



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

**Validity: (29<sup>th</sup> November to 12<sup>th</sup> December 2019)**

**Date of issue: 29<sup>th</sup> November 2019**

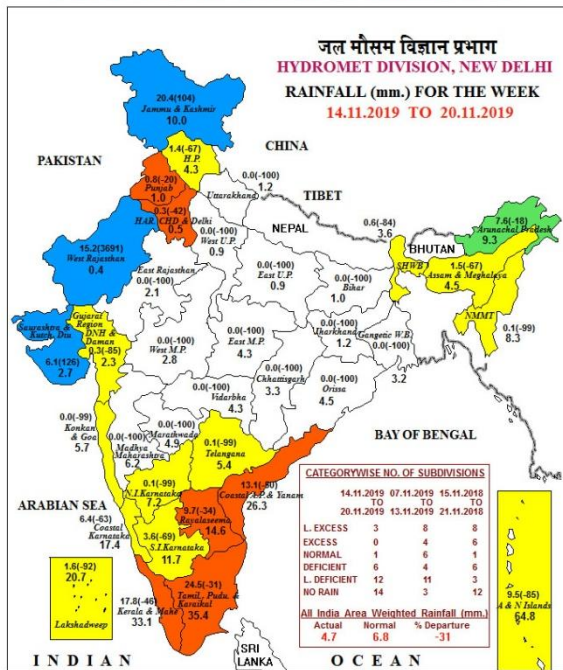
**Issued by**  
**Indian Council of Agricultural Research (ICAR)**  
**All India Coordinated Research Project on Agricultural Meteorology (AICRPAM),**  
**Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad.**  
**&**

Earth System Science Organization  
India Meteorological Department

Realized Rainfall and Extended Range Forecast  
(Rainfall and Temperatures)

Realized Rainfall  
(14<sup>th</sup> to 27<sup>th</sup> November, 2019)

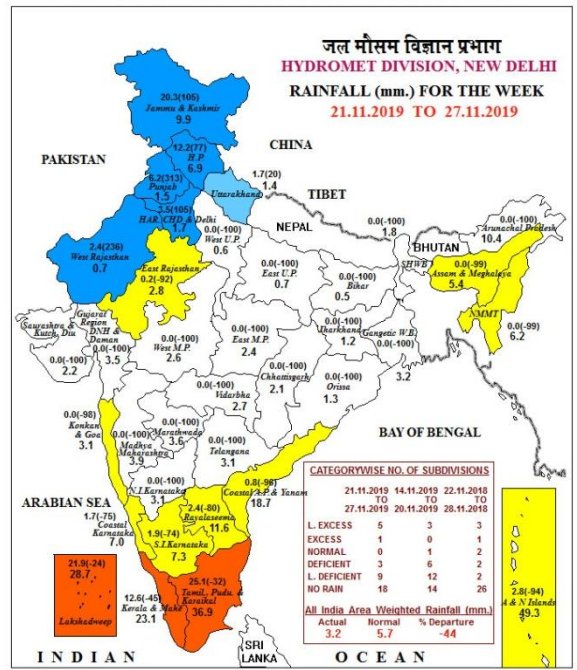
भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -15%)  
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.

भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT



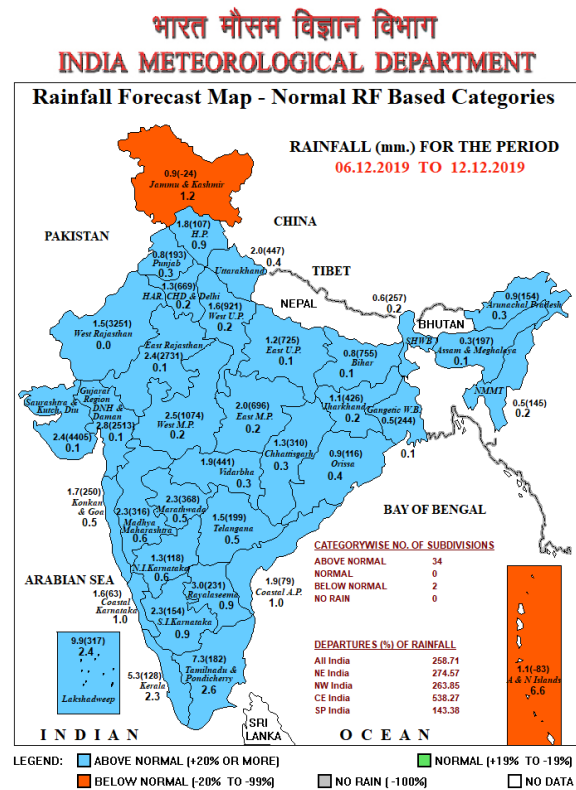
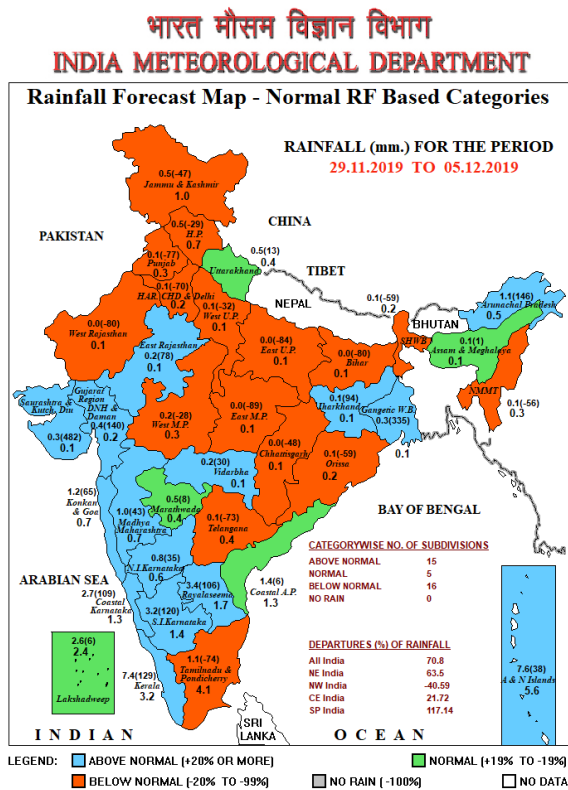
LEGEND: L. EXCESS (+60% OR MORE) EXCESS (+20% TO +59%) NORMAL (+15% TO -15%)  
DEFICIENT (-20% TO -59%) L. DEFICIENT (-60% TO -99%) NO RAIN (-100%) NO DATA

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.

- Normal or above normal rainfall occurred in both the weeks in Jammu & Kashmir and West Rajasthan.
- Normal or above normal rainfall occurred in either of the two weeks in Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Saurashtra & Kutch and Arunachal Pradesh.
- Below normal rainfall/no rain occurred over rest of the country.

## Extended Range Forecast System

### Rainfall forecast maps for the next 2 weeks (IC – 27 November) (29<sup>th</sup> November to 12<sup>th</sup> December 2019)



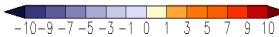
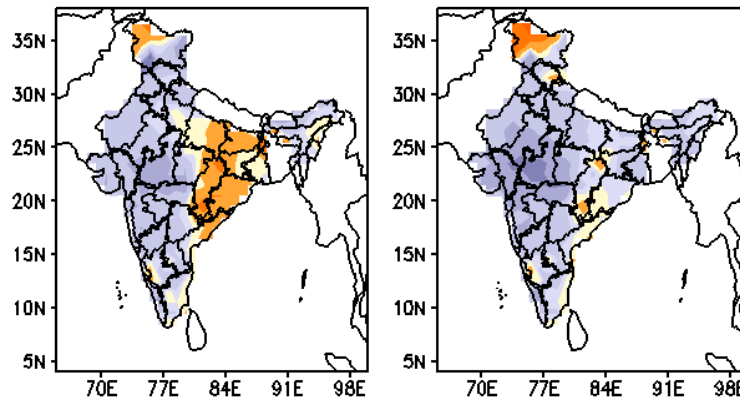
- **Week 1 (29.11.2019 to 05.12.2019) and Week 2 (06.12.2019 to 12.12.2019):** Northeast monsoon rainfall over south peninsula is expected to increase. Active monsoon rainfall is also expected over parts of western, northern and central India during week 2.

