



राष्ट्रीय कृषि मौसम परामर्शी सेवाएं बुलेटिन National Agromet Advisory Services Bulletin

जारी करने की तिथि / Date of issue: 26 December 2023

आधारित / based on

विस्तारित अवधि मौसम पूर्वानुमान / Extended Range Weather Forecast (ERFS)

वैधता / Validity: 22 December 2023 - 04 January 2024

जारीकर्ता / Issued by

अखिल भारतीय समन्वित कृषि-मौसम विज्ञान अनुसंधान परियोजना

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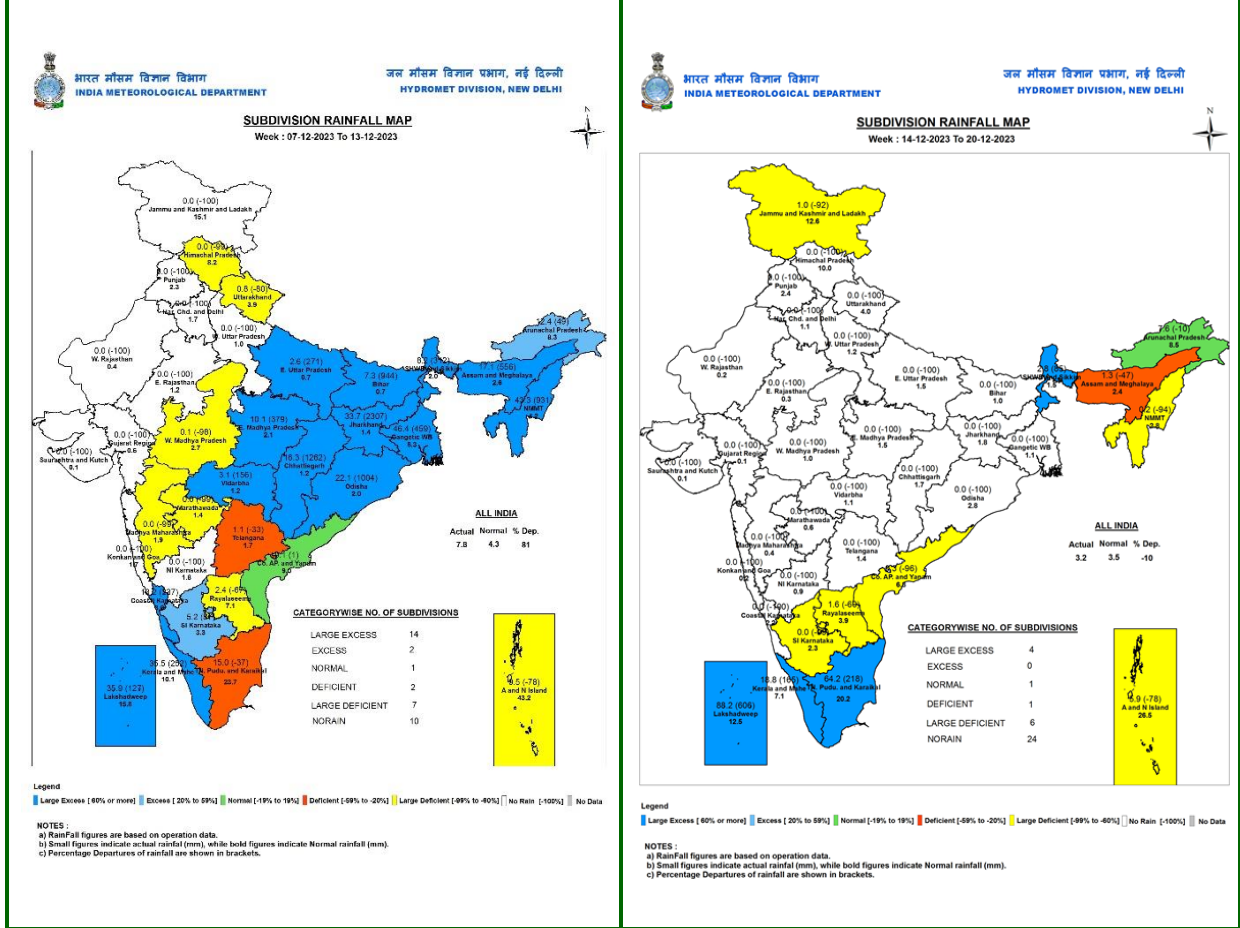
India Meteorological Department (IMD)

