



National Agromet Advisory Service Bulletin
Based on
Extended Range Weather Forecast (ERFS)

Validity: 14 to 27 December 2018

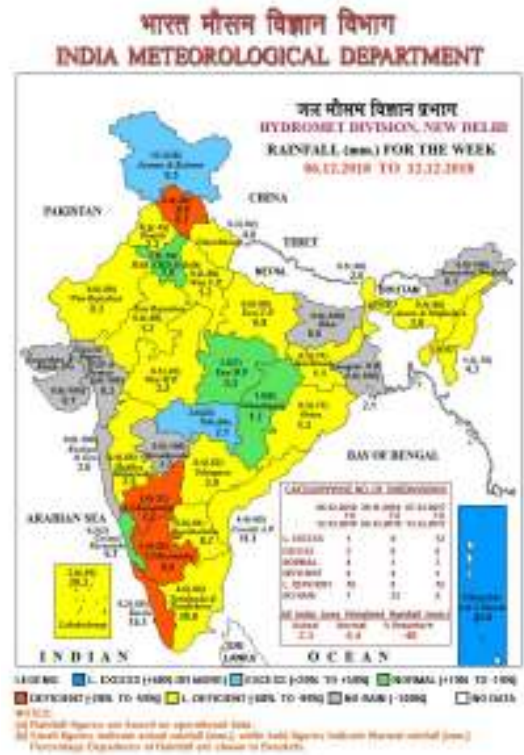
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&
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India Meteorological Department

Realized Rainfall and Extended Range Forecast (Rainfall and Temperatures)

Realized Rainfall

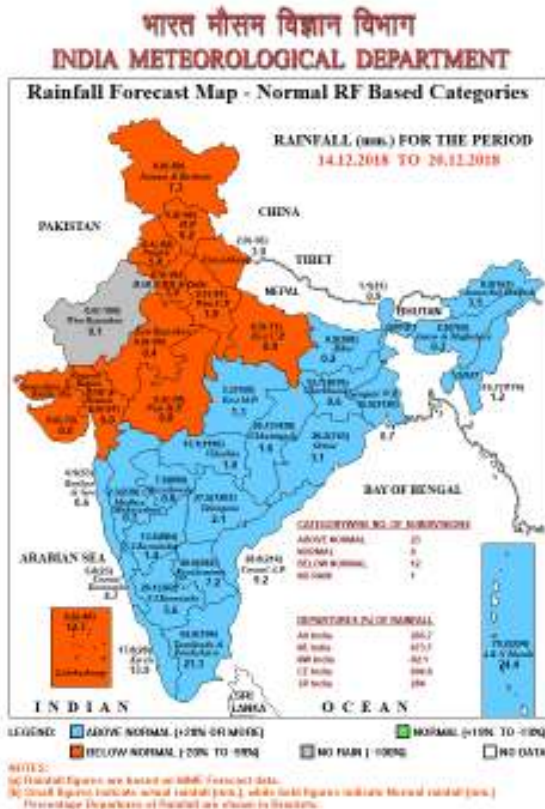
(29th November to 12th December 2018)



- Normal or above normal rainfall occurred in both the weeks in Andaman & Nicobar Islands.
- Normal or above normal rainfall occurred in either of the last two weeks in Jammu & Kashmir, Haryana, Chandigarh & Delhi, East Madhya Pradesh, Chhattisgarh, Vidarbha and Coastal Karnataka.
- Below normal rainfall occurred in both the weeks in Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Telangana, Andhra Pradesh, South Interior Karnataka, Kerala, Tamil Nadu and Lakshadweep
- Below normal rainfall / no rain occurred in either of the two weeks in Himachal Pradesh, Punjab, Uttar Pradesh, Rajasthan, West Madhya Pradesh, Nagaland, Manipur, Mizoram & Tripura, Jharkhand, Odisha, Arunachal Pradesh, North Interior Karnataka and Madhya Maharashtra.
- No rain occurred in both the weeks over rest of the country.

