

Government of India Ministry of Earth Sciences India Meteorological Department

Dated: 27<sup>th</sup> February, 2020

# **Current Weather Status and Outlook for next two weeks**

#### Highlights of the past week

#### Significant weather systems & associated weather

- An active Western Disturbance and its induced cyclonic circulation caused fairly widespread to widespread rain/snow along with isolated heavy falls over Western Himalayan Region. It also caused scattered to fairly widespread rainfall/thunderstorms and isolated hailstorms over the adjoining plains of northwest India during the week.
- Confluence of westerlies and moist easterlies from the Bay of Bengal caused fairly widespread to widespread rainfall /thunderstorm activity over parts of central and east India along with isolated heavy falls. Isolated hailstorms also occurred over these regions during the week.
- Remnants of systems in westerlies caused scattered to fairly widespread rainfall over Northeast India during the week.
- Heavy rain occurred at isolated places over Odisha on two days; over Jharkhand, Bihar, West Madhya Pradesh, Chhattisgarh, East Uttar Pradesh and Uttarakhand on one day each during the week.

#### **Temperatures:**

- No Cold Wave condition occurred during the week.
- The lowest minimum temperature of 8.5°C had been recorded at Fatehgarh (East Uttar Pradesh) on 20<sup>th</sup> February 2020 over the plains of the country.

#### Fog:

- Dense to very dense fog occurred at isolated pockets over west Madhya Pradesh on one day during the week.
- Dense fog occurred at isolated pockets over: East Uttar Pradesh and East Madhya Pradesh on three days each; over Haryana, Chandigarh & Delhi on two days; over

Uttarakhand, Punjab, East Rajasthan, Bihar, Gangetic West Bengal, Odisha and Saurashtra & Kutch on one day each during the week.

## Weekly Rainfall Scenario (20<sup>th</sup> to 26<sup>th</sup> February 2020)

During the week, rainfall was below the Long Period Average (LPA) by 01% over the country as a whole. Details are given below:

Regions	Actual Rainfall (mm)	Normal Rainfall (mm)	% Departure from LPA			
Country as a whole	6.1	6.9	-01			
Northwest India	6.5	12.0	-46			
Central India	6.9	1.4	+393			
South Peninsula	0.3	2.3	-88			
East & northeast India	10.5	9.8	+08			

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

## Seasonal Rainfall Scenario (01<sup>st</sup> January to 26<sup>th</sup> February 2020)

For the country as a whole, cumulative rainfall during the winter season, so far, has been below LPA by 01%. 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	38.6	38.9	-01		
Northwest India	65.4	75.1	-13		
Central India	28.5	14.7	+94		
South Peninsula	9.9	15.6	-36		
East & northeast India	43.4	49.4	-12		

Cumulative seasonal rainfall is given in Annexure II.

# Chief synoptic conditions as on 27<sup>th</sup> February 2020

- A Western Disturbance (WD) as a trough in mid & upper tropospheric westerlies runs with its axis at 5.8 km above mean sea level roughly along Long. 55°E to the north of Lat. 28°N.
- A cyclonic circulation at 0.9 km above mean sea level lies over central Pakistan and adjoining southwest Rajasthan.

- A cyclonic circulation at 1.5 km above mean sea level lies over east Bihar & neighbourhood.
- Another cyclonic circulation at 0.9 km above mean sea level lies over central Assam & neighbourhood.
- A trough in westerlies at 5.8 km above mean sea level runs roughly along Long.
  90°E to the north of Lat.24°N.
- A cyclonic circulation extending upto 0.9 km above mean sea level lies over coastal Karnataka & neighbourhood.

## Large scale features as on 27<sup>th</sup> February 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 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-8 with amplitude less than 1. It is likely to propagate eastwards into Phase 3 during first half of week 1 with amplitude less than 1. Thereafter it is likely to move to Phase 6 moving across Phases 3, 4 & 5 with slight amplification during the rest of the period.

