



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

**Validity: 21 September to 04 October 2018**

**Date of issue: 21 September 2018**

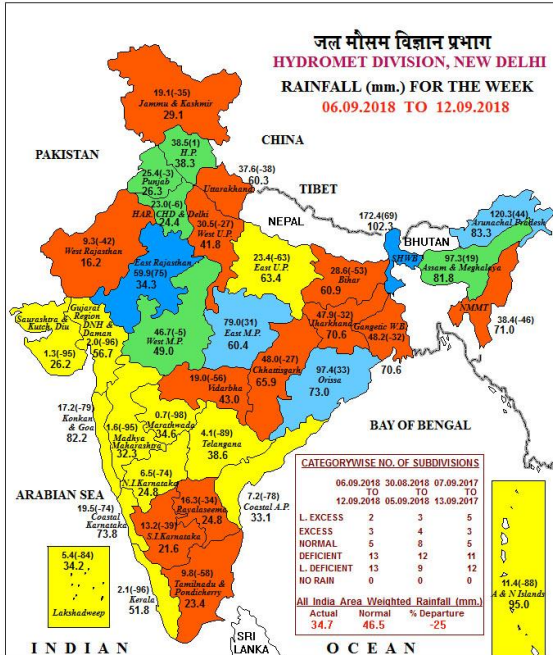
**Issued by**  
**Indian Council of Agricultural Research (ICAR)**  
**All India Coordinated Research Project on Agricultural Meteorology (AICRPAM), Central**  
**Research Institute for Dryland Agriculture (CRIDA), Hyderabad.**  
**&**  
**Earth System Science Organization**  
**India Meteorological Department**

## Realized Rainfall and Extended Range Forecast (Rainfall and Temperatures)

### Realized Rainfall

(6<sup>th</sup> to 19<sup>th</sup> September 2018)

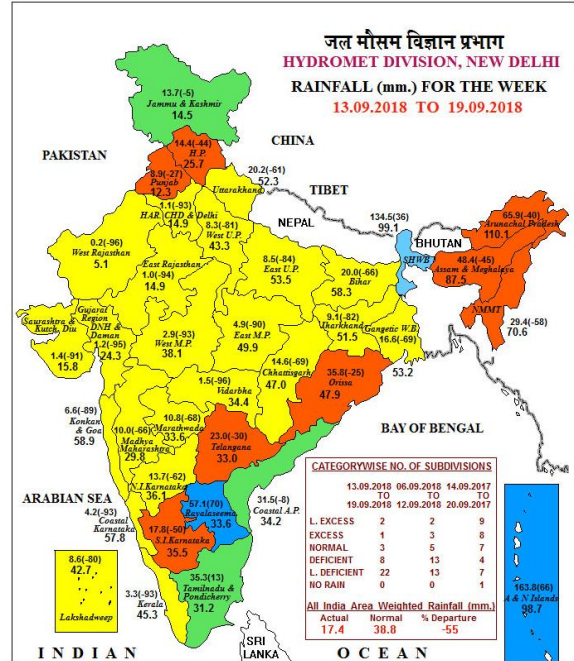
#### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT



**LEGEND:** L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+19% TO -19%)  
DEFICIENT (-20% TO -59%) L. DEFICIENT (-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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[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 Sub-Himalayan West Bengal & Sikkim.
- Normal or above normal rainfall occurred in either of the last two weeks in Jammu & Kashmir, Himachal Pradesh, Haryana, Chandigarh & Delhi, Punjab, East Rajasthan, Madhya Pradesh, Odisha, Assam & Meghalaya, Andhra Pradesh, Tamil Nadu and Andaman & Nicobar Islands.
- Below normal rainfall occurred in both the weeks in Uttarakhand, Uttar Pradesh, West Rajasthan, Bihar, Jharkhand, Gangetic West Bengal, Nagaland, Manipur, Mizoram, Tripura, Chhattisgarh, Gujarat, Maharashtra & Goa, Telangana, Karnataka, Kerala and Lakshadweep.

