



National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast

Valid for 8th to 21st August, 2014

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Issued by

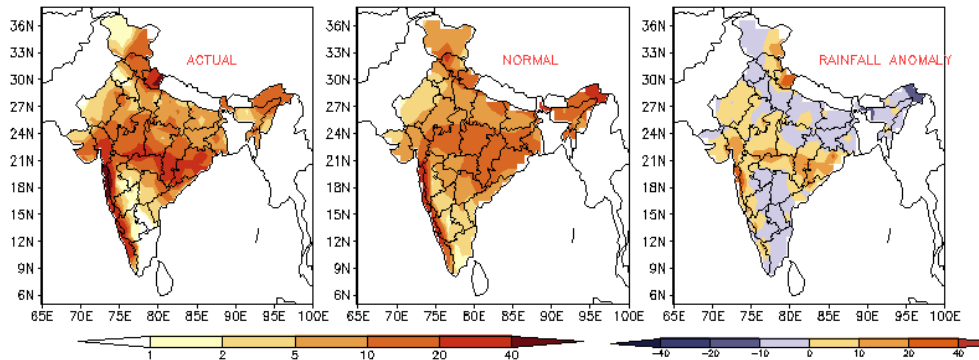
Earth System Science Organisation
Agricultural Meteorology Division
India Meteorological Department, Pune

Indian Institute of Tropical Meteorology, Pune

&

Indian Council of Agricultural Research
AICRPAM, CRIDA, Hyderabad

Realized Rainfall (24th July to 6th August)



During last two weeks, many parts of Konkan & Goa and some parts of Uttarakhand received an average rainfall of more than 40 mm/day. Many parts of Coastal Karnataka, Kerala, Gujarat Region, Chhattisgarh, Odisha and some parts of Madhya Maharashtra and South Interior Karnataka received an average rainfall of 20-40 mm/day. Many parts of Sikkim, Arunachal Pradesh, Himachal Pradesh, Madhya Pradesh, Saurashtra and Kutch and some parts of Jammu & Kashmir, East Rajasthan, North Interior Karnataka and Coastal Andhra Pradesh received an average rainfall of 10-20 mm/day. Many parts of Uttar Pradesh, West Bengal, Bihar, Jharkhand and Vidarbha and some parts of Assam & Meghalaya, Mizoram, Tripura, West Rajasthan and Telangana received an average rainfall of 5-10 mm/day. Many parts of Haryana and Marathwada and some parts of Punjab and Rayalaseema received an average rainfall of 2-5 mm/day. Mainly dry/dry weather prevailed over rest of the country.

Monsoon Watch

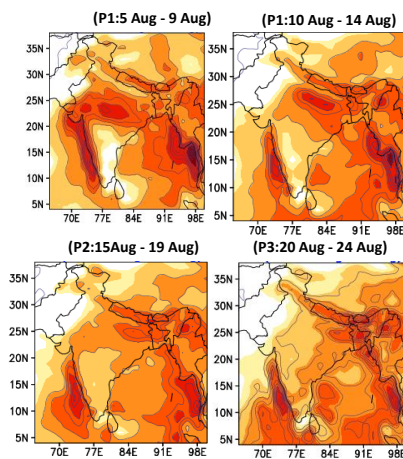
Southwest monsoon was vigorous over east Rajasthan; active over Andaman & Nicobar Islands, Himachal Pradesh, West Madhya Pradesh and Coastal Karnataka on 7th August.

Extended Forecast System (based on CFS model)

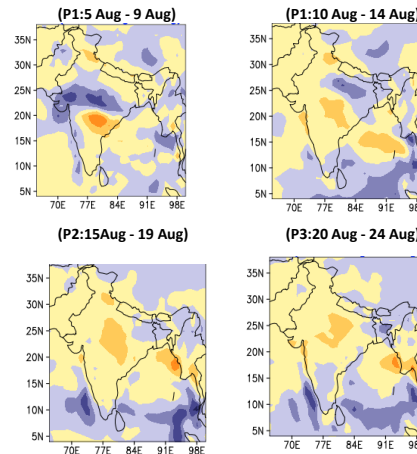
Forecast based on IC = 4th August, 2014

Rainfall forecast for the 4 pentads

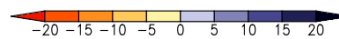
Rainfall Forecast Actual (mm/day)



Rainfall Forecast Anomaly (mm/day)



