

USDA Foreign Agricultural Service

# GAIN Report

Global Agricultural Information Network

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**Date:** 9/6/2016

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## India

**Post:** New Delhi

### **Monsoon Update - Optimism High Yet Monsoon Below Expectation**

**Report Categories:**

Agriculture in the News

Agricultural Situation

Agriculture in the Economy

Market Development Reports

Climate Change/Global Warming/Food Security

Cotton and Products

Grain and Feed

Oilseeds and Products

Sugar

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**Report Highlights:**

Rains have caused flooding in five states, although pan-India rainfall is three percent below the 10-year average for the southwest monsoon (June 1 through Aug. 28). As of Sept. 1, reservoirs were at 67 percent capacity whereas they were at 59 percent capacity on the same date a year ago. Planted acreage

is higher than last year due to improved soil and sub-soil moisture conditions. A switch to food crop planting could trigger imports of other commodities for further processing.

### General Information:

#### A Tale of Two Monsoons – Below Average Rainfall with Isolated Flooding

As a whole, India received normal rainfall from June 1 through Aug. 28 with a three percent downward departure from the long-period average (LPA) for the southwest monsoon. The most recent Indian Meteorological Department (IMD) forecast envisions rainfall to be 107 percent above the LPA for the second half (August and September) of the monsoon. According to IMD data, rainfall was 11 percent below the LPA in June, 7 percent above the LPA for July, and 8.5 percent below the LPA for August. September rains will be crucial to determine whether the monsoon is normal or above normal as predicted in IMD models.

According to IMD rainfall data, several regions in Karnataka, Telangana and Kerala have received below normal rains. As a result, these states are discouraging the planting or sowing of water-intensive crops such as paddy and sugarcane. According to IMD data, about 14 percent of India has seen deficient rains (see Images 1 and 2, below).

**Table 1. India: Regional Rainfall Levels from June 1, 2016-Aug. 28, 2016**

Regions	Actual (mm)	Normal (mm)	Percentage Departure
Northwest	510.4	489.0	4
Central	821.0	767.2	7
Southern Peninsula	474.9	544.4	-13
East and Northeast	907.2	1112.7	-18
<b>All India</b>	<b>671.2</b>	<b>693.1</b>	<b>-3</b>

Source: Indian Meteorological Department, Government of India

Heavy flooding and rainfall in certain regions grabbed headlines and agri-wire service attention during August. Several districts in the central states of Uttar Pradesh and Madhya Pradesh as well as in the east and northeast states of Bihar, West Bengal and Jharkhand received heavy or very heavy rainfall. IMD forecasts call for heavy rains to persist in East and Northeast India and in the Southern Peninsula states of Andhra Pradesh, Telangana and Karnataka from Aug. 29-Sept. 6, 2016.

According to the [National Disaster Management Agency](#), on Aug. 25, 2016, there were two unprecedented flood situations, four high floods and 15 moderate flood sites in Bihar, Uttar Pradesh, West Bengal and Jharkhand. Provisional estimates indicate the extent of damage to the cropped area around to be 4.23 million hectares.

#### Kharif Planting Pace Moving Faster than Last Year – Food Crops Favored to Cash Crops

According to spatial analysis, surface and subsurface soil moisture remains better than last year. The planting pace of Kharif crops (monsoon planted and harvested) is 5 percent faster than a year ago. Pulse acreage has seen a 34 percent increase this season whereas cotton and sugarcane planting have seen declines, respectively, of 9 percent and 8 percent (see Table 2).

### **Reservoir Levels for All India Remain Below 10-Year Average**

Reservoir levels at many of the 91 major reservoir locations are lower than the same period a year ago (see Table 3). States having reservoir levels closer to their capacity include Rajasthan, Jharkhand, Odisha, West Bengal, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, Telangana and Karnataka. States having reservoir levels that are lower include Himachal Pradesh, Punjab, Tripura, Uttarakhand, Chhattisgarh, Andhra Pradesh, Kerala and Tamil Nadu.

### **Impact in Agri-Industry Sectors: Good Rains Linked to Strong Rural Economy**

After two years of below-normal monsoon rains, the cascading effect of even a normal monsoon on the economy is expected to drive up rural income and consumption. With higher planted area in cereals and pulses, production volumes are expected to be higher than previous years. Analysts report this should help curb food price inflation. However, demand is outpacing supply and the Government of India continues to import pulses, maize and wheat.

