



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

Validity: 01 to 14 March 2019

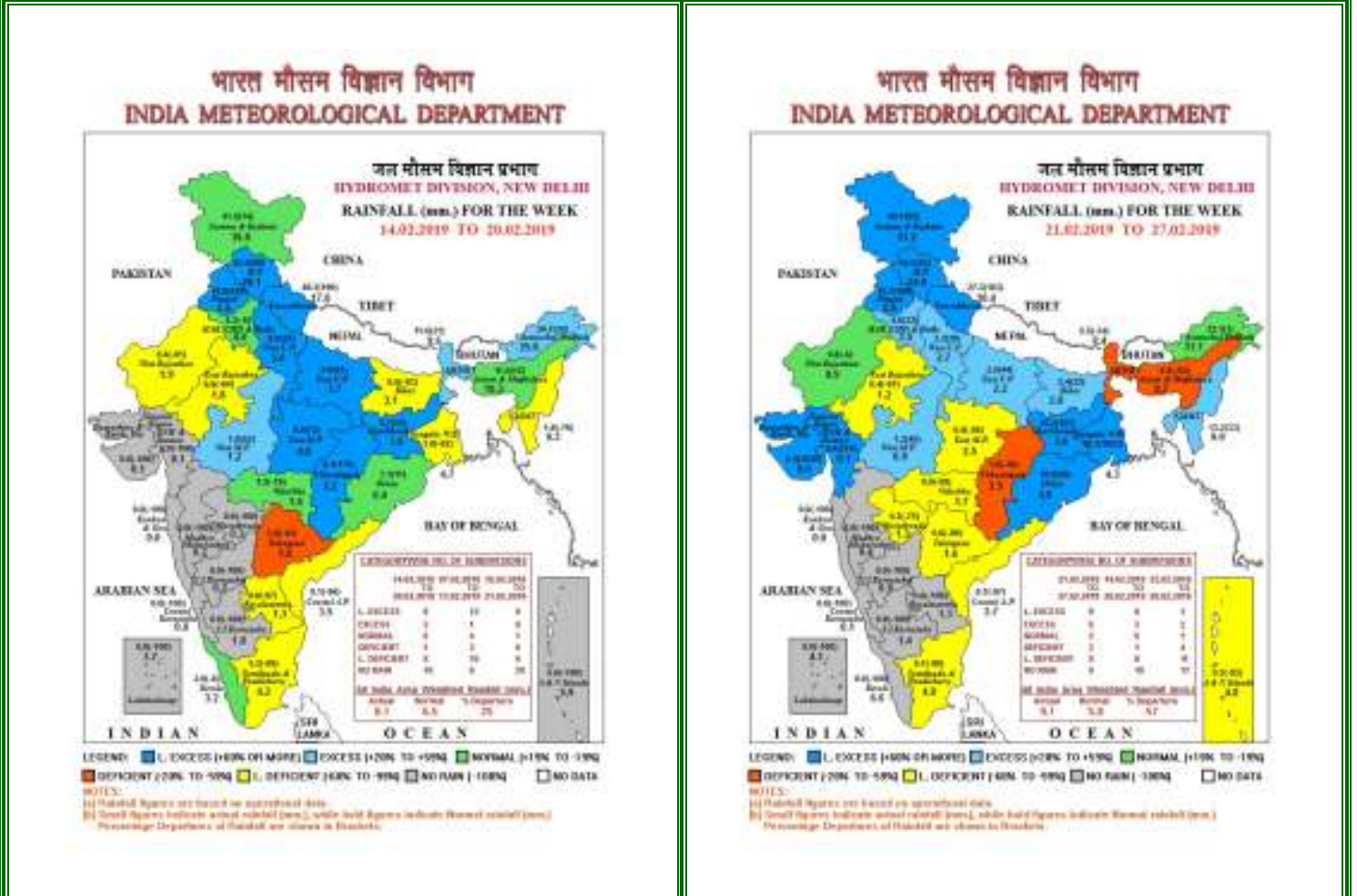
Date of issue: 01 March 2019

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

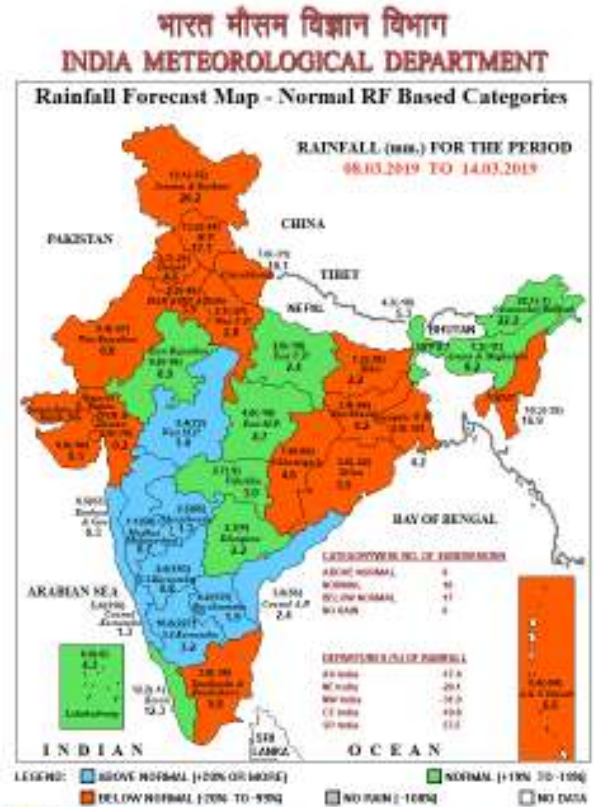
(14th to 27th February 2019)



- Normal or above normal rainfall occurred in both the weeks in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Jharkhand, Odisha, Arunachal Pradesh and West Madhya Pradesh.
- Normal or above normal rainfall occurred in one week in Sub-Himalayan West Bengal & Sikkim, Bihar, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura (NMMT), Gujarat, East Madhya Pradesh, Chhattisgarh, Vidarbha and Kerala.
- 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 February) (1st to 14th March 2019)



Extended Range Rainfall Forecast

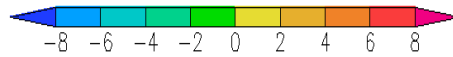
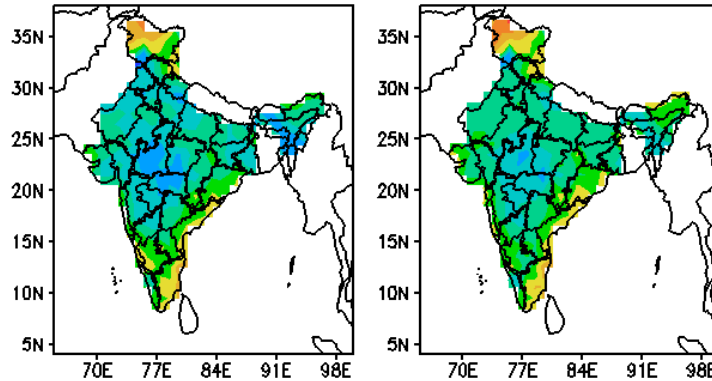
