



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

Press: Dated: 14 July, 2022

**Subject: Current Weather Status and Extended range Forecast for next two weeks
(14-27 July 2022)**

1. Salient Observed Features for week ending on 13 July 2022

- **Gujarat region's extremely heavy rainfall spell is the "this monsoon Season's most extremely heavy rainfall spell, if we consider all spells, so far in the plains, in this season till today". Heavy to very heavy rainfall with extremely heavy rainfall at isolated places had occurred over Gujarat Region during almost all dates with exceptionally heavy rainfall over some district of Gujarat during 10-12 July when some stations received 40-60cm rainfall per one day. 10-11 July: Bodeli (dist Chhota Udepur) 60, Quant (dist Chhota Udepur) 43, Jambughoda (dist Panchmahal) 43, Jetpur Pavi (dist Chhota Udepur) 40. 11-12 July: Dediapada (dist Narmada) 53, Tilakwada (dist Narmada) 51, Umerpada (dist Surat) 43, Sagbara (dist Narmada) 42, Kaprada (dist Valsad) 40, Jambughoda (dist Panchmahal) 39(all amounts are in cm). This has caused severe floods and inundations over respective areas in the state.**
- **Heavy to very heavy rainfall with extremely heavy rainfall at isolated places had also occurred over Saurashtra & Kutch, Konkan & Goa, Telangana and Coastal Karnataka on three days each and over East & West Madhya Pradesh, Madhya Maharashtra, Vidarbha and Chhattisgarh for 2-4 days during 11-14 July. Karnataka also reported heavy to very heavy in almost all dates of week, where floods and inundations, have been reported during the week**
- **Four main synoptic systems caused such very high rainfall activities over central and west coast of India and state of Gujarat a) Formation and almost Persistence of a Well Marked Low Pressure Area during 9-14 July over south coastal Odisha & neighbourhood with the associated cyclonic circulation extends upto middle tropospheric levels tilting southwestwards with height. b) The monsoon trough was remained active and south of its normal position. c) Persistence of east-west shear zone in**

the lower/mid tropospheric levels aligned across northern parts of Peninsular India with southward tilt d) An off-shore trough from Gujarat coast to Karnataka coast with and convergence of strong monsoon westerlies along the west coast.

- Rainfall during the week over Northeast India rainfall continue to remain less and it received deficient rainfall 2nd week consecutively and it was due to continued absence of any winds and moisture support from Bay of Bengal to that region.
- States like Uttar Pradesh and Bihar in Northern plains also received deficient rainfall due to monsoon trough at south of the normal position and absence of any system forming or moving over to the region.
- **Analysis of Weekly overall Rainfall distribution during the current week ending on 13 July 2022 and Monsoon Season’s Rainfall Scenario (01 June-13 July, 2022) shows rainfall status have further improved significantly:** It shows for the country as a whole, the weekly cumulative All India Rainfall departure till week ending on 13 July 2022, from its long period average (LPA) was +50 %**(this has become the most rainiest week of this season)**, with **over east and northeast India as -66%** while all India Seasonal cumulative rainfall %departure during this year’s **monsoon Season Rainfall during 01 June till 13 July 2022 is +11% i.e. excess.** 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		
	07.07.2022 TO 13.07.2022			01.06.2022 TO 13.07.2022		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	33.7	100.5	-66%	480.1	513.2	-6%
NORTH-WEST INDIA	32.7	45.9	-29%	139	154	-10%
CENTRAL INDIA	163.9	69.2	137%	366.9	294.1	25%
SOUTH PENINSULA	116.8	45.8	155%	324.8	241.8	34%

Country as a whole	93.5	62.4	50%	306.6	275.7	11%
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2. Large scale features