**Maximum and Minimum temperature anomaly ( $^{\circ}\text{C}$ ) forecast  
for next 2 weeks (IC – 27 November)  
(29<sup>th</sup> November to 12<sup>th</sup> December 2019)**

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

(Week1: 29Nov–05Dec)

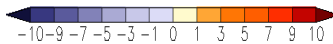
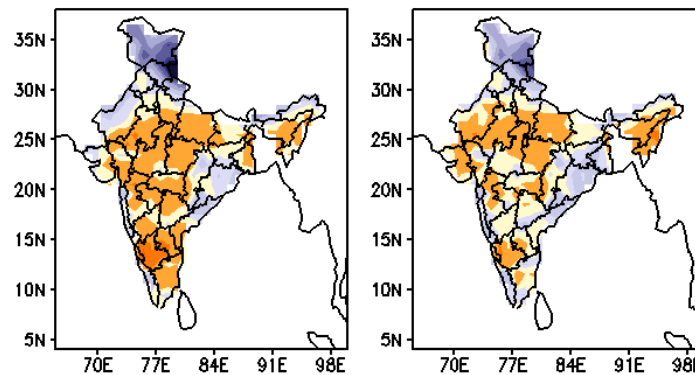
(Week2: 06Dec–12Dec)



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

(Week1: 29Nov–05Dec)

(Week2: 06Dec–12Dec)



**Maximum Temperature (Tmax)**

- **Week 1 (29.11.2019 to 05.12.2019) and Week 2 (06.12.2019 to 12.12.2019):** Tmax anomaly is mostly negative over central, western and southern parts of India during week 1 and over entire India during week 2. However, over the eastern parts over Indo Gangetic Plain, extreme northern most parts of India and northeast India it will be above normal mainly in week 1.

**Minimum Temperature (Tmin)**

- **Week 1 (29.11.2019 to 05.12.2019) and Week 2 (06.12.2019 to 12.12.2019):** Above normal Tmin over central parts and adjoining southern parts & parts of northeast India during week 1 and week 2. Tmin will be below normal over Extreme north India and parts of Northwest India over western Rajasthan

## Strategic Agricultural Planning based on rainfall during next two weeks till 12<sup>th</sup> December 2019

### Agromet Advisories

#### Tamil Nadu

Amount of rainfall received over Tamil Nadu is 321.6 mm (-8% deficit) during the period of 01 Oct.-28 Nov. 2019. The extended range weather forecast for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) is below normal for week-1 and above normal for week 2.

- Prevailing weather condition is favorable for aphid incidence in cotton. It is advised to spray any one of the insecticides (500 l spray fluid /ha), Imidacloprid 200 SL @ 100 ml or Methyl demeton 25 EC 500ml/ha or Dimethoate 30 EC 500 ml/ha or NSKE 5% @ 2 kg/ha.
- Farmers are advised to monitor fall army worm incidence in maize. If symptoms are noticed, spray any one of the following insecticide to control. (Azardirachtin 1 EC @ 2 ml/litre (or) Thiodicarb 75 WP @ 2 g/l (or) Emamectin benzoate 5 SG @ 0.4 g/litre (or) Spinetoram 12 SP @ 0.5 ml/litre)
- Prevailing weather condition is favorable for sucking pest like bean aphids and leaf hopper incidence in pulses. Spray any one of the insecticides (Spray fluid 500 litre/ha), Emamectin benzoate 5%SG 220 g/ha, Indoxacarb 15.8%SC 333 ml/ha, NSKE 5% twice followed by triazophos 0.05% Neem oil 2%.

#### Maharashtra

Rainfall received over Madhya Maharashtra is 227.2 mm (137% large excess), over Marathwada is 255.6 mm (181% large excess), Vidharbha is 63.8 mm (-10% deficit) and Konkan region 281.3 mm (110% large excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over Madhya Maharashtra, Konkan, Vidharbha are above normal and normal in Marathwada for week-1 and above normal over Marathwada, Madhya Maharashtra, Konkan, Vidharbha for week-2.

#### *Konkan*

- Due to favorable weather conditions, there is a possibility of incidence of hoppers and powdery mildew diseases in mango blossom. Spray of Deltamethrin 2.8%EC @ 10 ml + wettable Sulphur 80% @ 20 g/10 litre in water is advised.
- Due to cloudy and humid weather condition, there is a possibility of incidence of tea mosquito bug and thrips in vegetative flush of cashewnut. To protect the flush of cashew, spray Profenophos 50% EC @10 ml/10 litre of water.
- Protect the poultry birds from low temperature by providing curtains and electric bulbs as per the need.

#### *Madhya Maharashtra*

- For the control of army worm attack on maize and sorghum, spray Spinetoram (11.7% SC) 10 ml or Chlorantraniliprole (18.5 % SC) 3 to 4 ml/10 litre of water + 10 ml sticker.
- Spray 0.5 % Zinc Sulphate 50 g/litre of water in zinc deficient dryland sorghum field.

- For control of blight disease of sorghum, spray of Copper oxychloride 4 g/litre of water.