P1, P2, P3, P4: PENTADS



First pentad (05-9 Aug): Rainfall of about 20-40 mm/day is likely over many parts of Madhya Pradesh, some parts of Gujarat region, Konkan & Goa and Coastal Karnataka, rainfall of about 10-20 mm/day is likely over many parts of Sikkim, Nagaland, Manipur, Chhattisgarh, Odisha, Saurashtra and Kutch and some parts of East Rajasthan rainfall of about 5-10 mm/day is likely over many parts of Uttarakhand, Himachal Pradesh, Punjab, West Bengal, Bihar, Jharkhand, Arunachal Pradesh, Assam, Meghalaya, Tripura and Mizoram and some parts of Madhya Maharashtra, West Rajasthan, Vidarbha, Interior Karnataka and Kerala, rainfall of about 2-5 mm/day is likely over many parts of Jammu & Kashmir, Haryana, Uttar Pradesh, Marathwada and Coastal Andhra Pradesh, some parts of Telangana. Mainly dry weather would prevail over rest of the country.

Second pentad (10-14 Aug): Rainfall of about 20-40 mm/day is likely over some parts of Uttar Pradesh and Nagaland, rainfall of about 10-20 mm/day is likely over many parts of Sikkim, Manipur, West Bengal, Jharkhand, Odisha and Chhattisgarh and some parts of Arunachal Pradesh, Assam & Meghalaya, Bihar, East Madhya Pradesh, Uttarakhand, Konkan & Goa, Coastal Karnataka and Kerala, rainfall of about 5-10 mm/day is likely over many parts of Mizoram, Tripura, East Rajasthan and West Madhya Pradesh and some parts of Himachal Pradesh and Vidarbha, rainfall of about 2-5 mm/day is likely over many parts of Gujarat region, Saurashtra and Kutch, Coastal Andhra Pradesh, Telangana and Tamil Nadu and some parts of Jammu & Kashmir, Madhya Maharashtra, Marathwada, Interior Karnataka and Rayalaseema. Mainly dry weather would prevail over rest of the country.

Third pentad (15-19 Aug): Rainfall of about 20-40 mm/day is likely over parts of Sikkim, rainfall of about 10-20 mm/day is likely over many parts of Konkan & Goa, West Bengal, Bihar, Jharkhand, East Uttar Pradesh, Assam and Meghalaya, Arunachal Pradesh, Manipur, Nagaland and some parts of Kerala, rainfall of about 5-10 mm/day is likely over many parts of Uttarakhand, West Uttar Pradesh, Mizoram, Tripura, Odisha, Madhya Pradesh, Chhattisgarh, Coastal Karnataka and some parts of Himachal Pradesh, Gujarat Region and Coastal Andhra Pradesh, rainfall of about 2-5 mm/day is likely over many parts of Madhya Maharashtra, Jammu & Kashmir, East Rajasthan, Saurashtra and Kutch, Interior Karnataka, Marathwada, Vidarbha, Telangana, Rayalaseema and Tamil Nadu. Mainly dry weather would prevail over rest of the country.

Fourth pentad (20-24 Aug): Rainfall of about 10-20 mm/day is likely over many parts of Bihar, Jharkhand, West Bengal & Sikkim, Arunachal Pradesh, Assam and Meghalaya, Manipur, Nagaland and Tripura and some parts of Coastal Karnataka and Kerala, rainfall of about 5-10 mm/day is likely over many parts of Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Konkan & Goa, Coastal Karnataka, South Interior Karnataka and Coastal Andhra Pradesh and some parts of Jammu & Kashmir, Telangana and Rayalaseema, rainfall of about 2-5 mm/day is likely over many parts of West Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Gujarat Region, Madhya Maharashtra, Marathwada, Vidarbha, North Interior Karnataka and Tamil Nadu. Mainly dry weather would prevail over rest of the country.

Strategic Agricultural Planning based on rainfall during next 2 weeks till 21st August

Current status

Southern India: Rainfall over Kerala was near normal (-2%) and *Viruppu* paddy is in tillering to panicle initiation stage. Over North Interior Karnataka, rainfall deficit was 24%; while it was normal over Coastal (-5%) and over South Interior Karnataka it was in excess by 17%. Rainfed crops over 5.82 lakh hectares were reported to be experiencing moisture stress for the last 3-4 weeks in parts of Mysore, Chamarajanagar, Mandya, Tumkur, Hassan, Chitradurga, Haveri, Gadag, Dharwad, Belgaum, Uttara Kannada and Bagalkote districts. Rainfall was deficit by 36% and 28% in Coastal Andhra Pradesh and Rayalaseema regions, respectively. In Andhra Pradesh so far, 42% of normal area is covered. In Telangana state 74% of normal area has been covered though the rainfall deficiency was 48%.

