

Government of India Ministry of Earth Sciences India Meteorological Department

Dated: 30 July 2020

Current Weather Status and Outlook for next two weeks (30 July-12 August 2020)

Significant Features of current week ended on 29 July 2020

- The western end of the monsoon trough was weak during 23-25 July 2020 and then shifted and lay close to the foothills of Himalayas during 26- 28 July. Hence rainfall activity over northwest plains of India including at most parts of Gujarat and Rajasthan remained mainly subdued in most days in this week. On 29 July, due to shifting of western end of the monsoon trough, rainfall over northern aprts of this region has improved to scattered to fairly wide spread rains. (Ref Fig.1).
- The eastern end of the monsoon trough during the 1st half of the week for 23-25 July was at normal position or north of the normal position, with formation and movement of a cyclonic circulation from Meghalaya area to north Odisha, in the mid tropospheric levels. Under its influence, parts of east and northeast India, especially along the foot hills received fairly widespread to widespread rain/thundershowers with intense to very intense rainfall activity during that period. During 2nd half of the week, though it lay close to the foothills of Himalayas, but there was absence of stronger southerly or southwesterly winds from Bay of Bengal towards north-eastern states which caused reduction of the rainfall over the region during this period.
- A cyclonic circulation extending upto mid tropospheric levels originated over Southeast Bay of Bengal and neighbourhood during mid of the week and moved to southern parts of east coast towards the end of the week. This system and a trough extending from the system in the lower levels have caused fairly widespread to widespread rainfall/thundershowers with intense rainfall activity over parts of Peninsular India during 2nd half of the week.

Heavy Rainfall:

- Extremely Heavy Rain had been occurred at isolated places over Sub-Himalayan West Bengal & Sikkim, Uttarakhand and Chhattisgarh on one day each during the week.
- Heavy to very heavy rain had been occurred at isolated places over Odisha on three days; over Bihar, East Uttar Pradesh, Chhattisgarh, North Interior Karnataka and Kerala & Mahe on two days each; over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, West Uttar Pradesh, Uttarakhand, Jammu & Kashmir, Himachal Pradesh, East & West Rajasthan, East & West Madhya Pradesh, Gujarat Region, Konkan & Goa, Madhya Maharashtra, Vidarbha, Tamilnadu, Puducherry & Karaikal and Rayalaseema on one day each during the week.
- Heavy rain had been occurred at isolated places over West Madhya Pradesh and Saurashtra & Kutch on five days each; over Assam & Meghalaya, Gujarat Region, Konkan & Goa and Marathwada on four days each; over Punjab, Bihar, Jharkhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Madhya Maharashtra, Telangana and South Interior Karnataka on three days each; over

Jammu & Kashmir, Himachal Pradesh, East Rajasthan, Sub-Himalayan West Bengal & Sikkim, East & West Uttar Pradesh, Vidarbha, Rayalaseema, Coastal Andhra Pradesh & Yanam, North Interior Karnataka and Tamilnadu, Puducherry & Karaikal on two days each; over Haryana, Chandigarh & Delhi, Uttarakhand, Odisha, East Madhya Pradesh, Chhattisgarh, Coastal Karnataka and Lakshadweep on one day each during the week.

Temperature Scenario The highest Maximum temperature of 42.7°C had been recorded at Ganganagar (West Rajasthan) on 28th July 2020, over the plains of the country during the week.

LEGEND: A few days- 3 days, Many days- 4 to 5 days and Most days- 6 to 7 days during the week.