- Currently, the sea surface temperatures (SSTs) as well as the atmospheric conditions over Equatorial Pacific Ocean indicate La Niña conditions. The latest forecasts from MMCFS and other global models indicate that La Niña conditions are likely to continue during remaining part of the monsoon season. In addition to ENSO conditions over Pacific, other factors such as the Indian Ocean Sea Surface Temperatures (SSTs) also have some influence on Indian monsoon. Currently, the SST conditions over Equatorial Indian Ocean are very close to the threshold level for negative Indian Ocean Dipole (IOD) conditions. The latest forecasts from MMCFS and other global models indicate negative IOD conditions are likely to develop during remaining part of the monsoon season.
- The Madden Julian Oscillation Index (MJO) currently lies in phase 4 with amplitude less than 1. It would continue in same phase during next 1 day with decreasing amplitude. Thereafter, it would move across phases 3 & 2 during subsequent 3 days. It would then move to phase 1 with amplitude remaining less than 1. Hence, MJO phase will support enhancement of convective activity over the Bay of Bengal (BoB) and Arabian Sea (AS) during next 2-3 days. The the MJO will be unfavourable with its movement to phase 1 for enhancement of convective activity over the BoB and AS, especially in second week.

3. Forecast for next two week

Precipitation during Week 1 (14 to 20 July, 2022) and Week 2 (21 to 27 July, 2022)

Forecast for week 1 (14 to 20 July, 2022):

- **A Low Pressure Area lies over north Odisha & neighbourhood with the associated cyclonic circulation extending upto upper tropospheric levels tilting southwestwards with height.**
- **Another Low Pressure Area is likely to form over coastal Gujarat & neighbourhood during next 48 hours. It is likely to move nearly westwards and become more marked subsequently.**

- **The monsoon trough is active and south of its normal position. It is likely to shift gradually northwards during 2nd half of the week.**
- **An east-west shear zone runs roughly along 19°N in lower & middle tropospheric levels across North Peninsular India.**
- **Under the influence of above systems:**
 - ✓ Fairly widespread/widespread light/moderate rainfall & **thunderstorm/lightning** with isolated **heavy rainfall** very likely over Chhattisgarh, Vidarbha, Madhya Pradesh, Odisha, Konkan & Goa, Coastal Karnataka and Kerala & Mahe during the week; and over rest parts of Maharashtra, Gujarat State, Coastal Andhra Pradesh & Yanam, Telangana, Interior Karnataka and Andaman & Nicobar Islands during 1st half of the week and reduce thereafter.
 - **Isolated very heavy rainfall** very likely over Madhya Pradesh, Vidarbha, Chhattisgarh, Telangana & Tamil Nadu, Coastal Karnataka & Kerala & Mahe on 14th; South Interior Karnataka on 14th & 15th; Odisha during 14th-16th; Konkan & Goa, Madhya Maharashtra & Gujarat region on 15th; Saurashtra & Kutch on 16th July, 2022.
 - **Isolated heavy to very rainfall with extremely heavy falls very likely over Saurashtra & Kutch on 14th & 15th and over Gujarat region, ghat areas of Madhya Maharashtra and Konkan & Goa on 14th July, 2022.**
 - ✓ Isolated/scattered light/moderate rainfall activity very likely over Rayalaseema and Tamil Nadu, Puducherry & Karaikal during the week.
 - Isolated **heavy to very heavy rainfall** also likely over Tamil Nadu, Puducherry & Karaikal on 14th and isolated heavy falls on 15th July, 2022.
 - ✓ Scattered to fairly widespread light/moderate rainfall with isolated thunderstorm/lightning very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh & Rajasthan during most days of the week.
 - Isolated **heavy rainfall** very likely over Jammu & Kashmir, West Rajasthan, Punjab & Haryana on 14th; Himachal Pradesh on 14th, 15th, 19th & 20th; Uttarakhand on 14th, 15th, 17th to 20th; Uttar Pradesh on 18th to 20th and over East Rajasthan during 14th-16th July, 2022. Isolated **heavy to very heavy rainfall** also likely over East Rajasthan on 14th July, 2022.
 - ✓ Isolated to scattered rainfall with thunderstorm likely to occur over rest parts of the country during most days of the week.