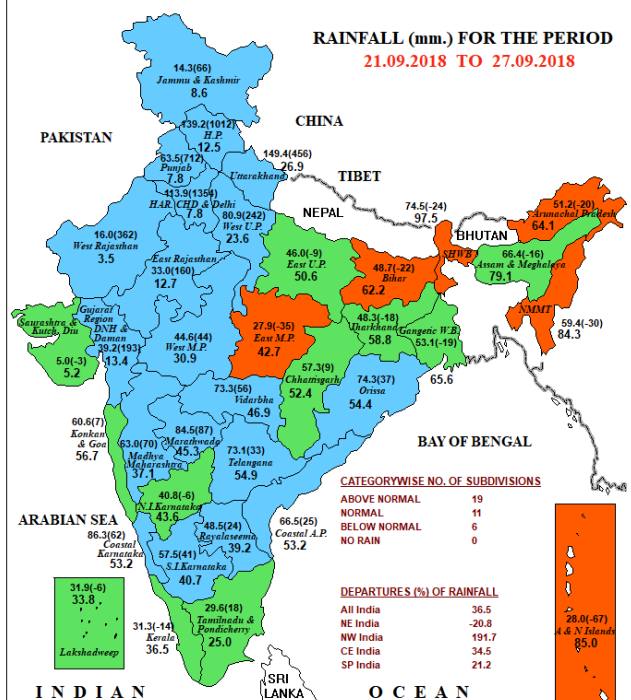
# Extended Range Forecast System

## Rainfall forecast maps for the next 2 weeks (IC – 19 September)

(21<sup>st</sup> September to 4<sup>th</sup> October 2018)

### भारत मौसम विज्ञान विभाग INDIA METEOROLOGICAL DEPARTMENT

Rainfall Forecast Map - Normal RF Based Categories

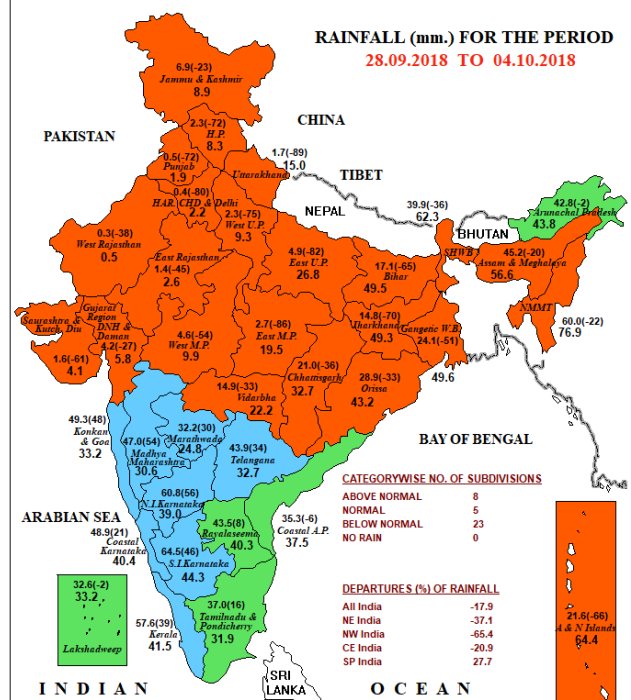


LEGEND: ■ ABOVE NORMAL [+20% OR MORE] ■ NORMAL [+19% TO -19%]  
■ BELOW NORMAL [-20% TO -99%] ■ NO RAIN [-100%] ■ NO DATA

NOTES:  
 (a) Rainfall figures are based on MME Forecast data.  
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 Percentage Departures of Rainfall are shown in Brackets.

