



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

Dated: 12 March, 2020

Current Weather Status and Outlook for next two weeks (12 to 25 March, 2020)

Significant Features

- An intense Western Disturbance caused fairly widespread to widespread rainfall/snow fall activity over Western Himalayan Region and fairly widespread to widespread rainfall/thunderstorm activity over adjoining plains of northwest India during the first half of the week. In association with this system, isolated to scattered hailstorm activity also occurred over these regions.
- Confluence between the westerlies associated with Western Disturbances and the moist easterlies from the Bay of Bengal has caused fairly widespread to widespread rainfall/thunderstorm activity along with isolated hailstorm and isolated intense precipitation activity over parts of Central and East India during the week.
- Heavy to Very heavy rainfall occurred at isolated places over Telengana on one day, heavy rainfall also occurred at isolated places over West Uttar Pradesh on two days; over Tamil Nadu, Puducherry & Yanam, East Rajasthan, Jharkhand, Himachal Pradesh and Odisha on one day each during the week.
- As a result, northwest & central India received 145% & 305% above Long Period Average (LPA) respectively during the week.
- The **highest maximum temperature** of 39.0°C had been recorded at Punalur (Kerala) on 10th March 2020 and the lowest minimum temperature of 8.0°C had been recorded at Narnaul (Haryana) on 8th and 10th March 2020 over the plains of the country during the week.

Weekly Rainfall Scenario (05 to 11 March, 2020)

During the week, rainfall was above Long Period Average (LPA) by 131% over the country as a whole. Details are given below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	14.1	6.1	131%
Northwest India	24.7	10.1	145%
Central India	8.5	2.1	305%
South Peninsula	4.0	3.3	23%
East & northeast India	17.9	9.9	81%

The Meteorological sub-division-wise rainfall for the week is given in **Annexure I**.

Seasonal Rainfall Scenario (01 to 11 March, 2020)

For the country as a whole, cumulative rainfall during this year's pre-monsoon season (upto 11 March, 2020) is above LPA by 82%. Details of the rainfall distribution over the four broad geographical regions of India are given below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA
Country as a whole	16.9	9.3	82%
Northwest India	28.1	15.5	82%
Central India	10.6	3.4	212%
South Peninsula	5.5	4.4	26%
East & northeast India	22.7	15.6	46%

Cumulative seasonal rainfall is given in **Annexure II**.

Chief synoptic conditions as on 12 March, 2020

- A Western Disturbance as a Western Depression lies over central Pakistan & neighbourhood. The associated cyclonic circulation extends upto 9.5 km above mean sea level tilting westwards with height.
- An east-west trough runs from the cyclonic circulation associated with the Western Depression over central Pakistan & neighbourhood to north Chhattisgarh across East Rajasthan and north Madhya Pradesh at 0.9 km above mean sea level.
- A trough/wind discontinuity runs from east Vidarbha to south Tamilnadu across Telangana and South Interior Karnataka extends upto 0.9 km above mean sea level.

Large scale features as on 12 March, 2020

- Currently, warm ENSO-neutral conditions are prevailing over equatorial Pacific Ocean and the latest Monsoon Mission Coupled Forecast System (MMCFS) output indicates cooling of Sea Surface Temperatures (SSTs) in coming season and ENSO-neutral conditions are likely to continue upto April-May-June period.

- At present neutral Indian Ocean Dipole (IOD) conditions are observed over Indian Ocean and the latest MMCFS forecast indicates that it is likely to continue during the forecast period.
- The convectively active phase of the Madden–Julian Oscillation (MJO) is currently in Phase-6 with amplitude more than 1. It is likely to be in same phase with amplitude less than 1 during next one week.

Forecast for next two week

Weather systems & associated Precipitation during Week 1(12 to 18 March, 2020) and Week 2 (19 to 25 March, 2020)

Week 1: (12 to 18 March, 2020)