Extended Range Forecast System

Rainfall forecast maps for the next 2 weeks (IC – 12 December) (14th to 27th December 2018)



Extended Range Rainfall Forecast

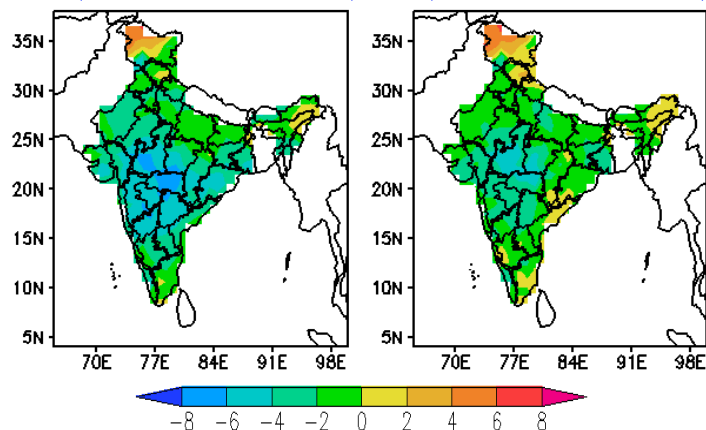
- **Week 1 (14.12.2018 to 20.12.2018):** Main rainfall part is over south Bay of Bengal and adjoining part of southern part of India. The northeast monsoon will remain above normal over southern peninsula including North East monsoon subdivisions.
- **Week 2 (21.12.2018 to 27.12.2018):** Above normal rainfall is expected.

**Maximum and Minimum temperature anomaly ($^{\circ}\text{C}$) forecast
for next 2 weeks (IC – 12 December)
(14th to 27th December 2018)**

MME Bias Corrected Tmax Anomaly (Deg)

(Week1: 14Dec–20Dec)

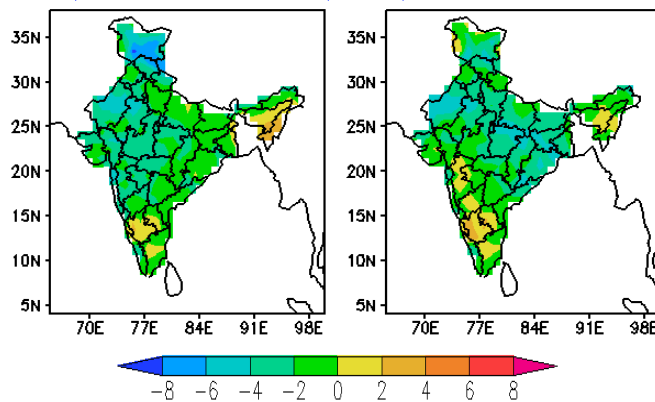
(Week2: 21Dec–27Dec)



MME Bias Corrected Tmin Anomaly (Deg)

(Week1: 14Dec–20Dec)

(Week2: 21Dec–27Dec)



Maximum Temperature (Tmax)

- **Week 1 (14.12.2018 to 20.12.2018):** Tmax over Northern and central parts of India (Maharashtra and west Madhya Pradesh, north Karnataka etc) and North East India is expected to be slightly below normal, whereas over eastern coastal region and adjoining Chhattisgarh it is expected to be above normal.
- **Week 2 (21.12.2018 to 27.12.2018):** Mostly below normal Tmax over India.

Minimum Temperature (Tmin)

- **Week 1 (14.12.2018 to 20.12.2018) and Week 2 (21.12.2018 to 27.12.2018):** Mostly below normal Tmin over the country during the period except parts of North East India.

Strategic Agricultural Planning based on rainfall during next two weeks till 27th December 2018

Agromet Advisories

Kerala

Rainfall received during the period from 01 October to 13 December 2018 over Kerala is 446.9 mm, which is 4% deficit than normal. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for both the weeks.

- Farmers are advised to spray Quinalphos (0.05%) 400 ml in 200 litres of water against coffee berry borer.
- There is a chance of Pumpkin caterpillar in Cucurbits. Apply 2 ml Flubendiamide (Fame) per ten litre of water.
- Drench pseudomonas culture 10g/ litre of water at basal region against fungal and bacterial diseases in pepper. Do not disturb soil near plant base.
- To control the Eriophyid mites in coconut, apply neem oil + garlic emulsion (20 ml neem oil + 20 gram garlic + 5 gram bar soap in 1 litre water). In large coconut plantations, spray Fenpyroximate 5 EC @ 1 ml /litre of water or Dicofol 18.5 EC @ 3 ml/litre of water after taking adequate precautions.

