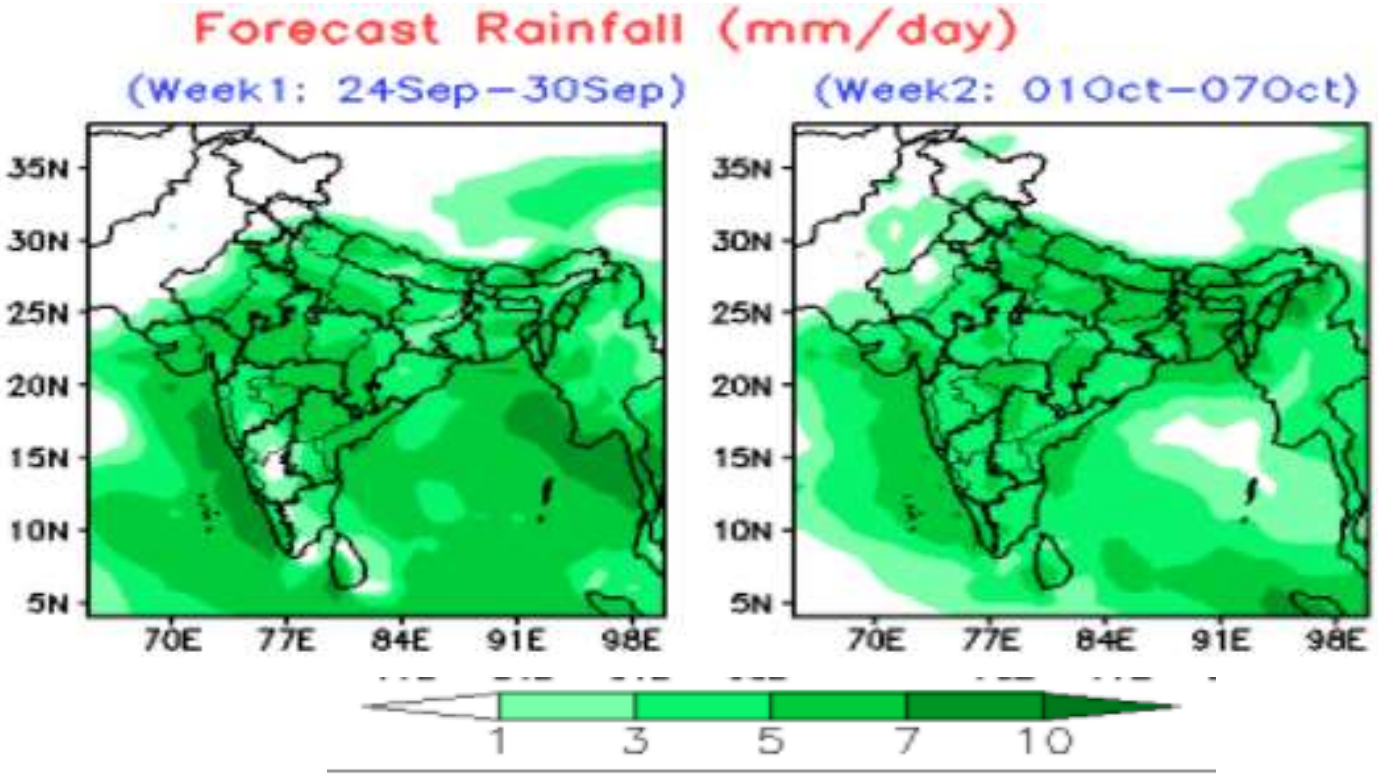
Annexure II

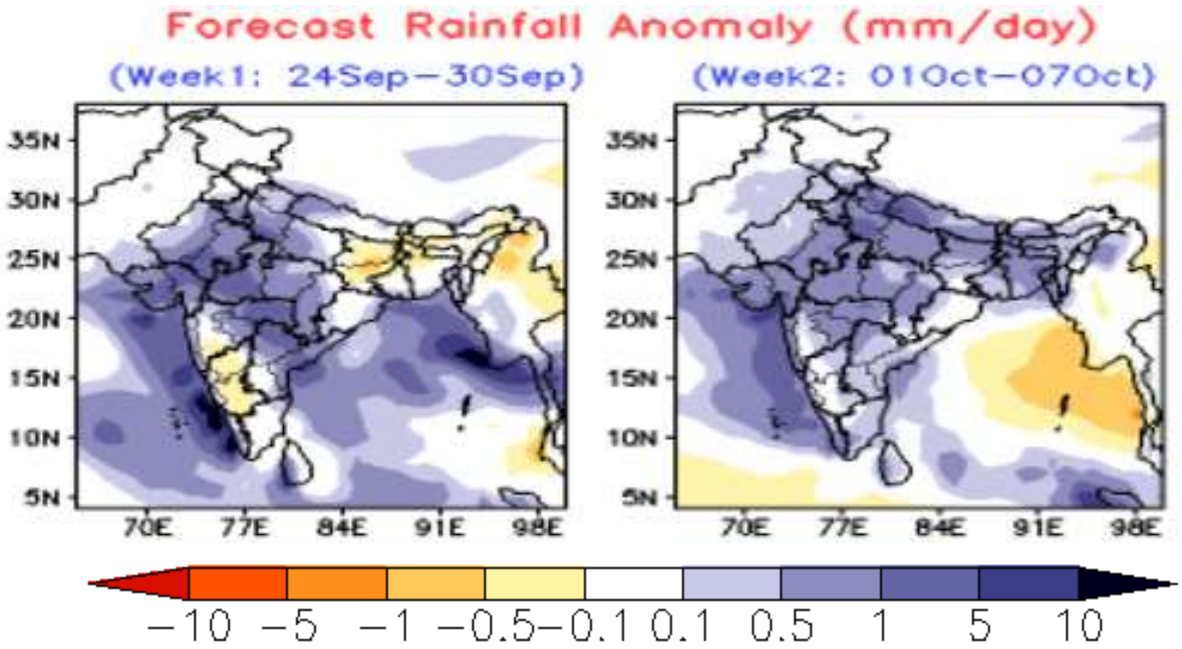

भारत मौसम विज्ञान विभाग
INDIA METEOROLOGICAL DEPARTMENT
जल मौसम विज्ञान प्रभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI
SUBDIVISION RAINFALL MAP
Week : 16-09-2021 To 22-09-2021
N
14.9 (-32)
Jammu and Kashmir and Ladakh
21.9
40.5 (7)
Himachal Pradesh
22.9
69.9 (69)
Punjab
11.8
37.4 (-8)
Uttarakhand
40.9
Hr. Chd. and Delhi
12.7
31.3 (6)
W. Uttar Pradesh
29.6
35.7 (613)
W. Rajasthan
5.0
46.0 (236)
E. Rajasthan
13.7
120.5 (217)
E. Uttar Pradesh
38.0
31.7 (-29)
Bihar
44.6
64.4 (-26)
Arunachal Pradesh
83.4
58.3 (-17)
Assam and Meghalaya
70.6
59.6 (-17)
NMMT
69.0
59.0 (51)
E. Madhya Pradesh
39.1
53.2 (13)
Jharkhand
47.1
123.5 (147)
Gangetic WB
50.1
73.7 (171)
Gujarat Region
27.2
71.9 (127)
W. Madhya Pradesh