Weekly Rainfall Scenario (for week ended on 29 July 2020): During the week, rainfall was normal with % departure from below Long Period Average (LPA) by -29% over the country as a whole. Details are given below:

	Actual	Normal	%Departure from		
Regions	Rainfall(mm)	Rainfall(mm)	LPA		
Country as a whole	48.0	67.6	-29%		
Northwest India	33.2	52.7	-37%		
Central India	49.6	77.4	-36%		
South Peninsula	46.3	52.5	-12%		
East & northeast India	75.6	93.7	-19%		

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

Seasonal Rainfall Scenario for Monsoon Season of 2020 (1 June-29 July 2020)

For the country as a whole, Seasonal cumulative rainfall during this year's southwest monsoon season upto 29 July 2020 was above Long Period Average (LPA) by 1%. 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	436.7	433.9	1%		
Northwest India	218.8	272.5	-20%		
Central India	460.8	470.3	-2%		
South Peninsula	407.3	363.2	12%		
East & northeast India	842.6	755.3	12%		

Cumulative seasonal rainfall is given in Annexure II.

Chief synoptic conditions as on 30 July 2020

Monsoon trough at mean sea level passed through Ganganagar, Narnaul, Etawah, Varanasi,
Patna and thence eastwards to Nagaland across Meghalaya and south Assam.

- ♦ A north-south trough ran from northeast Uttar Pradesh to southeast Madhya Pradesh and extends upto 0.9 km above mean sea level.
- ♦ A cyclonic circulation lay over south Coastal Andhra Pradesh & adjoining north Tamilnadu between 3.1 & 5.8 km above mean sea level tilting southwestwards with height.

♦ A trough ran from south Maharashtra coast to southwest Madhya Pradesh across north Madhya Maharashtra at 3.1 km above mean sea level.

Large scale features as on 30 July 2020

- The Madden Julian Oscillation (MJO) index lies currently in Phase 4 with amplitude less than 1. It is likely to remain in Phase 4 during week 1 & 2. The amplitude become more than 1 from latter part of week 1 and again become less than 1 from latter part of week 2.
- Currently, ENSO-neutral conditions are prevailing over equatorial Pacific Ocean and the latest MMCFS forecast indicates these conditions are likely to continue for the entire forecast period.
- At present, near neutral IOD conditions are observed over Indian Ocean and the latest MMCFS forecast indicates same IOD conditions are likely to continue during the entire forecast period.

Forecast for next two week

Week 1: (30 July-5 August 2020)

- The western end of the monsoon trough lies near to its normal position, however its eastern end is still to the north of its normal position. Convergence of lower level winds from Arabian Sea over Northwest India is very likely to continue during next 2-3 days. Under the influence of these meteorological conditions, Widespread rainfall with isolated heavy to very heavy falls very likely over Uttarakhand, Sub-Himalayan West Bengal & Sikkim and heavy rainfall over Jammu Division, Himachal Pradesh, Uttar Pradesh, Punjab, Haryana, Chandigarh & Delhi, East Rajasthan, South Gujarat, West Madhya Pradesh, Bihar and Maharashtra & Goa during next 2-3 days.
- Due to convergence of strong lower level winds over the west coast, widespread rainfall with isolated heavy to very heavy falls are likely over Konkan & Goa and Ghat areas of Madhya Maharashtra during 01st-03rd August, 2020.
- **Cumulatively rainfall during week 1:** The monsoon trough at mean sea level likely to be in its near normal position and gradually shift northwards towards foothills of Himalayas. Rainfall activity very likely to be subdued over most parts of the central parts of the country. Due to strong southerly/southwesterly winds from Arabia Sea over northwest India at lower levels, Heavy rain over parts of northwest India till 01 August and reduce significantly thereafter. Strong westerly/southwesterly winds along the west coast, widespread rainfall with isolated heavy to very heavy falls likely to continue along the west coast. Overall rainfall activity very likely to be normal to above normal over south peninsular India, East UP, Bihar and Sub-Himalayan West Bengal & Sikkim.(Ref Annexure IV for model forecasts (http://nwp.imd.gov.in/cfs_rf.php) for cumulative and anomalies for Week 1.

