



# राष्ट्रीय कृषि मौसम परामर्शी सेवाएं बुलेटिन National Agromet Advisory Services Bulletin

जारी करने की तिथि / Date of issue: 18 December 2023

आधारित / based on

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

वैधता / Validity: 15 - 28 December 2023

जारीकर्ता / Issued by

अखिल भारतीय समन्वित कृषि-मौसम विज्ञान अनुसंधान परियोजना

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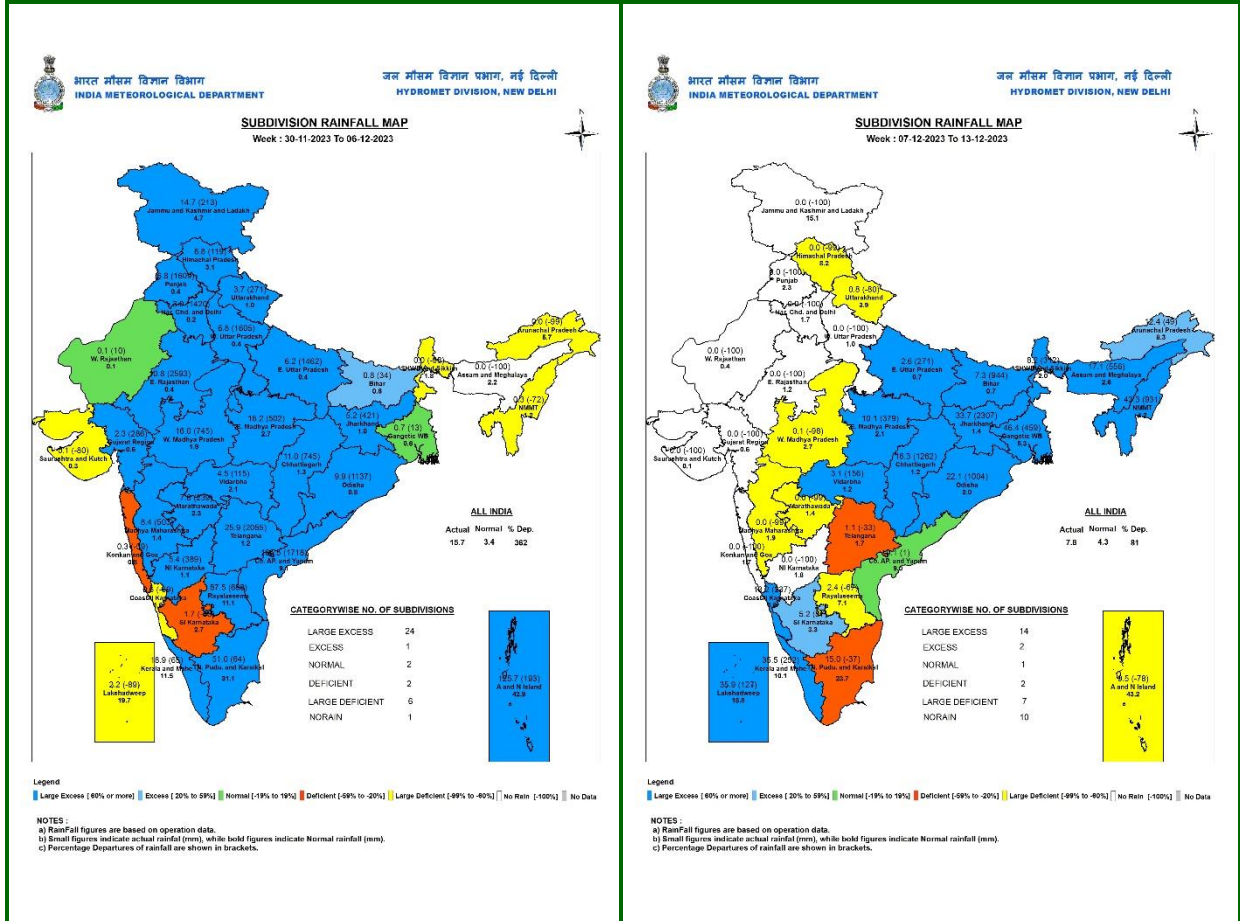
पृथ्वी प्रणाली विज्ञान संगठन