### **A Switch to Food Crop Acreage Away from Cane and Cotton Could Prompt Imports of Oilseeds, Cotton and Ethanol**

Soybean planting acreage is lower than last year, but other oilseeds, namely groundnut and sunflower, have seen area expansion. Soybean oil imports are expected to be higher than last year as attractive international prices and lower oilseed availability for crushing should prompt trade to look at sourcing from international markets. While food crop acreage is greater, sugarcane and cotton planted area are lower this year and sources report that there could be greater import volumes of ethanol and cotton.

**Table 2: India. Kharif 2016 Sown Area (in million hectares)**

Crop	Area Sown in 2016-17 on Aug. 26, 2016	Area Sown in 2016-17 on Aug. 26, 2015	Normal Area on Aug. 26	Change
Rice	36.307	35.223	34.966	3%
Pulses	13.942	10.385	9.920	34%
Coarse Cereals	18.299	17.273	17.680	6%
Oilseeds	17.774	17.458	17.473	2%
Sugarcane	4.555	4.960	4.621	-8%
Jute & Mesta	0.756	0.773	0.812	-2%
Cotton	10.278	11.268	11.561	-9%
<b>Total</b>	<b>101.910</b>	<b>97.340</b>	<b>97.033</b>	<b>5%</b>

Source: Ministry of Agriculture, Government of India

**Table 3: India. Storage Status at 91 Major Reservoirs in Billion Cubic Meters (BCM)**

Region	Volume on Sept. 1, 2016 (in BCM)	Total Capacity (in BCM)	Percentage of Capacity on Sept. 1, 2016	Percentage of Capacity on Sept. 1, 2015	10-Year Average Capacity Level on Sept. 1
Northern	13.91	18.01	77%	92%	79%
Eastern	12.49	18.83	66%	57%	61%
Western	20.03	27.07	74%	58%	69%
Central	35.94	42.30	85%	76%	62%
Southern	22.88	51.59	44%	34%	69%
<b>All India</b>	<b>105.25</b>	<b>157.80</b>	<b>67%</b>	<b>59%</b>	<b>67%</b>

Source: Ministry of Water Resources, Government of India

**Table 4: India. Total Kharif 2016 Sowing Position (in million hectares) by State**

State	Normal Area on Aug.t 26	Area Sown in 2016-17 on Aug. 26, 2016	Area Sown in 2015-16 on Aug. 26, 2015	Change
Andhra Pradesh	2.844	2.977	2.524	17.9%
Arunachal Pradesh	0.174	0.235	0.171	37.4%
Assam	2.129	2.082	2.155	-3.4%
Bihar	3.912	4.147	4.080	1.6%
Chhattisgarh	4.285	4.340	4.396	-1.3%
Goa	0.008	0.014	0.015	-6.7%
Gujarat	6.782	6.753	6.710	0.6%
Haryana	2.418	2.655	2.509	5.8%
Himachal Pradesh	0.407	0.404	0.402	0.5%
Jammu and Kashmir	0.496	0.501	0.498	0.6%
Jharkand	1.880	2.359	2.129	10.8%
Karnataka	5.650	6.415	5.140	24.8%
Kerala	0.100	0.060	0.044	36.4%
Madhya Pradesh	12.015	12.492	12.584	-0.7%
Maharashtra	14.067	14.948	13.526	10.5%
Manipur	0.167	0.198	0.200	-1.0%
Meghalaya	0.096	0.105	0.105	0.0%
Mizoram	0.040	0.041	0.042	-2.4%
Nagaland	0.190	0.223	0.209	6.7%
Odisha	4.512	4.347	4.326	0.5%
Punjab	3.585	3.544	3.703	-4.3%
Rajasthan	10.325	11.064	10.683	3.6%
Sikkim	0.010	0.011	0.011	0.0%
Tamil Nadu	0.912	1.037	1.024	1.3%
Telangana	3.204	3.372	3.127	7.8%
Tripura	0.138	0.184	0.177	4.0%
Uttar Pradesh	11.134	11.626	11.697	-0.6%
Uttarakhand	0.638	0.633	0.625	1.3%
West Bengal	4.571	4.736	4.164	13.7%
Puducherry	-	-	-	-
Others	0.344	0.407	0.366	11.2%
<b>All-India</b>	<b>97.033</b>	<b>101.910</b>	<b>97.342</b>	<b>4.7%</b>