Week 2: (6-12 August 2020): Cumulatively rainfall during week 2

The monsoon trough likely to be active and remains normal or south of its normal position. Rainfall likely to be normal to above normal over core monsoon zone including central parts of the country and adj Peninsular India, Gujarat and west coast of India. It is likely to be normal of rest of the country outside part of eastern and northeastern India where it is likely to be normal to below normal rains. Strong westerly/southwesterly winds along the west coast. As result, widespread rainfall with isolated heavy to very heavy falls likely to continue along the west coast.

Maximum Temperature for week 1 & 2: (30 July-12 August, 2020):

During week 1 Most parts of India likely to have above normal maximum temperature during the week except Western Himalayan region and parts of south eastern peninsula India AND northeastern parts of India (Annexure V).

During week 2, Most parts of India likely to have above normal maximum temperature during the week except Western Himalayan region and parts of south eastern peninsula India (Annexure V). **Cvclogenesis:** MJO likely to remain in Phase 4 during week 1 & 2. The amplitude become more than 1 from latter part of week 1 and again become less than 1 from latter part of week 2. Thus, the phase of MJO will support enhancement of convective activity over the north Indian Ocean during weeks 1 and 2. Most of the numerical models including IMD GFS, GEFS are not indicating any cyclogenesis over the region during week 1. NCEP GFS, ECMWF, NEPS, NCUM and IMD GFS based GPP are indicating formation of a low pressure area over north Bay of Bengal towards the later part of week-1 and its likely intensification over northwest bay of Bengal off Odisha coast at the end of week 1. A few of the above models also indicate likely formation of a low pressure area over northwest Bay of Bengal towards the later parts of week 1. A few of Bengal towards the end of week-2 as well without much intensification probability. Considering the above, there is low probability of cyclogenesis (formation of a Depression) over northwest Bay of Bengal off Odisha coast towards the end of week-1. (for details on cyclogenesis pls see http://www.rsmcnewdelhi.imd.gov.in /images/bulletin/eroc.pdf)