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Rainfall Forecast Map - Normal RF Based Categories



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NOTES:  
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## Extended Range Rainfall Forecast

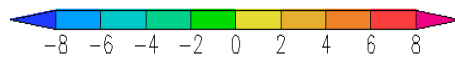
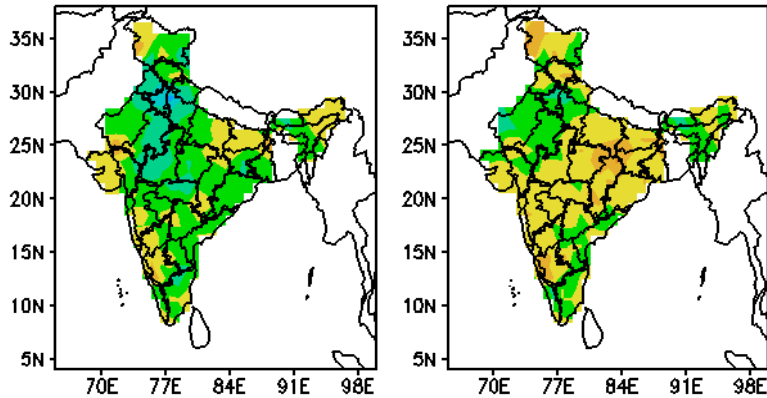
- Week 1 (21.09.2018 to 27.09.2018):** Except northeast India, above normal monsoon rainfall over remaining parts of India. The country as a whole it is above normal. (Excess rainfall over Himachal Pradesh, Uttarakhand, Haryana, Punjab and adjoining regions)
- Week 2 (28.09.2018 to 04.10.2018):** Rainfall over South peninsula and adjoining central India will be above normal, whereas over remaining part of India below normal.

**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for next 2 weeks (IC – 19 September)  
(21<sup>st</sup> September to 4<sup>th</sup> October 2018)**

**MME Bias Corrected Tmax Anomaly (Deg)**

(Week1: 21Sep–27Sep)

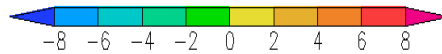
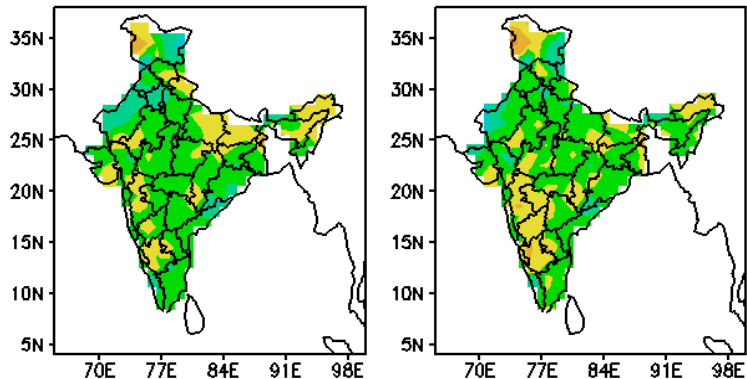
(Week2: 28Sep–04Oct)



**MME Bias Corrected Tmin Anomaly (Deg)**

(Week1: 21Sep–27Sep)

(Week2: 28Sep–04Oct)



**Maximum Temperature (Tmax)**

- **Week 1 (21.09.2018 to 27.09.2018):** Mostly normal to below normal Tmax over the northwest India and slightly above normal Tmax over eastern part of the country.
- **Week 2 (28.09.2018 to 04.10.2018):** Slightly above normal Tmax belt is likely over eastern, southern and northern parts of the country.

**Minimum Temperature (Tmin)**

- **Week 1 (21.09.2018 to 27.09.2018) and Week 2 (28.09.2018 to 04.10.2018):** Mostly normal to below normal Tmin during the period.

## **Strategic Agricultural Planning based on rainfall during next two weeks till 04<sup>th</sup> October 2018**

### **Agromet Advisories**

#### **Kerala**

Rainfall received during the period from 01 June to 20 September 2018 over Kerala is 2437.7 mm, which is 26% excess than normal. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for week-1 and above normal for week-2.

