



National Agromet Advisory Service Bulletin

based on

Extended Range Weather Forecast

Valid for 24th July to 6th August, 2015

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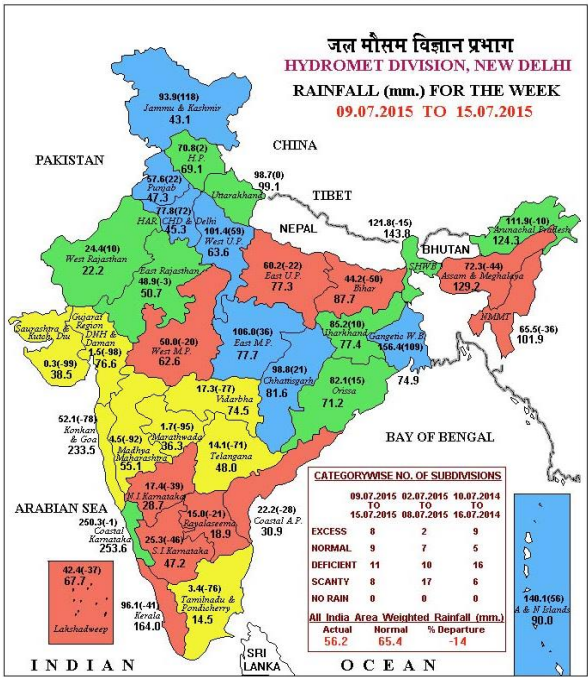
&

Indian Council of Agricultural Research
AICRPAM, CRIDA, Hyderabad

Realized Rainfall

(9th to 22nd July 2015)

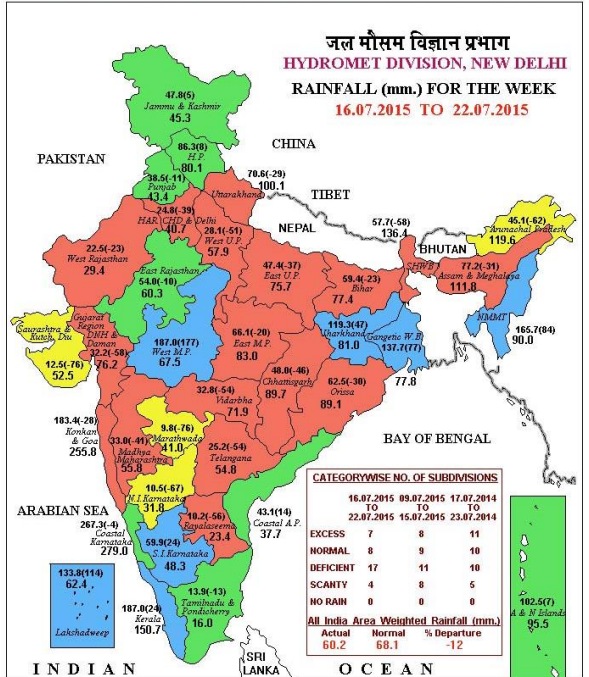
भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



LEGEND: ■ EXCESS (+20% OR MORE) ■ NORMAL (+19% TO -19%) ■ DEFICIENT (-20% TO -59%)
■ SCANTY (-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.

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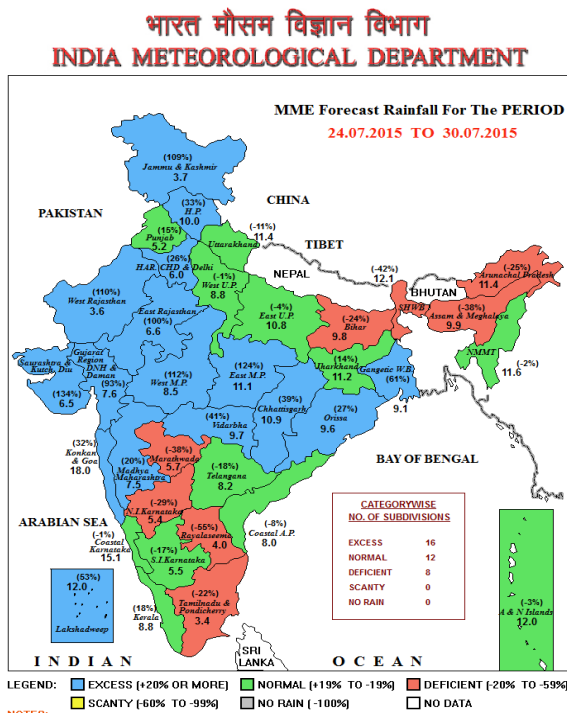
NOTES:
 [a] Rainfall figures are based on operational data.
 [b] Small figures indicate actual rainfall (mm.), while bold figures indicate Normal rainfall (mm.)
 Percentage Departures of Rainfall are shown in Brackets.