Western India: In Maharashtra, 72.7% of area has been covered mainly with cotton, soybean, pigeonpea and paddy. Marathwada region is reeling under deficit rainfall conditions (-58%). In Gujarat state, rainfall over Saurashtra & Kutch region was normal (-17%) whilst it was 23% deficit over rest of the state. However, cereals, pulses, oil seeds and other crops are sown over 58, 55, 64 and 90 % of their normal areas, respectively.

Central India: In Vidarbha region, rainfall status was near deficit (-19%) with 82.5% of normal area in Amravati division and 56.6 % over Nagpur division has been so far covered under different crops.

Northwest India: Almost all parts of Rajasthan received moderate to heavy rainfall during last week bringing rainfall status to normalcy in both eastern and western Rajasthan (+6% and -8% over normal, respectively). Haryana, Chandigarh and Delhi regions are facing deficit rainfall condition (54% deficit).

East & Northeast India: In Odisha rainfall during July was 40% in excess and more than 100% during August and the cumulative rainfall so far is +22%. Places like Samabalpur received 460 mm rainfall in 24 hours. 13 districts namely Kendrapada, Jajpur, Bhadarak, Jagatsinghpur, Cuttack, Khurda, Puri, Nayagarh, Dhenkanal, Angul, Boudh, Bargarh and Sambalpur are put on high flood alert. Near normal rainfall conditions prevailed over West Bengal (- 17%). Transplanting of rice is completed over 44% of normal area and entire Jute has been harvested. Assam & Meghalaya are experiencing deficit rainfall conditions (-30%). Baksa, Dibrugarh, Tinsukia, Darrang, Dhemaji, Goalpara, Morigaon and Udalguri districts of Assam are facing acute water shortage, affecting normal sowing/transplanting of *kharif* paddy.

Future Strategies

Southern India

Andhra Pradesh & Telangana: In coastal AP, paddy can be transplanted under canal commands up to 15th August. In NSP command areas of Nalgonda, Guntur, Krishna and Prakasam districts, rainfed crops like maize, cotton, redgram, greengram are suggested. In Rayalaseema, sowing of contingency crops like redgram (up to 15th August), sorghum, bajra, foxtailmillet, cowpea, sunflower, greengram,

fieldbean are recommended. In Kadapa district, sowing of contingency crops like redgram (60 x 20 cm spacing), maize, tomato, cowpea, field bean (TFB 5) and sunflower in red soils; whereas in black soils instead of groundnut crops like redgram, jowar and sunflower are suggested.

Karnataka: As inadequate soil moisture conditions has let to delayed sowings in major parts of North Interior Karnataka, medium duration varieties are suggested in finger millet (Indaf- 5, PR-202, GPU-28, HR-911, GPU-48, GPU-26 and ML-365); maize (Ganga, Deccan, Vijaya composite and Composite NAC); sunflower (KBSH-41, KBSH-42 and KBSH-44) and pigeonpea (BRG-2 - for vegetable purpose) up to 15th August.

Western India

Gujarat

- As there is good rainfall during last few weeks and also there is probability of rainfall in next fortnight transplanting of rice and sowing of castor and cluster bean may be undertaken in Gujarat.
- Sowing of following contingency crops may be continued in Gujarat Region and Saurashtra region. Avoid sowing of maize and bajra crops for grain purpose in South and Middle Gujarat Region.

South, Middle Gujarat region

- Soybean, cv. Guj. Soybean1, 2, JS-335.
- Short duration oilseeds crops: Sunflower (cv. Modern and EC-68414 and Guj-1) and Sesame (cv. Guj. Tal 1,2, 10); Pulse crops like Black gram (cv. T-9, Guj. Udid-1), Green gram (cv. GM-4, K-851, Meha), Cowpea (cv. Guj. cowpea 1,2,4,Pusa Falguni); Grain Sorghum (cv. GJ-35,36 and 37) and Fodder sorghum (cv. S-1049,C-10-2, Gundari, GFS 4,5).
- In Baroda and Panchmahal districts, continue drill sowing of rice cv.GR 5,8,9, Sathi 34-36, IR-28, ADR-1and Sukhvel-20 as contingency crop.

North Gujarat Region

- Sesamum (cv. Guj. Tal 1,2, 10), Sunflower (cv. Modern, EC 68414), Fodder sorghum (cv. S-1049, C-10-2) may be sown.

Saurashtra region

- Black gram- cv. T-9, Guj. Udid-1; Greengram-GM-4, K-851, Meha; Sorghum cv.CSH-6 and CFS-4 for fodder purpose; Guar-Guj. Gaur 1 and 2 specifically for Kutch region.
- Sesame-Purva-1.

