



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

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

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जारीकर्ता/ Issued by

अखिल भारतीय समन्वित कृषि-मौसम विज्ञान अनुसंधान परियोजना

**AICRP on Agro-Meteorology (AICRPAM)**

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भारतीय मौसम विज्ञान विभाग

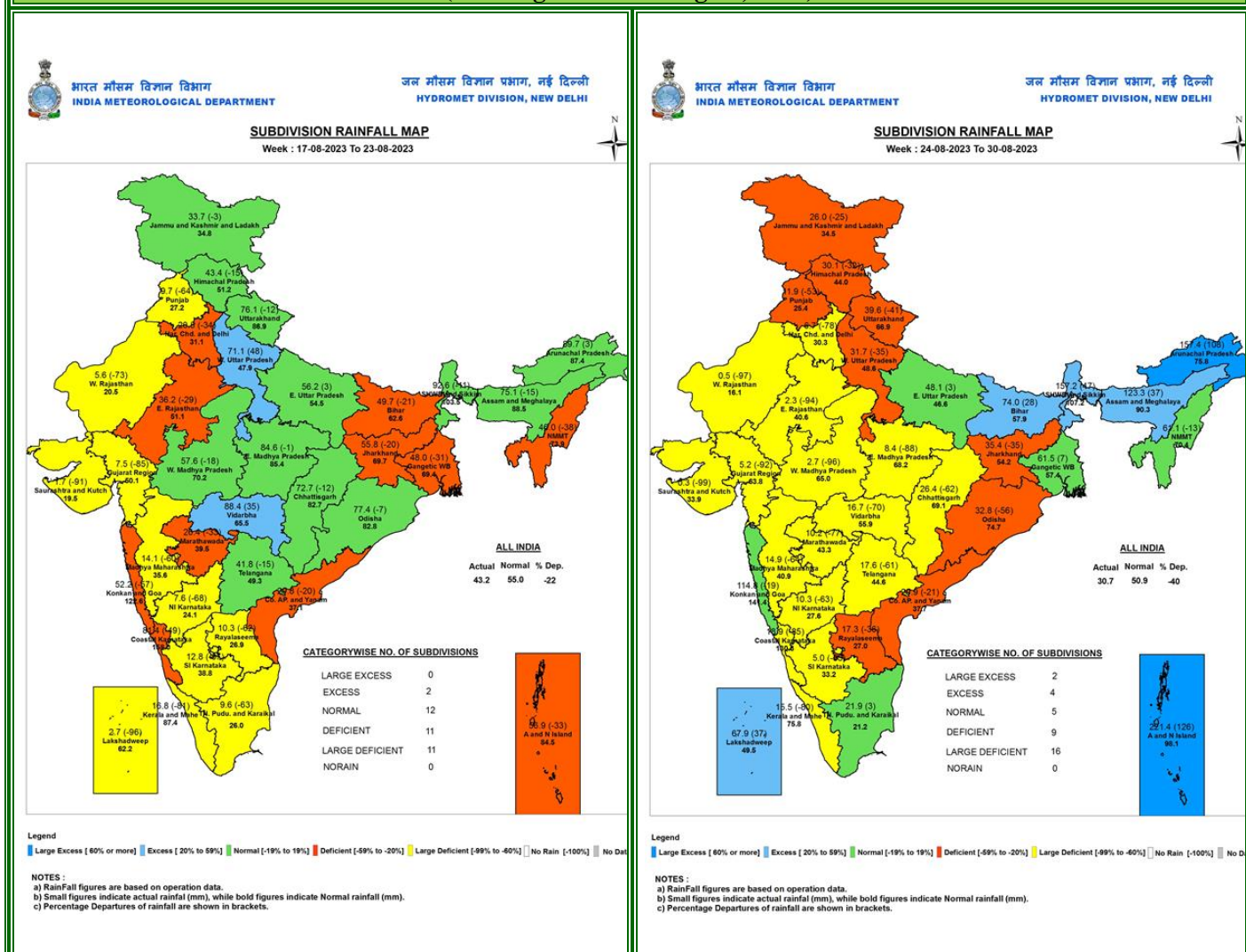
**India Meteorological Department (IMD)**