Karnataka

Rainfall received during the period from 01 October to 13 December 2018 over different meteorological sub-divisions of Karnataka viz, North Interior Karnataka is 48.7 mm (66% deficit), South Interior Karnataka is 123.4 mm (40% deficit) and Coastal Karnataka is 179.2 mm (31% deficit). The extended range weather forecast provided for 14 to 20 and 21 to 27 December over all the sub divisions of Karnataka is above normal for both the weeks.

North Interior Karnataka

- Vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and *Haemorrhagic septicaemia*.
- Vaccinate (ET vaccine) sheep and goats against Enterotoxemia.

South Interior Karnataka

- Right time for harvesting of *Kharif* crops like Ragi, Maize and Redgram. If Ragi crop already harvested the straw may be collected and stacked.
- Due to low temperature during night followed by morning dew the pod borer incidence was noticed in the Redgram crop.
- If the pod borer is in big size in red gram, then go for spraying of NPV 0.75 ml per litre of water.

Tamil Nadu

Rainfall received during the period of 01 October to 13 December 2018 over Tamil Nadu is 327.5 mm, which is 18% deficit as compared to the normal. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for both the weeks.

- To control Yellow mosaic virus in pulses, farmers are advised to go for foliar spray of neem formulation 3 ml/litre or spray Dimethoate 30 EC 500 ml/ha and repeat after 15 days, if necessary.
- To control rust in sorghum, spray Mancozeb @ 1kg/ha.
- Possibility of Leafhopper and Thrips incidence in cotton, to control, spray Imidacloprid 200 SL 100 ml/ha or Fipronil 5%SC 1500-2000 ml/ha.

Maharashtra

Rainfall received during 01 October to 13 December 2018 over different meteorological sub divisions of the state *viz.*, Konkan: 65.2 m (56% deficit), Madhya Maharashtra: 38.7 mm (63% deficit), Vidarbha: 4.4mm (94% deficit) and Marathwada: 16.0 mm (84% deficit). The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) over all the subdivisions of Maharashtra is above normal for both the weeks.

Marathwada

- Sowing of wheat crop should be completed before 15th December. For late sowing of wheat crop use 125 to 150 kg / ha seed rate. Row to row spacing must be 18 cm.
- For management of white grub in sugarcane crop, soil application of Granular Fipronil 0.3 % @ 13 kg per acre or if soil moisture is available application of Metarhizium anisopliae fungus @ 4 kg per acre should be done.
- Avoid further extended growth after multiple picking in cotton. Remaining plant parts should be collected and destroy properly after final picking.
- For management of pod borer in pigeonpea crop, spray Chlorantraniliprole 18.5 % @ 60 ml or Chlorantraniliprole 0.3 % + Lambda cyhalothrin 4.6 % @ 80 ml per acre.

Vidarbha

- Forecast of cloudy weather on next four days. Undertake clean picking of cotton and keep picked cotton produce at dry place.
- In pigeonpea, to manage the initial incidence of pod borer, spray 5% neem seed extract. Above ETL level (10-20 larvae/plant) undertake spray of Chlorantraniliprole 18.5% SC 2.5 ml or Emamectin benzoate 5% SG @ 3 g in 10 litres of water. Avoid green pod picking till 10 days after insecticidal spray.
- In Wheat crop, use fertilizer @ 40:40:40 kg NPK/ha at sowing and remaining N @ 40 kg/ha at 18-20 days stage at first irrigation. For timely sown irrigated wheat under limited irrigation ensure irrigation at critical stages 18-20, 40-42 and 60-65 days stage.
- In mandarin orange, basin mulching with organic residues/timely irrigation is advisable.

