



National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast

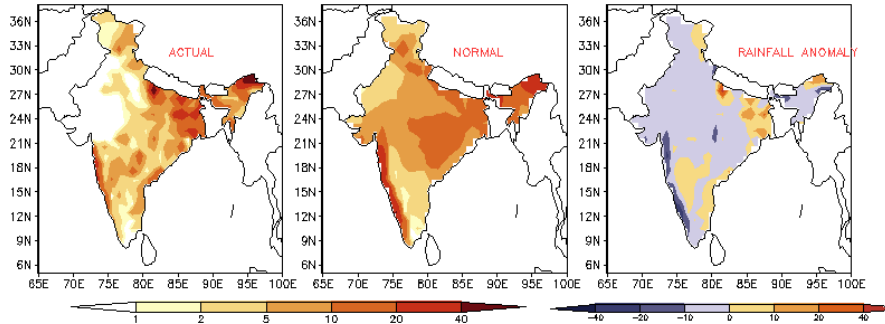
Valid for 18th to 31st July, 2014

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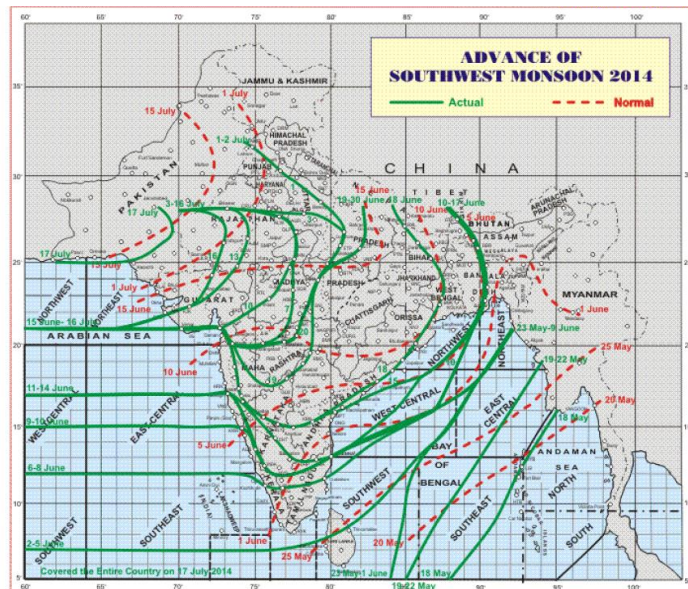
**Earth System Science Organisation
Agricultural Meteorology Division
India Meteorological Department, Pune
&
Indian Council of Agricultural Research
AICRPAM, CRIDA, Hyderabad**

Realized Rainfall (mm/day) (3rd to 16th July)



During the last two weeks, some parts of Arunachal Pradesh and East Uttar Pradesh received an average rainfall of more than 40 mm/day. Parts of Konkan & Goa, Coastal Karnataka, Assam & Meghalaya, Bihar, Gangetic West Bengal and Jharkhand received an average rainfall of 20-40 mm/day. Parts of Sub-Himalayan West Bengal, Vidarbha, Telangana, Coastal Andhra Pradesh, Odisha, Chhattisgarh, Uttarakhand, Tripura, Mizoram, Jammu & Kashmir received an average rainfall of 10-20 mm/day. Parts of Punjab, East Rajasthan, Madhya Maharashtra, Marathwada, Tamil Nadu, Coastal Andhra Pradesh and Himachal Pradesh received an average rainfall of 5-10 mm/day. Most parts of East Madhya Pradesh, parts of Interior Karnataka, Tamil Nadu, South Gujarat, West Madhya Pradesh, West Uttar Pradesh and Manipur received an average rainfall of 2-5 mm/day. Mainly dry/dry weather prevailed over rest parts of the country.

Northern Limit of Monsoon 18th July, 2014



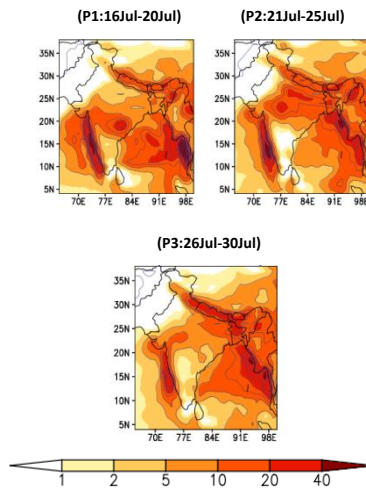
- The Southwest Monsoon has further advanced into remaining parts of north Arabian Sea, Saurashtra & Kutch, Gujarat region and west Rajasthan. Thus it covered the entire country on 17th July 2014.