पृथ्वी प्रणाली विज्ञान संगठन

**Earth System Science Organization**

## Realized Rainfall and Extended Range Forecast

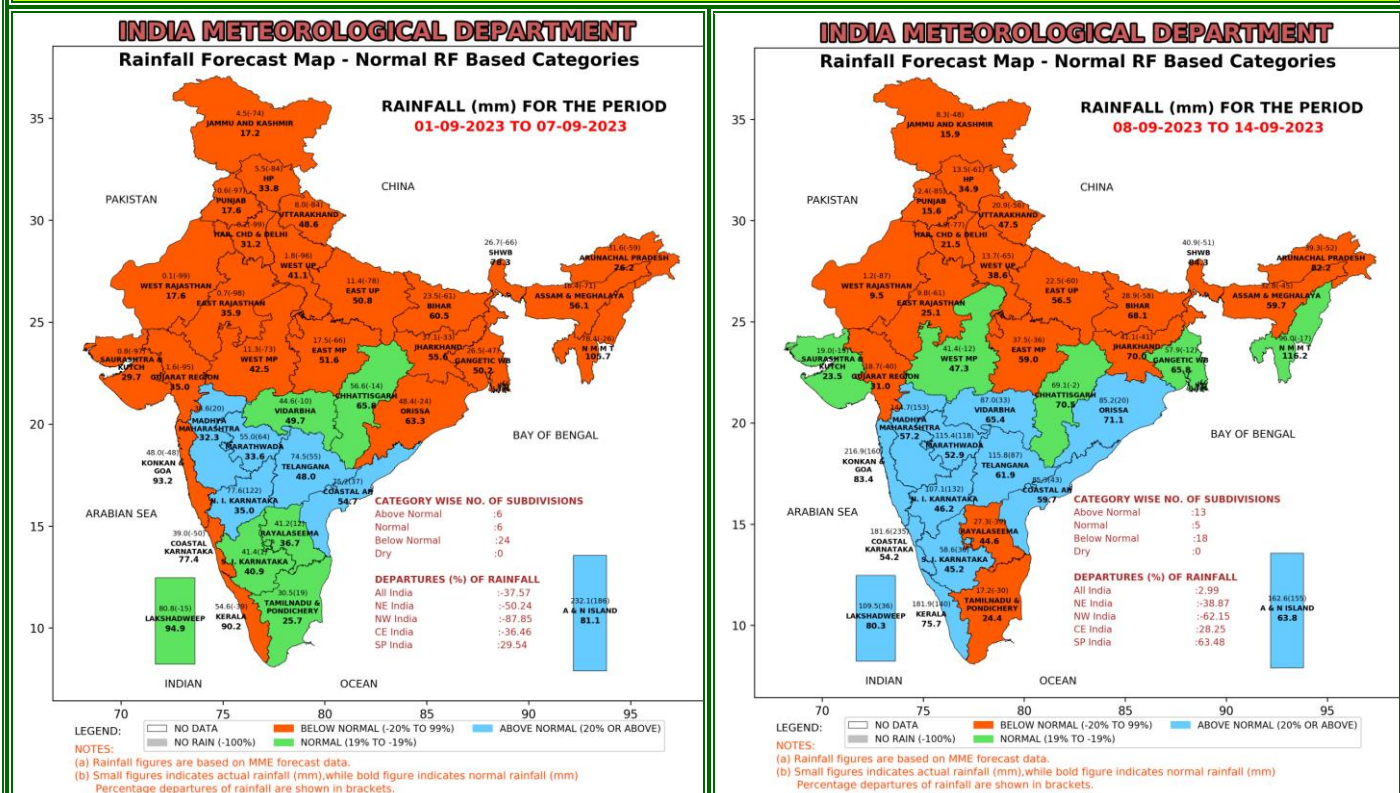
### Realized Rainfall (17<sup>th</sup> August to 30<sup>th</sup> August, 2023)