- **Week 1 (01.03.2019 to 07.03.2019) :** Rainfall associated with Western Disturbance over extreme north India (Jammu & Kashmir, Himachal Pradesh, Uttarakhand) and adjoining eastern parts (Odisha, Gangetic West Bengal, Bihar, Jharkhand and north-east met-subdivisions).
- **Week 2 (08.03.2019 to 14.03.2019):** Normal rainfall associated with Western Disturbance over northwest India and parts of Northeast India.

**Maximum and Minimum temperature anomaly ($^{\circ}\text{C}$) forecast
for next 2 weeks (IC – 27 February)
(1st to 14th March 2019)**

MME Bias Corrected Tmax Anomaly (Deg)

(Week1: 01Mar–07Mar)

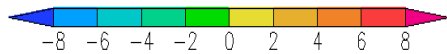
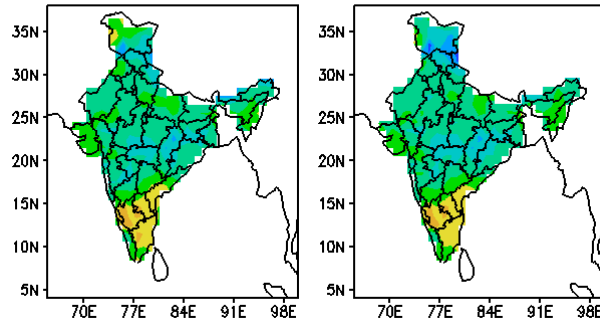
(Week2: 08Mar–14Mar)



MME Bias Corrected Tmin Anomaly (Deg)

(Week1: 01Mar–07Mar)

(Week2: 08Mar–14Mar)



Maximum Temperature (Tmax)

- **Week 1 (01.03.2019 to 07.03.2019) and Week 2 (08.03.2019 to 14.03.2019):** Except isolated regions over extreme north India, eastern coastal belts and parts of southern peninsula, Tmax will be below normal over India.

