



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

Validity: 21 December 2018 to 03 January 2019

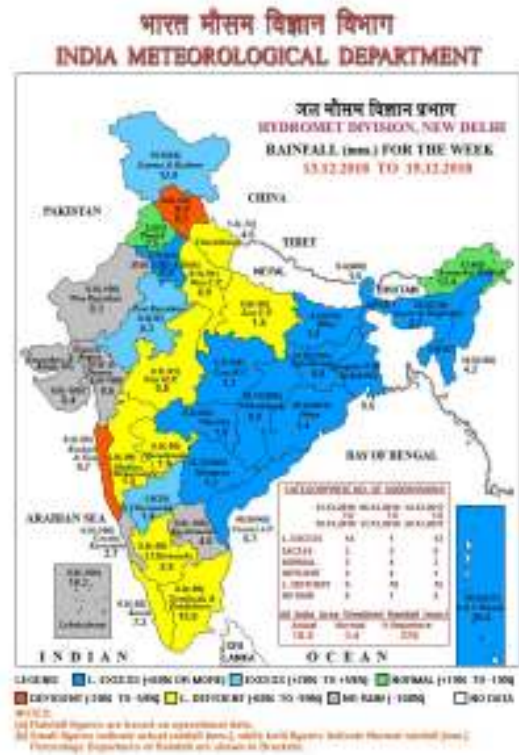
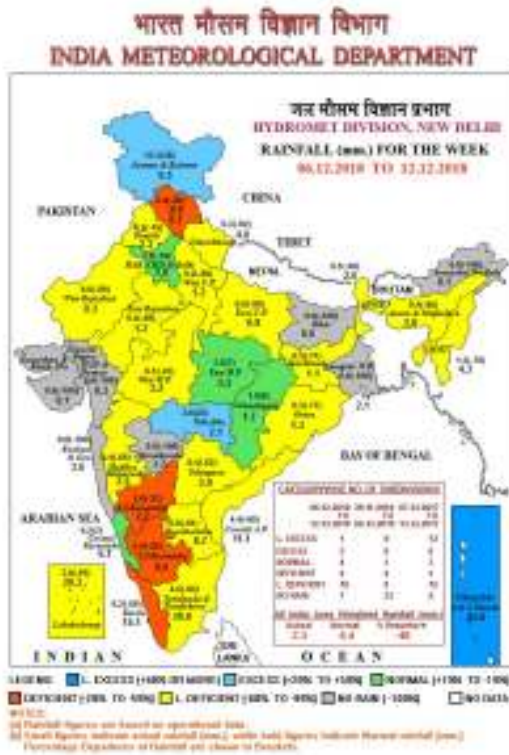
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Realized Rainfall and Extended Range Forecast (Rainfall and Temperatures)