Source: Ministry of Agriculture, Government of India

**Table 5. India: Rainfall Progress across Meteorological Subdivisions**

**Progress of rain over India (Relative departure from normal)  
(June 1- August 31 2016)**

SI No	Meteorological Sub Division	Normal (June-Sep)	01-Jun	Jun 1-August 31 2016									
			30-Jun 2016	31-Jul 2016	07-Aug 2016	14-Aug 2016	21-Aug 2016	27-Aug 2016	30-Aug 2016	31-Aug 2016	ACT (mm)	NOR (mm)	Def/Surp (mm)
1	And. & Nic. Islands	1683	-2	-14	-15	-19	-25	-25	-25	-23	958	1250	-292
2	Arunachal Pradesh	1768	-19	0	-4	-8	-12	-16	-16	-16	1169	1396	-227
3	Assam & Meghalaya	1793	-38	-26	-29	-31	-34	-35	-35	-35	958	1467	-508
4	Naga, Mani, Mizo, Trip.	1497	-41	-25	-28	-29	-24	-27	-25	-23	926	1207	-281
5	SHW. Bengal & Sikkim	2006	17	16	10	3	-4	-7	-7	-7	1482	1596	-114
6	Gangetic W. Bengal	1168	-31	-11	-6	4	3	9	5	5	929	888	+41
7	Odisha	1150	-24	-20	-6	-11	-14	-14	-16	-16	763	913	-150
8	Jharkhand	1092	-37	-21	-21	-10	-2	-1	-3	-3	818	848	-30
9	Bihar	1028	-24	-5	-12	-10	-16	-19	-21	-21	636	804	-167
10	East Uttar Pradesh	898	-28	3	-5	-6	-2	-7	-10	-9	640	700	-61
11	West Uttar Pradesh	769	-16	25	12	4	5	-3	-5	-4	595	621	-26
12	Uttarakhand	1229	4	15	9	7	4	0	-2	-3	993	1022	-29
13	Hary., Chand. & Delhi	466	-29	-10	-19	-13	-21	-23	-18	-16	323	385	-63
14	Punjab	492	17	-16	-19	-20	-24	-22	-16	-16	335	401	-66
15	Himachal Pradesh	825	6	-27	-19	-13	-16	-17	-17	-17	568	685	-118
16	Jammu & Kashmir	535	-2	0	5	3	-2	-4	-1	-1	437	443	-6
17	West Rajasthan	263	10	-15	-1	29	17	23	36	37	305	222	+83
18	East Rajasthan	616	-3	34	41	57	51	50	50	50	773	516	+256
19	W. Madhya Pradesh	876	4	37	48	44	44	38	35	33	939	706	+234
20	E. Madhya Pradesh	1051	-26	35	33	25	36	34	30	30	1110	851	+259
21	Gujarat region	901	-76	-39	-27	-21	-27	-22	-22	-22	589	755	-165
22	Saurashtra & Kutch	474	-65	-49	-14	-15	-20	-14	-10	-11	357	402	-44
23	Konkan & Goa	2914	14	17	29	22	16	14	14	15	2950	2569	+380
24	M. Maharashtra	729	-30	8	31	27	18	14	13	12	646	577	+69
25	Marathwada	683	10	31	27	16	5	0	0	1	523	519	+4
26	Vidarbha	955	-3	36	32	20	9	5	2	4	815	786	+30
27	Chhattisgarh	1147	-9	-5	6	2	-2	-4	-5	-6	882	938	-56
28	C. Andhra Pradesh	581	77	18	12	0	-8	-7	0	5	441	422	+19
29	Telangana	755	47	16	15	3	-7	-9	-8	-5	564	593	-29
30	Rayalaseema	398	90	60	44	29	15	6	12	14	301	265	+36
31	T. Nadu & Pondicherry	317	44	34	19	10	-1	-2	-1	4	209	201	+8
32	Coastal Karnataka	3084	11	-14	-16	-18	-21	-21	-21	-21	2199	2783	-584
33	North int. Karnataka	506	31	26	24	15	6	2	1	4	373	360	+13
34	South int. Karnataka	660	22	6	2	-3	-9	-11	-12	-11	462	519	-57
35	Kerala	2040	-8	-25	-27	-28	-29	-30	-30	-29	1268	1795	-527
36	Lakshadweep	999	-3	-6	-11	-16	-18	-19	-19	-20	670	835	-166