**Earth System Science Organization**

# Realized Rainfall and Extended Range Forecast

## Realized Rainfall

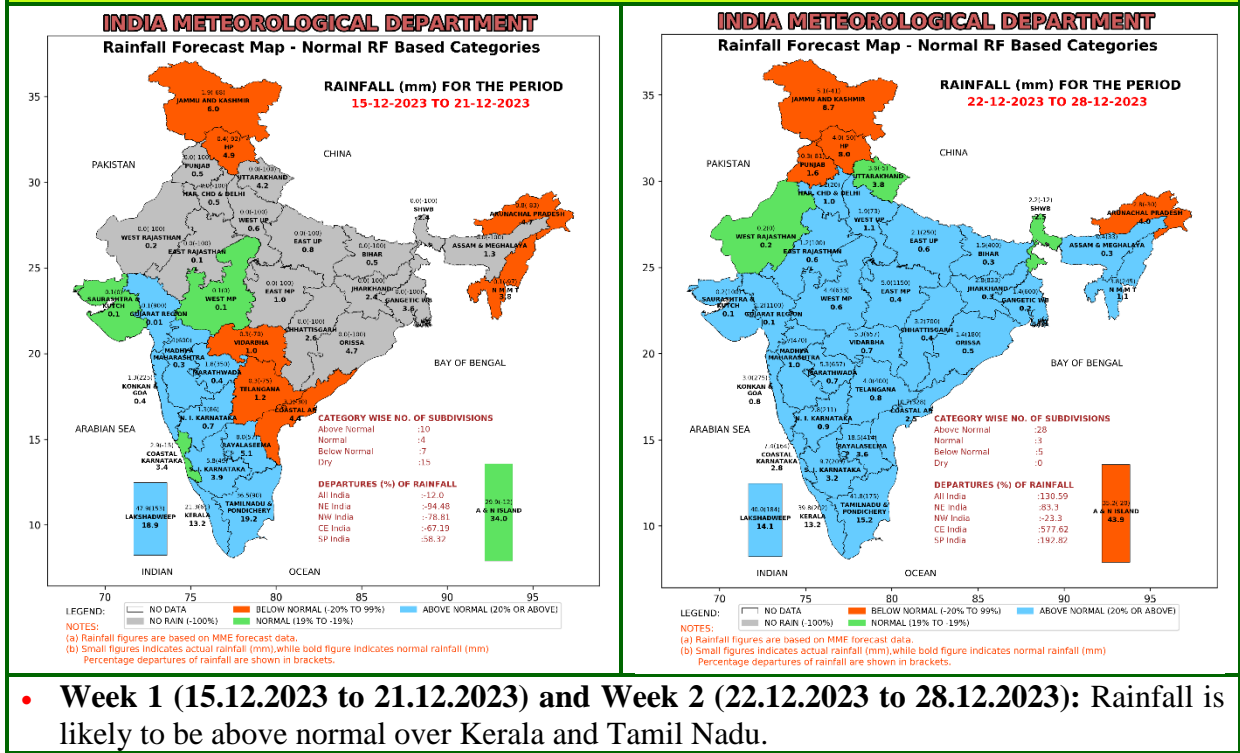
(30<sup>th</sup> November to 13<sup>th</sup> December, 2023)



- Normal or above normal rainfall occurred in both the weeks over East Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, East Madhya Pradesh, Chhattisgarh, Odisha, Vidarbha, Coastal Andhra Pradesh & Yanam and Kerala & Mahe.
- Normal or above normal rainfall occurred in either of the two weeks over Jammu & Kashmir(UT), Ladakh(UT), Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Rajasthan, West Madhya Pradesh, Gujarat Region, Madhya Maharashtra, Marathwada, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland Manipur Mizoram Tripura (NMMT), Telangana, Rayalaseema, Karnataka, Tamil Nadu-Puducherry-Karaikal, and Andaman & Nicobar Islands and Lakshadweep.
- Below Normal rainfall/no rain occurred in both the weeks over Saurashtra and Konkan & Goa.