#### Forecast for next two weeks

Weather systems and associated Precipitation & Temperature pattern during week 1 (28<sup>th</sup> February – 05<sup>th</sup> March 2020) and week 2 (06<sup>th</sup> – 12<sup>th</sup> March 2020)

## Week 1 (28<sup>th</sup> February – 05<sup>th</sup> March 2020)

The present WD which is approaching from the west and an induced cyclonic circulation in the lower levels over northwest India could cause fairly widespread to widespread rain / snow over western Himalayan region (WHR) on 28<sup>th</sup> & 29<sup>th</sup> Feb. Scattered to fairly widespread rains are also likely over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and west Uttar Pradesh on 28<sup>th</sup> & 29<sup>th</sup> Feb. This weather could be accompanied with Thunderstorms, Lightning, Gusty winds (of the order of 30-40 kmph) and isolated hailstorms. There is a likelyhood for Heavy rain / snow at isolated places over Jammu & Kashmir and Ladakh on 28<sup>th</sup> / 29<sup>th</sup> Feb. and over Himachal Pradesh on 29<sup>th</sup> Feb.

- Low level convergence and upper level dynamics could also result in isolated to scattered rainfall over parts of interior Maharashtra, Madhya Pradesh and Chhattisgarh during 29<sup>th</sup> Feb. – 02<sup>nd</sup> March, with chance of moderate Hailstorms.
- Subsequently, a fresh WD is likely to start affecting WHR from 3<sup>rd</sup> March. This could induce a low pressure area over west Rajasthan & neighbouring areas during 4<sup>th</sup> 6<sup>th</sup> March. This feature, along with strong wind convergence and moisture incursion from the Arabian Sea could result in a critical situation of 'High impact weather' over parts of northwest, adjoining central & eastern India during 4<sup>th</sup> 6<sup>th</sup> March 2020.
- Thus towards the end of week-1, the entire WHR (Jammu & Kashmir and Ladakh, Himachal Pradesh and Uttarakhand) could experience widespread rain/snow with isolated heavy falls over Jammu & Kashmir and Ladakh around 5<sup>th</sup> March and isolated to scattered Thunderstorms, Lightning, Hailstorms & Gusty winds over Himachal Pradesh and Uttarakhand during 4<sup>th</sup> – 5<sup>th</sup> March.
- Plains of northwest India comprising Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and Uttar Pradesh could witness scattered rainfall with isolated Hailstorms, Thunderstorms, Lightning & gusty wind around 4<sup>th</sup> March and widespread activity with similar high impact nature around 5<sup>th</sup> March.
- Scattered to fairly widespread rain / thundershowers including Lightning are likely over west Bengal, Sikkim, Bihar, Jharkhand and Odisha during 4<sup>th</sup> & 5<sup>th</sup> March and isolated activity of similar nature over Madhya Pradesh, Chhattisgarh, Vidarbha, Telangana & coastal Andhra Pradesh during the same period.
- Fairly widespread to widespread rain/ Thundershowers, Lightning & Gusty winds are also likely over Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 3<sup>rd</sup> – 5<sup>th</sup> March.
- Isolated rain / thundershowers are likely over Tamil Nadu, Kerala, coastal & south interior Karnataka and north coastal Andhra Pradesh during initial half of week -1.
  (Annexure III & IV).
- Cumulative precipitation is likely to be above normal over Punjab, Haryana, Chandigarh & Delhi, west Uttar Pradesh, Uttarakhand, sub-Himalayan west Bengal & Sikkim, west Assam, Kerala, coastal & south interior Karnataka and near normal elsewhere outside Jammu & Kashmir, Ladakh, Himachal Pradesh, Arunachal Pradesh, Nicobar Islands and south Tamil Nadu where the rainfall is likely to be below normal. (Annexure IV).

## Week 2 (06<sup>th</sup> – 12<sup>th</sup> March 2020)

- The rainfall activity depicted towards the end of week-1 above is likely to continue in the initial couple of days of week-2 over WHR & plains of northwest India as well as over east & northeast India, with peak intensity around 6<sup>th</sup> March.
- Isolated rain / thundershowers are likely over south Peninsula & adjoining central India during the initial half of week-2.
- Cumulatively, above normal rainfall is likely over Punjab, Haryana, Chandigarh & Delhi, west Uttar Pradesh, Utttarakhand and sub- Himalayan west Bengal & Sikkim and near normal elsewhere outside Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, Nicobar islands, south Tamil Nadu and south Kerala where the rainfall could be below normal.