Extended Forecast System (based on CFS model)

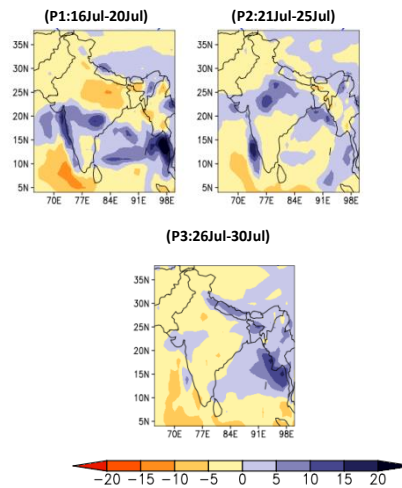
Forecast based on IC = 15th July, 2014

Rainfall forecast for the 3 pentads

Rainfall Forecast Actual (mm/day)



Rainfall Forecast Anomaly (mm/day)



P1, P2, P3: PENTADS

First pentad (16-20 July): More than 40 mm/day rainfall is likely over Konkan & Goa, Coastal Karnataka, Kerala and parts of Assam, rainfall of about 20-40 mm/day is likely over some parts of Vidarbha and Chhattisgarh, rainfall of about 10-20 mm/day is likely over most parts of Northeastern states, Sikkim, Madhya Maharashtra, Marathwada, South Gujarat, some parts of Uttarakhand, Madhya Pradesh, Chhattisgarh and Vidarbha, rainfall of about 5-10 mm/day is likely over West Bengal, Bihar, Jharkhand, Odisha, parts of North Gujarat, Telangana, Interior Karnataka and Kerala, rainfall of about 2-5 mm/day is likely over most parts of Uttar Pradesh, Coastal Andhra Pradesh, Rayalaseema, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab and Kutch region, rainfall of about 1-2 mm/day is likely over East Rajasthan and Tamil Nadu.

Second pentad (21-25 July): More than 40 mm/day rainfall is likely over parts of Coastal Karnataka, rainfall of about 20-40 mm/day is likely over most parts of Northeastern states, Madhya Pradesh, Uttar Pradesh, parts of Tripura rainfall of about 10-20 mm/day is likely over Himachal Pradesh, Uttarakhand, West Bengal, Bihar, Jharkhand, parts of Odisha, Chhattisgarh, South Saurashtra, South Gujarat, rainfall of about 5-10 mm/day is likely over parts of Jammu and Kashmir, Kutch, North Gujarat, Vidarbha and Kerala, rainfall of about 2-5 mm/day is likely over parts East Rajasthan, Madhya Maharashtra, Marathwada, Tamil Nadu and Coastal Andhra Pradesh, rainfall of about 1-2 mm/day is likely over parts of Interior Karnataka.

Third pentad (26-30 July): Rainfall of about 20-40 mm/day is likely over Uttarakhand, rainfall of about 10-20 mm/day is likely over Konkan & Goa, South Gujarat, South Saurashtra, parts of Assam & Meghalaya, Himachal Pradesh, West Bengal, East Uttar Pradesh, West Madhya Pradesh, Bihar, Jharkhand, Odisha, Coastal Karnataka, rainfall of about 5-10 mm/day is likely over most parts of West Uttar Pradesh, East Madhya Pradesh and Chhattisgarh, parts of Jammu & Kashmir, East Rajasthan, North Gujarat region, Kutch, Madhya Maharashtra, rainfall of about 2-5 mm/day is likely over parts of Vidarbha, Tamil Nadu, Andhra Pradesh, Interior Karnataka and Kerala, rainfall of about 1-2 mm/day is likely over parts of West Rajasthan and Marathwada.

Strategic Agricultural Planning based on rainfall during next 2 weeks till 31st July

Current Status:

Southern India: In Andhra Pradesh about 8.92 lakh ha (21.3%) area was covered so far under different crops against normal area of 41.70 lakh ha. In Telangana about 18.77 lakh ha area was covered (46.5%) so far as against normal area of 40.38 lakh ha. With the receipt of rains at many places over Telangana, Coastal AP and Rayalaseema during the last week, sowing of rainfed crops like cotton, soybean, redgram, maize, castor, sesame, jowar, bajra, greengram and groundnut are in progress in most of the districts of Andhra Pradesh and Telangana. Rainfall received during last week over many parts of north Karnataka is useful to the crops already sown, but may not be sufficient for taking up fresh sowing. The decision may be taken depending up on the soil moisture conditions.