## Extended Range Forecast System

### Rainfall forecast maps for the next 2 weeks (IC- 13<sup>th</sup> December) (15<sup>th</sup> to 28<sup>th</sup> December, 2023)

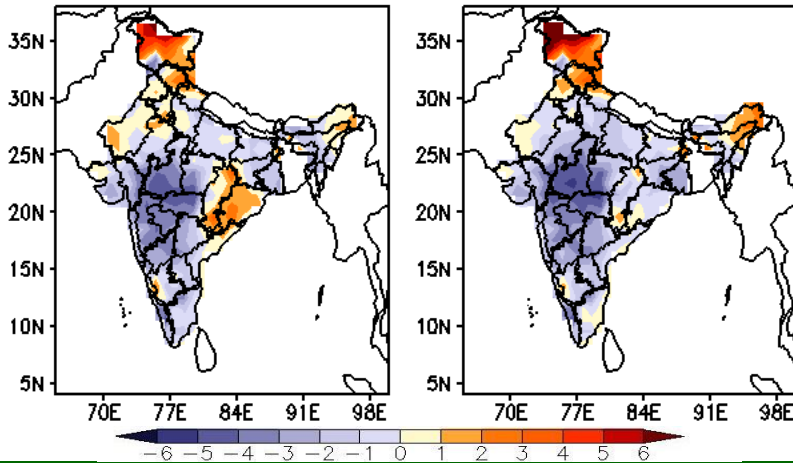


**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for the next 2 weeks (IC- 13<sup>th</sup> December)  
(15<sup>th</sup> to 28<sup>th</sup> December, 2023)**

**MME forecast Tmax anomaly (Deg C)**

(Week1: 15Dec–21Dec)

(Week2: 22Dec–28Dec)



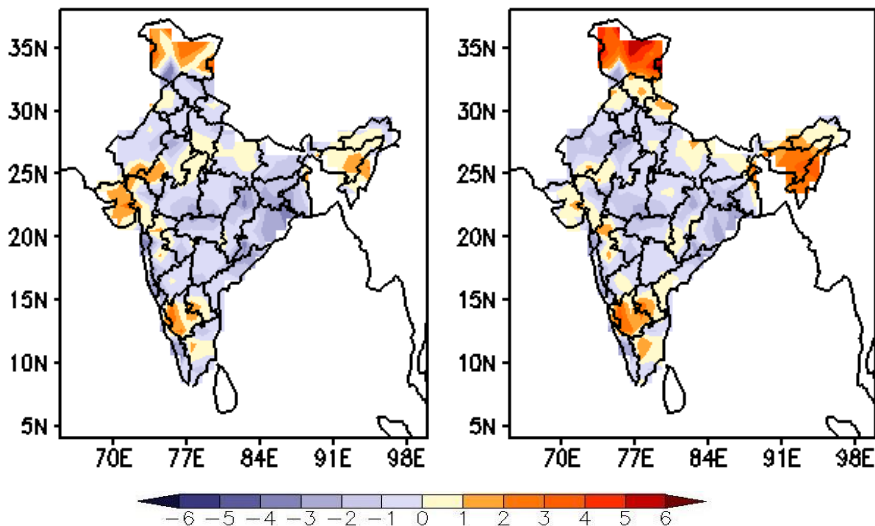
**Maximum Temperature (Tmax)**

- **Week 1 (15.12.2023 to 21.12.2023):** Maximum temperature is likely to be below normal over many parts of the country. However, it is likely to be above normal over some parts of North West India and East India.
- **Week 2 (22.12.2023 to 28.12.2023):** Maximum temperature is likely to be below normal over most parts of the country.

**MME forecast Tmin anomaly (Deg C)**

(Week1: 15Dec–21Dec)

(Week2: 22Dec–28Dec)



**Minimum Temperature (Tmin)**

- **Week 1 (15.12.2023 to 21.12.2023):** Minimum temperature is likely to be below normal over the country except some parts of Karnataka, Jammu & Kashmir, Gujarat, Rajasthan and North East India.
- **Week 2 (22.12.2023 to 28.12.2023):** Minimum temperature is likely to be below normal over the country except parts of Karnataka, Jammu & Kashmir and North East India.