- Under the influence of 'Western Depression' over Central Pakistan & neighbourhood with its associated cyclonic circulation extending upto upper tropospheric levels, moisture feeding from the Arabian Sea to northwest India and low level easterlies from Bay of Bengal are penetrating upto plains of northwest India during next 2 days. Following weather is expected:
 - ✓ Light to moderate fairly widespread to widespread rainfall is very likely over the Western Himalayan region (Jammu, Kashmir, Himachal Pradesh and Uttarakhand) & adjoining plains of northwest India (Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh) during next 2 days and **significant reduction thereafter**.
 - ✓ Thunderstorm accompanied with lightning, hailstorm & gusty winds (speed reaching 30-40 kmph or more) at isolated places is very likely over Western Himalayan region and plains of northwest India during 12th & 13th March.
 - ✓ Isolated heavy rainfall/snowfall is very likely over Jammu & Kashmir, Ladakh, Gilgit-Baltistan, Himachal Pradesh & Uttarakhand during next 24 hours. Isolated heavy rainfall is also very likely over Punjab and Haryana, Chandigarh & Delhi during the same period.
- Due to confluence between westerly winds associated with the Western Disturbance and moist low level easterly wind from Bay of Bengal over central & east India:
 - ✓ Moderate scattered to fairly widespread rainfall with isolated thunderstorm, lightning/hail/gusty wind (speed reaching 45-55 kmph) over Jharkhand, Gangetic West Bengal and Odisha during 12th-15th March, over Bihar during 13th-14th March with maximum intensity on 13th March. Isolated heavy falls are also likely over north Odisha today and over Jharkhand on 13th March.
 - ✓ Moderate scattered rainfall with isolated thunderstorm, lightning/hail/gusty wind (speed reaching 40-50 kmph) very likely over north Chhattisgarh and East Madhya during 12th & 13th with maximum intensity on 13th March (**Annexure III**).

- Cumulatively, near normal to above normal rainfall very likely over Punjab, Himachal Pradesh, Uttarakhand, Chhattisgarh, Odisha, Jharkhand, West Bengal & Sikkim ; below normal rainfall likely over Jammu & Kashmir and south Peninsular India and Nicobar Islands during week 1 (Annexure IV).

Rainfall for week 2: (19 to 25 March, 2020)

- During week 2, under the influence of fresh Western Disturbances, above normal rainfall likely over Western Himalayan Region and above normal rainfall is also likely over northeast India. Below normal rainfall is likely over Andaman & Nicobar Islands (Annexure IV).

Maximum Temperature for week 1 & 2: (12 to 25 March, 2020)

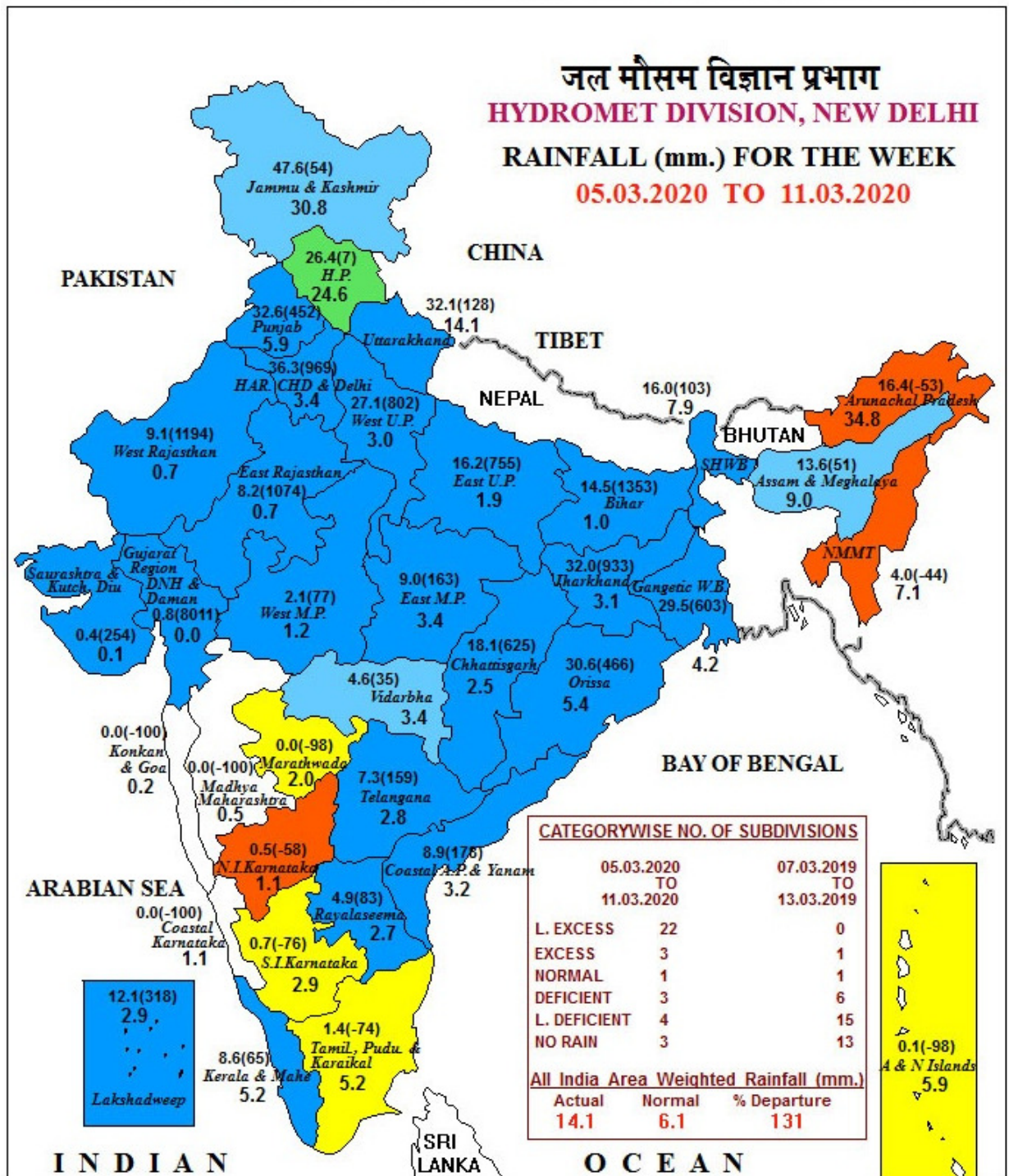
- Due to rainfall/thunderstorm activity over most parts of the country, maximum temperatures are likely to be below normal by 2-4°C over most parts of the country outside Jammu, Kashmir, Ladakh & Gilgit-Baltistan & Tamilnadu , where these are likely to be above normal by 1-2°C during week 1.
- During week 2, there is likely gradual rise in maximum temperatures, however these are likely to be below normal by 1-3°C over Central and adjoining east & south Peninsular India (Annexure V).