- To control Bacterial Leaf blight in paddy, mix 200 g of cow dung in 1 liter of water and spray the cow dung slurry by mixing with 20g pseudomonas twice at 10 days interval.
- Apply fertilizers @ 33kg Urea, 75kg Rock phosphate and 50kg Potash per acre in cardamom crop. Take necessary phyto-sanitary measures to manage capsule rot (Azhukal disease) and spray 1% Bordeaux mixture (500-1000 ml/plant). As a prophylactic measure to control rhizome rot drench the soil with 2-3 liters of copper oxy chloride (0.25%) solution.
- There is the possibility of attack of leaf and flower feeder in cucurbitaceous vegetables. Spray 2% talc based formulation of *Beauveria bassiana* to control leaf feeder.

#### **Karnataka**

Rainfall received during the period from 01 June to 20 September 2018 over different meteorological subdivisions of Karnataka viz, North Interior Karnataka is 309.0 mm (30% deficit), South Interior Karnataka is 611.7 mm (3% excess) and Coastal Karnataka is 3010.8 mm (1% excess). The extended range weather forecast provided for 21 to 27 September and 28 September to 04 October over North Interior Karnataka is normal for week-1 and above normal for week-2 and over coastal and South Interior Karnataka is above for both the weeks.

#### **North Interior Karnataka**

- Plough the land across the slope which is to be spared for sowing of Rabi crops so as to facilitate better conservation of soil and soil moisture.
- Vaccinate livestock against Foot and Mouth disease (FMD vaccination), Black Quarter disease (BC vaccination) and *Haemorrhagic Septicemia*.
- Vaccinate (ET vaccine) sheep and goats against Enterotoxaemia.

#### **South Interior Karnataka**

- To control stem borer in Maize Spray Quinolphos-25 EC @ 2ml/liter of water or chlorpyrifos -20 EC @ 2ml/liter of water.
- If Wilt diseases noticed in field, Drenching Carbendazim 50 WP 2 g/liter of water is recommended.

## **Tamil Nadu**

Rainfall received during the period of 01 June to 20 September 2018 over Tamil Nadu is 240.1 mm, which is 11% deficit as compared to the normal. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for both the weeks.

- Prevailing weather condition is favourable for fruit dropping in chilli. Spray growth regulators NAA 10 mg / litre on 60<sup>th</sup> and 90<sup>th</sup> days after planting or Triacantanol 1.25 ml/litre on 60<sup>th</sup> and 80<sup>th</sup> day of planting for controlling fruit drops and improving fruit set.
- Farmers are advised to monitor army worm in maize. The larvae scrapping the leaves, makes small to medium elongated pin holes and causes loss of top portion of leaves. It also feeds on tassel. If symptoms were noticed, spray any one of the following pesticide to control.
  - Thiodicarb 70 WP 2g/lit.
  - Flubendiamide 480 SC 3 ml/10 lit.
- Prevailing weather condition is favourable for Citrus canker disease incidence. To control spray Copper Oxy Chloride @ 0.2% at fortnight intervals.

## **Maharashtra**

Rainfall received during 01 June to 20 September 2018 over different meteorological sub divisions of the state viz., Konkan: 2831.7 mm (1% excess), Madhya Maharashtra: 637.7 mm (4% deficit), Vidharba: 821.8 mm (10% deficit) and Marathwada: 521.0 mm (16% deficit). The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) over Madhya Maharashtra and Marathwada is above normal for both the weeks, over Konkan region is normal for week-1 and above normal for week-2 and over Vidharba is above normal for week-1 and below normal for week-2.

## **Marathwada**

- To control sucking pest and pink bollworm in cotton crop, farmers are advised to take a spray of Pyriproxyfen 5 % + Fenprothrin 15 % @ 200 ml or Thiamethoxam 12.6 % + Lambda-Cyhalothrin 9.5 % @ 80 ml or Indoxacarb 14.5% + Acetamiprid 7.7 % @ 200 ml per acre.
- Collect and destroy infected plant parts due to leaf roller in Pigeonpea crop. Spray 5 % Neem cake extract to control its infestation. Protective irrigation should be applied as per availability and requirement of water in Pigeonpea crop.
- To control white grub in turmeric crop, soil application of Metarhizium 10 kg per acre should be done. To control rhizome fly, cover the rhizome with the help of soil and spray Chlorophyriphos 50 % @ 500 ml per acre.
- Apply 50 gm Nitrogen per plant in mrig bahar banana orchard. Protective irrigation should be applied as per availability and requirement of water.