- Normal or above normal rainfall occurred in both the weeks over East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Arunachal Pradesh.
- Normal or above normal rainfall occurred in either of the two weeks over Jammu & Kashmir and Ladakh (UTs), Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Bihar, Gangetic West Bengal, Nagaland Manipur Mizoram & Tripura (NMMT), Madhya Pradesh, Chhattisgarh, Odisha, Konkan & Goa, Vidarbha, Telangana, Tamil Nadu Puducherry & Karaikal, Lakshadweep and Andaman & Nicobar Islands.
- Below Normal rainfall occurred in both the weeks over rest of the country.

## Extended Range Forecast System

### Rainfall forecast maps for the next 2 weeks (IC- 30<sup>th</sup> August) (1<sup>st</sup> September to 14<sup>th</sup> September, 2023)



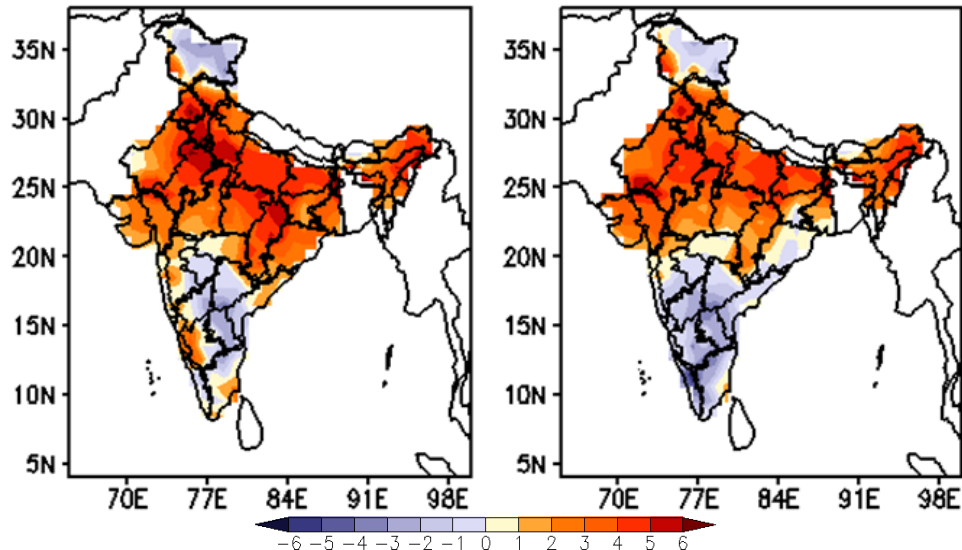
- Week 1 (01.09.2023 to 07.09.2023):** Rainfall is likely to be normal to slightly above normal over parts of Peninsular India. However, it is likely to be below normal over rest of the country.
- Week 2 (08.09.2023 to 14.09.2023):** Rainfall is likely to be above normal over most parts of Peninsular India and adjoining central India. It is likely to be below normal over remaining parts of the country.

**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for the next 2 weeks (IC- 30<sup>th</sup> August)  
(1<sup>st</sup> September to 14<sup>th</sup> September, 2023)**

**MME forecast Tmax anomaly ( $^{\circ}\text{C}$ )**

(Week1: 01Sep–07Sep)

(Week2: 08Sep–14Sep)