Western India: Deficit rainfall conditions continue over Saurashtra (-82%) and Kutch (-67%) of Gujarat state. Cereals, pulses, oil seeds and other crops were sown over 2,6,23 and 29%, respectively of their normal area. Only 21% of the normal net sown area is covered under various crops in Gujarat.

Central India: Rainfall over four districts of Vidarbha was deficient (-20 to -59%) and scanty (-60 to -99%) over seven districts. Sowing of cotton, soybean and other crops were completed in 19.8% area of Amravati division; whereas in Nagpur division over 29.8% (5.42 lakh ha) area. In Chhattisgarh, 49% of the kharif area is so far covered. Greengram and blackgram crops replaced soybean in eastern Madhya Pradesh due to late arrival of monsoon.

East and North East India: Dhemaji and parts of Lakhimpur districts of Assam are reeling under flood. Only four districts of southern West Bengal (Purulia, Bankura, Howrah and south 24 Parganas) experienced rainfall deficit. In Jharkhand, sowing of upland crops like maize, pigeonpea, blackgram, jowar, bajra, groundnut, soybean and millets etc. is in progress in most of the districts except in Garhwa and Palamu. In Bihar, rainfall till date may not facilitate puddling and transplanting operations of paddy in Bihar. Only in limited areas, farmers are transplanting under assured irrigation. In Jharkhand, transplanting of paddy has commenced in many districts (Koderma, Deoghar, Bokaro, Jamtara, Sahebganj, East Singhbhum, Saraikela, Pakur, Giridih and Hazaribagh). Other districts are facing mild to severe drought and paddy transplanting has not been initiated till date due to deficient rainfall.

Future strategies:

Southern India: Though there is slight improvement in rainfall in Coastal Andhra Pradesh and Rayalaseema during first fortnight of July, there is probability of decrease in rainfall over the region during next fortnight, whereas subdued rainfall activity is likely to continue over Telangana. In view of subdued rainfall activity over Interior Karnataka, sowing of green gram and black gram now is not recommended in North Interior Karnataka. Instead onion, sesame, maize, sunflower, niger, castor, bajra, groundnut (spreading), redgram, desi cotton, horsegram, cowpea may be taken up for North Interior Karnataka, sowing of intercrops like, pearl millet + pigeonpea (2:1), pearl millet + castor (2:1), kharif sorghum + redgram (5:1), redgram + sesame (1:2 or 2:4); redgram + horsegram (2:1) is suggested to minimize risk from prevailing rainfall situations. While sowing, seed treatment may be resorted to induce drought resistance and along with some measures as detailed below:

- a) Bajra: Soak the seeds in water for 10 hours and dry under shade. Take up sowing in wider row spacing up to 135 cm.
- b) Groundnut (Spreading): Open conservation furrow after every 8th row for moisture conservation.
- c) Pigeonpea: Soak seeds in CaCl₂ solution (2%) for 1 hour and dry under shade for 7 hours and then go for recommended seed treatment.

- d) Niger: Soak the seeds in water for 6 hours and dry under shade, then treat seeds with thiram/captan @ 3g/kg seeds.

In **South Interior Karnataka**, sowing was delayed due to inadequate rainfall in major parts of interior districts. The following medium duration varieties are suggested for sowings beyond 20th July.

- Groundnut - TMV-2, JL-24 and Chintamani-2
- Finger millet - Indaf- 8, MR-1, MR-2 and MR-6
- Maize - Ganga, Deccan, Vijaya composite and Composite NAC
- Sunflower: KBSH-42 and KBSH-44

Andhra Pradesh and Telangana

- Direct seeding of rice may be taken up with short duration varieties under dry conditions and later converted to wet paddy after receipt of good rainfall.
- In NSP command areas of Nalgonda, Guntur, Krishna and Prakasam districts as there is no water in reservoirs and chances of release of water in canals are bleak, farmers are advised to go for rainfed crops like maize, cotton, redgram, greengram wherever feasible.
- In Prakassam districts, farmers are advised to adopt closure spacing for cotton and redgram sole crops and form dead furrows for moisture conservation.

Western India

Marathwada region

- Farmers are advised to sow kharif crops viz., Cotton, Soybean, Pigeon pea, Bajra, Sunflower etc., only after receipt of sufficient rains (75-100 mm).
- Adopt intercropping systems like cotton + pigeon pea (6:1), soybean + pigeonpea (4:2), bajra + pigeon pea (3:3), etc. for minimizing risk.
- In case of soybean varieties viz., MAUS 71, JS 335 may be chosen and sowing may be done with seed treatment.
- A spacing of 90 x 20 cm may be adapted in pigeonpea varieties viz., BSMR 736, BSMR 853 and for low rainfall areas varieties like BDN 708 and BDN 711 are recommended.
- Staking should be done in one year old fruit orchards to avoid lodging due to high winds.