Rainfall for week 2 (21 to 27 July, 2022):

- **The monsoon trough is very likely to be near its normal position during most days of the week.**

Rainfall activity is likely to be above normal over northwest India and below normal

along the West Coast. It is likely to be near normal over central, east & northeast India and rest parts of Peninsular

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

The guidance from various deterministic & ensemble numerical models including IMD GFS, NCEP GFS, ECMWF, NCUM, NEPS, GEFS and IMD MME CFS(V2) etc. indicate likely formation of a low pressure area over coastal Gujarat during beginning of week 1 with low probability of its' further intensification into a depression over northeast AS off Gujarat coast during first half of week 1. IMD GPP index indicate potential zone for cyclogenesis over northeast AS off south Gujarat coast on 15th with gradual west-northwestward movement towards northwest AS during first half of week 1. ECMWF ensemble also indicates 30-60% probability of cyclogenesis over northeast AS in the first half of week 1. Hence, considering the model guidance and environmental features, following inferences are drawn:

- i. Monsoonal flow is likely to weaken from second half of week 1.
- ii. A low pressure area is likely to form over coastal Gujarat in the beginning of week 1 with low probability of it's intensification into depression over northeast AS off Gujarat coast during first half of week 1. For details

Refer:

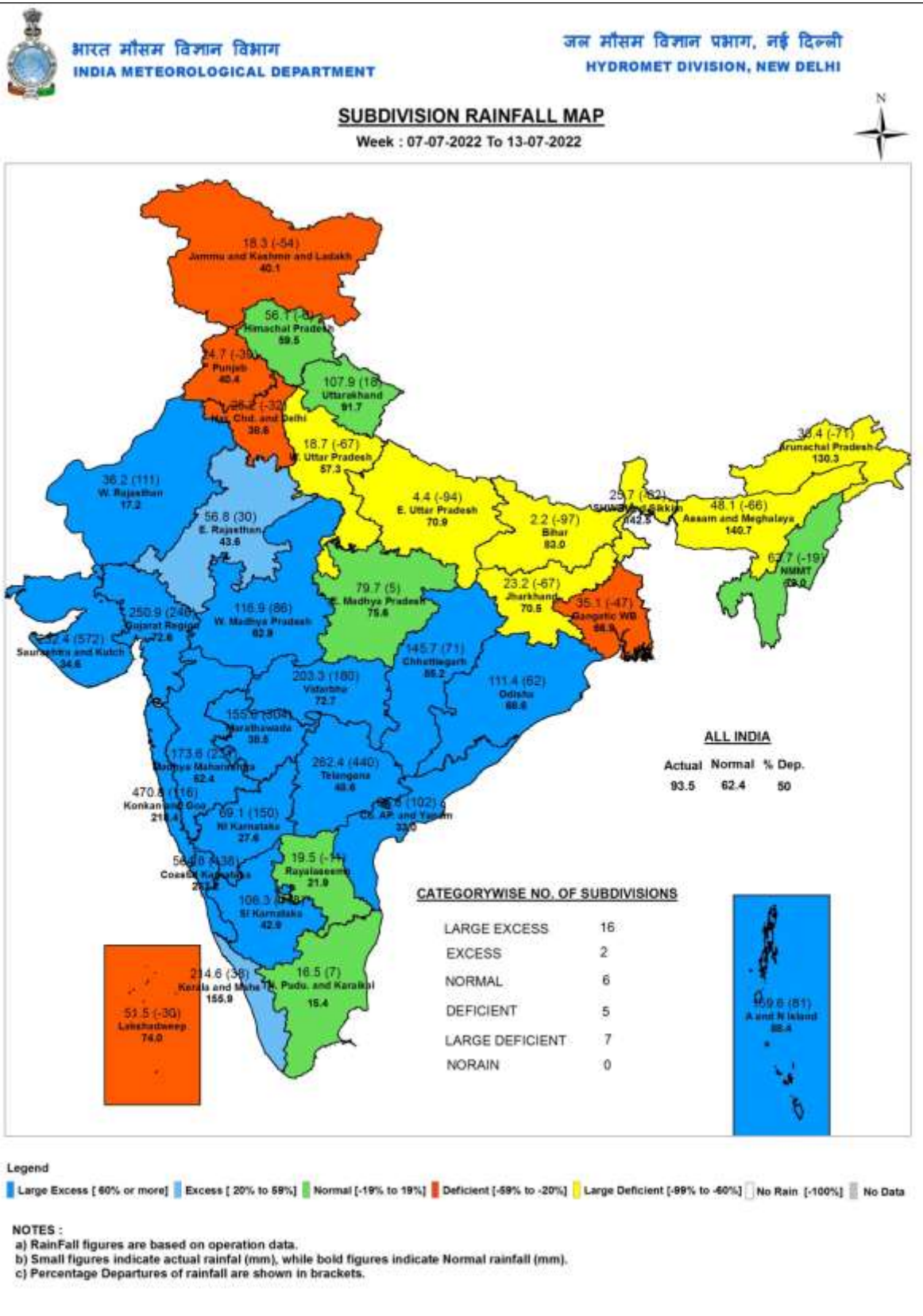
https://rsmcnewdelhi.imd.gov.in/uploads/archive/24/24_f24882_Extended%20Range%20Outlook_14072022.pdf