Realized Rainfall

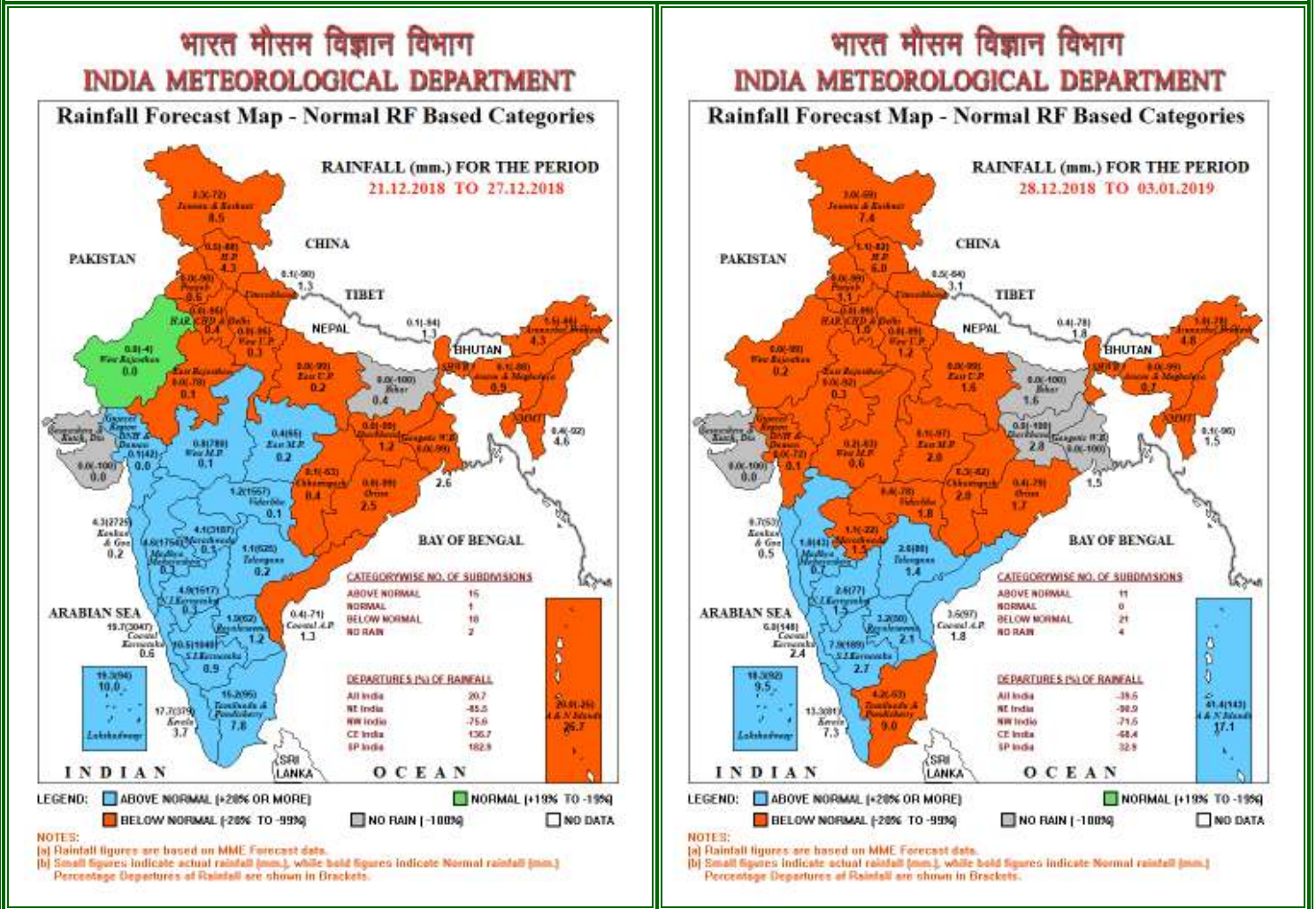
(6th to 19th December 2018)



- Normal or above normal rainfall occurred in both the weeks in Jammu & Kashmir, Haryana, Chandigarh & Delhi, East Madhya Pradesh, Chhattisgarh, Vidarbha and Andaman & Nicobar Islands.
- Normal or above normal rainfall occurred in either of the last two weeks in Punjab, East Rajasthan, West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Telangana, Coastal Andhra Pradesh, North Interior Karnataka and Coastal Karnataka.
- Below normal rainfall occurred in both the weeks in Himachal Pradesh, Uttarakhand, Uttar Pradesh, West Madhya Pradesh, Madhya Maharashtra, South Interior Karnataka, Kerala and Tamil Nadu.
- Below normal rainfall / no rain occurred in either of the two weeks in West Rajasthan, Konkan & Goa, Marathwada, Rayalaseema and Lakshadweep.
- No rain occurred in both the weeks in Gujarat.