Minimum Temperature (Tmin)

- **Week 1 (01.03.2019 to 07.03.2019) and Week 2 (08.03.2019 to 14.03.2019):** Mostly below normal Tmin over India except some parts of south peninsula.

Strategic Agricultural Planning based on rainfall during next two weeks till 14th March 2019

Agromet Advisories

Kerala

Amount of rainfall received during the period from 01 January to 28 February 2019 over Kerala is 13.0 mm (45% deficit). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is normal for both the weeks.

- Farmers are advised to remove and destroy severely infected and completely dried leaves due to sigatoka disease in Banana crop and spray Bordeaux mixture 1% or Mancozeb 75 WP @ 3gram/litre of water.
- Farmers are advised to spray Quinalp hos (0.05%) 400 ml in 200 litres of water against coffee berry borer.
- **Vegetables:** White powdery spots are seen on the leaves of the affected plants. If any fruits are present, harvest them. Then apply 1.5 ml tebuconazole or 0.5 ml difenoconazole per one litre of water. After 10 days, apply 20 gram of Trichoderma viride per one litre of water to control powdery mildew disease of vegetables.
- Due to the increase in atmospheric temperature, the attack of insects such as thrips, mite and white flies etc. are more in cowpea. As a result of this, there is a chance of stunted growth in vegetables. They can be controlled by applying 10 gms of Verticillium in 1 litre of water or neem based insecticides can be applied.

Karnataka

Amount of rainfall received during the period from 01 January to 28 February 2019 over North Interior Karnataka is 0.8 mm (78 % deficit), over South Interior Karnataka is 8.7 mm (101% excess) and over Coastal Karnataka is 0.3 mm (68% deficit). The extended range weather forecast provided for 01 to 07 and 08 to 14 March over all the subdivisions of Karnataka is above normal for both the weeks.

South Interior Karnataka

- farmers are advised to protect the pulse grains from storage pests by applying oils of Castor/ linseed/honge/neem oil @ 3-5 ml per kg of grains.
- Leaf hopper and Powdery mildew disease incidence is more in mango before flowering and immediately after fruit formation hence manage by spraying of Carbaryl, 50WP @4g/litre of water or Imidacloprid @ 0.3ml/ litre of water for management of leaf hopper.

Tamil Nadu

Amount of rainfall received during the period of 01 January to 28 February 2019 over Tamil Nadu is 4.7 mm (84% deficit). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is below normal for both the weeks.

- Prevailing weather condition is favorable for Leafhopper, Mealy bug and stem weevil incidence in cotton. To control sucking pest, spray Imidacloprid 200 SL 100 ml/ha or Fipronil 5%S C 1500-2000 ml/ha. To control mealy bug incidence spray NSKE 5% or FORS 25g/litre.

- Current weather condition is favorable for Citrus canker disease incidence. To control spray Copper Oxy Chloride 0.2% at fortnight intervals.
- Prevailing weather condition is congenial for sucking pests like Thrips and Aphids infestation in Chilli. To control, farmers are advised to spray, Imidacloprid 17.8% SL @ 3 ml/10 litre.

Maharashtra

No rainfall received during 01 January to 28 February 2019 over different meteorological sub divisions of the state viz., Konkan and Madhya Maharashtra. Amount of rainfall received over Marathwada is 0.3 mm (95% deficit) and Vidarbha is 12.3 mm (28% deficit). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) over all the subdivisions of Maharashtra is below normal for week-1 and over Konkan, Marathwada and Madhya Maharashtra is above normal and over Vidarbha is normal for week-2.