- Normal or above normal rainfall occurred during last two weeks in Jammu & Kashmir, Himachal Pradesh, Punjab, East Rajasthan, Gangetic West Bengal, Jharkhand and Coastal Karnataka.
- Normal or above normal rainfall occurred in either of the last two weeks in Uttarakhand, West Uttar Pradesh, West Rajasthan, Haryana and Delhi, Sub-Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura, Madhya Pradesh, Chhattisgarh, Kerala, Tamil Nadu, South Interior Karnataka and Coastal Andhra Pradesh.
- Below normal rainfall occurred in the last two weeks over remaining parts of the country.

Extended Range Forecast System

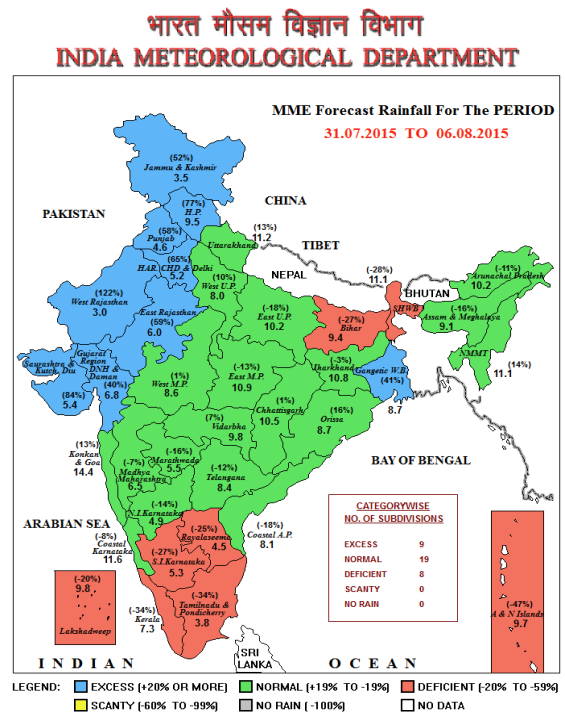
Subdivisionwise rainfall forecast map for the next 2 weeks (IC = 22 July)

Rainfall forecast (mm/day) (24 July – 6 August, 2015)



Notes:

- (a) Rainfall figures are based on MME forecast
- (b) Bold figures indicate forecast Normal rainfall (mm/day)
- (c) Percentage Departures of Rainfall are shown in Brackets



Notes:

- (a) Rainfall figures are based on MME forecast
- (b) Bold figures indicate forecast Normal rainfall (mm/day)
- (c) Percentage Departures of Rainfall are shown in Brackets

- Normal or above normal rainfall would occur in next fortnight over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, Rajasthan, Jharkhand, Odisha, Gangetic West Bengal, Chhattisgarh, Madhya Pradesh, Gujarat State, Konkan & Goa, Madhya Maharashtra, Vidarbha, Nagaland, Manipur, Mizoram, Tripura, Coastal Karnataka, Telangana and Coastal Andhra Pradesh.
- Normal or above normal rainfall would occur in either of the next two weeks in Marathwada, Interior Karnataka, Assam & Meghalaya, Arunachal Pradesh and Kerala.
- Below normal rainfall occurred in the last two weeks over remaining parts of the country.

Agromet Advisories for land preparation and sowing of *kharif* crops

Good rainfall occurred mainly over Jammu & Kashmir, Himachal Pradesh, Punjab, East Rajasthan, Gangetic West Bengal, Jharkhand and Coastal Karnataka during last fortnight. Whereas, over the regions like **Gujarat, Madhya Maharashtra, Marathwada, Vidarbha, North Interior Karnataka, Telangana** and **Royalaseema** crops might have experienced moisture stress situation due to deficient

rainfall during last few weeks. Rainfall is likely to be normal to above normal over Central and NW India with pockets of deficient rainfall over South peninsula and NE India during the week of 24-30 July. However, the main rainfall belt will be over NW India with normal rainfall over Central India and below normal rainfall over South peninsula during the week of 31 July - 6 August. In view of above, following agricultural activities are suggested for the following regions of the country.

Information on seed selection and required inputs like seeds of crops and varieties, sources of seeds etc. can be collected from KVKs, State Departments of Agriculture in the Districts, SAUs, Kisan Call Centre, seed dealers and other NGOs or agencies.