Extended Range Forecast System

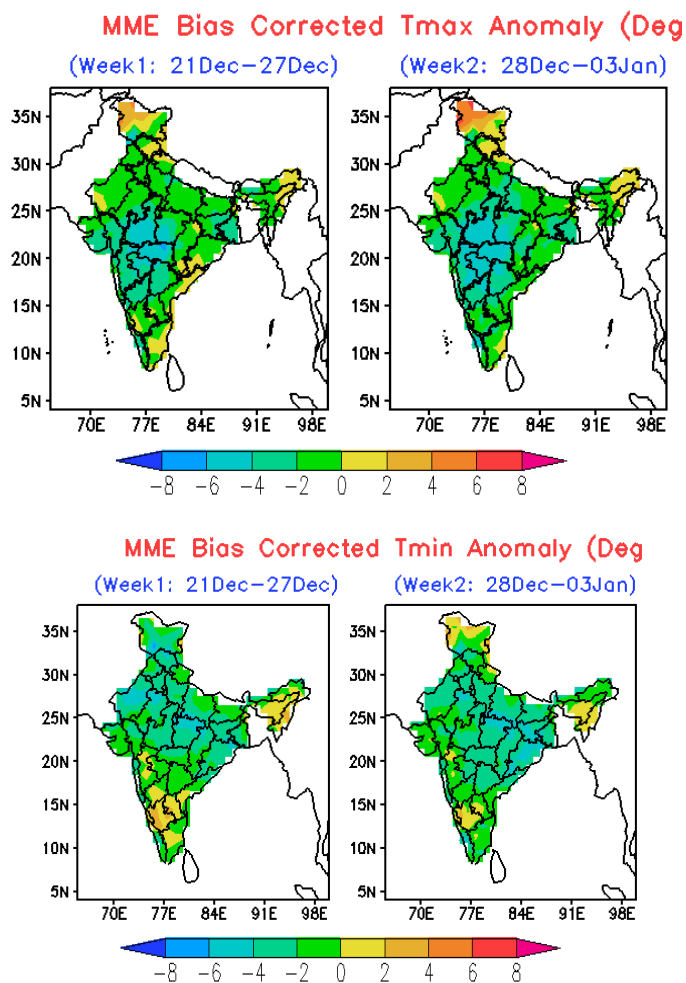
Rainfall forecast maps for the next 2 weeks (IC – 19 December)
(21st December 2018 to 3rd January 2019)



Extended Range Rainfall Forecast

- **Week 1 (21.12.2018 to 27.12.2018) and Week 2 (28.12.2018 to 03.01.2019):** Main rainfall part is expected over southern peninsula and Bay Island.

**Maximum and Minimum temperature anomaly ($^{\circ}\text{C}$) forecast
for next 2 weeks (IC – 19 December)
(21st December 2018 to 3rd January 2019)**



Maximum Temperature (Tmax)

- **Week 1 (21.12.2018 to 27.12.2018) and Week 2 (28.12.2018 to 03.01.2019):** Mostly below normal Tmax is expected over the country.

Minimum Temperature (Tmin)

- **Week 1 (21.12.2018 to 27.12.2018) and Week 2 (28.12.2018 to 03.01.2019):** Northern parts of the country will be under the influence of cold wave with $T_{min} < 5^{\circ}\text{C}$ over many parts of north India. Tmin is expected to be below normal over most of India.

Strategic Agricultural Planning based on rainfall during next two weeks till 03th January 2019

Agromet Advisories

Kerala

Rainfall received during the period from 01 October to 20 December 2018 over Kerala is 447.6 mm, which is 6% deficit than normal. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is above normal for both the weeks.

- To control fruit fly in bitter gourd, setting up of pheromone trap, spot application of 10 % jaggery containing 0.1 % malathion@1 spot/40 m² underside of leaves at fortnight intervals is required.
- To prevent Fusarium wilt in cowpea, mix 20 gram of cow dung in one litre of water and soil should be drenched with the supernatant liquid by mixing with 20 g of pseudomonas.
- Farmers are advised to spray Quinalphos (0.05%) 400 ml in 200 litres of water against coffee berry borer.
- There is a possibility of Leaf folder attack on paddy crop. As a prophylactic measure, apply 2CC Trichogramma chilonis card per acre to control. Cut the cards in to small pieces and fix in different parts of the field in plastic cups.

Karnataka

Rainfall received during the period from 01 October to 20 December 2018 over different meteorological sub-divisions of Karnataka viz, North Interior Karnataka is 50.5 mm (65% deficit), South Interior Karnataka is 123.5 mm (41% deficit) and Coastal Karnataka is 179.2 mm (31% deficit). The extended range weather forecast provided for 21 to 27 December and 28 December to 03 January over all the sub divisions of Karnataka is above normal for both the weeks.

South Interior Karnataka

- Due to low temperature during night followed by morning dew the pod borer incidence was noticed in the Redgram crop. Follow the schedule for effective control of pod borer. If the pod borer is in big size then go for spraying of NPV 0.75 ml per litre of water.
- Right time for harvesting of Kharif crops like Ragi, Maize and Redgram etc. If Ragi crop already harvested, the straw may be collected and stacked.

Tamil Nadu

Rainfall received during the period of 01 October to 20 December 2018 over Tamil Nadu is 327.5 mm, which is 21% deficit as compared to the normal. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is above normal for week-1 and below normal for week-2.