Marathwada

- Rise in temperature above 35⁰C results in flower dropping in summer chill and brinjal crops, which affects on production. Sowing of maize crop is essential around chilli and brinjal crop, to protect from high temperature and hot wind.
- Precaution may be taken to avoid stress condition in late sown wheat crop.
- For management of army worms in summer maize crop (sown in the month of January) spray Thiamethoxam 12.6 % + Lambda cyhalothrin 9.5 % @ 50 ml per acre.
- Irrigation management should be done in Ambia bahar citrus orchard. Take a spray of 13:00:45 @ 10 gm per litre of water.

Madhya Maharashtra

- Give protective irrigation to drumstick and use crop residue for mulching to conserve soil moisture.
- To control powdery mildew & mango hoppers on bloomed mango, spray Imidacloprid (17.8 SL) 3- 4 ml + Sulphur 80 WP 25 gram per 10 litre water.
- Rabi sorghum is at harvesting stage so it should be harvested, threshed & store (moisture should not more than 10%) it after 2-3 sun drying.

Vidarbha

- Recommended varieties for cultivation of watermelon during this period include Asahi Yamato, Sugar baby, Arka Manik and Pusa bedana. Recommended muskmelon varieties are Pusa Sharbati, Pusa Madhuras, Hara Madhu.
- With increasing temperature regime, undertake proper schedule of irrigation in time for its grain development stage in wheat crop.
- Cultivation of summer vegetables like bitter gourd, tinda (Apple gourd), ridge gourd, smooth gourd, bottle gourd, cowpea, cluster bean, coriander, etc. can be initiated during this period.
- For control of hopper in mango undertake spray of dimethoate 30% EC @ 16.5 ml OR imidachloprid 17.8% SL @ 2 to 4 ml per 10 litres of water.

Konkan

- Due to forecast of cloudy weather condition, there is possibility for incidence of hoppers and powdery mildew disease on mango. Hence as per blossom protection schedule for mango, it is advise to take 5th spray (15 days interval after 4th spray) of Dimethoate 30%EC @ 10 ml or Lambda cyhalothrin 5%EC @ 6 ml + Hexaconazole 5% @ 5 ml.
- Due to increase in maximum temperature, provide irrigation to coconut orchard at 8-10 days interval.
- Carry out sowing operation of okra at a spacing of 45 X 15 cm. Apply 15 tons of FYM, 72 kg urea, 313 kg single super phosphate and 83 kg Murate of potash per hectare.
- Cary out harvesting of black paper by picking the whole spikes by hand, when few berries in the spike start turning yellow or red. The berries are separated and dipped in hot water (80°C) for one minute and sun dried for 3 to 4 days.

Chhattisgarh

Amount of rainfall received over Chhattisgarh during 01 January to 28 February 2019 is 24.3 mm (22% excess). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is below normal for both the weeks.

- For summer crops like green gram and groundnut, farmers are advised for using paddy straw mulch between the rows for conserving the soil moisture.
- In summer paddy farmers are advised to fix pheromone traps and light trap nearby the field for the control of stem borer.
- Increase in temperature may create stress in rabi crops. Therefore farmers are advised for irrigation management in rabi crops.
- Provide green fodder, clean and fresh water to cattle twice a day.

Uttar Pradesh

Amount of rainfall received over East Uttar Pradesh region is 31.2 mm (9% excess) and West Uttar Pradesh is 39.5 mm (22% excess) during 01 January to 28 February 2019. The extended range weather forecast provided for two weeks (01 to 07 and 08 to 14 March) for West Uttar Pradesh is above normal for week-1 and below normal for week-2 and over East Uttar Pradesh is normal for both the weeks.

- Farmers are advised to take benefit of occurring rainfall occurred on 26-27 February under rain-fed wheat crops, top dress of urea at optimum moisture during PI stage.
- Aphid can affect late sown mustard crop due to cloudy weather in these weeks. If seen, spray Chlorpyrifos 20% EC @ 1.0 litre/ha or monochrotophos 36 % S.L. @ 500 ml/ha with 500-600 litre of water solution on clear sky.
- Dig out early sown potato crop. Take precaution from late/early blight and Aphid, spray Copper oxichloride 3.0 kg/ha with 700-800 litre water solution.
- Sowing of Maize crop should be taken up at clear sky, seed should be treated with 2.5 g Thiram or 2.0 g Agro-san G.N @ 3.0 g /kg of seed Composite and varieties Novjoti , Pusa-2, Sweta and Azad uttam and Hybrid varieties Hybrid Dakan-107, Malveya hybrid-2, JH-3459, Prakash, PSM-5, Pro-303, KH-510, MMH-113, Azad hybrid-1, Azad hybrid-2 , DKC-9108, DKC-7074 should be sown 18-20 kg/ha treated seed.