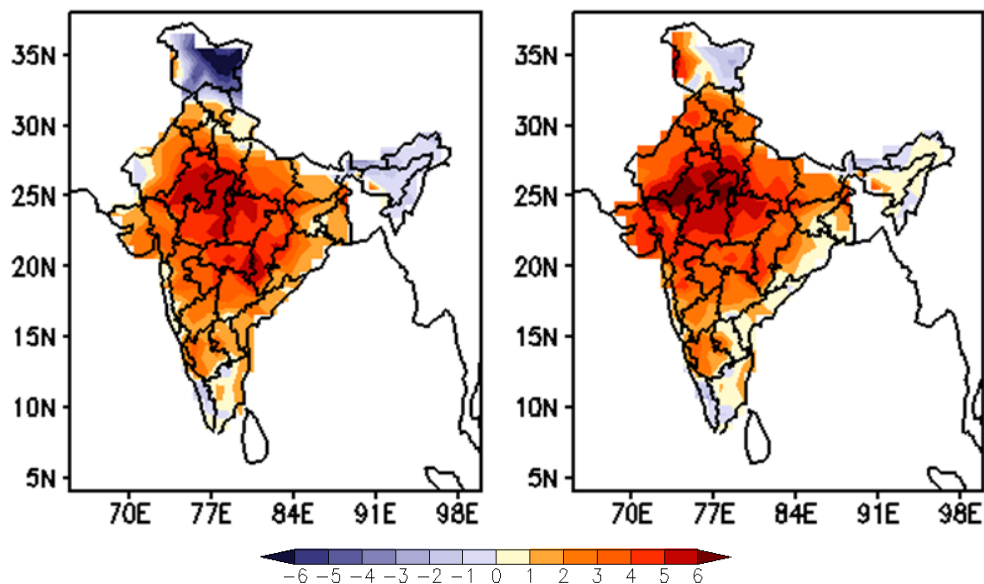
**Maximum Temperature (Tmax)**

- Week 1 (01.09.2023 to 07.09.2023) and Week 2 (08.09.2023 to 14.09.2023): Tmax is likely to be above normal over most parts of North West, Central, East and North East India.

**MME forecast Tmin anomaly ( $^{\circ}\text{C}$ )**

(Week1: 01Sep–07Sep)

(Week2: 08Sep–14Sep)



**Minimum Temperature (Tmin)**

- Week 1 (01.09.2023 to 07.09.2023) and Week 2 (08.09.2023 to 14.09.2023): Tmin is likely to be above normal over most parts of the country.

## Agromet Advisories

### Uttar Pradesh

The amount of rainfall received over East Uttar Pradesh was 454 mm (-28% deficit) and over West Uttar Pradesh was 460 mm (2% excess) during 01 June - 01 September 2023. The extended range weather forecast (rainfall) for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is below normal over West Uttar Pradesh and East Uttar Pradesh for week-1 and; week-2.

#### *Western Uttar Pradesh*

- During the last two weeks, no rainfall was recorded. As below normal rainfall is forecasted during next week, farmers are advised to provide light irrigation in *kharif* crops like sorghum (vegetative stage), maize (tasselling stage), rice (tillering stage), etc.
- If there is an outbreak of stem borer observed in paddy, it is advised to spray Chlorpyrifos 20 EC @ 1ml per liter of water during clear weather conditions.

#### *Eastern Uttar Pradesh*

- Due to the forecast of below-normal rainfall during the next two weeks, farmers are advised for light irrigation in maize, which is at silk stage.
- As no rainfall is forecasted during next two weeks, there is a possibility of stem borer, leaf wrapper, banka and hispa insects in the paddy crop. If the number of insects increases above ETL, then spray Bifenthrin 10 EC or Quinalphos 25 EC 1ml per litre of water.

### Uttarakhand

1059 mm (8% excess) rainfall was received over Uttarakhand during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Uttarakhand is below normal for week-1 and; week-2.

- Farmers are advised to remove weeds from finger millet fields to minimize the competition with crops for water, nutrients and light and also apply urea as top dressing (1 kg per nali).
- Avoid fertilizers during head formation in cabbage crop at high altitude areas, as this causes excessive leaf growth and head splitting. Plants are supported with soil to avoid toppling of the plant during head formation. Drench the soil by suitable fungicide to control root rot disease.