Next weekly update will be issued on next Thursday i.e. 5 August 2020

Annexure I





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%) ON RAIN (-100%) ODATA 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-DIVISION	S	23 JUL	24 J	UL	25 JUL	26 JUL	27 J	UL	28 JUL	29 JUL
1	ANDAMAN & NICO.ISLA	NDS	FWS	SC	Т	SCT	SCT FWS FWS		'S'	ws	ws
2	ARUNACHAL PRADESH		ws	FWS	s	FWS	FWS FWS		S ^{•TS}	ws	ws
3	ASSAM & MEGHALAYA		ws	FWS	FWS FWS		FWS ^{•TS}	ws"		ws	ws
4	NAGA.MANI.MIZO.& TR	PURA	ws	FWS		FWS	FWS	FW	/S	ws	ws
5	SUB-HIM.W. BENG. & S	KKIM	ws	ws		ws	WS ^{••™}	WS ^{••TS}		ws	ws
6	GANGETIC WEST BENG	AL	ws"	ws	•	FWS	FWS	SCT		FWS	FWS
7	ODISHA		FWS	FWS	S	SCT	SCT	SCT		FWS	FWS
8	JHARKHAND		ws	ws	тs	FWS ^{TS}	FWS ^{TS}	FWS ^{TS}		FWS	FWS
9	BIHAR		WS ^{•TS}	FWS	s	FWS	FWS ^{TS}	FWS ^{•TS}		ws	ws
10	EAST UTTAR PRADESH		SCT ^{•TS}	FWS	s	FWS ^{•TS}	WS ^{••TS}	ws"		ws*	ws
11	WEST UTTAR PRADESH	ł	ISOL ^{TS}	SC	Т	SCT ^{•TS}	WS ^{∙TS}	W	s	ws	ws
12	UTTARAKHAND		SCT ^{TS}	FWS	s	FWS ^{¶TS}	WS ^{¶™}	W	s	ws	ws
13	HARYANA CHD. & DELH	11	ISOL	ISO	L	SCT	FWS	F۷	/S	ws	ws
14	PUNJAB		ISOL	ISO	L	ISOL	SCT	F۷	/S	ws	ws
15	HIMACHAL PRADESH		ISOL	SC	Т	SCT	FWS	FW	's'	FWS	FWS
16	JAMMU & K. AND LADA	кн	ISOL	ISO	L	ISOL SCT SC		т	SCT	SCT	
17	WEST RAJASTSAN		ISOL ^{TS}	SCT		ISOL ^{TS}	ISOL ^{TS}	ISC	DL	ISOL	ISOL
18	EAST RAJASTSAN		SCT ^{¶S}	SCT		SCT ^{¶TS}	SCT ^{¶S}	SCT		SCT	SCT
19	WEST MADHYA PRADE	SH	SCT ^{¶S}	FWS ^{¶S}		FWS	FWS	FWS		FWS	ws
20	EAST MADHYA PRADES	SH	FWS ^{•TS}	FWS		FWS	SCT	SCT		FWS	ws
21	GUJARAT REGION D.D.	& N.H.	SCT	FWS	s	ws	FWS	SC	;T	SCT	SCT
22	SAURASTRA KUTCH &	DIU	ISOL	FWS	s	FWS	FWS	SC	T	SCT	SCT
23	KONKAN & GOA		ws	WS	;•	ws	ws	w	S	WS	WS
24	MADHYA MAHARASHTI	RA	ws*	ws	;•	FWS	FWS	SC	т	SCT	SCT
25	MARATHAWADA		ws	WS	;*	FWS	SCT	SC	T	SCT	SCT
26	VIDARBHA		WS ^{•TS}	ws	тs	FWS	SCT	SC	т	SCT	SCT
27	CHHATTISGARH		WS ^{••TS}	FWS		SCT	SCT	SCT		FWS	FWS
28	COASTAL A. PR. & YAN	AM	ws	FWS ^{TS}		SCT	SCT	SCT		FWS	FWS
29	TELANGANA		WS ^{••TS}	FWS ^{•TS}		SCT	SCT	FWS		FWS	FWS
30	RAYALASEEMA		FWS ^{•TS}	FWS ^{TS}		ISOL	ISOL	ISOL		ISOL	ISOL
31	TAMIL. PUDU. & KARAI	KAL	SCT ^{¶S}	ISOL ^{TS}		ISOL	ISOL	ISOL		SCT	SCT
32	COASTAL KARNATAKA	L.	FWS	ws		FWS	FWS	FWS		FWS	FWS
33	NORTH INT.KARNATAK	Α	WS ^{IS}	WS ^{¶S}		SCT	SCT	SCT		SCT	SCT
34	SOUTH INT.KARNATAK	A	WS ^{•15}	FWS ^{•TS}		SCT	SCT	SCT		FWS	FWS
35	5 KERALA & MAHE		FWS	FWS		SCT	SCT	FWS		FWS	WS
36			WS	WS	WS SCT		SCT	SC	T	FWS	FWS
SCT	SCATTERED / FEW DI ACES (26% to 50%)		0%)	ISOI	ISO				L		
Heavy	Rainfall (64 5-115 5 mm)	Heavy	to Very Heavy R	ainfall (11	5.6-2	204 4 mm)	Extremely	/ Heavy	Rainfa	II (204 5 mm or r	more)
[®] FOG	Treavy Kamilan (04.3-113.5 mm) Heavy [®] FOG * SNOWEALL # LALL ST					COLD WAVI	= (-4.5 °C to -6.4	^o C)	- SI	VERE COLD WAVE (< -6.4)	
^{\$} TSUNDE	RSTORM WITS SQUALL/GUS	DS/TS DUST/THUN	DERSTORN	1	HEAT WAVE	E (+4.5 °C to +6.4	↓ ^o C)	₽ " S	EVERE HEAT W	/AVE (> +6.4)	

Annexure IV



Annexure V

