

All India Coordinated Research Project on Agrometeorology (AICRPAM)
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Weather Conditions, Progress in *kharif* sowing and Agromet Advisories Issued during July 2016

1. General Weather Conditions

Southwest monsoon has covered the entire country on 13 July (two days ahead of normal date, ie. 15 July). Out of 36 meteorological subdivisions, rainfall was excess/normal in 28 and deficient/scanty in 8 subdivisions. (All India Actual: 454.7 mm; Normal: 452.8 mm; and Departure: 0%). At the end of July, deficit rainfall is mainly confined to the subdivisions viz. Himachal Pradesh, Jharkhand, Odisha, Gujarat, Kerala, Assam, Nagaland, Manipur, Mizoram and Tripura. The rainfall received during July 2016 is depicted in Fig. 1. During the second fortnight of July, Assam and Bihar faced flood situation.

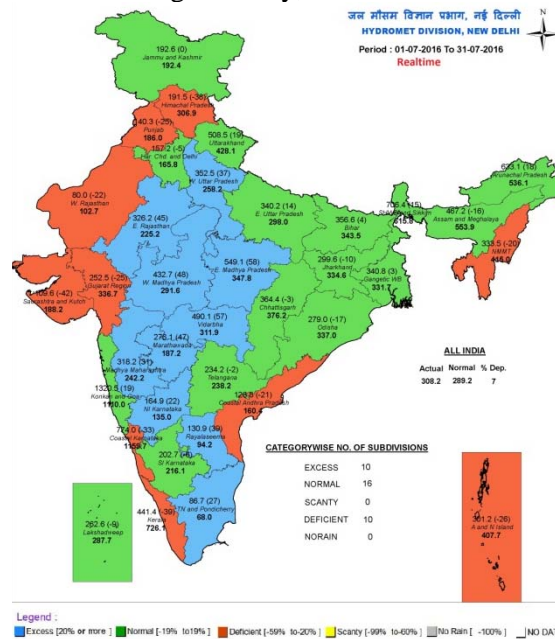


Fig. 1: Meteorological sub-divisional-wise rainfall received during July 2016 (Source: IMD)

2. Excess and deficit rainfall regions of the country

Districts which received rainfall less than 50% of normal and more than 50% of normal during 1 June to 31 July were identified and depicted in Figure 2. The details of the districts identified are given in Annexure 1.

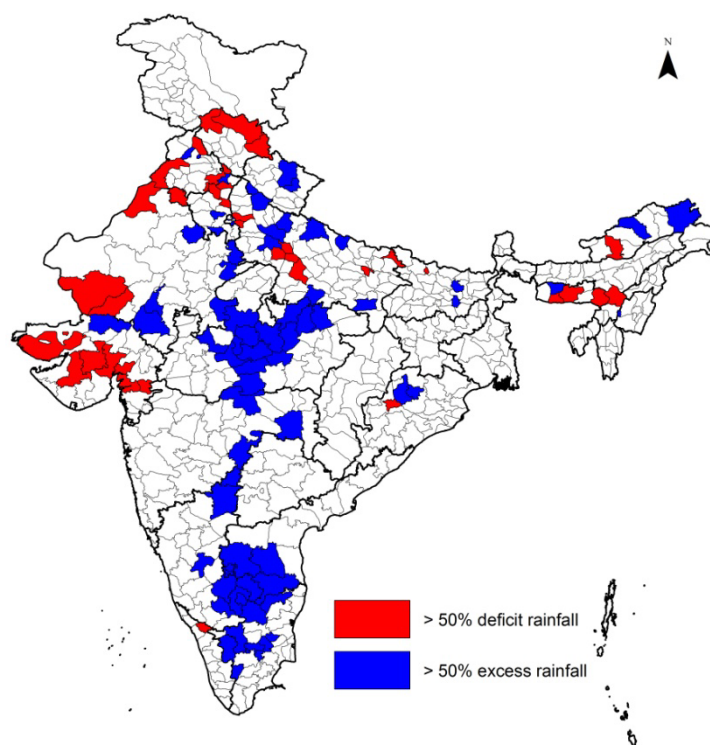


Fig. 2: Districts received > 50% deficit & excess rainfall (compared to normal) during 1 June – 31 July 2016

3. Progress in kharif sowing-2016 (Source: Press Information Bureau and Ministry of Agriculture, Govt. of India)

The total sown area of crops as on 29th July, 2016 as per reports received from States, stands at 799 lakh hectare as compared to 752 lakh hectare, as on this date last year (Table 1).