## **Agromet Advisories**

### **Uttar Pradesh**

The amount of rainfall received over East Uttar Pradesh was 46 mm (23% excess) and over West Uttar Pradesh was 19 mm (-24% deficit) during 01 October - 14 December 2023. The extended range weather forecast (rainfall) for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is no rainfall over West Uttar Pradesh and East Uttar Pradesh for week-1 and above 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.
- Since there is no rainfall forecast during this week, farmers are advised to provide light irrigation in barley crop which is at emergence/CRI stage and top dress urea at the rate of 60 kg/ha at optimum moisture.
- Under prevailing weather condition, infestation of leaf webber is observed in pigeon pea crop, which is at vegetative to branching stage. To control, it is advised to spray Emamectin benzoate 5% SG @ 250 g/ha or Cypermethrin 25% EC @ 500 ml/ha with 500 litres water solution.
- Weeding and thinning is advised in mustard crop (emergence stage) at 15-20 DAS.

### **Uttarakhand**

27 mm (-39% deficit) rainfall was received over Uttarakhand during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Uttarakhand is no rainfall for week-1 and; normal for week-2.

- Since there is no rainfall forecast during this week, farmers are advised to provide light irrigation in papaya, which is at fruit development stage. It is also advised to cover the fruits with cloth/jute gunny bag to protect them from the frost/cold wind and apply 200 g of single super phosphate and 125 g of Muriate of potash per plant in the basin.
- 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.
- Mulching in crops and orchards with materials like straw or farm residues is advised, to maintain soil moisture and soil temperature.

### **Himachal Pradesh**

45 mm (-22% deficit) rainfall was received over Himachal Pradesh during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks

(15 - 21 December 2023 and 22 - 28 December 2023) over Himachal Pradesh is below normal for week-1 and; week-2.

- Under prevailing weather condition, farmers are advised to go for sowing for late sown wheat crop. 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.
- 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 maintain room temperature 25 – 28 °C and relative humidity around 80 - 85% for successful cultivation of mushrooms.

### **Jammu**

130 mm (79% large excess) rainfall was received over Jammu during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Jammu is below normal for week-1 and; week-2.

- Due to the presence of sufficient moisture in soil, it is advised to apply 1<sup>st</sup> top dressing of nitrogen fertilizer in 20 to 25 days old wheat crop.
- Nipping is recommended in chickpea after receipt of rain in 3-4-week-old crop. Hoeing and weeding is also recommended.
- Weeding and hoeing is also advised in cole crops. Earthing-up is advised where the crop attains height of 15-22 cm.

### **Rajasthan**

24 mm (normal) rainfall was received over East Rajasthan during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over East Rajasthan is no rainfall for week-1 and; above 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*. The recommended seed rate is 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*.
- Farmers are advised to complete the sowing of barley in this week with recommended improved varieties viz., *RD-2035*, *RD-2786*, *RD-2715*, *RD-2849* and *BH-902*.

**Hisar**

17 mm (13% excess) rainfall was received over Hisar during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Hisar is no rainfall for week-1 and; above normal for week-2.

- Farmers are advised to give 1st irrigation in wheat at CRI stage (after 20-22 DAS) and broadcast the urea after irrigation.
- Prevailing weather conditions are favourable for blight disease in potato. For control, it is advised to spray Mancozeb 600-800 g in 200 litres of water per acre.

**Punjab**

40 mm (145% large excess) rainfall was received over Punjab during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Punjab is no rainfall for week-1 and; below normal for week-2.

- Farmers are advised to start the sowing of wheat cultivars PBW 771 and PBW 752 under irrigated conditions. It is recommended to use Happy seeder or Super seeder for the sowing of wheat crop. Treat 40 kg seed with Raxil easy/orius @ 13 ml (dissolve in 400 ml of water) or Tebuseed or Seedex or Exzole @ 40 g or vitavax power @ 120 g or vitavax @ 80g.
- For management of canker in citrus, it is advised to spray Streptocycline 50 g + 25 g copper sulphate in 500 litres of water per acre or Bordeaux mixture (2:2:250) during this month.
- It is the optimum time for transplanting of tomato, brinjal, chilli and capsicum for early and higher yield.