## **Konkan**

- In view of forecast of light rainfall, farmers are advised to irrigate the rice crop.
- If the incidence of aphids, leaf hoppers, red pumpkin beetle, leaf eating caterpillars, leaf miner is noticed on



cucurbitaceous crops, spray Malathion 20 ml or Dimethoate 15 ml per 10 litres of water at 10 to 15 days interval.

- There is possibility of incidence of brown plant hoppers in lowland rice. If 10 hopper/ hill is observed then take a spray of Acephate (75%) 2.25 gm or Fipronil (5%) 2 ml or Imidacloprid (17.8%) 0.2 ml per litre of water.

### **Vidharba**

- Undertake measures to drain away excess rainwater from crop fields and orchards immediately as forecasted heavy rainfall.
- In cotton to control boll rot undertake foliar spray with streptomycin 2.5g + copper oxychloride 25g per 10 litres of water during non rainy days.
- To reduce fruit drop in mandarin orange (Ambia bahar) spray of 1.5 g Gibberellic acid + 1 kg Urea + 100 gm Carbendazim 50% WP per 100 litres of water is advisable, spray may be repeated after 15 days during non rainy days.

### **Madhya Maharashtra**

- In dry land area sowing of chickpea should be done after 25<sup>th</sup> September. Under sufficient soil moisture condition use the recommended varieties of gram i.e. Vijay & Digvijay.
- To control white grub in sugarcane apply drenching of 50EC chlorpyrifos @1 L + 400 L water near sugarcane roots with the help of sprayer without nozzle or apply granular insecticides 10% phorate / 0.3 % fipronil / 0.4 % chlorantraniliprole @ 25 kg/ ha well mixed into soil of ridges/ furrows.
- Sowing of Rabi sorghum should be done in between 15<sup>th</sup> September to 15<sup>th</sup> October under sufficient soil moisture condition at 5 cm depth.

### **Rajasthan**

Amount of rainfall received over East Rajasthan is 744.1 mm (13% deficit) and West Rajasthan is 723.1 mm (2% deficit) during 01 June to 20 September 2018. The extended range weather forecast provided for two weeks (21 to 27 September and 28 September to 04 October) for West Rajasthan is above normal for week-1 and below normal for week-2 and East Rajasthan is above normal for week-1 and below normal for week-2.

- Apply irrigation in soybean and maize in the region where no rains occurred during last 12-15 days and soil moisture depleted by 50-60 %.
- Transplanting of cauliflower, onion, chillies and brinjal seedling for early *Rabi* crop.

### **Chhattisgarh**

Rainfall received over Chhattisgarh during 01 June to 20 September 2018 is 1056.7 mm, which is 4% deficit than normal. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for week-1 and below normal for week-2.

- To control infestation of stem borer in rice crop, Pheromone trap should be used @ 2-3 nos. per acre and @ 8-10 nos. per acre for controlling insects.
- Cucurbitaceous vegetables particularly pointed gourd is vulnerable to fruit rotting and drying. Fields

should be kept clean and Metalaxyl+ Mancozeb @2.5 grams per litre should be sprayed or copper oxychloride COC @ 4 gram per litre should be sprayed to avoid the infestation.

- To avoid the fruit shedding in papaya crop, Naphthalene Acetic Acid (NAA) should be sprayed @ 20 ppm.
- Cattle shed and poultry beds should be kept under running fan condition so that saturated and suffocated air should go out of the poultry sheds. This will facilitate clean and fresh air in the poultry sheds.

### **Bihar**

Rainfall received over Bihar during 01 June to 20 September 2018 is 755.8 mm, which is 21% deficit. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is below normal for both the weeks.