### Himachal Pradesh

807 mm (31% excess) rainfall was received over Himachal Pradesh during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Himachal Pradesh is below normal for week-1 and week-2.

- Heavy to very heavy rainfall has led to occurrences of landslides, cloudbursts, mudflows, and flooding in various regions of the state. As a consequence, a significant portion of the Kangra district, (downstream from the Pong Dam), is inundated due to the release of water.



Also, the release of water from Kol dam has also inundated areas in Bilaspur and Mandi districts causing losses to different crops.

This has resulted in:

- ✓ Damage to the standing vegetable crops in parts of Kullu, Mandi, Solan and Shimla districts.
- ✓ Significant damage to apple crop as well as other fruit trees in parts of the state (Kullu, Mandi, Shimla and Kinnaur districts).
- ✓ The general public is cautioned not to go near the banks of rivers and drain out the excess water in maize, soybean and vegetable fields.
- To control Fall army worm pest in maize crop, it is advised to install pheromone traps @ 4 traps per acre. Destroy eggs and larvae by crushing them. If the infection is more than 10 percent, then spray neem seed kernel extracts @ 5 ml/ litre or Chlorantraniliprole @ 0.4 ml/litre on a clear sky day.
- Weather is conducive for infestation of stored grains pests like rice weevil, lesser grain borer and rice moth. For management, it is advised that in grain store bins put one tablet Aluminium Phosphide 15 % (12 g) or 3 tablets of Aluminium Phosphide 56 %, 10g Pouch per ton of grains or 100 m<sup>3</sup> area in a wet cloth in the middle of bin and keep the bin airtight for some time.

### **Jammu**

491 mm (8% excess) rainfall was received over Jammu during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Jammu is below normal for week-1 and; week-2.

- Prevailing weather conditions (above normal temperature and high relative humidity) are congenial for the infestation of rice hispa in the subtropical region of the state. To manage, farmers are advised to spray Chlorpyrifos 20 % EC @ 1ml per liter of water.

### **Rajasthan**

497 mm (-7% deficit) rainfall was received over East Rajasthan during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over East Rajasthan is below normal for week-1 and; week-2.

- In present weather condition farmers are advised to monitor moong and urd bean crops regularly, if whiteflies or sucking pests are above ETL, spraying of Imidacloprid 17.8 % SC @ 1.0 ml / 3 lit. of water is recommended when sky remain clear.
- Farmers are advised to avoid plant protection measures in cotton. Pest monitoring is advised, if the population of insects reaches above ETL, farmers are advised to install pest-specific pheromone traps in the fields for control of insect population.

### **Assam**

1149 mm (-13% deficit) rainfall was received over Assam during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Assam is below normal for week 1 and week 2.

- Due to flood/inundation situation in some districts of the state, farmers are advised to download “MAUSAM” app for weather forecast and “DAMINI” app for lightning alerts, intending to help save lives of humans as well as livestock.
- Provide staking to vegetable crop and drain out excess amount of water from low lying crop field.
- Provide clean drinking water and hygienic fodder material for animals.
- Go for weather-based crop insurance
- Since there is a forecast of below-normal rainfall during the next two weeks, there is a chance of infestation of rice hispa, case worm, and leaf folder in the rice crop fields. To manage, spraying of Chlorpyrifos 20 % EC @ 1ml per liter of water is advocated under fair weather conditions.

### **Bihar**

570 mm (-27% deficit) rainfall was received over Bihar during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Bihar is below normal for week 1 and week 2.

- Monitoring of *khaira* disease is advised in paddy fields. If symptoms occur, spraying of Zinc sulphate @ 5.0 kg mixed with lime @ 2.5 kg in 500 litres of water is advised for one hectare cropped area.
- Regular monitoring is advised for infestation of stem borer in paddy crop. If infestation is observed, application of Cartap hydrochloride 4G (Caldan) @ 10kg/acre is advised to protect the crop.
- In upland areas, sowing of pigeon pea with the recommended varieties viz., Pusa-9 and Sarad for sowing in September is advised. Regular monitoring is advised in July sown pigeon pea crop against insect pest and disease infestation. Intercultural operation is also advised.