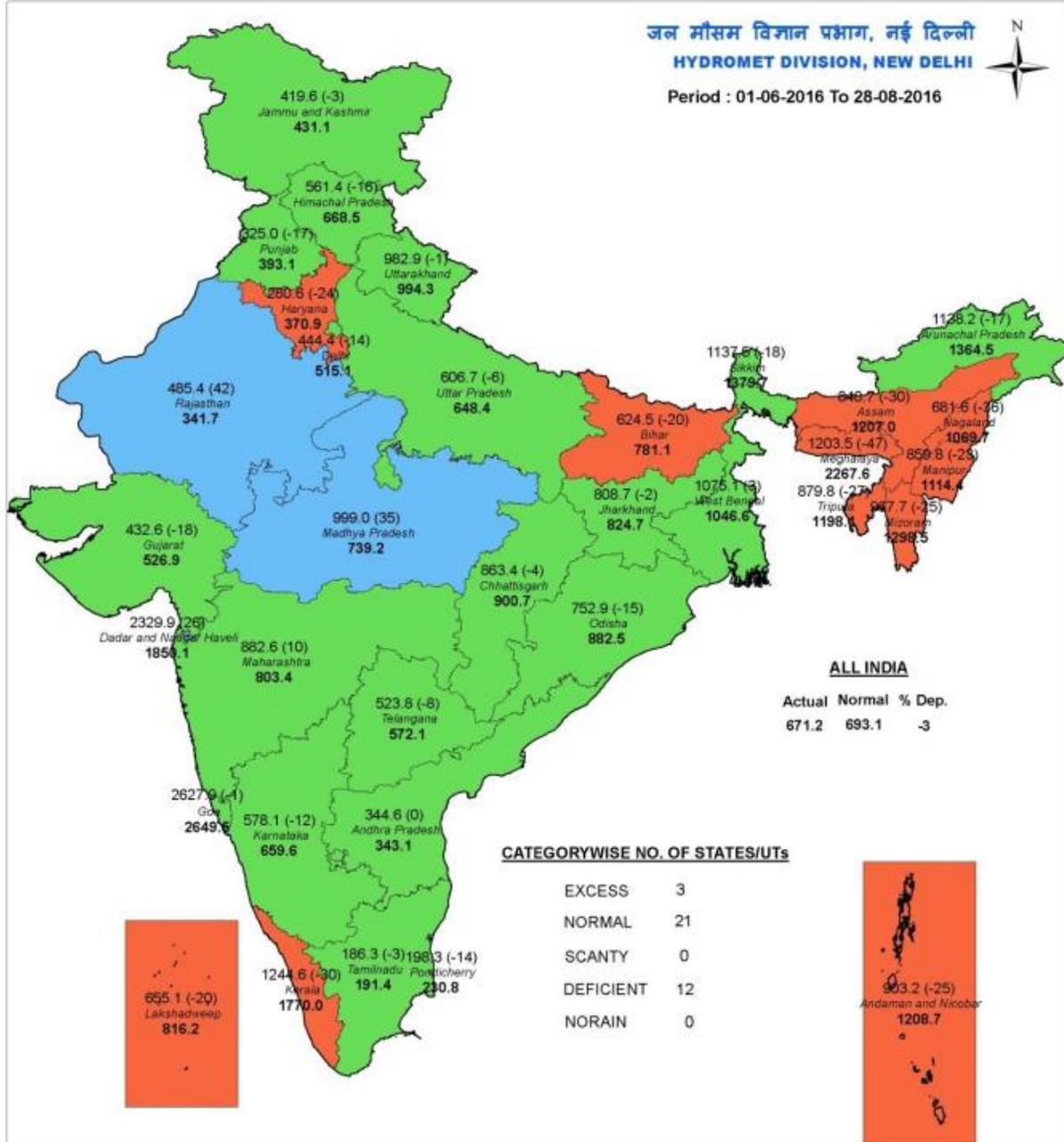
Source: Indian Meteorological Department, Government of India

Image 1. India: State Rainfall Map



भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT

STATE RAINFALL MAP



Legend :

Excess [20% or more] Normal [-19% to 19%] Deficient [-59% to -20%] Scanty [-99% to -60%] No Rain [-100%] NO DATA