पृथ्वी प्रणाली विज्ञान संगठन

Earth System Science Organization

Realized Rainfall and Extended Range Forecast

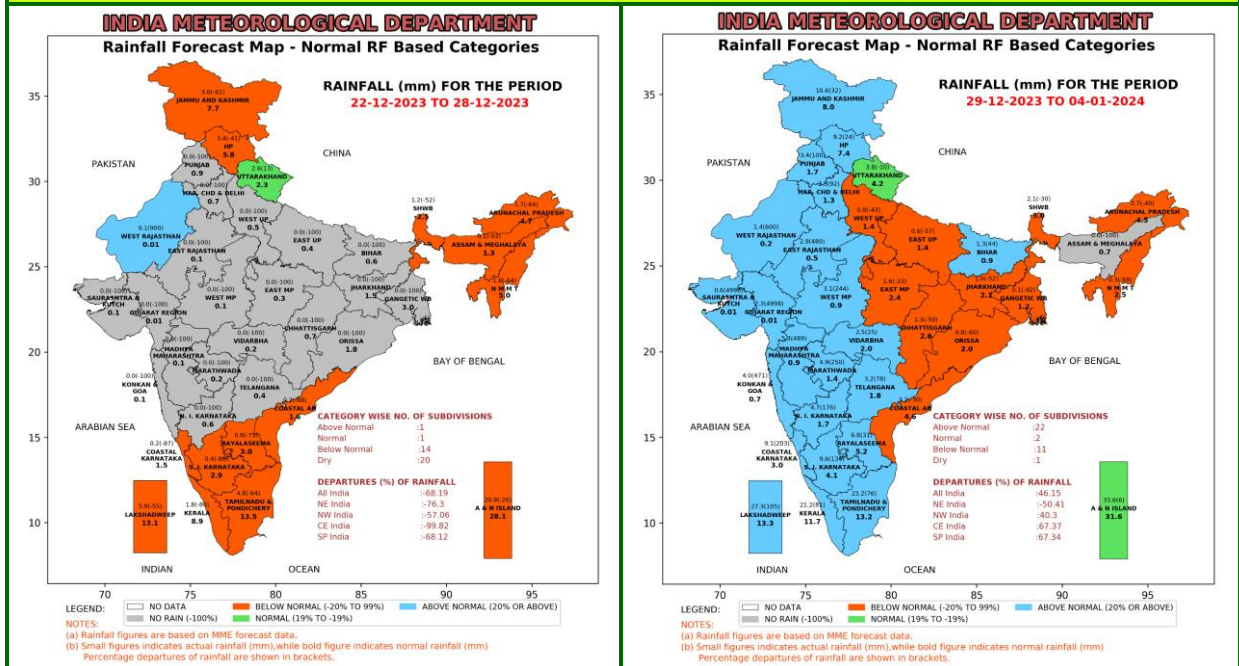
Realized Rainfall (07th to 20th December, 2023)



- Normal or above normal rainfall occurred in both the weeks over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Kerala & Mahe and Lakshadweep.
- Normal or above normal rainfall occurred in either of the two weeks over East Uttar Pradesh, Bihar, Jharkhand, Odisha, Gangetic West Bengal, Assam & Meghalaya, Nagaland Manipur Mizoram & Tripura (NMMT), East Madhya Pradesh, Chhattisgarh, Vidarbha, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, South Interior Karnataka and Tamil Nadu Puducherry & Karaikal.
- Below Normal rainfall/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- 20th December) (22nd December, 2023 to 04th January, 2024)