North Interior Karnataka

- Long dry spell has resulted in severe depletion of soil moisture, hampering the growth of seedlings of the sown crops. Sowing of following contingent crops may be undertaken after receipt of sufficient rainfall. Following contingency measures are suggested:
 - Thinning out of excess and weak seedlings by removing alternate rows as the moisture stress is noticed.
 - Intercultivation and earthing up the rows.
 - Light hoeing, mulching with crop residue.
 - Weeding in standing crops.
 - Opening conservation furrows after two rows in wider spaced crops and after every 8th row in narrow spaced crops.
 - Spraying of 1% Potassium Nitrate (KNO₃) to already sown crops where soil moisture is available so as to induce drought resistance in the crops.
 - Adoption of drought resistance and moisture conservation measures in crops to be sown.
 - Sowing of fodder crops on preference.
 - Select short duration, drought resistant crops and varieties.
 - Sowing of crops in wider rows to overcome moisture stress.
- Maintenance of 2-3 cm water level in transplanted rice field and rice nurseries.
- Sowing of niger, foxtail millet (PSC-1, RS-118), matki, horse gram (PHG-9, KBH-1), castor as well as intercropping of pearl millet + pigeon pea (2:1), pigeon pea + sesame (1:2 or 2:4), bajra + castor (2:1) in light and medium black soils and bajra, pigeon pea, castor, chilli, sesame, foxtail millet, onion, bajra + castor (2:1), fodder crops in medium black soils.
- Pigeon pea: recommended variety is TS-3R where the crop is susceptible for wilt disease.
- **North East Transition Zone:** Contingency measures (laterite red soil and shallow to medium black soils):
 - Sowing of short duration red gram (Pragathi), sesame (DS-1), horse gram, foxtail millet (HMT-100-1), bajra, maize (DMH-2, Arjun), cowpea (C-152), castor (DS-1, 48-1).
 - 25% higher seed rate in dry sowing of red gram with 90 x 20 cm spacing.
 - Transplant 25-30 days old red gram seedlings of BSMR-736 and Asha varieties.
 - Intercropping of red gram + foxtail millet (1:5) / redgram + bajra (1:5).
- **North East Dry Zone:** Contingency plan
 - Adoption of medium duration red gram varieties.
 - Adoption of dry sowing practice in red gram with ridges and furrows at 90 cm apart.
 - Sowing of sunflower and castor at 90 x 20 cm.
 - Use 25% higher seed rate in red gram with 90 x 20 cm spacing.
 - Transplanting of 25-30 days red gram old seedlings of BMSR-736 variety.
- **North Transition Zone:** Sowing of maize (Hybrids – DMH-2 and Arjun and private hybrids), soybean (S-335) and cotton (DHH-11, NCH-145, NHH-44, DHB-105 and Sahana).

Rayalaseema

- Mulching in already sown crops for conservation of soil moisture.
- Due to less rainfall, maintenance of 2-3 cm water level in rice field.
- Sowing of red gram (PRG-158, Asha, LRG-41), castor (PCH-111, PCH-222, Kranti, GCH-4, Haritha) and rainfed groundnut (Kadiri-6, Kadiri-9, Narayani and dharani) in Anantapur district after receipt of sufficient rain till end of July.
- Sowing of contingent crops like pearl millet, cowpea, green gram, sunflower (Morden) after receipt of sufficient rain.
- Supplementary irrigation from farm pond with sprinklers @ 20 mm (2 hrs) and spraying of 2% urea solution to avoid moisture stress in groundnut.

Telangana

- Instead of cotton, jowar, sowing of sole red gram (Maruti, Lakshmi, PRG 158 etc.) adopting spacing of 90 x 30 cm.
- Nursery raising for short duration rice varieties in Southern Telangana Zone.
- Light hoeing, weeding and mulching in early sown jowar, soybean, green gram and black gram for conservation of soil moisture.
- Maintain 2-3 cm water level in rice nurseries.
- Application of irrigation in sugarcane.
- Deficiency of micronutrients observed in cotton and tuber crops in Southern Telangana Zone due to dry weather conditions. To correct the deficiency, spray micronutrients mixture on crop.