Cyclogenesis:

- No cyclogenesis is expected over North Indian Ocean during weeks 1 and 2.

Next weekly update will be issued on next Thursday i.e. 19 March, 2020

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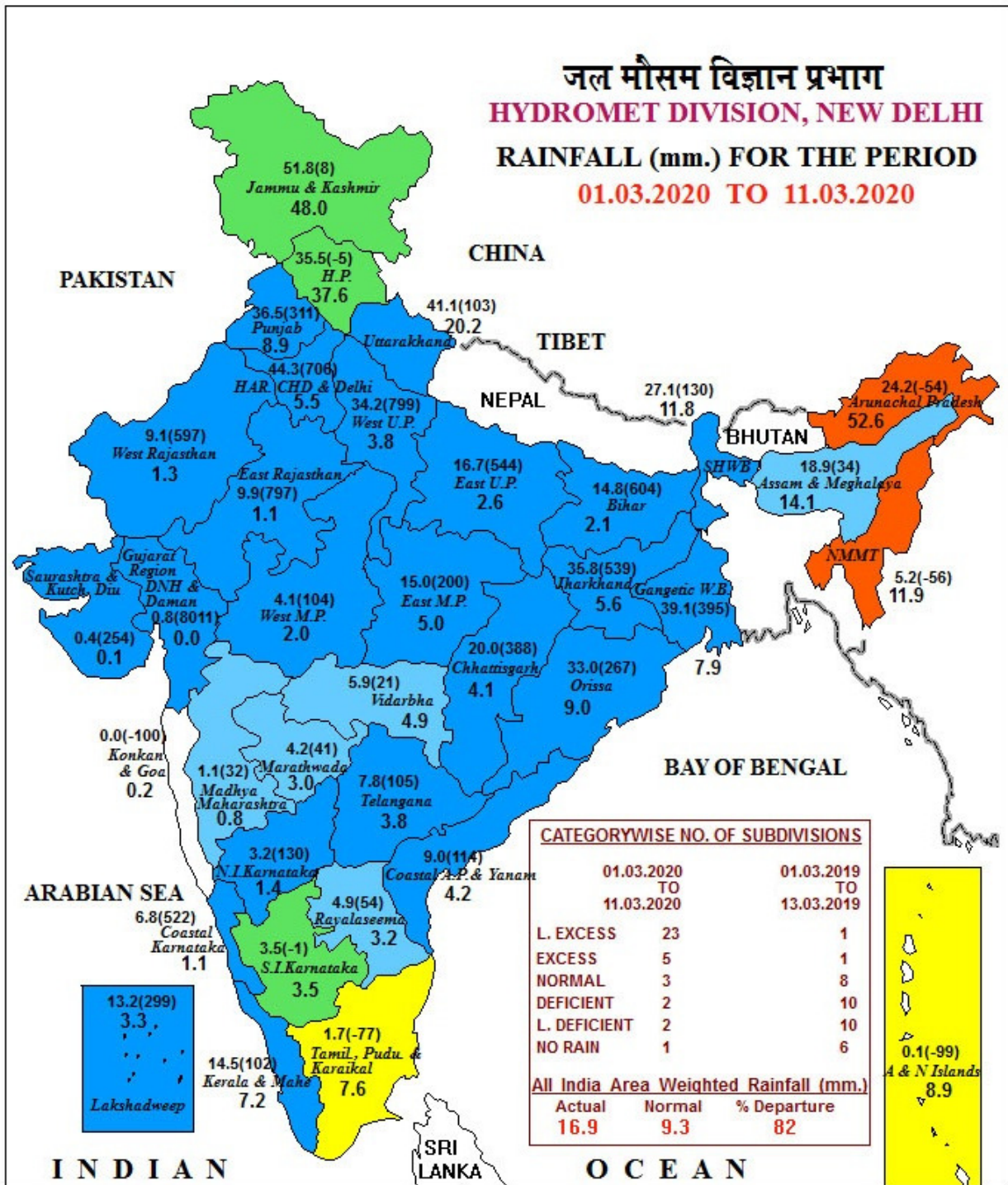
LEGEND: ■ L. EXCESS (+60% OR MORE) ■ EXCESS (+20% TO +59%) ■ NORMAL (+19% TO -19%)
 ■ DEFICIENT (-20% TO -59%) ■ L. DEFICIENT (-60% TO -99%) ■ NO RAIN (-100%) ■ NO DATA