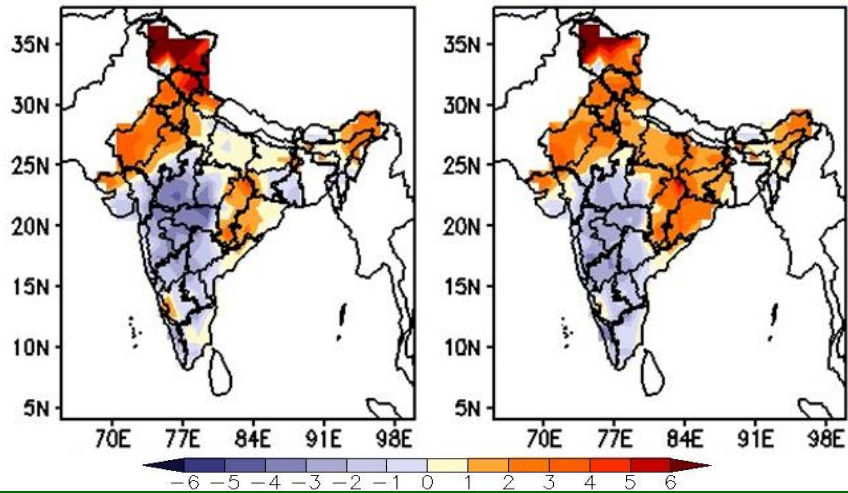
- **Week 1 (22.12.2023 to 28.12.2023):** Rainfall is likely to be normal over Coastal Tamil Nadu.
- **Week 2 (29.12.2023 to 04.01.2024):** Rainfall is likely to be normal to above normal over Kerala, Tamil Nadu, Island regions and extreme North India.

**Maximum and Minimum temperature anomaly ($^{\circ}\text{C}$) forecast
for the next 2 weeks (IC- 20th December)
(22nd December, 2023 to 04th January, 2024)**

MME forecast Tmax anomaly (Deg C)

(Week1: 22Dec-28Dec)

(Week2: 29Dec-04Jan)



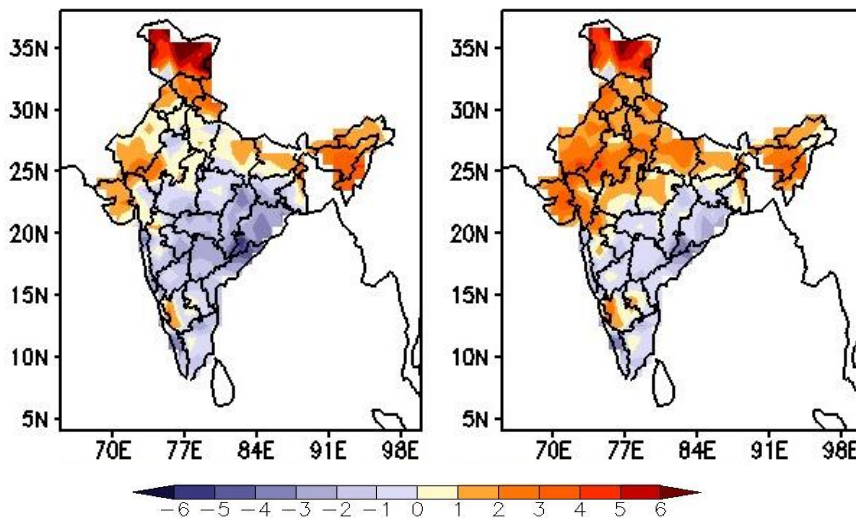
Maximum Temperature (Tmax)

- **Week 1 (22.12.2023 to 28.12.2023):** Maximum temperature is likely to be above normal over many parts of North West, East and North East India.
- **Week 2 (29.12.2023 to 04.01.2024):** Maximum temperature is likely to be above normal over North West, East and North East India.

MME forecast Tmin anomaly (Deg C)

(Week1: 22Dec-28Dec)

(Week2: 29Dec-04Jan)



Minimum Temperature (Tmin)

- **Week 1 (22.12.2023 to 28.12.2023):** Minimum temperature is likely to be below normal over the country except over most parts of North West & North East India and some parts of Karnataka.
- **Week 2 (29.12.2023 to 04.01.2024):** Minimum temperature is likely to be below normal over the country except over North West & North East India, northern parts of central India and some parts of Karnataka.

Strategic Agricultural Planning based on rainfall till 04 January 2024

Agromet Advisories

Uttar Pradesh

The amount of rainfall received over East Uttar Pradesh was 48 mm (21% excess) and over West Uttar Pradesh was 19 mm (-30% deficit) during 01 October - 21 December 2023. The extended range weather forecast (rainfall) for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is no rainfall over West Uttar Pradesh and East Uttar Pradesh for week-1 and below normal rainfall over West Uttar Pradesh and East Uttar Pradesh for week-2.