Table 1: Progress in kharif sowing in India as on 29th July 2016

Crop	Area sown in 2016-17	Area sown in 2015-16
Rice	231.9	225.0037
Pulses	110.3	78.2
Coarse Cereals	150.8	144.8
Oilseeds	159.8	148
Sugarcane	46.8	45.9
Jute & Mesta	7.5	7.7
Cotton	92.3	102
Total	799.5	752.2

(Area in Lakh hectare)

4. Agromet advisories issued by ICAR-All India Coordinated Research Project on Agrometeorology (AICRPAM) centers during July 2016

Date of issue	AICRPAM Center	Agromet Advisory issued
1-7-2016	Vijayapura, North Karnataka	<p>To reduce effects of extreme weather situations/ to reduce crop loss risk, the following intercrops are advised.</p> <ul style="list-style-type: none"> ▪ Pearl millet + Groundnut (bunch type) (2:4); Pearl millet + Pigeon pea (2:1); Maize/Groundnut (bunch) + Pigeon pea (4:2), <i>Kharif</i> Sorghum + Pigeon pea (5:1), Pigeon pea + Sesame (1:2 or 2:4); Pigeon pea + Horse gram (2:1) or Chilli + <i>Desi</i> Cotton.
	Anantapur, Andhra Pradesh	<ul style="list-style-type: none"> ▪ As there is a forecast of deficit rainfall during the next week days, provide protective irrigation to early sown groundnut, crop which is at flowering to peg initiation stage in Chittoor, Kadapa, Nellore districts and maize, cotton crops with the harvested rain water in farm ponds. ▪ If, continuous dry spell conditions prevail, farmers should watch for sucking pest incidence like leaf miner in Groundnut, thrips in Green gram, Black gram
8-7-2016	Thrissur, Kerala	<ul style="list-style-type: none"> ▪ Paddy: First paddy crop is in transplanting stage. Due to high relative humidity, there is a chance of sheath blight, sheath rot, leaf spot diseases in paddy. This diseases can be control to an extend by dipping the roots of seedling in pseudomonas solution by mixing 20 g pseudomonas culture in one liter of water for 30 minutes while transplanting. ▪ Coffee: Leaf rust disease may become severe due to increase in relative humidity. Apply 0.5% Bordeaux mixture or plant wax 20 EC @1-2 ml per litre to control the disease.
	Akola, Maharashtra	<ul style="list-style-type: none"> ▪ Cotton: In areas with delayed sowing condition (at the most up to 15 July), prefer early varieties of American (AKH-8828,PKV Rajat,AKH-081) and <i>Desi</i> (AKA-5, AKA-7, AKA-8) cotton, use 20% more than recommended seed rate and reduce intra-row spacing. Early <i>Bt</i> cotton varieties may also be preferred.
15-7-2016	Kovilpatti, Tamilnadu	<ul style="list-style-type: none"> ▪ If sowing not taken up due to insufficient rainfall even upto third week of July 2016, sowing of sorghum+ pulses (black gram/ green gram/ cowpea) is advocated instead of groundnut + pulses (red gram) + castor for Erode district. Pure crop of pearl millet/ green gram can be sown instead of dry rice /Ground nut for Tiruvallur district. ▪ Sorghum and bajra can be replaced with short duration black gram in Tirunelveli district. Pearl millet / horse gram/ minor millets can be recommended to replace groundnut / maize/ gingelly for Tiruvannamalai district.
	Raipur, Chattisgarh	<ul style="list-style-type: none"> ▪ Farmers of Soybean belt (Bemetra, Mungeli, Rajnndgaon, Kawardha, Durg districts) should not undertake Soybean sowing in present situation as there are no chances of widespread rainfall in coming week.
22-7-2016	Jorhat, Assam	<p>Contingency measures to be taken under flood situation</p> <ul style="list-style-type: none"> ▪ Suitable paddy cultivar for flood prone area: Luit ▪ Suitable paddy cultivar for 15 days submergence tolerance: Swarna Sub-1, Jalashree, Jalkunwari, Plaban ▪ Suitable paddy cultivar for delayed transplanting with aged seedling: Padumoni, Prafulla, Gitesh ▪ Suitable paddy cultivar for normal planting: Ranjit, Bahadur, Maniram, Kushal, Piolee, Pankaj, Lakhimi ▪ Suitable paddy cultivar with medium duration: Satyaranjan, Basundhara <p>Post flood condition</p> <ul style="list-style-type: none"> ▪ After receding of flood water go for wet seeding of sprouted rice where

		<p>ever possible with short duration cultivars.</p> <ul style="list-style-type: none"> ▪ In other case, plan for sowing of green gram, lentil, early rabi vegetables etc.
	Mohanpur, West Bengal	<ul style="list-style-type: none"> ▪ Harvest jute at 100 DAS if aman-rice-growers want to cultivate rice in the same field. Otherwise, jute may be harvested at 120 to 125 DAS. ▪ Due to humid and warm weather, infestation of blight in vegetable crops is likely to increase; spray Mancozeb @ 2 g per liters of water.

5. Operationalisation of district crop contingency plans

Interface meetings for 'Operationalisation of district agricultural contingency plans' was organized in the Rajasthan (4 July).