Odisha

Amount of rainfall received over Odisha during 01 January to 28 February 2019 is 19.6 mm (37% deficit). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and below normal for week-2.

- Farmers are advised to go for sowing of summer green gram and black gram. Grow improved high yielding varieties for green gram like PDM 54, PDM 11, PDM 84-143 and OUM 11-5 and for black gram- Pant-U-19, Pant-U-30 and Pant -U 26 and Sarala.
- Irrigate the non-paddy crops to meet the crop requirement due to increased temperature
- Early sown summer groundnut at 2-3 week stage. Go for hoeing and weeding. Apply 100 kg Gypsum/acre.
- High humidity may aggravate the infestation of mango hopper. In taller plants give fumigation of neem leaves. Spray 20 ml Chloropyriphos or 3 ml Imidacloprid per litre water and after 1 Week spray 3 g carbendazim / mancozeb per litre.
- Present weather favours the infestation of Alternaria blight in garlic. Spray 400 g Mancozeb in 200 litre water to control it.

Jharkhand

Amount of rainfall received over Jharkhand during 01 January to 28 February 2019 is 23.5 mm (29 % deficit). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is normal for week-1 and below normal for week-2.

- **Wheat:** Most of the crops are at grain filling / hardening stage and this stage is sensitive of moisture stress. Hence, irrigate the field as per the status of soil moisture.
- **Mung (Green gram):** Farmers wishing to cultivate summer mung, may proceed immediately for sowing. Select improved variety of mung S.M.L.- 668 and sow the seed @ 12 kg per acre. Before sowing, seed must be treated with Rhizobium culture.
- **Gram/ Pea /Lentil** - Crops are at pod formation/grain filling stage. If the crops are attacked by pod borer insect, spray bioinsecticide like Delphin @ 2 gm per litre of water.
- Control the attack of pumpkin beetle immediately in cucurbitaceous plant. To control, spray Chlorpyriphos (4 ml. per litre of water).

Bihar

Amount of rainfall received over Bihar during 01 January to 28 February 2019 is 25.3 mm (11 % excess). The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and below normal for week-2.

- Land preparation is advised for sowing of Green gram (Mung bean) & Black gram (Urd). Pusa Vishal, Samrat, SML-668, Sona, HUM-16 varieties for Mung bean and Pant Urd-19, Pant Urd-31, Ultra and Navinvarieties for Urd are recommended for sowing in North Bihar.
- Sowing of summer vegetable such as okra, pumpkin, cucumber, sponge gourd ridge guard, bitter guard is advised. For healthy production of vegetables, application of 15-20 ton FYM is advised

during land preparation.

- Present weather is conducive for spread of aphid population in late sown mustard, cauliflower, cabbage etc. If aphid population exceeds ETL, spraying of Dimethoate 30EC @ 1.0 ml/litre of water is advised.
- Regular monitoring is advised for thrips infestation in onion. If the insect population is above ETL, spraying of Profenofos@1ml/litre or Imidacloprid @1ml/4 litre of water is advised.

Rajasthan

Amount of rainfall received over West Rajasthan is 7.0 mm (1% deficit) and over East Rajasthan is 7.6 mm (26% deficit) during 01 January to 28 February 2019. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) for West and East Rajasthan is above normal for week-1 and over West Rajasthan is below normal and normal over East Rajasthan for week-2.

- Farmers are advised to harvest the mustard crop wherever it has reached at physiological maturity and store at safe place.
- Stop irrigation in cumin as crop at maturity stage.
- Sowing should be done of summer okra and use varieties like PusaSavani, Arkaanamika, ArkaAbhya, Aajadkranti, Prabhnikranti, Pusa-A-4 etc.
- Sowing should be done of summer season's cucurbitaceous vegetables.

Assam

Rainfall received over Assam is 21.8 mm (52% deficit) during 01 January to 28 February 2019. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and normal for week-2.