Marathwada

- Depending up on the soil moisture, red gram (BSMR-736, BSMR-853) and hybrid jowar

(Parbhani Shweta, CSH-14, 16 or PKV 09), castor, ragi, sesame may be sown.

- Intercropping systems like sunflower + pigeon pea, hy. bajra + pigeon pea, castor + pigeon pea etc. are recommended.
- Farmers may take up intercultural operations like weeding/hoeing in already sown cotton, soybean, pigeonpea crops and apply second dose of nitrogen to one month old cotton and sorghum.
- Apply 500 gm Nitrogen per tree to citrus, lemon and sweet orange (Mrug Bahar) orchards and also provide protective irrigation.

Madhya Maharashtra

Sowing of sunflower, red gram, horse gram and castor may be undertaken and prefer intercrop combinations like sunflower + red gram and castor + ridge gourd. Avoid sowing of black gram, green gram, pear millet and soybean.

Central India

Madhya Pradesh

- Sowing of early maturing varieties of moong, urad and nursery sowing of vegetables in East Madhya Pradesh and sowing of early maturing varieties of maize (JVM 421, JM 12), red gram (UPAS 120, Pusa 9, TJT 501), sunflower (Modern, sesame variety TKG-8) and black gram (T 9, JU 86) in west Madhya Pradesh will be normal with available soil moisture and expected rainfall.

Chhattisgarh

- Provide drainage to pulses and oil seed crops keeping excess rainfall in view.
- Apply nitrogen to the paddy nurseries.

Vidarbha:

- Apply first top dressing of nitrogen to the early sown cotton and sorghum.
- In the delayed sowing areas, pigeonpea (AKT 8811, Vipula, PKV-Tara and BSMR-736) may be sown at a closer (45x20 cm) spacing.
- In the delayed sowing areas (up to first fortnight of August) alternative crops like sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1 and KBSH 44), pearl millet (PKV Raj, Shradha and Saburi) sesame (AKT-64 and JLT-7), castor (AKC-1, GCH-4,5,6, DCH-117,32), and pearl millet + pigeonpea (2:1 or 4:2), sunflower + pigeonpea (2:1), sesame + pigeonpea (4:1) intercropping systems is suggested up to first fortnight of August.

Eastern India

Jharkhand

Transplant paddy in low and medium lands. Transplanting of tomato, cauliflower, cabbage, brinjal and chilli may be taken up. Planting of mango, guava and litchi and sowing of horse gram and sweet potato may be taken up.

- In upland areas adopt inter cropping of maize + pigeon pea, pigeon pea + blackgram, pigeon pea + sorghum.
- In medium lands, direct seeding of paddy (c.v. Sahbhagi) is recommended.

West Bengal

- Provide drainage to vegetables and keep continuous vigil on disease infestation as prevailing warm and humid weather is very much congenial for disease growth. Take proper measures immediately if disease infestation is noticed.
- Vegetable and flower nurseries may be covered with polythene sheets.
- In Bankura and Purulia districts (Red & laterite soils, undulated land, shallow to moderately deep coarse loamy soils) follow staggered dry nursery/adopt dry seeding or drum seeding of paddy.

Bihar

- Avoid paddy transplanting beyond 15th August and take up sowing of yam bean, pigeon pea, sunflower, maize and vegetable crops in the upland areas.
- In upland areas, sowing of blackgram (cv. Navin) and redgram is recommended up to August.
- In medium and low land areas, direct seeding of short duration paddy varieties (Turanta, Prabhat, Saket-4, Richhariya) is recommended up to 15th August.
- Under low land conditions re-transplanting (Kharuhan) of medium and long duration paddy varieties (Swarna Sub- 1, BPT5204, Rajendra Manasuri, Sambha Sub-1, Kasturi, Sudha, Vaidahi, Swarna) is suggested using 3-4 seedlings per hill up to 30th August.
- If plantings are delayed, farmers may use 45 days old seedlings of medium duration paddy varieties (Sita, Rajshree, Subhasini, Rajendra Kasturi, Rajendra Bhagwati) and 40-50 days old seedling of long duration paddy varieties (Swarna Sub-1, Rajendra Manasuri, Sambha Sub- 1 (BPT 5204), Kasturi, Vaidahi, Sudha, Rajshree) up to 15th August.
- Undertake sowing of short duration varieties of maize, blackgram, moong if rice transplanting cannot be done due to limited irrigation facilities.

Odisha

- Keep a vigil on floods in Brahmani and Subarnarekha beyond 10th August.
- In upland areas, greengram, blackgram and sesame may be taken up after 15th August
- Nursery raising of tomato and cauliflower is suggested for Keonjhar and Koraput districts.