### **Chhattisgarh**

739 mm (-20% deficit) rainfall was received over Chhattisgarh during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Chhattisgarh is normal for week-1 and; week-2.

- Due to the possibility of light rainfall at some places during next two weeks, farmers are advised for water management with proper drainage facility.

- Under prevailing weather condition, nursery preparation of cauliflower and cabbage vegetables is advised.
- For ginger and turmeric crops, regular earthing up and second mulching is advised.
- After 35-40 days of second weeding in groundnut, earthing up is advised.

### **Odisha**

783 mm (-14% deficit) rainfall received over Odisha during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Odisha is below normal for week-1 and; above normal for week-2.

- For delayed transplanting, seedlings up to 45 and 60-70 days old can be transplanted in case of medium and late duration rice varieties respectively.
- August and September are the optimum time for tomato planting. Recommended tomato varieties are *Utkal Kumari (BT-10)*, *Utkal Deepti (BT-2)*, *Utkal Raja*, *Utkal Pragyan* and *Swarna Sampad*.
- Farmers are advised to complete all inter-culture operation in groundnut, before start of flowering, else it will damage the peg formation and there will be substantial reduction in yield.

### **Gujarat**

663 mm (-15% deficit) rainfall received over Gujarat during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) over Gujarat is below normal for week-1 and week-2.

- Due to the deficit rainfall condition, irrigation is advised in castor crop. Carry out intercultural operations and weeding to conserve moisture.
- Undertake farm practices like weed control, intercultural operations, mulching operations etc for soil moisture conservation in standing crops during dry spell condition
- During dry spell, foliar spray of nitrogen fertilizers and micronutrients is advised to improve the endurance of crop to the drought conditions.

### **Maharashtra**

453 mm (-23% deficit) rainfall over Madhya Maharashtra; 677 mm (-13% deficit) rainfall over Vidarbha; 379 mm (-21% deficit) rainfall over Marathwada; and 2651 mm (6% excess) in Konkan region was recorded during 01 June - 01 September 2023. The extended range weather forecast (rainfall) for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is below normal over Konkan and above normal over Madhya Maharashtra, Marathwada and Vidarbha for week-1 and; above normal over Konkan, Madhya Maharashtra, Marathwada and Vidarbha for week-2, respectively.



### *Vidarbha*

- In early sown *kharif* crops, inter culture operation (weeding/hoeing) is advised during clear weather for the management of weeds and improve soil aeration.
- Due to long dry spell period, water stressed crop should be irrigated in two line / sprinkler method or wide ridges and furrow method for efficient use of irrigated water. Undertake drip irrigation depending on the crop through micro irrigation method.
- To reduce the protect the soil moisture, mulching is advised (wheat straw, sawdust / straw, dried grass etc.) in vegetable crops.

### *Madhya Maharashtra*

- As there is forecast of thunderstorm accompanied with lightning and rain with gusty winds at isolated places during next two weeks. It is advised to provide support of bamboo sticks to the banana plant and bunch or tight the plants and banana bunch with polypropylene strips.
- Due to a prolonged dry spell, farmers are advised for protective irrigation in soybean crop (flower initiation to pod formation) if moisture stress prevails. Hoeing in late sown soybean is also advised.
- Water stress during critical growth stages of crop affects its growth and development. One to two protective irrigation is advised at critical growth stages of crop. If the water stress is high, spray kaolin (anti-transparent) 6 to 8% percent for or potassium nitrate 1.0 to 2.0 percent.