- There is a possibility of infestation of Leafhopper and Thrips incidence in cotton. To control, spray Imidacloprid 200 SL 100 ml/ha or Fipronil 5% SC 1500-2000 ml/ha.
- To control Yellow mosaic virus in pulses, foliar spray of neem formulation 3 ml/litre or Dimethoate 30 EC 500 ml/ha and repeat after 15 days, if necessary.

- Chances of web worm and corn worm infestation in maize. To control corn worm, spray Carbaryl 25 kg/ha or Phosalone 25 kg/ha.

Maharashtra

Rainfall received during 01 October to 20 December 2018 over different meteorological sub divisions of the state *viz.*, Konkan: 65.5 m (56% deficit), Madhya Maharashtra: 38.7 mm (64% deficit), Vidarbha: 10mm (87% deficit) and Marathwada: 16.0 mm (84% deficit). The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) over all the subdivisions of Maharashtra is above normal for week-1 and below normal over Marathwada and Vidarbha and above normal over Madhya Maharashtra and Konkan for week-2.

Marathwada

- Irrigation management should be done in wheat crop.
- For management pod borer in chickpea crop, farmers are advised to spray Quinalphos 25 % @ 400 ml or Emamectin benzoate 5 % @ 80 g per acre.
- For management fall armyworms in *Rabi* sorghum crop, spray Thiamethoxam 12.6 % + Lambda cyhalothrin 9.5 % @ 50 ml per acre.
- Irrigation management should be done in banana orchard during early morning. For management of Sigatoka leaf spot disease in banana orchard, spray of Propiconazole 10 ml per 10 litre of water.
- To control attack of aphids in cruciferous vegetables, farmers are advised to spray of 1 litre 300 ppm NSKE or Dimethoate 30 % @ 260 ml per acre. Harvesting, grading and transportation of mature vegetable should be done.

Vidarbha

- Lowering minimum temperature regime may be conducive for aphid infestation in safflower. As the infestation occurs at a rapid rate, timely control measure is important to avoid possible yield reduction. For control of safflower aphids (ETL- 15-20 aphids/plant) spray of Dimethoate 30% EC @ 10 ml.
- For control of fruit rot in chilli, spray of Copper Oxchloride OR Mancozeb @ 25 g per 10 litres of water is advisable.
- Seed sowing of fenugreek, spinach, radish, capsicum and carrot and also sowing of onion, tomato nursery can be initiated during this period provided assured irrigation in the later stage is available.
- In timely sown irrigated wheat crop, top dressing of nitrogenous fertilizer be followed at first irrigation/CRI stage (18-20 DAS).

Madhya Maharashtra

- In scarcity zone situation for fodder production those farmers having facility of 1-2 irrigation, the following crop varieties may be sown sorghum (Phule Ruchira, Phule Amruta, MP- Chari, SSG-59-3, Phule Godhan with 40 kg/ha seed) for Bajara (Giant Bajara), hybrid Napier grass, Phule Jayawant, Phule Gunwant and for Maize African tall with 75 kg/ha seed.
- To control aphids & alternaria on Safflower, spray dimethoate 15 ml + readymix fungicide (carbendazim + mancozeb) @ 20 gm/ 10 litre water.
- For pod borer in chick pea, install Helilure traps @ 5 no./ ha If the incidence is more spray Chlorpyrifos/ Quinolphos @ 15-20 + 10 litre water.
- Spraying of 1% potassium nitrate should be done in crops under moisture stress condition.

Konkan

- There is a forecast of high wind speed. Follow earthing up operation in okra, brinjal, tomato, chilli etc. vegetable crops and provide support to crop.
- If incidence of leaf spot is noticed on leafy vegetable crops, spray 0.1% Carbendazim @ 10 grams or 0.25% Copper oxychloride @ 25 grams per 10 litre of water at 15 days interval.
- Due to increase in maximum temperature, provide irrigation to coconut orchard at 5-10 days interval.
- There is forecast of high wind speed, provide support to newly planted mango graft.