Western Uttar Pradesh

- Since there is no rainfall forecast during next week, farmers are advised for sowing of late sown wheat varieties under irrigated condition. Recommended varieties are *HUW-234*, *K-7903*, *UP-2338*, *K-9162*, *K-9533*, *HD-2643*, *HP-1744*, *NW-1014*, *K-8020*, *UP-2425*, *NW-2036*, *DBW-14*, *K-9423*, *PBW-524* *NW-1076* and *HUW-510* with 125 kg/ha of seed and 80:60:40 kg /ha fertilizer.
- Due to forecast of no rainfall during next week, farmers are advised to irrigate the *rabi* crops and vegetables as per requirement.
- To protect crops from freezing, it is advised to apply light and frequent irrigation.
- Farmers are also advised for sowing of late barley varieties viz., *K-572/10*, *Azad (K-125)*, *K-329*, *RS-6*, *NDV-1*, *NDV-940* and *K-1149* with seed rate 100 kg/ha under irrigated condition. Irrigation is recommended after 30-35 days of sowing in standing crop.
- In view of the changing weather, farmers are advised to wear warm clothes at night, morning and put jute sacks over the animals at night and do not tie animals in the open at night.

Uttarakhand

27 mm (-42% deficit) rainfall was received over Uttarakhand during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Uttarakhand is normal for week-1 and; week-2.

- First intercultural is advised to give with hand hoeing in onion crop in one month after sowing. Second weeding is given one month after the first weeding helps in the setting of bigger and well filled bulbs.
- In nursery of temperate fruits, it is advised to remove the stock sprout, suckers and water sprout from budded/grafted plants. Protect young plants from low temperature by providing paddy straw.
- In the valley region of the state, it is advised to give first irrigation in early sown wheat crop which is at CRI stage (21-25 DAS) and also apply a second dose of nitrogen fertilizer at first irrigation.
- It is also advised to avoid the direct entry of cold winds in poultry sheds. Provide artificial heat to chicks. Increase energy contents of ratio by 5-8 per cent.

Himachal Pradesh

45 mm (-32% deficit) rainfall was received over Himachal Pradesh during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Himachal Pradesh is below normal for week-1 and; above normal for week-2.

- Under prevailing weather condition, farmers are advised to irrigate timely sown wheat crop and top dressed with urea @ 125 kg / ha (5 kg urea/kanal) and farmers are also advised to go for sowing for late sown wheat crop under adequate soil moisture. The varieties recommended are *VL-892*, *HPW-373 (mid hills)* and *HS-490 (Pusa Baker)* (low hills). A seed rate of 125 kg / ha is recommended.
- Farmers are advised to add mulch material in space between two rows of vegetables crops for conservation of soil moisture and maintaining the soil temperature.
- Under prevailing weather condition, farmers are advised to ensure fresh and clean drinking water to animals. Dry bedding may be provided to save the animals from cold. Avoid direct entry of cold winds in animal sheds. Young calves must be kept in sheds during nights.
- Farmers are advised to prepare their fields for potato sowing. Adequate amount of well rotten FYM or compost is recommended to add in the soil during field preparation. The varieties recommended are *Kufri Jyoti*, *Kufri Chandermukhi*, *Kufri Himalini* and *Kufri Giriraj*.
- Farmers are advised to prepare the pits for planting the fruit plants like apple, peacunut, walnut, almond, plum and peach.
- For controlling weeds in onion, farmers are advised to spray Pendimethalin (stomp) @ 3 litre/ha or alachlor (lasso) @ 2 litre/ha.

Jammu

131 mm (30% excess) rainfall was received over Jammu during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Jammu is below normal for week-1 and; above normal for week-2.

- Farmers are also advised to continue sowing of late sown wheat varieties with an additional seed rate of 1 kg/kanal. Treat the seed with Tebuconazole 2 DS @ 1.25 g/kg of seed to protect seedling blight and root rot disease.
- Hoeing, weeding and thinning are recommended in timely sown rape seed and mustard crop. Top dressing of nitrogen fertilizer under late sown at 30 to 35 days old crop is advised.
- Farmers are advised to give shallow hoeing to crops like spinach, coriander and fenugreek after first cut and apply urea @ 1kg/kanal.
- If Downey mildew disease appears in onion nursery, then farmers are advised to spray Ridomil-MZ @ 2.5 g/litre of water and repeat the spray after 10-15 days.

Rajasthan

24 mm (11% excess) rainfall was received over East Rajasthan during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over East Rajasthan is no rainfall for week-1 and; below normal for week-2.