**West Bengal**

225 mm (36% excess) rainfall received over Gangetic West Bengal and rainfall received over Sub Himalayan West Bengal was 201 mm (25% excess) during 01 October - 14 December 2023. The extended range weather forecast (rainfall) for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is no rainfall over Gangetic West Bengal and Sub-Himalayan West Bengal during week-1 and; above normal over Gangetic West Bengal and normal over Sub-Himalayan West Bengal week-2.

- Due to rainfall during last week, the farmers are advised to drain water immediately from the pulse and vegetable fields.
- To monitor and control aphid, jassid, mite, whitefly and other sucking pest in brinjal crop at flowering stage, sticky traps are suggested to install. Apply Alike against sucking and chewing pests like flies and aphids.

**Bihar**

103 mm (62% large excess) rainfall was received over Bihar during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21



December 2023 and 22 - 28 December 2023) over Bihar is no rainfall for week-1 and; above normal for week-2.

- 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 also advised to give light irrigation in wheat crop which reaches 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 infestation observed, then spraying of Mancozeb@ 2.5 g/litre of water is advised.
- Weeding is advised in vegetables and provide light irrigation in vegetable crops such as cauliflower, cabbage, tomato, pea, chilli, brinjal etc as per status of soil moisture.
- Weeding and earthing- up are advised in early sown potato crop, which has attained the height of 15-20 cm. Give light irrigation as per need.

### **Chhattisgarh**

62 mm (-14% deficit) rainfall was received over Chhattisgarh during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Chhattisgarh is no rainfall for week-1 and; above normal for week-2.

- Farmers are advised to complete the sowing of early maturing varieties of wheat up to 10<sup>th</sup> December.
- During cloudy weather condition, there is a possibility of fruit borer caterpillar in the pigeon pea crops (fruiting stage). For its management and monitoring, install pheromone traps and T-shaped pegs (for birds to sit) and change the pheromone septa every 15 days.
- Considering the decrease in temperature, dairy farmers are advised to keep the animals in the cattle shed with concrete / brick roof.

### **Odisha**

120 mm (-13% deficit) rainfall received over Odisha during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Odisha is no rainfall for week-1 and; above 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 decrease in minimum temperature and foggy condition there may be chances of late blight in tomato. To manage, it is advised to spray 2.5 g Metalaxyl + Mancozeb/litre of water or mix 3 g *Trichoderma* with per kg of seed during seed treatment. Avoid excess nitrogen fertilizer and close spacing of plants.
- During winters, there is a possibility of “EUS” disease in fish. Farmers are advised to apply Cifax @ 400 ml mixed with 40 litre of water in one-acre pond area as a preventive measure.

### **Gujarat**

38 mm (17% excess) rainfall received over Gujarat during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) over Gujarat is above for week-1 and; week-2.

- Monitoring of aphids is advised in mustard crop. If infestation is observed above ETL, then it is advised to spray neem seed extract 5% @ 500 ml or Neem oil 50 ml or Thiamethoxam 25 % WG @ 5 g in 10 litres of water.
- Farmers are advised to spray *Beauveria bassiana* or *Lecanicillium lecanii* for the management of mango hopper and pollinator protection during humid weather conditions.

### **Maharashtra**

56 mm (-46% deficit) rainfall over Madhya Maharashtra; 50 mm (-32% deficit) rainfall over Vidarbha; 58 mm (-39% deficit) rainfall over Marathwada; and 118 mm (-16% deficit) in Konkan region was recorded during 01 October - 14 December 2023. The extended range weather forecast (rainfall) for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is above normal over Konkan, Madhya Maharashtra, Marathwada and below normal over Vidarbha for week-1 and; above normal over Konkan, Madhya Maharashtra, Marathwada and Vidarbha for week-2, respectively.