### Minimum Temperatures for week 1: (28<sup>th</sup> February – 05<sup>th</sup> March 2020)

In general, above normal (by 3-4°C) Night minimum temperatures are likely to prevail over Jammu& Kashmir, Ladakh, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan, coastal & south interior Karnataka and north Kerala and normal to slightly below normal (by 1-3°C) over the rest of the mainland. (Annexure V).

## Minimum Temperatures for week 2: (06<sup>th</sup> – 12<sup>th</sup> March 2020)

 Normal to slightly below normal (by 1-3°C) Night minimum temperatures are likely to prevail over major parts of the Indian mainland, outside some parts of south Rajasthan, east Uttar Pradesh and coastal & south interior Karnataka where they are likely to be above normal (by 1-4°C). (Annexure V).

#### Maximum Temperatures for week 1: (28<sup>th</sup> February – 05<sup>th</sup> March 2020)

In general, above normal (by 2-3°C) day maximum temperatures are likely over Jammu & Kashmir, Ladakh, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, southwest Uttar Pradesh, northwest Madhya Pradesh, Arunachal Pradesh, coastal Tamil Nadu, Karaikal & Puducherry, below normal (by 3-4°C) over south Gujarat, south Madhya Pradesh, Maharashtra, Goa, Karnataka, Assam Meghalaya, Nagaland, Manipur, Mizoram & Tripura and near normal to slightly above normal over the rest of the mainland. (Annexure VI).

### Maximum Temperatures for week 2: (06<sup>th</sup> – 12<sup>th</sup> March 2020)

 Below normal (by 2-5°C, in general) day maximum temperatures, are likely over major part of the Indian mainland, outside, Jammu & Kashmir, Ladakh, Himachal Pradesh, Arunachal Pradesh and coastal Tamil Nadu, Karaikal & Puducherry where they are likely to be above normal.(Annexure VI).

#### Cyclogenesis probability:

• No cyclogenesis likely as per the numerical model guidance during the forecast period.

Next weekly update will be issued on Thursday, the 05<sup>th</sup> March 2020.

Annexure I

# भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



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.

Annexure II

# भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



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.