- Farmers are advised to complete the sowing of wheat. Recommended improved varieties are *Raj-3077*, *WH-147*, *GW-190*, *GW-322*, *GW- 273*, *HI- 1544*, *Raj- 4037*, *HI- 8498*, *Lok-1* and *Raj-3765*. Seed rate: - 100 kg seed per ha.
- Sowing of potato is advised as soon as possible. Selection of cultivars can be done on the basis of need. Recommended cultivars *Kufri Badshah* (Late blight tolerant), *Kufri Jyoti* (Short duration), *Kufri Alankar*, *Kufri Chandramukhi*

West Bengal

225 mm (36% excess) rainfall received over Gangetic West Bengal and rainfall received over Sub Himalayan West Bengal was 201 mm (23% excess) during 01 October - 21 December 2023. The extended range weather forecast (rainfall) for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is no rainfall over Gangetic West Bengal and below normal over Sub-Himalayan West Bengal during week-1 and; below normal over Gangetic West Bengal and Sub-Himalayan West Bengal in week-2.

- Due to heavy rainfall during last week farmers are advised to drain immediately from the pulse and vegetable fields. In case of weed infestation, one hand weeding is advised.
- To monitor and control aphid, jassid, mite, white fly and other sucking pest in brinjal crop at flowering stage, sticky traps are suggested to install. Apply Alika against sucking and chewing pests like flies and aphids.
- Application of Imidacloprid 17.80 % SL @0.4ml/liter or Spiromesifen 22.90 % SC@ 1-1.25ml/liter or Lambda-cyhalothrin 05 % EC@0.5ml/liter water is advised in tomato crop at vegetative stage to prevent sucking pests (specially mite) infestation.

Bihar

103 mm (60% large excess) rainfall was received over Bihar during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Bihar is no rainfall for week-1 and; above normal rainfall for week-2.

- For proper germination and crop stand, pre-sowing irrigation of fallow land is advised. Sowing of late varieties of wheat crop such as *PBW-373*, *HD-2285*, *HW-2045*, *HUW-234*, *WR-544*, *DBW-14*, *HD-2643*, *HD-2967*, *NW-2036* are recommended for North Bihar region.
- Farmers are advised to provide light irrigation in wheat crop at Crown Root Initiation (CRI) stage (21-25 days after sowing). Application of 30 kg nitrogen per hectare is advised 2-3 days after irrigation.

- Regular monitoring is advised for blight disease in vegetables crops. If disease infestation is observed, then spraying of Dithane M-45 @ 2.5 g/litres of water is advised.
- Weeding is advised in vegetables. And also, provide light irrigation in vegetable crops such as cauliflower, cabbage, tomato, pea, chilli, brinjal etc as per status of soil moisture.
- Monitoring is advised for infestation of fruit borers in brinjal, tomato, chilli, gram and pea. If infestation occurs, installation of pheromone traps @ 3-4 traps per acre is advised. If insect population is observed to be above ETL, then spraying of Spinosad 1ml/4 litre of water is advised. Infested fruits and shoots should be collected and buried before spraying.

Jharkhand

178 mm (107% large excess) rainfall was received over Jharkhand during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Jharkhand is no rainfall for week-1 and; below normal for week-2.

- Due to forecast of no rainfall, farmers are advised to provide light irrigation after weeding in green pea which is at vegetative growth stage (20-25 DAS).
- Due to cold weather there is a chance of early and late blight disease in Agat potato variety (vegetative stage). To protect, it is advised to spray Ridomil MZ 72 WP @ 1.5 g per litre of water.
- As forecast of no rainfall, farmers are advised to irrigate *rabi* crops and young seedlings with sufficient water to protect from moisture stress.
- Due to decrease in temperature, farmers are advised to use low cost polythene covers above the vegetables nursery to avoid poor germination due to low temperature.

Chhattisgarh

62 mm (-16% deficit) rainfall was received over Chhattisgarh during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Chhattisgarh is no rainfall for week-1 and; below normal for week-2.

- For management and monitoring of pod borer in pigeon pea, it is advised to install pheromone traps and T-shaped pegs (for birds to sit) and change the pheromone septa every 15 days.
- Under prevailing rainy weather condition, farmers are advised keep the harvested paddy in safe dry places/godown.
- Due to forecast of no rainfall, farmers are advised to provide first irrigation in wheat 20-25 days after sowing i.e., at CRI stage
- Considering the decrease in temperature, dairy farmers are advised to keep the animals in the cattle shed with concrete / brick roof.