Next weekly update will be issued on next Thursday i.e. 21 July 2022

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 Widespread (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



Legend

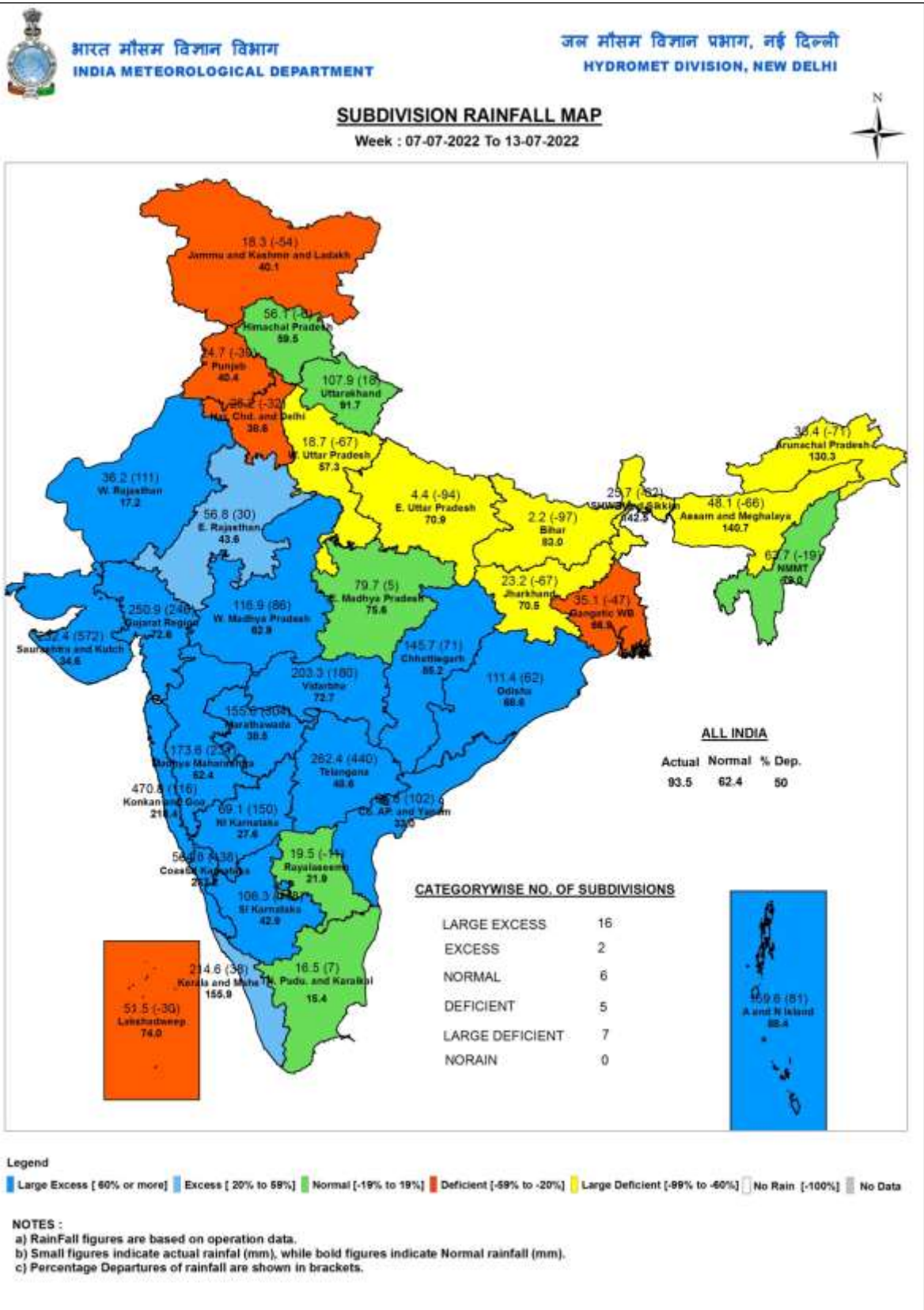
■ Large Excess [60% or more]
 ■ Excess [20% to 59%]
 ■ Normal [-19% to 19%]
 ■ Deficient [-59% to -20%]
 ■ Large Deficient [-99% to -60%]
 ■ No Rain [-100%]
 ■ No Data