Gujarat

a) South and Middle Gujarat region

- Prefer soybean cv. GS-1,GS-2, JS-335.
- Transplant three weeks old nursery of Bajra (GHB-744, GHB-538,732).
- Prefer short duration varieties in Sunflower (cv. Modern and EC-68414 and Guj-1) and Sesame (cv. Guj. Tal 1,2, 10), blackgram (cv. T-9, Guj. Udid-1), Greengram (cv. GM-4, K-851, Meha), Cowpea (cv. Guj. Cowpea 1,2,4, Pusa Falguni).
- Sowing of grain Sorghum (cv. GJ-35,36 and 37) and Fodder sorghum (cv. S-1049, C-10-2, Gundari, GFS 4,5) is recommended to overcome future fodder shortages.
- In paddy, varieties like GR-8,9, Sathi 34-36, Ambica and Gurjari can be transplanted up to 25th July.

b) North Gujarat region

- In sesame varieties like GT-1, GT-2,GT-10, in sunflower - Modern, EC 68414 and in fodder sorghum - S-1049, C-10-2 are suggested.
- In cotton Hy-8, 10, V-797, G. Cot 13,21, 23 can be taken up.

c)s Saurashtra region

- In groundnut, short duration Spanish bunch varieties like GG-2, GG-5, GG-7 and TG 37 A are recommended.
- In blackgram, T-9, Guj. Udid-1 and Greengram - GM-4, K-851, Meha are suggested.
- For fodder purpose, sorghum cv. CSH-6 and CFS-4 are recommended.
- In sesame cv. Purva-1, in cotton - G. cot-13, 21, 23, V-797, in pigeonpea - cv. BDN-2,ICPL-87,GT-100, GT-101, Vaishali may be preferred.
- For Kutch region, Guar cv. Guj. Gaur 1 and 2 specially for Kutch region.

Central India

Eastern MP

- In light soils, sowing of the early varieties of the following crops is recommended.
 1. Bajra: JBV 2, JBV 4, Hybrid HHB 67, GHB 577
 2. Jowar: CSH 17
 3. Maize: JM 8, JM 12, Vivek-4,17,43,42,Pratap hybrid-1
 4. Sesame: JT-7, JT-21, TKG-22, JTS-8, TKG-55. TKG-306.pkds-11,GT-1,Amrit
 5. Redgram : TJT 501,ICPL-87,88039
 6. Greengram : Pusa 9531,Vishal, HUM-1,16 ,SML-668,LGG-460 ,TJM 3
 7. Blackgram: JU-3, KU--300, LBG 20, PU-35,PDU-1,PU-19,WBU 108
 8. Soybean : JS 95-60, JS-335,JS-9305
 9. Paddy:- JR 3-45, JRH 4 and JRH 5 (Hybrid), Anjali,BVD-109,Vandana,Sabhagi, Danteswari
- In medium and heavy soils, sowing of soybean early varieties, JS-93-05, JS-335, JS 335, Hybrid Maize, HQPM-1, with 25% increased seed rate and adoption of inter cropping is suggested. Farmers are advised to adopt moisture conservation practices for rice, while provision of drainage is advised for soybean, greengram, and blackgram.

Vidarbha region

As onset of monsoon over western Vidarbha was delayed by four weeks and sufficient rains were not received so far, it is recommended to go for sowing only after receipt of sufficient rains (about 60-75 mm over 2-3 days).

- In case of cotton, only short duration American/Deshi varieties with 20 to 25% more seed rate are recommended with reduced intra-row spacing and fertilizer dose by 25%.
- In soybean, JS-335, JS 93-05, JS 95-60 varieties recommended. Avoid soybean sowing beyond 25th July. Preferably follow soybean + pigeonpea intercropping (2:1 or 4:2).
- To minimize the risk, three tier intercropping of cotton: sorghum: pigeonpea: sorghum at 3:1:1:1 or 6:1:1:1 is recommended.
- In sole pigeonpea AKT-8811, Vipula, PKV-Tara, BSMR 736 adopt closer spacing (60x30cm or 90x20 cm).
- Avoid sowing of sorghum, otherwise prefer CSH-9/CSH-14/CSH-18/CSH-16 varieties of sorghum and use 20-25% more than recommended seed rate. Prefer sorghum + pigeonpea (3:3) intercropping.
- In eastern parts of Vidarbha, direct sowing of early maturing and mid late maturing rice varieties (SKL-6, PKV Makrand, PKV Ganesh, PKV-HMT, Sindewahi-1, Sindewahi-75) may be done by

wet seeding method wherever the nursery is not prepared due to subdued monsoon.