### *Parbhani*

- If water stress is observed in *kharif* crops, irrigation management is advised with the help of drip irrigation system as per the availability of water.
- Due to dry spell and cloudy weather condition, sucking pests may increase in cotton crop. To manage, it is advised to spray 5% NSKE or Diafenthiuron 50 % WP @ 1 gram per liter of water or Acetamiprid 20% @ 2 g per 10 litres of water during clear weather conditions.
- If water stress is more than 10 Days in *kharif* crops, it is advised to spray of 1% (100 g/10 litre of water) Potassium nitrate (13:00:45). If drying of leaves is observed due to water stress irrigation management is advised with the help of sprinkler irrigation system as per availability of water.
- Light hoeing is advised in pulse crops for weed management and for soil moisture conservation.

### **Kerala**

912 mm (-48% deficit) received over Kerala during 01 June - 01 September 2023. The extended range weather forecast (rainfall) for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is below normal for week-1 and; above normal for week-2.

- Since air temperature is increasing, it is an advised practice to bury fresh or dried coconut husk around the palm to conserve soil moisture.
- Due to prevailing rainfall deficit condition and forecast of below normal rainfall, farmers are advised for mulching in pepper bed using dry leaves to preserve and maintain soil moisture levels.
- Due to forecast of below normal rainfall in next two weeks, farmers are advised to irrigate the crops according to their needs and mulch properly and also advised to adopt proper management practices at the earliest as there is a higher chance of pest and disease incidence.

### **Tamil Nadu**

206 mm (-2% deficit) received over Tamil Nadu during 01 June - 01 September 2023. The extended range weather forecast (rainfall) for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is normal for week-1 and; below normal for week-2.

- Weather prevailed is conducive for stem borer incidence in rice (tillering to panicle initiation stage). To control, it is advised to spray Chlorantraniliprole 18.5% SC @ 150 ml/ha or Azadirachtin 0.03% 1000 ml/ha or spray Cartap Hydrochloride 50 % SP @ 1 gram per liter of water
- To avoid lodging in banana orchard, propping and earthing-up operation is advised.

### **Anantapur**

189 mm (-29% deficit) rainfall was received over Rayalaseema and 396 mm (-10% deficit) rainfall was received over Coastal Andhra Pradesh during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is normal over Rayalaseema and above normal over Coastal Andhra Pradesh for week-1 and; below normal over Rayalaseema and above normal over Coastal Andhra Pradesh for week-2.

- Due to prolonged dry spells/drought situation, one or two protective irrigation recommended in groundnut crop which is at flowering stage.
- Farmers are advised to take up foliar spray of KNO<sub>3</sub> @ 5 g per litre of water to mitigate the adverse effect of dry spell.
- Farmers are advised for thinning and regular intercultural operation in redgram to mitigate the adverse effect of dry spell.

### **Karnataka**

368 mm (-30% deficit) rainfall received over South Interior Karnataka, 2278 mm (-18% deficit) over Coastal Karnataka and 302 mm (-11% deficit) rainfall received over North Interior Karnataka during 01 June - 01 September 2023. The extended range weather forecast (rainfall) provided for the next two weeks (01 - 07 September 2023 and 08 - 14 September 2023) is above normal over

North Interior Karnataka, below normal over Coastal Karnataka and normal over 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*

- Due to prolonged dry spells/drought situation, one or two protective irrigation advised in all *kharif* crops.
- Wherever over population of crop plants exist, thinning operation is advised for better availability of scarce soil moisture to the reduced population of crop plants.
- Severe soil moisture stress/drought condition observed in *kharif* crop field. Farmers are advised for intercultural operation recommended for conserve the soil moisture and remove of weeds.
- Mulching is recommended to conserve the soil moisture due to dry spells over the *kharif* crops.

#### *North Interior Karnataka*

- To manage sucking pests in citrus crop, spraying of 0.3 ml Imidacloprid or spray with 3 per cent biodigester is advised.
- Earthing up in sugar cane crop is advised to ensure optimum plant density and higher yields.

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