NOTES:

(a) Rainfall figures are based on operational data.

(b) Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

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 [a] Rainfall figures are based on operational data.
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Annexure III

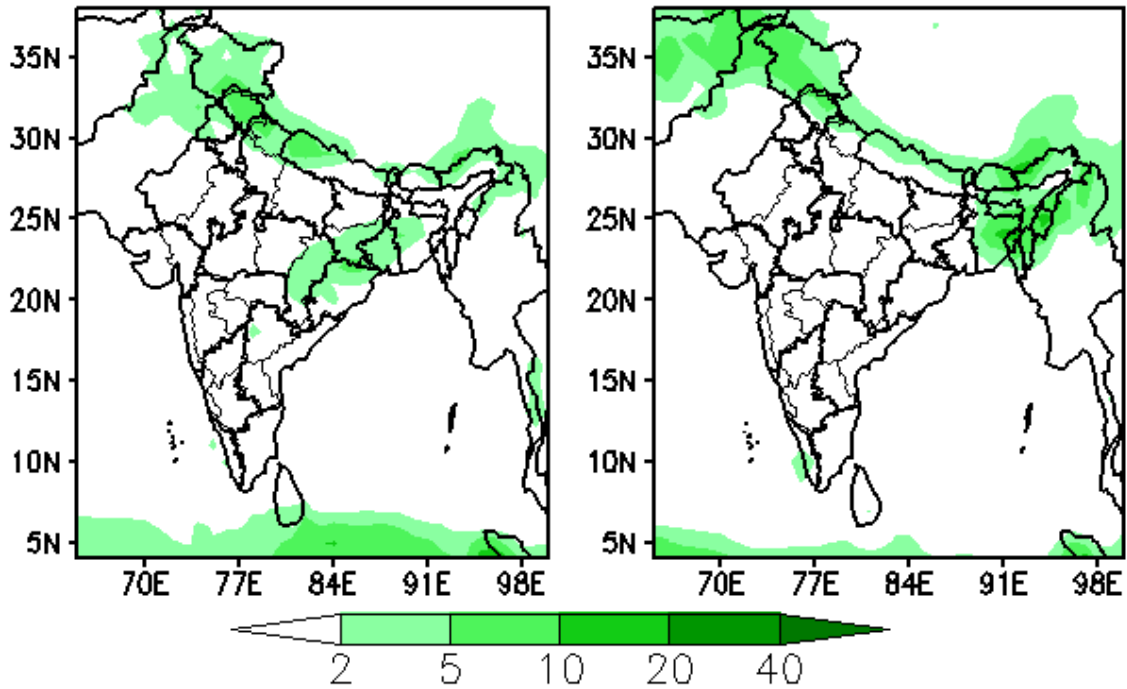
METEOROLOGICAL SUB-DIVISIONWISE WEEKLY RAINFALL FORECAST & Wx. WARNINGS-2020

Sr. No	MET.SUB-DIVISIONS	12 MAR	13 MAR	14 MAR	15 MAR	16 MAR	17 MAR	18 MAR
1	ANDAMAN & NICO.ISLANDS	D	D	D	D	ISOL	D	D
2	ARUNACHAL PRADESH	ISOL	ISOL	SCT ^{TS}	SCT ^{TS}	SCT	ISOL ^{TS}	ISOL
3	ASSAM & MEGHALAYA	ISOL	ISOL	SCT ^{TS}	SCT ^{TS}	ISOL	ISOL	D
4	NAGA.MANI.MIZO.& TRIPURA	D	D	ISOL	SCT	ISOL	D	D
5	SUB-HIM.W. BENG. & SIKKIM	ISOL	FWS ^{TS}	FWS ^{TS}	SCT	ISOL	ISOL	ISOL
6	GANGETIC WEST BENGAL	FWS ^{TS}	FWS ^{TS}	FWS ^{TS}	SCT	D	D	ISOL
7	ODISHA	FWS ^{TS}	SCT ^{TS}	SCT ^{TS}	ISOL	ISOL	SCT ^{TS}	SCT ^{TS}
8	JHARKHAND	FWS ^{TS}	WS*	FWS ^{TS}	SCT	D	D	ISOL ^{TS}
9	BIHAR	ISOL ^{TS}	FWS ^{TS}	SCT ^{TS}	ISOL	D	D	D
10	EAST UTTAR PRADESH	SCT ^{TS}	FWS ^{TS#}	SCT ^{TS}	ISOL	D	D	ISOL
11	WEST UTTAR PRADESH	SCT ^{TS}	FWS ^{TS#}	SCT	ISOL	D	D	D
12	UTTARAKHAND	FWS ^{*/TS}	WS ^{*/TS#}	FWS	ISOL	D	D	ISOL
13	HARYANA CHD. & DELHI	FWS ^{TS}	FWS ^{TS#}	SCT	D	D	D	D
14	PUNJAB	WS ^{TS}	FWS ^{TS#}	ISOL	D	D	D	D
15	HIMACHAL PRADESH	WS ^{*/TS}	WS ^{TS}	FWS	ISOL	D	ISOL	SCT
16	JAMMU & KASHMIR	WS ^{*/TS}	FWS ^{TS}	SCT	ISOL	D	ISOL	SCT
17	WEST RAJASTSAN	ISOL	ISOL	D	D	D	D	D