### *Parbhani*

- Due to cloudy weather condition, there is a chance of pod borer infestation pigeon pea crop (flowering to 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 the management of leaf spot (Karpa) disease in banana orchard, it is advised to spray of Biomix @ 100 ml per 10 litres of water and drenching of Biomix @ 200 ml per 10 litres of water.
- Due to forecast of above normal rainfall, harvesting of mature vegetable crops is advised as early as possible.

### *Vidarbha*

- To avoid the rotting of matured bolls from outer side due to recent rainfall and fungal leaf spot diseases it is advised to undertake foliar spray Carbendazim 50 WP @ 20 g or Propiconazole 25 EC @10 ml or Pyraclostrobin 20 WP @ 20 g in 10 litres of water.
- For delayed sowing of irrigated wheat (November 15 - December 15) use varieties - PDKV Sardar (AKAW 4210-6) and AKW-1071(Purna). Follow seed treatment with Carbendazim @ 2.5 g / kg seed.

- 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 (3/plant or 5 to 10% pod damage) spray 5% NKSE OR Azadirachtin 300 ppm @ 50 ml per 10 litres of water.

#### *Madhya Maharashtra*

- Due to weather cloudy condition, leaf spot disease may observe in safflower crop. To manage, foliar application of Carbendazim + Mancozeb @ 2 g per litre of water is advised.
- Due to prevailing complete cloudy condition in the major part of the region, there may be fungal attack on rabi crops and horticultural crops. Farmers are advised to remove excess water from fields to protect the crops from fungal attack.
- To protect mango blossom from flower drop, it is advised to apply NAA 20 ppm @ 40 ml + 2 per cent micronutrients in 200 litres of water.
- For effective control of mealy bugs in custard apple (fruit setting to ripening), it is advised to apply *verticillium lucanea* @ 4 ml/litre of water.

#### *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**

606 mm (26% excess) received over Kerala during 01 October - 14 December 2023. The extended range weather forecast (rainfall) for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is above normal for week-1 and; week-2.

- During cloudy weather condition, there is a chance of Leaf folder infestation in Mundakan Paddy. To control, it is advised to use Trichogramma cards (2 CC per one acre). Cut the cards in to small pieces and fix in different regions of the field. If the attack is severe, spray Chlorantraniliprole (Coragen) @ 3 ml per 10 litres of water.
- For the control of panama wilt disease in banana orchard, it is advised to apply 1 kg lime into the pit before planting. If the disease is observed then apply 5 litres Carbendazim (2 g/litre) in the soil.

#### **Tamil Nadu**

387 mm (-5% deficit) received over Tamil Nadu during 01 October - 14 December 2023. The extended range weather forecast (rainfall) for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is above normal for week-1 and; week-2.

- Continuous rainfall and wind may damage the banana crop stand. Hence, farmers are advised for earthing-up and propping to avoid lodging.
- 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**

163 mm (-29% deficit) rainfall was received over Rayalaseema and 260 mm (-17% deficit) rainfall was received over Coastal Andhra Pradesh during 01 October - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is above normal over Rayalaseema and below normal over Coastal Andhra Pradesh for week-1 and; above normal over Rayalaseema and Coastal Andhra Pradesh for week-2.

- The present weather conditions are favourable for Spodoptera infestation in chickpea crop. In case of severe infestation, it is advised to take up spray Emamectin benzoate @ 0.45 g/litre.

### **Karnataka**

147 mm (-24% 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 - 14 December 2023. The extended range weather forecast (rainfall) provided for the next two weeks (15 - 21 December 2023 and 22 - 28 December 2023) is above normal over North Interior Karnataka and South Interior Karnataka and normal over Coastal Karnataka for week-1 and; above normal over North Interior Karnataka, Coastal Karnataka and South Interior Karnataka for week-2.

#### *South Interior Karnataka*

- Early sown 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.
- For the management of leaf hopper in mango orchard (flower bud initiation and flowering stage) Farmers are advised to spray Imidacloprid @ 2 to 3 ml per tree in 10 litres of water.

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