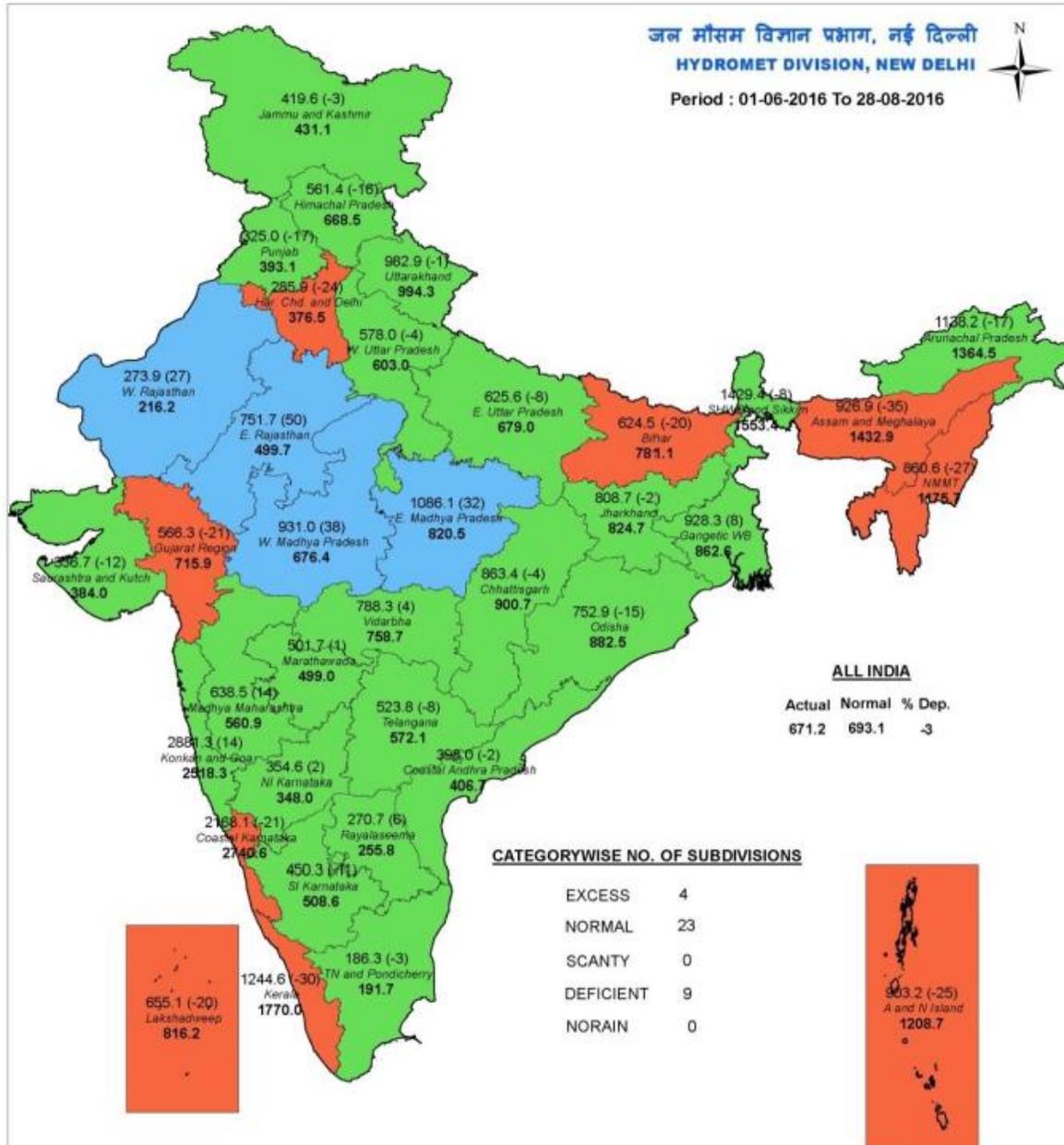
NOTES :

- 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.

Image 2. India: Weather Subdivision Rainfall Map



**SUBDIVISION RAINFALL MAP**



**Legend :**

■ Excess [20% or more] 
 ■ Normal [-19% to 19%] 
 ■ Deficient [-59% to -20%] 
 ■ Scanty [-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.