18	EAST RAJASTSAN	ISOL	ISOL	D	D	D	D	D
19	WEST MADHYA PRADESH	ISOL ^{TS}	D	D	D	D	ISOL ^{TS}	ISOL
20	EAST MADHYA PRADESH	SCT ^{TS}	FWS ^{TS}	ISOL	ISOL	ISOL	SCT ^{TS}	SCT ^{TS}
21	GUJARAT REGION D.D. & N.H.	D	D	D	D	D	D	D
22	SAURASTRA KUTCH & DIU	D	D	D	D	D	D	D
23	KONKAN & GOA	D	D	D	D	D	D	D
24	MADHYA MAHARASHTRA	D	D	D	D	D	ISOL	ISOL
25	MARATHAWADA	D	D	D	D	D	ISOL	ISOL
26	VIDARBHA	ISOL ^{TS}	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL ^{TS}
27	CHHATTISGARH	SCT ^{TS}	SCT ^{TS}	SCT ^{TS}	ISOL	ISOL	SCT ^{TS#}	SCT ^{TS#}
28	COASTAL A. PR. & YANAM	ISOL	D	D	D	ISOL	ISOL	ISOL ^{TS}
29	TELANGANA	ISOL	D	D	D	D	D	ISOL
30	RAYALASEEMA	D	D	D	D	D	D	D
31	TAMIL. PUDU. & KARAIKAL	ISOL	D	D	D	ISOL	ISOL	D
32	COASTAL KARNATAKA	D	D	D	D	D	D	D
33	NORTS INT.KARNATAKA	D	D	D	D	D	D	D
34	SOUTS INT.KARNATAKA	D	D	D	D	D	D	D
35	KERALA & MAHE	ISOL ^{TS}	ISOL	D	ISOL	D	D	D
36	LAKSHADWEEP	SCT	SCT	D	D	D	SCT	SCT
LEGENDS:								
WS	WIDE SPREAD / MOST PLACES (76-100%)			FWS	FAIRLY WIDE SPREAD / MANY PLACES (51% to 75%)			
SCT	SCATTERED / FEW PLACES (26% to 50%)			ISOL	ISOLATED (up to 25%)		D/DRY	NIL RAINFALL
* Heavy Rainfall (64.5-115.5 mm)			** Heavy to Very Heavy Rainfall (115.6-204.4 mm)			*** Extremely Heavy Rainfall (204.5 mm or more)		
☁ FOG	* SNOWFALL	# HAILSTORM			⚡ COLD WAVE (-4.5°C to -6.4°C)		⚡ SEVERE COLD WAVE (< -6.4)	
§ TSUNDERSTORM WITS SQUALL/GUSTY WIND			DS/TS DUST/TSUNDERSTORM		🔥 HEAT WAVE (+4.5°C to +6.4°C)		🔥 SEVERE HEAT WAVE (> +6.4)	