#### *Vidharbha*

- In cotton fields at boll development stage install pheromone traps @5/ha to monitor pink bollworm moth. For control of initial infestation spray of 5% NSKE OR Azadirachtin 1500 ppm @ 25 ml/10 litres of water. Above ETL level spray Cypermethrin 10% EC @ 10 ml or lambda cyhalothrin 5% EC @ 10 ml/10 litres of water.
- Transplanting of 4-6 week old seedlings of tomato, cabbage and cauliflower and seed sowing of onion nursery, radish carrot, leafy vegetables can be initiated during this period.
- With lowering minimum temperature regime, farm livestock should be protected from exposure to cold particularly during night time.

#### **Gujarat**

Amount of rainfall received over Gujarat is 82.6 mm (198% large excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over Gujarat region is above normal for week 1 and week 2.

- For control of jassids and whitefly in castor, spray of Acetamiprid 20 % SP@ 5.0 g or Imidacloprid 30.5% 3 ml with neem seed extract 500 ml or neem oil 40 ml/10 litre of water is advised.
- In pigeon pea crop, Fenvalerate 20% SC@5ml/10litre of water spray is advised for effective control of heliothis and pod fly at the stage of initiation of flowering and 50% of pod formation.

#### **Rajasthan**

Rainfall received during 01 Oct.-29 Nov. 2019 over East Rajasthan is 32.8 mm (50% excess). The extended range weather forecast for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over East Rajasthan is above normal for both weeks.

- The present weather is favorable for powdery mildew disease in peas, cauliflower, cabbage, radish, spray of Karathane 1 ml/litre of water or other sulphur based fungicides are advised.
- It is advised for irrigation in gram which in at flowering stage.
- Complete sowing of barley during this week with RD-2052, RD-2503, RD-2715 (Dual purpose), and RD-2552.

#### **Jammu**

Rainfall received during 01 Oct.-28 Nov. 2019 in Jammu is 178.2 mm (164% large excess). The extended range weather forecast for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) is below normal for the week-1 and week-2.

- Due to the chances of rainfall, postpone the sowing of wheat & barley crop till weather remains clear.
- In chickpea, nipping is recommended after receipt of rain in 3-4 week old crop.
- To control cabbage fly, spray of Nuvon/Cypermethrin @ 1ml/litre of water or Spinosed @ 0.5ml/litre

of water during clear weather is recommended.

### **Jharkhand**

Amount of rainfall received over Jharkhand is 128.1 mm (54% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over Jharkhand is above normal for week-1 and week-2.

- It is advised to dry the harvested rice crop in the fields for 2-3 days and thereafter threshing should be done.
- Farmers opting for potato crop, may prepare their field and select high yielding varieties like Kufri anand, Kufri pukhraj, Kufri chandramukhi, Kufri surya and late variety Kufri chipsona etc.
- The recommended varieties for deshi (indigenous) gram are BG-372, BG-256, KWR-108, Pant G-186, Pant G 114 and for Kabuli gram are HK-94-134, BG-1053, BG-1003 etc.

### **Chhattisgarh**

Amount of rainfall received over Chhattisgarh is 101.0 mm (46% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over Chhattisgarh is below normal for week-1 and above normal for week-2.

- If moisture is present in the fields, then zero till seed drill is advised to use and can be utilized for *rabi* crops sowing like gram etc.
- Use of pheromone traps @ 20 nos/ha are advised to control the attack of fruit borer in brinjal, tomato and bhindi crops.
- Due to decrease in temperature, dairy farmers are advised to keep the animals in the cattle shed with concrete/ brick roof.

### **Odisha**

Amount of rainfall received over Odisha is 186.8 mm (50% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over Odisha is below normal for week-1 and above normal for week-2.

- Weather is optimum for planting of potato. Recommended high yielding varieties like Kufri Chandramukhi, Kufri Chamatkar, Kufri Jyoti, Kufri Sinduri and Kufri Alankar.
- Weather is optimum for nursery raising of onion. Recommended high yielding varieties like Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan, Arka Pragati, Agrifound light red, Agrifound dark, Punjab Selection, Patna white, Bombay white, Pusa white round etc.

### **Himachal Pradesh**

Amount of rainfall received over Himachal Pradesh is 67.7 mm (45% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) on rainfall over Himachal Pradesh is below normal for week 1 and above normal for week 2.

- Sowing of wheat is advised after current rain spell to utilize the available soil moisture.