SUBDIVISION-WISE RAINFALL DISTRIBUTION

S NO	MET. SUBDIVISION/UT/STATE/DISTRICT	Day:28-08-2016				Period:01-06-2016 To 28-08-2016			
		ACTUAL (mm)	NORMAL (mm)	%DEP.	CAT.	ACTUAL (mm)	NORMAL (mm)	% DEP.	CAT.
	REGION : EAST AND NORTH EAST INDIA	3.0	9.8	-69%		907.2	1112.7	-18%	
1	ARUNACHAL PRADESH	4.8	8.0	-40%	D	1138.2	1364.5	-17%	N
2	ASSAM & MEGHALAYA	3.9	10.9	-64%	S	926.9	1432.9	-35%	D
3	N M M T	10.7	11.0	-2%	N	860.6	1175.7	-27%	D
4	SHWB & SIKKIM	0.9	14.5	-94%	S	1429.4	1553.4	-8%	N
5	GANGETIC WEST BENGAL	0.1	9.9	-99%	S	928.3	862.6	8%	N
6	JHARKHAND	0.0	9.7	-100%	NR	808.7	824.7	-2%	N
7	BIHAR	0.0	7.7	-100%	NR	624.5	781.1	-20%	D
	REGION : NORTH WEST INDIA	8.8	6.1	44%		510.4	489.0	4%	
1	EAST UTTAR PRADESH	0.0	7.0	-100%	NR	625.6	679.0	-8%	N
2	WEST UTTAR PRADESH	0.4	8.2	-95%	S	578.0	603.0	-4%	N
3	UTTARAKHAND	0.2	9.5	-98%	S	982.9	994.3	-1%	N
4	HAR. CHD & DELHI	1.7	6.6	-74%	S	285.9	376.5	-24%	D
5	PUNJAB	20.0	3.9	413%	E	325.0	393.1	-17%	N
6	HIMACHAL PRADESH	10.8	7.0	55%	E	561.4	668.5	-16%	N
7	JAMMU & KASHMIR	13.0	6.7	94%	E	419.6	431.1	-3%	N
8	WEST RAJASTHAN	11.8	2.9	308%	E	273.9	216.2	27%	E
9	EAST RAJASTHAN	13.3	5.9	126%	E	751.7	499.7	50%	E
	REGION : CENTRAL INDIA	6.8	8.7	-22%		821.0	767.2	7%	
1	ODISHA	2.5	13.5	-82%	S	752.9	882.5	-15%	N
2	WEST MADHYA PRADESH	12.3	7.6	62%	E	931.0	676.4	38%	E
3	EAST MADHYA PRADESH	1.1	8.7	-87%	S	1086.1	820.5	32%	E
4	GUJARAT REGION	12.0	8.0	50%	E	566.3	715.9	-21%	D
5	SAURASHTRA & KUTCH	10.3	4.9	111%	E	336.7	384.0	-12%	N
6	KONKAN & GOA	19.7	18.7	6%	N	2881.3	2518.3	14%	N
7	MADHYA MAHARASHTRA	3.2	4.5	-30%	D	638.5	560.9	14%	N
8	MARATHWADA	11.4	6.4	78%	E	501.7	499.0	1%	N
9	VIDARBHA	2.2	8.0	-73%	S	788.3	758.7	4%	N
10	CHHATTISGARH	5.3	10.8	-51%	D	863.4	900.7	-4%	N
	REGION : SOUTH PENINSULA	7.8	5.2	51%		474.9	544.4	-13%	
1	A & N ISLAND	6.2	14.4	-57%	D	903.2	1208.7	-25%	D
2	COASTAL ANDHRA PRADESH	23.1	4.8	381%	E	398.0	406.7	-2%	N
3	TELANGANA	11.5	6.4	80%	E	523.8	572.1	-8%	N
4	RAYALASEEMA	2.5	3.8	-35%	D	270.7	255.8	6%	N
5	TAMILNADU & PONDICHERY	3.2	4.0	-19%	N	186.3	191.7	-3%	N
6	COASTAL KARNATAKA	10.1	14.3	-30%	D	2168.1	2740.6	-21%	D
7	N. I. KARNATAKA	2.1	3.2	-33%	D	354.6	348.0	2%	N
8	S. I. KARNATAKA	2.6	4.2	-39%	D	450.3	508.6	-11%	N
9	KERALA	9.2	9.4	-2%	N	1244.6	1770.0	-30%	D
10	LAKSHADWEEP	1.5	5.3	-72%	S	655.1	816.2	-20%	D
	COUNTRY :	7.0	7.4	-5%		671.2	693.1	-3%	

Source: Indian Meteorological Department, Government of India