Forecast Rainfall (mm/day)

(Week1: 13Mar-19Mar)

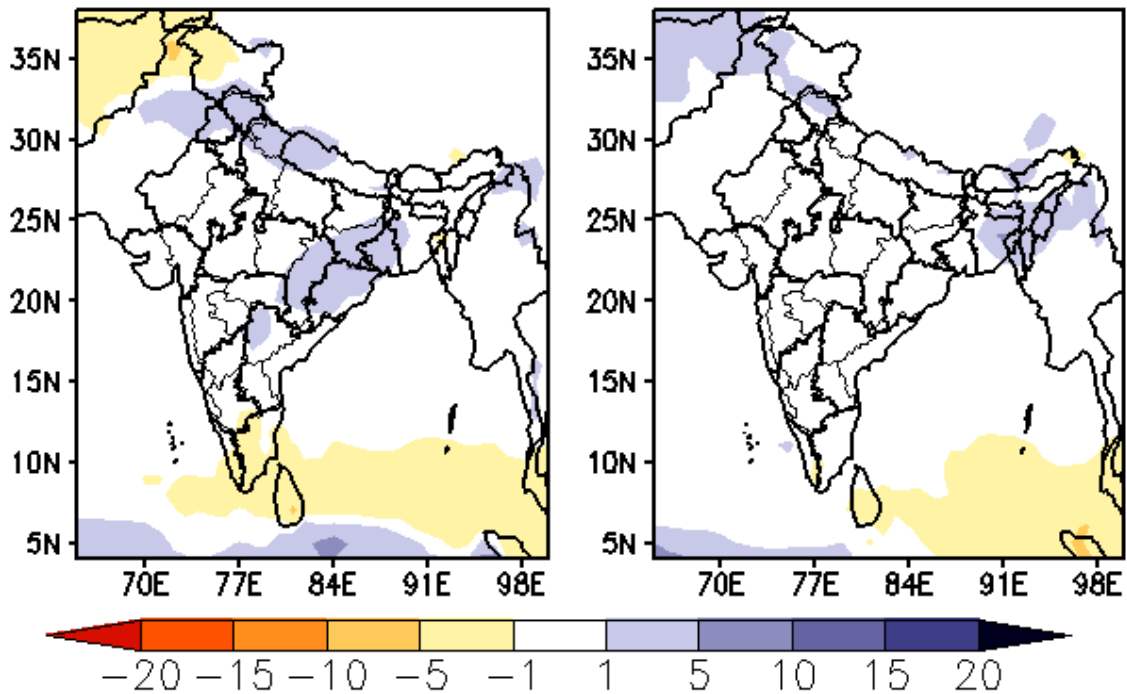
(Week2: 20Mar-26Mar)



Forecast Rainfall Anomaly (mm/day)

(Week1: 13Mar-19Mar)

(Week2: 20Mar-26Mar)



MME forecast Tmax anomaly (Deg C)

(Week1: 13Mar-19Mar)

(Week2: 20Mar-26Mar)