- During rainy season, there is an abundance of grasses and sedges in the bunds of the field, which tends to enhance the abundance of insect and pests, which lay eggs in the grass. For control of such grasses, application of Glyphosate 41% SL @10-15 ml/litre of clean water is advised under sunny day condition.
- Transplanting of mid duration varieties of cauliflower such as Pusaaghani, Pusi, Patna men, Pusa synthetic-1, Pusashubhra, Pusasarad, Pusamedhna, Kaasikuwari, and early snowball is advised for those farmers whose seedlings are ready.
- Regular monitoring of brown plant hopper (BPH) in paddy crop is advised. This mosquito type insect-pest may be seen at the basal portion of the plant in the middle of the crop field. To protect the crop, spraying of Imidacloprid 17.8 % SC @ 1.0 ml / 3 litre of water is advised.

### **West Bengal**

Rainfall received over Gangetic West Bengal during 01 June to 20 September 2018 is 859.2 mm, which is 19% deficit. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for week-1 and below normal for week-2.

- In fields where *kharif* rice was sown, apply 4.5 kg Urea per Bigha as second top dressing when panicle initiation will start. At this stage, attack of Brown spot & Blast may be found. To control apply Carbendazim + Mancozeb 2.5g/litre of water at 10-12 days interval.
- Start sowing of early variety of cabbage seed (e.g. Pride of India, Pusa early, Kranti etc.) & cauliflower (e.g. Jawharmoti, Bharat Jyoti, Early Banaras etc.) @ 4gm / Katha. Farmers are advised to maintain the drainage channels as heavy rainfall is expected in next two days.
- The prevailing weather conditions are congenial for the rapid spread of thrips and mites leading to the leaf curling in chilli. To control, spray Difenthiuron @ 0.75g per litre of water at 7-10 days interval.



## **Jharkhand**

Rainfall received over Jharkhand during 01 June to 20 September 2018 is 768.0 mm, which is 25% deficit. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for week-1 and below normal for week-2.

- If the maize crop is attacked by fruit borer, spray neem based insecticide on upper part of the plant @ 2-3 ml. per litre of water.
- Timely sown rice crop is at flowering stage and this stage is susceptible to the attack of the insect Gandhi bug. To control the insects, dusting of chlorpyrifos / Quinolphos / Methyl Parathion dust @ 10 kg per acre is recommended.
- Recommended variety of potato for this region is Kufri Ashoka and Kufri Pukhraj.
- Timely sown black and green gram crops are at maturity stage. Harvest the crop as and when siliqua turns into golden - yellow colour.

## **Odisha**

Rainfall received over Odisha during 01 June to 20 September 2018 is 1193.7 mm, which is 10% excess. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is above normal for week-1 and below normal for week-2.

- Green gram and black gram crops are at maturity stage. Farmers are advised to go for picking of pods as the weather may not be favourable for delay in harvesting and drying of pods. Dry the pods under sun or shade under rainy condition.
- It is now optimum time for nursery raising of tomato and brinjal up to September last. Grow resistant varieties like BT-2, BT-10, BT-12, Niladri, Sadabahar, Madhuri, Maharathi, Rasmi, Naveen etc. Use 150-200 g seeds/acre.
- To control tika infestation in groundnut, spray 3 g Mancozeb or 2 g Thiophene per liter water.

## **Assam**

Rainfall received over Assam is 1224.2 mm (28% deficit) during 01 June to 20 September 2018. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is normal for week-1 and below normal for week-2.

- Due to favourable weather and poor nutrient management practices there may be appearance of brown spot diseases in rice field. To control this farmers are advised to spray Mancozeb 2gm per litre of water on clear weather.
- Farmers may complete their sowing operation of Green gram and Black gram seeds in the main field by this week. To facilitate better germination, irrigate the field 3 days after sowing.
- Farmers may go for spraying of 0.2%-0.3% Borax @ 220-320g/100litre/Bigha against browning disease in early cauliflower field on clear weather.