Northwest India

Rajasthan

- In maize crop, excess plants may be thinned out by keeping a plant to plant distance of 25 cm.
- In West Rajasthan, intercropping of Groundnut cv. JL-24, Pratap Mungphali-2 with sesame at 6:2 ratio is suggested.

- Adoption of soil moisture conservation practices i.e. intercultural operation and mulching in standing crop through locally available material.
- Perennial grasses like sewan, dhaman and moda dhaman grass etc. which grow naturally during rainy season can also be grown to use as a fodder.

Uttar Pradesh

- Sowing of sesame (T-4, 12, 18, 23, Shekhar, Pragati, Tarun), groundnut and vegetable and planting of fruit crops like mango, guava, litchi, amla, lemon, banana, papaya will be normal.

Haryana

- As the rainfall was 54% deficit so far, crop diversification is advocated and short duration mung bean (MH 421, SML 668) or maize or fodder crops as per local demand/ market are suggested in place of paddy.
- Intercropping of pearl millet + greengram/moth bbean (intercropping 8:4/6:3) is recommended. In case of poor plant population (<two-third), re-sowing may be done as and when rain resumes.
- Cluster bean can also be intercropped with pearl millet.
- Sowing of guar, bajra, pulses will be normal due to receipt of rainfall during first week of August.
- Sowing of sesame should be avoided beyond mid August.
- Avoid use of chemicals for weed management under stress.

Due to deficit rainfall activity following agronomic measures are suggested.

- Sprinkler Irrigation
- Shallow irrigation of 4-5 cm depth
- Conjunctive use of canal and ground waters
- Split application of fertilizer and organic manures
- Undertake straw mulching
- Marginal ground waters for life saving irrigation
- Short duration cultivars
- Sowing of fodder crops such as sorghum mixed with cowpea to increase the nutritive value and continuous supply of green fodder.

Punjab

- Transplanting of rice varieties Pusa Punjab, Basmati- 1509, Basmati -386 and Basmati- 370 is expected to be completed.
- Short duration early maturing and drought tolerant varieties of crops including paddy (PR 115, PR 111, PR 121, PR 123, PR 113), maize (PMH2) and moong (PAU 911, ML 818) are suggested.
- Moong variety-ML-613 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong– PAU -911 varieties has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur.
- Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evaporation losses.

Delhi

- Sowing of pigeon pea, bajra, cluster bean, spinach, amaranthus, okra, cucurbits, sweet corn and baby corn will be normal due to the available soil moisture.
- Making of higher and wider bunds for conserving rain water in the field is recommended.

Jammu and Kashmir, Himachal Pradesh and Uttarakhand

Rainfall activity was normal over Jammu and Kashmir, Himachal Pradesh and Uttarakhand and as there is probability of occurrence of good rainfall over these states the vegetative growth of rice, pulses like mash (var. Pant U-19, T-9), moong (var.PDM-54, PS-16, PS-17, ML-131), maize (Vivek-25, Vivek QPM-9 HM-5 and HQPM-1) in Jammu & Kashmir; rice in Himachal Pradesh; rice, soybean, groundnut, maize, pigeon pea in Uttarakhand will be normal.

Northeast India

Arunachal Pradesh, Assam & Meghalaya, NNMT

As northeastern states received good rainfall during last fortnight and likely to receive rainfall in next fortnight, transplanting of *kharif* rice in Arunachal Pradesh is expected to be completed; transplanting of medium duration (130-135 days) *sali* rice with varieties like Satyaranjan, Basundhara, Jaya, IR 36 etc. is expected to continue till 15-20 August in Upper Brahmaputra Valley Zone of Assam, sowing of redgram, groundnut and sesame in Hill Zone of Assam; transplanting of medium duration (130-135 days) *sali* rice and sowing of arhar and sesame may be continued in Central Brahmaputra Valley Zone of Assam. Transplanting of *sali* rice is expected to be completed in Meghalaya. Sowing of pigeon pea; transplanting of rice in Mizoram; transplanting of rice and sowing of soybean, groundnut and pulses like black gram, green gram in Nagaland; transplanting of *kharif* rice and nursery raising of cole crops in Manipur and sowing of vegetables in Tripura are expected to continue.

In flood affected areas of Lower Brahmaputra Valley Zone of Assam, the following contingency measures may be adopted for *sali* rice:

- Raising of community nursery for late transplanting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
- Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage).
- Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days).
- Adoption of submerge tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
- In partially affected fields, drain excess water and apply 1/2rd N + 50% K₂O as top dressing during tillering stage.