#### Annexure-III

METEOROLOGICAL SUB-DIVISIONWISE WEEKLY RAINFALL FORECAST & Wx. WARNINGS-2020										
Sr. No	MET.SUB-DIVISIONS	27 FEB	28 FE	В	29 FEB	01 MAR	02 MAR		03 MAR	04 MAR
1	ANDAMAN & NICO.ISLANDS	D	D		D	D	D		D	ISOL
2	ARUNACHAL PRADESH	SCT	ISOL	_	D	ISOL	ISOL		FWS <sup>TS</sup>	WS <sup>•TS</sup>
3	ASSAM & MEGHALAYA	ISOL	D		D	ISOL	ISOL		FWS <sup>™</sup>	WS <sup>™</sup>
4	NAGA.MANI.MIZO.& TRIPURA	ISOL	D		D	D	D		FWS <sup>TS</sup>	WS <sup>TS</sup>
5	SUB-HIM.W. BENG. & SIKKIM	ISOL	D		D	ISOL	ISOL		SCT <sup>TS</sup>	FWS <sup>™</sup>
6	GANGETIC WEST BENGAL	D	D		D	D	ISOL		ISOL	SCT <sup>TS</sup>
7	ODISHA	D•	D	D D D		D	ISC	ISOL ISOL		SCT <sup>TS</sup>
8	JHARKHAND	D	D		D	ISOL	SOL ISOL		ISOL	ISOL
9	BIHAR	D	D		D	D	ISOL		SCT <sup>TS</sup>	<b>FWS</b> <sup>TS</sup>
10	EAST UTTAR PRADESH	D	D		ISOL <sup>TS</sup>	ISOL <sup>TS</sup>	D		ISOL	SCT
11	WEST UTTAR PRADESH	D	ISOL	TS	SCT <sup>TS#</sup>	ISOL <sup>TS#</sup>	ISC	)L	ISOL	SCT
12	UTTARAKHAND	D	SCT	S #	FWS <sup>TS#</sup>	SCT	ISC	)L	ISOL <sup>TS</sup>	SCT <sup>TS</sup>
13	HARYANA CHD. & DELHI	ISOL	SCT <sup>15</sup>	S #	FWS <sup>TS#</sup>	ISOL	D		D	SCT <sup>TS#</sup>
14	PUNJAB	ISOL	SCT	S #	FWS <sup>TS#</sup>	ISOL	D		D	SCT <sup>TS#</sup>
15	HIMACHAL PRADESH	ISOL	FWS	rs #	WS <sup>™#</sup>	SCT	ISC	)L	ISOL <sup>TS</sup>	SCT <sup>TS</sup>
16	JAMMU & KASHMIR, LADAKH	SCT	WS <sup>TS</sup>	•/*	WS <sup>™</sup> *	SCT	ISOL		ISOL	SCT <sup>TS</sup>
17	WEST RAJASTSAN	D	SCT <sup>TS</sup>	S #	ISOL <sup>TS#</sup>	D	D		ISOL	ISOL
18	EAST RAJASTSAN	D	ISOL	rs #	ISOL <sup>TS#</sup>	ISOL	D		D	ISOL
19	WEST MADHYA PRADESH	D	ISOL	_	SCT <sup>TS#</sup>	ISOL <sup>TS</sup>	D		ISOL	ISOL
20	EAST MADHYA PRADESH	D	D	D		ISOL <sup>TS</sup>	ISOL		ISOL	ISOL
21	GUJARAT REGION D.D. & N.H.	D	D		D	D	D		D	ISOL
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		D	D
25	MARATHAWADA	D	D		ISOL	ISOL	D		D	D
26	VIDARBHA	D	D	) ISOL <sup>TS#</sup> IS		ISOL <sup>TS</sup>	ISOL		D	D
27	CHHATTISGARH	D	D	D D		ISOL <sup>TS</sup>	ISOL		ISOL	ISOL <sup>TS</sup>
28	COASTAL A. PR. & YANAM	ISOL	D	D D		D	D		ISOL	ISOL <sup>TS</sup>
29	TELANGANA	D	D		D	ISOL	D		ISOL	ISOL
30	RAYALASEEMA	D	D		D	D	D		D	D
31	TAMIL. PUDU. & KARAIKAL	D	D		D	D	D		D	D
32	COASTAL KARNATAKA	ISOL	ISOL	-	ISOL	D	D		D	D
33	NORTS INT.KARNATAKA	D	D		D	D	D		D	D
34	SOUTS INT.KARNATAKA	Dr	ISOL		ISOL	D	D		D	D
35	KERALA & MAHE	LA & MAHE ISOL		-	ISOL	D	D		D	Ď
	36 LAKSHADWEEP D				SCT	D	D		D	D
LEGENDS: WS WIDE SPREAD / MOST PLACES (76-100%) EWS EALPLY WIDE SPREAD / MANY PLACES (51% to 75%)										
SCT	T SCATTERED / FEW PLACES (26% to 50%)			ISO				L		
Heavy Rainfall (64.5-115.5 mm)				5.6-20	04.4 mm)	Extremely	/ Heavy F	Rainfa	II (204.5 mm or r	nore)
• FOG	• FOG * SNOWFALL #HAILSTORM				COLD WAVE (-4.5 °C to -6.4 °C) ↓ SEVERE COLD WAVE (<			<b>AVE</b> (< -6.4)		
<sup>\$</sup> TSUNDERSTORM WITS SQUALL/GUSTY WIND			ERSTORM <b>I</b> HEAT WAVE (+4.5 °C to +6.4 °C) <b>I</b> S			EVERE HEAT WAVE (> +6.4)				

**Annexure IV** 



-20-15-10-5-1 1 5 10 15 20