NOTES :

a) RainFall figures are based on operation data.

b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).

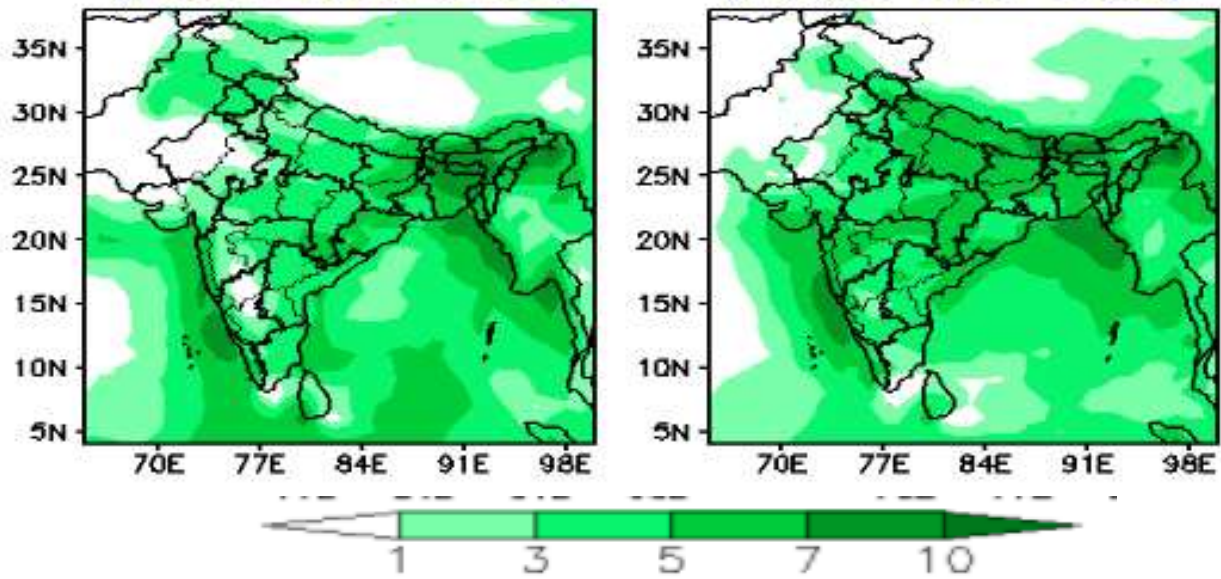
c) Percentage Departures of rainfall are shown in brackets.



Forecast Rainfall (mm/day)

(Week1: 15Jul-21Jul)

(Week2: 22Jul-28Jul)



Forecast Rainfall Anomaly (mm/day)

(Week1: 15Jul-21Jul)

(Week2: 22Jul-28Jul)