Annexure 1

Districts which received more than 50% deficit and excess rainfall compared to normal (1 Jun to 31st July 2016)

S.No.	State/District	ACTUAL (mm)	NORMAL (mm)	DEP. (%)
	Arunachal Pradesh			
1.	Lower Dibang Valley	2250	646	248
2.	Upper Subansiri	722	446	62
3.	East Kameng	309	714	-57
	Assam	710	881	-19
4.	N.C Hills	274	598	-54
	Meghalaya			
5.	Jaintia Hills	84	2907	-97
6.	South Garo Hills	103	969	-89
7.	West Khasi Hills	584	1702	-66
8.	East Garo Hills	2116	997	112
	Manipur			
9.	Imphal West	1127	572	97
	Uttar Pradesh			
10.	Banda	655	353	85
11.	Kheri	679	429	58
12.	Mirzapur	687	379	81
13.	Shrawasti	795	491	62
14.	Badaun	498	322	55
15.	Bareilly	750	391	92
16.	Bijnor	688	434	58
17.	Etah	484	254	91
18.	Ambedkarnagar	145	420	-65
19.	Farrukhabad	123	320	-61
20.	Kannauj	132	303	-57
21.	Kanpur Dehat	151	308	-51
22.	Kushinagar	191	552	-65
23.	Gautambudhnagar	76	219	-65
24.	Ghaziabad	122	258	-53
25.	Mainpuri	134	273	-51
	Odisha	443	551	-20
26.	Deogarh	325	645	-50
27.	Sambalpur	329	645	-49
28.	Subarnapur	270	559	-52
	Uttarakhand			
29.	Bageshwar	770	432	78

30.	Chamoli	672	398	69
31.	Haridwar	708	438	62
	Delhi			
32.	South Delhi	498	281	78
33.	West Delhi	455	281	62
34.	North East Delhi	140	281	-50
	Punjab			
35.	Kapurthala	324	203	59
	Haryana			
36.	Rewari	276	183	51
37.	Ambala	211	413	-49
38.	Kaithal	79	171	-54
39.	Kurukshetra	76	269	-72
40.	Panchkula	200	433	-54
41.	Panipat	106	231	-54
42.	Rohtak	124	244	-49
43.	Sirsa	49	123	-60
	Rajasthan			
44.	Baran	562	369	52
45.	Bharatpur	383	225	70
46.	Jhunjhunun	344	206	67
47.	Karauli	419	271	54
48.	Rajsmant	377	245	54
49.	Udaipur	434	281	54
50.	Barmer	44	116	-62
51.	Ganganagar	36	105	-66
52.	Jalor	90	196	-54
	Punjab	193	230	-16
53.	Ferozpur	41	160	-74
54.	Hoshiarpur	140	351	-60
55.	Patiala	140	291	-52
	Himachal Pradesh	293	402	-27
56.	Chamba	318	700	-54
57.	Kinnaur	40	112	-64
58.	Lahul&Spiti	32	217	-85
	Madhya Pradesh			
59.	Betul	670	428	57
60.	Bhopal	811	450	80
61.	Guna	681	424	61
62.	Hoshangabad	1217	557	119
63.	Raisen	837	502	67

64.	Sehore	871	475	83
65.	Shajapur	621	395	57
66.	Videsha	739	467	58
67.	Chhatarpur	718	412	74
68.	Damoh	957	482	99
69.	Narshimapura	710	467	52
70.	Panna	835	471	78
71.	Sagar	799	480	66
72.	Satna	843	426	98
	Maharashtra			
73.	Nanded	632	402	57
74.	Amaravati	606	391	55
75.	Chandrapur	851	555	53
	Rayalaseema			
76.	Ananthapur	205	120	71
77.	Chittoor	291	167	74
78.	Cuddapah	271	171	59
	Tamilnadu			
79.	Coimbatore	222	80	178
80.	Dharampuri	221	132	68
81.	Erode	115	66	73
82.	Karur	95	56	71
83.	Perambalur	139	83	68
84.	Teni	110	55	101
85.	Tiruchirappalli	148	85	75
86.	Vellore	302	173	74
	Karnataka			
87.	Bidar	494	328	51
88.	Gulbarga	431	269	60
89.	Bangalore Rural	374	163	130
90.	Banglore Urban	352	166	113
91.	Davangere	284	182	56
92.	Kolar	304	140	118
93.	Mandhya	218	98	122
94.	Tumkur	286	131	118
	Bihar	485	512	-5
95.	Munger	235	471	-50
96.	Saharsa	386	765	-50
97.	Sheohar	251	597	-58
	Kerala			
98.	Wayanad	745	1809	-59

	Gujarat			
99.	Kachchh	58	197	-71
100.	Rajkot	142	313	-55
101.	Surendranagar	107	269	-60
102.	Ahmadabad	136	306	-56
103.	Anand	139	397	-65
104.	Banaskantha	145	283	-49
105.	Bharuch	166	419	-60
106.	Narmada	270	570	-53