Madhya Pradesh

51 mm (-3% deficit) rainfall was received over Madhya Pradesh during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Madhya Pradesh is no rainfall for week-1 and; below normal for week-2.

- Farmers are advised for nipping in chickpea and garden pea which is at branching to flowering stage (30-40 DAS) to produce more number of branches/ plant and apply light irrigation at flowering stage.
- Due to forecast of no rainfall, farmers are advised to provide first irrigation in wheat at CRI stage (20-25 DAS) followed by urea application.
- Under prevailing weather condition pod borer infestation may observed in pigeon pea crop which is at seed development stage. To protect, spraying of Lambda-cyhalothrin 05 % EC@1ml /litre or Indoxacarb 14.50 % SC@0.5ml/litre water.

Odisha

120 mm (-14% deficit) rainfall received over Odisha during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Odisha is no rainfall for week-1 and; below normal for week-2.

- Farmers are advised to provide light irrigation to standing vegetables and field crops during morning hours to prevent damage from fog, low temperature and moisture stress.
- Use low cost polythene cover above the vegetables nursery to avoid poor germination due to low temperature.
- Farmers are advised to provide irrigation in cole crops at 7-8 days interval depending upon soil moisture and weather condition.
- Due to low night temperature and fog condition, there is a chance of infestation of sucking pests, leaf blight, powdery mildew in the *rabi* crops and vegetables. It is advised to monitor the crops and vegetables, if symptoms are noticed and undertake appropriate plant protection measures.
- Under prevailing weather condition, there is a chance of powdery mildew disease in black gram and green gram (sowing to vegetative stage). To control this disease, it is advised to spray Sulphur 80% WP @ 800 g/acre or Hexaconazole 5% EC @ 300 ml/acre.

Gujarat

38 mm (17% excess) rainfall received over Gujarat during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) over Gujarat is no rainfall for week-1 and; above normal for week-2.

- Farmers are advised to carry out weeding, inter-culturing and earthing up operations in fennel crop. Apply a split dose of Nitrogen @ 22.5 kg/h after 30 days after transplanting.

- Propping in banana plants using bamboo is recommended, and it is also suggested to cover the banana bunch to protect it from direct sunlight exposure, to improve the quality of the fruit.

Maharashtra

56 mm (-46% deficit) rainfall over Madhya Maharashtra; 50 mm (-32% deficit) rainfall over Vidarbha; 58 mm (-40% deficit) rainfall over Marathwada; and 118 mm (-16% deficit) in Konkan region was recorded during 01 October - 21 December 2023. The extended range weather forecast (rainfall) for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is no rainfall over Konkan, Madhya Maharashtra, Marathwada and Vidarbha for week-1 and; above normal over Konkan, Madhya Maharashtra, Marathwada and Vidarbha for week-2, respectively.

Parbhani

- To protect the banana orchard from low temperature frost irrigation is advised during early morning.
- Under prevailing weather condition, there is a chance of pod borer infestation in late sown pigeon pea crop (pod development stage). To manage, it is advised to spray of Emamectin Benzoate 5% @ 4.4 g + Metalaxyl + Mancozeb @ 25 g per 10 litres of water.
- For management of sucking pests in vegetable crops (chilli, brinjal, lady finger) it is advised to spray Diafenthiuron 50 % WP@1gram/litre or Dimethoate 30 % @ 1 ml / litres of water.

Vidarbha

- In timely sown irrigated wheat crop, top dressing of nitrogenous fertilizer @ 50 kg N/ha 20-25 days after sowing (CRI stage) at the time of irrigation is advised. And, in case of limited water availability, it is advised to apply three irrigations at 21, 42- and 65-days crop stage.
- Complete delayed sowing of wheat preferably upto third week of December then it is advised to use varieties - PDKV Sardar (AKAW 4210-6), AKAW 4627.
- Prevailing weather conditions of partly cloudiness and lower night time temperature are congenial for pod borer incidence in pigeon pea. To manage the incidence of pod borer at flowering stage/pod formation (3/plant or 5 to 10% pod damage) undertake spray first spray of 5% NKSE OR Azadirachtin 300 ppm @ 50 ml per 10 litres of water.
- With decrease in night temperature, suitable protection measures may be taken to protect newly born calf, milch animals and poultry birds from cold.

Konkan

- Due to forecast of cloudy weather there is a possibility of fish mortality due to reduction of oxygen content in the pond water. To protect, it is advised to run the aerator for two hours in the morning and in the evening for improving oxygen content in pond water or to

circulate the water from the farm/pond with the help of water pump or bamboo stick so that moving the water will help increase the amount of oxygen in the water.