- For first August fortnight sowings, sunflower (PKV SF-9, PKVSH-27, Morden), Pearlmillet (PKV Raj, Shradha, Saburi) Sesame (AKT-64), Castor (AKC-1, GCH-4,5,6, DCH-117,32), Pearlmillet+pigeonpea (2:1 or 4:2) are recommended.

Chhattisgarh

- In Chhattisgarh plains, on receipt of sufficient rains, farmers are advised to adopt direct seeding of rice at a spacing of 20 cm with 80kg/ha seed rate.
- Paddy nurseries may be treated with Carbofuran 3G 2 kg.a.i./ha. 2-5 days before transplanting for the insect control.
- If dry conditions continue, avoid *biasi*. After germination, weedicides like Bispyribac should be sprayed and farmers are advised to make arrangement for the procurement of weedicides.
- For light soils, early duration paddy varieties like Danteshwari, Poornima, Indira Barani Dhan-1, Annada, Samleshwari, MTU-1010, IR-36 are recommended. If farmers using their own seeds, they are advised to segregate in ill filled seeds using 17 per cent salt solution and treat seed with Bavistin.
- Greengram, blackgram and sesame may be sown in uplands after providing proper water drainage measures.

Northwest India

Rajasthan

- Avoid sowing of maize and sorghum crops at present. Instead, sowing of blackgram, greengram, clusterbean and sesame is recommended.
- Maize and sorghum can be sown for fodder purpose. In such case, improved varieties of fodder maize: (African Tall, Pratap Makka Chari-6) and fodder sorghum (Rajasthan Chari-1, Rajasthan Chari-2, Pratap Chari-1080, SSG-59-3) are recommended.
- In clusterbean -RGC-936, in blackgram -RBU-38, T-9, in greengram- SML-668, K851, in sesame (RT-46, RT-125) varieties are suggested.
- Intercropping of groundnut variety JL-24 or Pratap mungphali-2 with sesame at 6:2 row ratio is suggested.
- For eastern and western parts, only short duration varieties of Bajra (HHB-67, Improved, RHB-121, RHB-90 and Raj-171) are recommended for sowings upto 20th July as these mature in 65-80 days.

Western Uttar Pradesh

- Medium duration paddy varieties like, Sarjoo-52, Narendra-359, Pant-4, Pant-10, PNR-381, Narendra dhan-2026 and N-3112 and short duration varieties such as Narendra-97, N-118, Narendra-80, Ashwani, Govind, Saket-4, Ratna, IR-36, Pant-12 and Baranideep may be selected for raising nurseries upto 30th July.
- In light soils, 2.0% solution of N with potash may be sprayed to 15 days of nursery.
- Shallow hoeing and light earthing up may be taken up in kharif maize.

Eastern MP

- Direct seeding with short duration varieties of rice such as Govind, NDR 118, NDR 97, Shushk samrat, barani deep and narendra lalmati using zero till fertidril is suggested.
- Gaps in the direct seeded fields may be filled with nursery raised seedlings to maintain optimum plant population.

- In those region where rainfall is deficit by 40%, farmers are advised for spraying of 2% urea solution and potash for increasing the drought tolerance.
- Farmers are advised for sowing of short duration crops like, jowar, bajra, urd, mung and til in areas where rainfall is scanty. Adopt intercropping of maize/jowar/bajra with mung/urd/lobia as to minimize drought risk.

East India

Jharkhand

- In uplands, adopt inter cropping of maize + pigeonpea or pigeonpea + blackgram, pigeonpea + jowar.
- Direct seeding of paddy with short duration varieties in uplands of north Chotanagpur and Kolhan region is recommended.
- Direct seeding of Paddy (Sahbhagi Var.) on medium lands and nursery sowing in medium and lowlands in splits (1/3 part) in other regions of the state is suggested.

Bihar

- If nursery is not available for Shabhagi, Riccharya, Turanta, Prabhat, NDR-97, Pusa 834 varieties, farmers can adopt direct seeding of such varieties can be done.
- While sowing arhar as a mono crop, maintenance a distance of 60 cm upto 31st July is advised.
- If dry spell continues, farmers are advised to apply Muriate of Potash @ 33 kg per hectare to paddy.