Madhya Maharashtra

- Sowing of contingent crops like sunflower (Morden, SS-56, LSFH-35, BSH-1), cowpea, pigeon pea (Vipula, BSMR 736, 853, BDN 708, 711), horse gram and moth bean in Sangli, Satara, Kolhapur, Pune, Ahmednagar and Nasik districts.
- Direct sowing of contingent rice (Phule Radha, Indrayani, Bhogavati, Jaya Karjat 184, Karjat 4, Indrayani, R-24, Bhogawati, Phule Radha, R-1) by sprouting method in Western Ghat region.
- Sowing of contingent crops like castor, tur and sunflower in remaining districts.
- Sowing of fodder crops like jowar (Ruchira, Phule Amruta, Phule Godhan), maize (African Tall, Karveer, Rajshree) and bajra (Nutrifed).
- Weeding and mulching with crop residues in early sown jowar, soybean, green gram and black gram to conserve soil moisture.
- Thinning to maintain plant population.
- Maintenance of 2-3 cm water level in rice nurseries in Western Ghat, Kolhapur region and Pune (western parts).
- Weeding in rice nurseries and weeding and basin mulching in orchards.
- Remaining *kharif* sowing in rainfall deficit areas should be undertaken only upon receipt of sufficient rains.
- Apply protective irrigation during morning/evening hours for stressed crops/orchards in rainfall deficit areas. Otherwise undertake light hoeing to create soil mulch to conserve profile soil moisture.
- Fodder crops: Thin out excess and weak seedlings by removing alternate rows as the moisture stress is severe. Open conservation furrow after two rows in wider spaced crops and after every 8th row in narrow spaced crops.

Marathwada

- Sowing of contingent crops castor, tur and sunflower and adoption of intercropping of soybean + red gram (4:2), jowar + red gram (4:2), bajara + tur after receipt of sufficient rain.
- Sowing of contingent crops like guar, moth bean, horse gram and coriander in light soil after receipt of sufficient rain.
- In view of prevailing subdued rainfall during last few weeks, mulching in crops with crop residue to conserve soil moisture and protective irrigation (drip or sprinkle method) to earlier sown crops like soybean, cotton, red gram and jowar in view of prevailing water stress condition.
- Light hoeing and weeding in early sown jowar, soybean, green gram, black gram, cotton and red gram to conserve soil moisture.
- Application of irrigation to sugarcane by alternate furrow method.
- Foliar spray of 8% Kaolin in orchard crops during dry spells.
- Light irrigation wherever moisture stress condition is prevailing.

Vidarbha

- Sowing of contingency crops like sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1), castor (AKC-1, GCH-4, 5, 6, DCH-117, 32 and KBSH 44), pearl millet (PKV Raj, Shradha and Saburi), sesame (AKT-64 and JLT-7) and pearl millet + pigeon pea (2:1 or 4:2), sunflower + pigeon pea (2:1) or in soybean after every 6 or 9 rows one row of pigeon pea, sesame + pigeon pea (4:1) intercropping systems in west Vidarbha.
- Sowing of pigeon pea (AKT 8811 and Vipula with 60 x 30 cm spacing; PKV- Tara and BSMR-736 with 90 x 20 spacing) in unsown areas.
- Nursery sowing for *kharif* vegetable seedlings (chilli, tomato, brinjal etc.).
- Transplanting of rice in East Vidarbha.
- Maintenance of 2-3 cm water level in already transplanted rice field.
- Light hoeing, mulching in already sown crops like soybean, cotton, red gram and jowar in West Vidarbha for conservation of soil moisture.
- Weeding in rice nursery / transplanted field, soybean, cotton, red gram and green gram.
- Light irrigation in West Vidarbha wherever moisture stress condition prevailed.
- As normal sowing window of cotton is over, under delayed sowing conditions, early varieties of American (AKH-8828, PKV Rajat, AKH-081) and Deshi (AKA-5, AKA-7 and AKA-8) cotton are recommended.
- Weeding and basin mulching in orchards.

Gujarat

Gujarat Region

North Gujarat Zone

- Sowing of medium duration variety of bajra (GHB-744) and short duration varieties of bajra (GHB-558, GHB-538, GHB-719), maize (Guj. Maize-2 and Guj.Maize-4 and 6), green gram (K-581 and Gujarat Mung-4), black gram (Guj. Black Gram-1 and T-9), sesame (G.til-1 and G.til-2) and cow pea (Guj.cowpea-3 & 4 and Pusha Falguni) in North Gujarat Zone.
- Intercropping of green gram, pigeon pea, guar with bajra and short duration pulse crops with orchards.

Middle Gujarat Zone

- Sowing of pearl millet (medium duration varieties like GHB-744, short duration varieties like GHB 538, GHB 732, GHB 719, GHB-577), maize (GM-4, 6, Narmada Moti) and cotton (G.Cot-13, 21 and ADC-1) with intercropping of green gram, pigeon pea, guar with bajra.