- Seeds of rapeseed and mustard should be stored in cool, dark cupboard, away from the direct heat or sunlight, seeds should also be tightly closed when not in use.
- Farmers may go for cultivation of Ginger during this period. In order to get rid from rhizome rot, farmers are advised to go for rhizome rot treatment with Indofil M-45 @3gm/litre for half an hour.
- Prepare land for growing green gram & black gram crop. Sandy loam soil is more preferable. Collect recommended varieties viz.T9, Pant U 19, UG 157 etc. for black gram and Kopergaon, Pratap, AAU 39 etc. for green gram cultivation.
- Land preparation may be started for growing of ridge and sponge gourd. Early sowing helps in escaping fruit fly attack. Select recommended varieties viz. AAUJ-1, AAUJ-2, AAUJ-3 etc. for ridge gourd and Pusa Chikni or other local varieties for sponge gourd.

Haryana

Rainfall received over Haryana is 32.2 mm rainfall (normal) during 01 January to 28 February 2019. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and below normal for week-2.

- In view of anticipated weather, farmers are advised to temporarily withhold irrigation in wheat, gram and vegetable crops in field.

- Harvest the sugarcane crop as per market/sugar mill demand and postpone irrigation in late sown crop.
- Due to fall in night temperature, high winds and cloudy conditions keep the animals under shed. Provide dry bedding during night time. Provide 50 grams iodized salt and 50 to 100 grams mineral mixture daily with animal feed/fodder to keep them healthy.

Punjab

Rainfall received over Punjab is 99.9 mm rainfall (106% excess) during 01 January to 28 February 2019. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and below normal for week-2.

Cloudy weather is likely to prevail in the coming days, there are chances of rainfall on 3-3-2019. Weather parameters are likely to remain as follows: Maximum Temperature 17-22°C, Minimum Temperature 5-9 °C. Wind speed 4-7 km/h.

- Farmers are advised to survey the field for the appearance of yellow rust disease in wheat. If appeared, spray with 200 ml Tilt/ Bumper/Shine/Stilt/Compass/Markzole 25 EC using 200 litres of water per acre to check its further spread.
- It is the best time for direct sowing of all the cucurbits, okra and cowpea.
- Farmers are advised to transplant nursery of brinjal for varieties like Punjab Sada Bahar, hybrid BH-2, PBH-3 and PBH-4, PBH-5, PBH41, PBH-42 and Punjab Raunak when weather clears up.
- For the control of purple blotch in onion, spray the crop with 600 gram of Indofil M-45 mixed with 200 ml of Triton or linseed oil in 200 litres of water per acre as soon as first symptom of purple blotch appears in the crop. The spray should be repeated at 10 days interval.

Himachal Pradesh

Himachal Pradesh has received 277.6 mm of rainfall during 01 January to 28 February 2019, which is 46% excess. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) is above normal for week-1 and below normal for week-2.

- Thinning and weeding is recommended in timely sown mustard crop.
- In vegetables like brinjal, cauliflower, cabbage, tomato etc for monitoring borer insect, farmers are advised to use pheromone traps.
- Apply manures and fertilizers in mango and other orchard gardens. Wrapping of plastic sheets around mango trunk should be done for preventing climbing of young mealy bugs.
- Apply mulch and well rotten FYM on ginger, turmeric, colcasia and leafy vegetables.
- Farmers are advised to start earthing-up in potato if crop has attained a height of 15-22 cm.

Jammu

Rainfall received during 01 January to 28 February 2019 over Jammu is 356.6 mm, which is 73% excess. The extended range weather forecast provided for next two weeks (01 to 07 and 08 to 14 March) over Jammu is normal for week-1 and below normal for week-2.

- The weather condition favours the outbreak of aphids in late sown mustard crop under such situation regular monitor for attack of aphids is recommended, if noticed spray the crop with imidacloprid @ 0.3 ml / litre of water or Dimethoate rogor 30 EC @ 1ml/litre of water.
- In Gram crop the weather is congenial for the outbreak of Aschochyta blight and wilt diseases If the symptom observed farmers are advised drench the affected spots with Bavistin @10ml/ litre of water.
- Due to the presence of sufficient moisture in the soil and further chances of thundershower, apply second dose of urea @ 2.0 kg/kanal in very late sown wheat before the ear head emergence.

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.