31.7
Saurashtra and Kutch
15.6
57.6 (42)
Chhattisgarh
40.6
57.1 (15)
Odisha
49.5
50.0 (60)
Vidarbha
31.3
Marathawada
39.8
37.1 (-15)
Telangana
43.8
Konkan and Goa
73.7
25.2 (-39)
NI Karnataka
41.6
Co. AP and Yanam
17.9 (-56)
Rayalaseema
39.8
13.8 (-66)
SI Karnataka
40.6
35.3 (-32)
Kerala and Mahe
67.9
37.4 (22)
TN, Pudu. and Karaikal
30.6
28.8 (-34)
Lakshadweep
40.3
163.4 (66)
A and N Island
98.8
ALL INDIA
Actual Normal % Dep.
46.9 36.6 28
CATEGORYWISE NO. OF SUBDIVISIONS
LARGE EXCESS 11
EXCESS 5
NORMAL 8
DEFICIENT 11
LARGE DEFICIENT 1
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: 24Sep–30Sep)
(Week2: 01Oct–07Oct)
35N
30N
25N
20N
15N
10N
5N
70E
77E
84E
91E
98E
1
3
5
7
10


Forecast Rainfall Anomaly (mm/day)
(Week1: 24Sep–30Sep)
(Week2: 01Oct–07Oct)
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