- Due to cloudy weather, anthracnose disease may observe in new vegetative flush and inflorescence of mango. For protection against anthracnose disease, it is advised to spray Carbendazim 12% + Mancozeb 63% @ 10 g per 10 litres of water.

Kerala

625 mm (28% excess) received over Kerala during 01 October - 21 December 2023. The extended range weather forecast (rainfall) for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is below normal for week-1 and; above normal for week-2.

- Under prevailing weather condition, there is a chance of Mosaic virus infestation in cowpea. To protect, it is advised to apply 2% neem oil garlic emulsion or spray 20 g *Lecanicillium lecanii* per one litre of water once in a week.
- Since dry weather condition is prevailing, there is a chance of white fly attack in tomato. To protect, it is advised to apply 2% neem oil+ garlic emulsion under the leaf surface at 10 days intervals. If the attack is severe, then apply 4 g Thiamethoxam per ten litres of water.

Tamil Nadu

453 mm (6% excess) received over Tamil Nadu during 01 October - 21 December 2023. The extended range weather forecast (rainfall) for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is below normal for week-1 and; above normal for week-2.

- Continuous rainfall and wind may damage the banana crop stand. Hence, farmers are advised for earthing-up and propping to avoid lodging.
- Farmers are advised to take sowing of dryland crops with proper drainage facilities across the field to collect rain water.
- Due to continues rain fall, cattle shed and cow penning areas in moist condition. Hence, farmers are advised to keep the cattle shed in dry condition and use disinfectant like lime.
- Fish farmers are advised to reduce the pond water level and the inlet may fix with 5- and 15-mm wire mesh to avoid the entry of predatory fishes.
- Drain the excess water if young seedlings of rice are completely affected by cyclonic storm and replant the same variety to maintain the crop population.
- Due to continuous rainy days, intermittent drizzles, cloudy weather, low night temperature less than 22 °C and longer leaf wetness favours blast incidence in paddy crop. To manage, it is advised to spray Carbendazim 50 WP @ 500 g/ha or Tricyclazole 75 WP @ 500 g/ha after observing initial infection of the disease.
- Due to forecast of above normal rainfall during next week, farmers are advised to postpone the irrigation in irrigated crops.

Anantapur

165 mm (-29% deficit) rainfall was received over Rayalaseema and 232 mm (-11% deficit) rainfall was received over Coastal Andhra Pradesh during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is below normal over Rayalaseema and Coastal Andhra Pradesh for week-1 and; above normal over Rayalaseema and below normal over Coastal Andhra Pradesh for week-2.

- Due to forecast of below normal rainfall, farmers are advised that under moisture stress conditions, it is advised to give one supplemental irrigation in chickpea crop at 40 days after sowing (vegetative stage).
- Farmers are advised to monitor the fall army worm incidence in maize crop at vegetative stage. If there is any incidence of fall army worm, then farmers are advised to spray Chlorantraniliprole @ 0.4 ml or Emamectin benzoate @ 0.4 g per litre of water.
- Farmers are advised to protect animals from a sudden drop in temperature, keep the animals in a covered shed/area during the night. The bedding/hay in the animal sheds must be kept dry and changed/aired every day.

Karnataka

147 mm (-25% deficit) rainfall received over South Interior Karnataka, 232 mm (-11% deficit) over Coastal Karnataka and 46 mm (-65% large deficit) rainfall received over North Interior Karnataka during 01 October - 21 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (22 - 28 December 2023 and 29 December 2023 - 04 January 2024) is no rainfall over North Interior Karnataka, below normal over Coastal Karnataka and South Interior Karnataka for week-1 and; above normal over North Interior Karnataka, Coastal Karnataka and South Interior Karnataka for week-2.

South Interior Karnataka

- Ragi crop is at maturity/harvesting stage, farmers are recommended for to harvest the crop and keep at safe place.
- Red gram crop is also at maturity/harvesting stage. Farmers are advised to harvest the red gram also.

North Interior Karnataka

- As no rainfall forecast during next week, it is advised to provide irrigation to the already sown crops if necessary.
- Farmers are advised to take up repeated inter-cultivation to conserve soil moisture and control weed infestation in already sown crops.
- Harvest the matured crops like pigeon pea, groundnut and sugarcane crops.

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