Madhya Maharashtra

- To control aphids and alternaria on Safflower spray dimethoate 15 ml + readymix fungicide (carbendazim + mancozeb) @ 20 gm/ 10 litre water.
- For pod borer in chick pea install Helilure traps @ 5 no./ ha If the incidence is more spray Chlorpyrifos/ Quinolphos @ 15-20 + 10 litre water.
- For control of powdery mildew disease in the late pruned ber, spray 80 WP wettable sulphur 20gm and karathane 5 ml per 10 litre water in alteration at 10 – 12 days interval.

Chhattisgarh

Rainfall received over Chhattisgarh during 01 October to 13 December 2018 is 5.9 mm, which is 92% deficit than normal. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- Complete the sowing of early maturing varieties of wheat up to 15th December.
- To control termite infestation in wheat, apply Chloropyrifos @ 10 kg/acre during the time of last ploughing.
- The vegetable which are transplanted in last month should be given nitrogenous fertilizer after inter-cultural operation.
- Pruning of the old and disease infected branches of the mango plant should be done.
- Cattle (milch and non milch) must be fed with mineral mixture @ 25-30g per day.

Odisha

Rainfall received over Odisha during 01 October to 13 December 2018 is 121.5 mm, which is 14% deficit than normal. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- The early sown rabi groundnut crop is at 3 week stage. Go for weeding and hoeing. Apply 100 kg Gypsum by broadcasting or side dress 50 Kg of Gypsum.
- Medium duration arhar is at flowering stage and is found to be affected by pod borer. Spray 400 ml Endosulphan or 800 ml neem based pesticides or 250 LE NPV in 200 liter water per acre to control.

Uttar Pradesh

Amount of rainfall received over East Uttar Pradesh region is 0.4 mm (99% deficit) and West Uttar Pradesh is 7.4 mm (85% deficit) during 01 October to 13 December 2018. The extended range weather forecast provided for two weeks (14 to 20 and 21 to 27 December) for West and East Uttar Pradesh is below normal for both the weeks.

- Rainfall nil during last week, therefore, farmers are advised to irrigate their timely sown Rabi wheat after 20-25 days of sowing.
- During this week, late sown wheat varieties such as HI-1563, DBW-16, K-307, K-9423, K-9533, K-9162, NW-1076 and PBW-373 are recommended for continuous sowing.
- Need based irrigation should be taken up in potato crop and spray mancozeb 2g/litre water for protection from frost at 10-15 days intervals.

Bihar

Rainfall received over Bihar during 01 October to 13 December 2018 is 17.5 mm, which is 76% deficit. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- Regular monitoring is advised for blight disease in vegetables crops. Spraying of Diethane M-45@2.5 gram/litre of water is advised, if disease infestation is observed.
- Farmers are advised to give light irrigation in wheat crop which reaches Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30kg nitrogen per hectare is advised 2-3 days after irrigation.
- Land preparation is advised for *rabi* onion. Application of 15-20 tons/ha FYM, 60kg nitrogen, 80 kg phosphorus, 80 kg potash and 40kg sulphur per hectare is advised during land preparation.

West Bengal

Rainfall received over Gangetic West Bengal during 01 October to 13 December 2018 is 70.8 mm, which is 54% deficit. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- Boro-rice: Start sowing rice seed in nursery bed.
- Potato: Give light irrigation frequently to keep sufficient soil moisture as well as to keep soil temperature little high.
- Vegetables (tomato, brinjal, etc): Provide irrigation to maintain sufficient soil moisture.

Jharkhand

Rainfall received over Jharkhand during 01 October to 13 December 2018 is 24.6 mm, which is 72% deficit. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- Inter culture operations should be done in pulses and oilseed crops to conserve soil moisture and control weeds. After weeding, irrigate the field as per the requirement of the crops.
- Rapeseed and mustard crops are attacked by aphids, spray Monocrotophos @ 2 ml per litre of water to control them.
- Nipping (pruning of upper parts of the plant) should be done in 30 to 40 days (before flowering) old crops. It enables the plant to bear more and more branches and subsequently flowers and pods.
- There is a chance of the attack of powdery mildew disease in green pea, in which white powder appears on leaves and stem. To control this disease, spray Kairathen @ 1 ml per liter of water or Sulfex @ 3 gm per litre of water.