- Sowing of sorghum (CSH-5, 6, 1, GJ-39, 40, 41), oilseed crops like sunflower (Modern, EC-68414 and Guj-1) and sesamum (Guj. Til 1, 2, 10), pulse crops like black gram (T-9, Guj. Udid-1), green gram (GM-4, K-851, Meha), cowpea (Guj. Cowpea 1, 2, 4, Pusa Falguni) and fodder sorghum (S-1049, C-10-2, Gundari, GFS 4, 5).
- Transplanting of paddy varieties like GR-8, 9, Sathi 34-36, Ambica and Gurjari where canal water is available. Adopt SRI technique for transplanted rice in case of nursery failure or if nursery is not raised.

Bhal and Coastal Zone

- Sowing of short duration varieties of crops like bajra (GHB-558, GHB-538, GHB-719), green gram (Guj. Mungbean-4, K-851), sesame (Purva-1), sorghum (GFS-4 & GFS-5), castor (GAU-CH-1, GCH-6), pigeon pea (BDN-2) and cotton (G-cot 13, G-cot 15, G-cot 21).
- Sowing of short duration varieties of cotton with higher seed rate and wider spacing.
- Sowing of fodder crops like sorghum for fodder purpose with higher seed rate.
- Following the SRI technique for rice, where tube well or canal irrigation is possible.

South Gujarat Heavy Rainfall Zone

- Sowing of maize, bajra, tur, ornamental and horticultural crops in South Gujarat Zone.
- Sowing of fodder crops like sorghum, maize etc., alternative to sowing of rice.
- Transplanting of *kharif* rice with 2-3 seedlings per hill at 20 x 15 cm spacing.
- Use of SRI technique for transplanted rice in case of nursery failure. Use more seedlings at closer spacing, in case seedlings are over aged.
- Use of sprouted seed for rice sowing.
- Intercultural operations and hand weeding after vapsa condition in earlier sown pulse crops.
- Hand weeding and mulching in sugarcane using dry leaves of sugarcane to conserve soil moisture.
- Intercultural operations, weeding in already sown crops to conserve soil moisture and gap filling to maintain optimum plant population and mulching with crop residues.

Saurashtra & Kutch

- Sowing of short duration crops like groundnut bunch type (GG-2, GG-5, GG-9, TAG-24, TG-37 A), green gram (K-851, G.Moong-4), black gram (T-9, G.U.-1), sesame (G.Til-2, G.Til-3), cotton (BG-II (Guj Hy. Cotton-8)), castor (GAUCH-1, GCH-4, GCH-6, GCH-7), bajra (GHB-538, GHB-558, GHB-719, GHB-732, GHB-744), pigeon pea (BDN-2, G.Tur-100), cow pea (Guj.cowpea-3 & 4 and Pusa Falguni), fodder sorghum (Gundari, GFS-4, GFS-5), maize (African tall).
- Intercropping of green gram, pigeon pea, guar with bajra and short duration pulse crops with orchards in Kutch.
- Intercropping cotton with green gram or cowpea to increase crop yield.
- Intercultural operations in earlier sown crops like pearl millet, groundnut, sesame, cotton, pulses, pigeon pea and soybean for creating soil mulch and removal of weeds.
- Light irrigation to groundnut and cotton crop under moisture stress condition.
- Mulching with wheat straw, groundnut shells and available farm residues to conserve soil moisture.

Bihar

- Paddy: transplant 22-25 days old seedlings. Application of 25-30 kg/ha Nitrogen, 40 kg/ha Phosphorus, 30 kg/ha Potash and 25 kg Zinc sulphate/ha in the soil is recommended before transplanting.
- Pigeonpea: Sowing of Bahar, Pusa-9, Narendra Arher-1 varieties are recommended. Use a

seed rate of 18-20 kg/ha. Seeds should be treated with thiram/Captan @ 2.5gm/kg of seed.

- Sesame: complete the sowing at the earliest. Krishna, Kaakee safed, Kalika and Pragati varieties are recommended.

Assam

Flood water is receding from most of the affected districts and the situation is improving.

- Make provisions for draining out of excess water from the fields or wait till flood recedes.
- 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
- As time is not yet over for sowing/transplanting of *Sali* paddy, go for replanting in the flood affected area with medium to short duration cultivars of rice.
- If *Sali* paddy is in active tillering stage (30-35 days after sowing) go for 1st split application of nitrogenous fertilizer.
- Look for incidence of any pest/diseases.

Normal agricultural activities are continued over remaining parts of the country in view of receipt of good rainfall during the season. However, there is possibility of heavy rainfall over some regions of the country during next fortnight like Gujarat State, Madhya Pradesh and east Rajasthan. Hence, there is need to make arrangement of good drainage facilities over these regions to avoid stagnation of water in the crop fields.