- Farmers should protect their milch animals and their young ones from morning/evening low temperature by covering them with gunny bags during night and ample exposure to sunlight during day time to avoid pneumonia.
- It is advised to sow nursery of mid season cauliflower and cabbage in poly houses in mid and lower hills.

### **Bihar**

Amount of rainfall received over Bihar is 25.5 mm (-62% large deficit) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) for rainfall over Bihar is below normal for week 1 and above normal for week 2.

- Regular monitoring of diamond back moth cauliflower and cabbage is advised. Spraying of Spinosad 1ml/4litres of water is advised. Add sticker 1 ml/litre of water for better result.
- Farmers are advised to complete the sowing of *rabi* maize by the end of this month. Shaktiman-1 white, Shaktiman-2 white, Shaktiman-3 yellow, Shaktiman-4 yellow, Shaktiman-5 yellow, Ganga-11 orange yellow, Rajendrasankermakka-1 Rajendrasanker makka-2, and Rajendra sanker makka deepjwala varieties of hybrid maize and Deoki white, Lakshmi white and Suwan yellow varieties of composite maize are recommended for sowing in north Bihar.

### **Hisar**

Amount of rainfall received over Hisar is 17.2 mm (25% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) on rainfall over Hisar is below normal for week-1 and above normal for week-2.

- Due to anticipated weather conditions, sowing of wheat may be postponed to avoid soil crusting.
- Protect animals from low temperature during night. Provide plenty of clean drinking water and green forage with mineral mixture as per requirement. Adopt recommended vaccination schedule.
- Apply requirement based irrigation in existing vegetable crops and monitor for insect-pests.

### **West Bengal**

Amount of rainfall received over West Bengal is 232.9 mm (57% excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) on rainfall over West Bengal is above normal for both weeks.

- It is advised to start nursery bed preparation for boro rice with recommended varieties viz., Supriya, Jamini, Bhupen, IET-2233 etc.
- In the prevailing weather, there is a chance of attack of Black-rot of crucifers in the cabbage and cauliflower. Apply 1 g Streptocycline in 10 litre of water and spray thoroughly on a dry day.

### **Assam**

Amount of rainfall received over Assam is 202.2 mm (10% normal) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two (29 Nov.-05 Dec. and 06-12 Dec. 2019) on



rainfall over Assam is normal for weeks-1 and above normal for week-2.

- Farmers are advised to start seedbed preparation for raising seedlings of potato. Recommended varieties are Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri, Pukhraj etc for higher production.
- Farmer may use trap along with poison bait to control field rat infestation in matured rice crop. Install the poison bait (10-15g) alongside the bunds or inside the live burrow and block the burrow.
- Sowing of cauliflower seeds @8-10g/m<sup>2</sup> for mid season varieties like Improved Japanese, Pusa Synthetic, Pusa Snowhall and cabbage @10g/m<sup>2</sup> for early like Golden Acre, Pride of India, Pusa Mukta and late maturity varieties like Drum head are advised for sowing during this week.

### **Punjab**

Amount of rainfall received over Punjab is 33.8 mm (143% large excess) during 01 Oct.-28 Nov. 2019. The extended range weather forecast provided for next two (29 Nov.-05 Dec. and 06-12 Dec. 2019) on rainfall over Punjab is below normal for weeks-1 and above normal for week-2.

- Farmers are advised to regularly monitor the potato crop. If symptoms of late blight observed in the field then protect the crop by spraying Indofil M-45/Mass M-45/Markzeb/ Antracole/ Kavach @ 500-750 g using 250-350 litres of water/acre at 7 days interval.
- It is advised to grow rust resistant varieties of wheat viz., PBW 725, Unnat PBW 550, PBW 752, WHD 943 and PBW 660 in the disease prone sub-mountainous area of the state.

### **Karnataka**

Rainfall received during 01 Oct.-28 Nov. 2019 over South Karnataka is 290.4 mm (52% excess) and over North Karnataka is 242.6 mm (86% large excess). The extended range weather forecast for next two weeks (29 Nov.-05 Dec. and 06-12 Dec. 2019) over South Karnataka and North Karnataka is above normal for both weeks.

#### *South Karnataka*

- If pod borer noticed, spray Indoxycarb 14.5 SC @ 0.5 ml/litre or Spynosad 45 SC@0.15 ml/litre or Chloropyrifos 20 EC@2ml/litre.
- If rain received, sowing of short duration crops like cowpea (KBC-1, 2,) field bean (Hebbal avare-3, 4), sunflower (Morden, KBSH-1,41,44 & 52) are advised.

*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.*