Rajasthan

Amount of rainfall received over East Rajasthan region is 1.8 mm (93% deficit) and West Rajasthan is 0.5 mm (94% deficit) during 01 October to 13 December 2018. The extended range weather forecast provided for two weeks (14 to 20 and 21 to 27 December) for West Rajasthan is no rain for week-1 and below

normal for week-2 and for East Rajasthan is below normal for week-1 and above normal for week-2.

- Farmers are advised to give 1st irrigation in wheat at 21-25 days on CRI stage with top dressing of urea 65@ kg/ha.
- Give light irrigation to Rabi crops to avoid injury from frost.
- Apply light irrigation in cumin and follow the plant protection in cumin growing region of Rajasthan.

Assam

Rainfall received over Assam is 63.9 mm (66% deficit) during 01 October to 13 December 2018. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is above normal for week-1 and below normal for week-2.

- Farmers are advised to continue the harvesting of matured and ripened paddy. Keep the harvested paddy to safe place and store properly.
- Earthing up is to be done at 25 days after planting in potato just before first irrigation. Attack of red ant and cut worm may be observed in the potato field . To control this pest apply phorate 10% granules @ 2kg/bigha or malathion 5% dust @ 5kg/bigha in the soil at the time of earthing up.
- Farmer are advised to continue weeding and thinning operation in the rapeseed crop. Due to low temperature, occurrence of saw fly may be seen in the rapeseed and mustard crop. To control this pest, spray chloropyriphos 20EC @ 5mm/litre of water.
- Depending upon the crop stages, weeding should be done at 20 days after transplanting. Spraying malathion 50 EC @ 1.5ml/litre to protect the crop from leaf eating caterpillars.

Haryana

Rainfall received over Haryana is 6.2 mm rainfall (75% deficit) during 01 October to 13 December 2018. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is below normal for both the weeks.

- Due to possibility of variable weather and rain, farmers are advised to withhold the irrigation, chemical spray and intercultural operations in wheat, gram, mustard, barley till 13th December.
- Due to fall in night temperature and cloudy weather keep the animals under shed. Provide 50 grams iodized salt and 50 to 100 grams mineral mixture daily with animal feed/fodder to keep them healthy.

Himachal Pradesh

Himachal Pradesh has received 52.3 mm of rainfall during 01 October to 13 December 2018, which is 27% deficit. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is below normal for both the weeks.

- Thinning and weeding is recommended in timely sown mustard crop.
- Farmers are advised to complete sowing of potato in lower & mid hill regions.
- Planting of onion bulbs can be done in 30X10 cm spacing.
- Add mulch material in space between two rows of vegetables crops for conservation of soil moisture and maintaining the soil temperature.
- Farmers are advised to start earthing-up in potato if crop has attained a height of 15-22 cm.

- Apply manures and fertilizers in mango and other orchard gardens. Wrapping of plastic sheets around mango trunk should be done for preventing climbing of young mealy bugs. Apply grease to seal any cracks in the polythene sheets.

Uttrakhand

Uttrakhand has received 23.8 mm of rainfall during 01 October to 13 December 2018, which is 68% deficit. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) is below normal for both the weeks.

- Keeping in view dry weather condition in next few days, farmers are advised to give first irrigation on wheat during Crown Root Initiation stage.
- Transplant onion seedling if they appears 15cm length or 5-6 week days after sowing. Root treatment should be done through recommended fungicides, pesticides and bio agents.
- If damping off disease appears on onion in nursery, apply 02gm Mancozeb+01gm Carbendazim+01 ml insecticide in per liter of water as drenching.

Jammu

Rainfall received during 01 October to 13 December 2018 over Jammu is 112.7 mm, which is 33% excess. The extended range weather forecast provided for next two weeks (14 to 20 and 21 to 27 December) over Jammu is below normal for both the weeks.

- Apply second dose of fertilizer in wheat at optimum soil moisture condition.
- Incidence of saw fly and hairy caterpillar is observed. Collect and destroys the gregarious stages of hairy caterpillar in mustard.
- Spray malathion @ 2ml/litre, if attack of cabbage butterfly is observed.

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