### **Uttar Pradesh**

Amount of rainfall received over East Uttar Pradesh is 744.1 mm (13% deficit) and West Uttar Pradesh is 723.1 mm (2% deficit) during 01 June to 20 September 2018. The extended range weather forecast provided for two weeks (21 to 27 September and 28 September to 04 October) for West Uttar Pradesh is above normal for week-1 and below normal for week-2 and East Uttar Pradesh is normal for week-1 and below normal for week-2.

- Sowing of toria should be completed immediately and sowing of vegetables like pea, early potato like Kufri chandramukhi and Kufri Ashoka should be initiated.
- Moisture should be maintained through light irrigation in the field of paddy at critical stages such as booting, PI and flowering according to date of transplanting.
- Top dressing of nitrogen fertilizer in long duration varieties of paddy is advised.
- Inter culture operation in late sown mung, urd and pigeon pea are advised to farmers.
- Earthing in Sugarcane crop are advised.

### **Punjab**

Rainfall received over Punjab is 391.1 mm rainfall (15% deficit) during 01 June to 20 September 2018. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is above normal for week-1 and below normal for week-2.

- Drain excess rain water from maize and cotton fields. Make proper channels to drain out excess rain water from the field.
- There is possibility of development of false smut of rice. To manage it spray Kocide 46 DF @ 500 g in 200 litres of water per acre at boot stage.
- If the incidence of rice leaf folder is above ETL (10 % damaged leaves), spray either 20 ml Fame 480 SC or 170 g Mortar 75 SG in 100 liters of water per acre.
- To control weeds in pea, spray Stomp 30 EC @ 1 litre/acre or Afalon @500 g/acre as pre -emergence application using 150-200 liters of water, first after sowing.

### **Haryana**

Haryana has received 349.1 mm of rainfall during 01 June to 20 September 2018, which is 22% deficit. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is above normal for week-1 and below normal for week-2.

- Farmers are advised to harvest the early sown rice crop and also advised to keep vigil on insect/pest in standing rice crop.
- Due to dry weather farmers are advised to do harvesting in matured bajra crop.
- Farmers are advised to do intercultural operation to conserve soil moisture in vegetable and fruit crops. Keep vigil for sucking insect-pest insect pest due to prevailing high humidity in the atmosphere. Apply need based irrigation in vegetable crops.

## **Himachal Pradesh**

Himachal Pradesh has received 744.1 mm of rainfall during 01 June to 20 September 2018, which is 5% deficit. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) is above normal for week-1 and below normal for week-2.

- Farmers are advised to mend bunds for conserving rain water in rice fields. Bund should be higher and wider so that more rain water can be conserved.
- Monitor paddy crop against attack of rice blast and brown spot, if lesions appear, spray Carbendazim @ 2 gram per litre of water immediately in clear weather.
- On clear days, weeding and hoeing in vegetables crops should be done regularly for optimum growth.
- Farmers who want to establish new orchards are advised to dig the pits, 1m X 1m X 1m and fill with well decomposed FYM. For prevention against termite and white grubs, the pits should be treated with 5ml of chlorpyrifos 20 EC per litre water.

## **Jammu**

Rainfall received during 01 June to 20 September 2018 over Jammu is 528.8 mm, which is 5% excess. The extended range weather forecast provided for next two weeks (21 to 27 September and 28 September to 04 October) over Jammu is above normal for week-1 and below normal for week-2.

- Farmers are advised to monitor early sown crop for its maturity. If the colour of the cob sheath has changed from green to straw colour, pick up the cobs and spread them on the dry threshing floor for drying.
- In *kharif* pulses, farmers are advised to destroy young larvae of hairy caterpillar in gregarious phase. If population is high, spray Quinolphos @ 0.03% or Dichlorvos @ 0.05% during clear weather.
- Prepare fields and go for transplanting of Cauliflower, Knoll-Khol, Cabbage, and Broccoli before 3rd week of September.

***Disclaimer:** The predictability of weather depends on many factors which are dynamic in nature. The success of Agromet advisories provided here depends on the accuracy of the forecasts. In no event will India Meteorological Department (IMD) and Indian Council of Agricultural Research (ICAR) be liable to the user or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit resulting from any use or misuse of the information on this bulletin.*