Chhattisgarh

Rainfall received over Chhattisgarh during 01 October to 20 December 2018 is 35.8 mm, which is 53% deficit than normal. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- Under late sown condition of wheat, farmers are advised to increase the seed rate by 20-25 Kg.
- To control pod borer in pigeon pea, spray Indoxacarb @300 gram/ha dissolved in 500 litre water.
- In Cucurbitaceous vegetable, early crop seedling should be prepared in the polythene bags.
- If windows are not installed in the cattle and poultry house, gunny bags should be hanged to prevent cold air.

Odisha

Rainfall received over Odisha during 01 October to 20 December 2018 is 177.1 mm is 24% excess than normal. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- To avoid rotting of cauliflower and cabbage due to heavy rain, spray 1.5 gram Streptocycline in 10 litre water.
- Due to rain, the chilli may be affected by Thrips. To control it, spray 0.3 gram Metacid or 2 ml Fenpyroximate or 1 ml Spiromesifen per litre water.
- The prevailing cloudy weather may aggravate the infestation of aphid and powdery mildew in pulses and cole crops. Spray 5 ml Imidacloprid or 20 ml Metasystox per 10 litre water to control aphid and spray 50 g Sulfex per 10 litre water to control powdery mildew.
- As the districts received a fair amount of rainfall, go for nursery raising for summer rice in wet bed nursery.

Uttar Pradesh

Amount of rainfall received over East Uttar Pradesh region is 0.4 mm (99% deficit) and West Uttar Pradesh is 7.5 mm (85% deficit) during 01 October to 20 December 2018. The extended range weather forecast provided for two weeks (21 to 27 December and 28 December to 03 January) for West and East Uttar Pradesh is below normal for both the weeks.

- Clear and dry weather will prevail during this week, therefore, farmers are advised to irrigate their timely sown Rabi crops as per need.
- During this week, late sown wheat varieties such as HI-1563, DBW-16, K-307, K-9423, K-9533, K-9162, NW-1076 and PBW-373 are recommended with 120 kg seed/ha and row to row spacing 18-20 cm.

- Weeding and thinning should be taken up in late sown mustard crop and light irrigation should be given after 30-35 days after sowing.
- Light to scattered clouds to be appeared during this week therefore, aphid attack can occur in mustard crop. To control, spray Chlorpyrifos 20% EC @ 1.0 litre/ha or monocrotophos 36 % S.L. @ 500 ml/ha with 500-600 litre of water solution.

West Bengal

Rainfall received over Gangetic West Bengal during 01 October to 20 December 2018 is 96.6 mm, which is 38% deficit. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for week-1 and no rain for week-2.

- Boro-rice: Cover the nursery bed with transparent polythene sheet.
- Potato: Due to two days continuous rainfall, there is a chance of blight infestation. Farmers are advised to apply recommended chemicals.

Jharkhand

Rainfall received over Jharkhand during 01 October to 20 December 2018 is 55.0 mm, which is 37% deficit. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for week-1 and no rain for week-2.

- In late sown wheat crops, broadcast urea @ 22 kg per acre after weeding. If the weeds are vigorous in the field, then spray weedicide Isoproturon (0.30 kg a.i.) and 2,4 - D (0.20 kg a.i.) in 240 litres of water per acre between 30 and 35 days of sowing of the crop.
- Late sown mustard crops which are at vegetative stage may be attacked by mustard saw fly. Aphids may also attack the crops at various stages. Spray the insecticide Demeton (Rogor) @ 1 ml per litre of water to control these insects.
- Pea crop may be attacked by powdery mildew disease. Spray Karathen @ 1 ml per litre of water or Sulfex @ 3 gram per litre of water to control the disease.

Rajasthan

Amount of rainfall received over East Rajasthan region is 2.2 mm (92% deficit) and West Rajasthan is 0.5 mm (94% deficit) during 01 October to 20 December 2018. The extended range weather forecast provided for two weeks (21 to 27 December and 28 December to 03 January) for West Rajasthan is normal for week-1 and below normal for week-2 and for East Rajasthan is below normal for both the weeks.

- Farmers are advised to give light irrigation and spray 0.1% H₂SO₄ in *Rabi* crops to avoid injury from frost. Also burn crop residue for lowering the temperature.
- Apply irrigation in mustard crop where the crop is at flowering to seed development stage.
- Control weed in oat & berseem. For broad leaves, weed spray the solution of 2 litres 2,4-D in 1000 litre water.

Assam

Rainfall received over Assam is 86.5 mm (55% deficit) during 01 October to 20 December 2018. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03

January) is below normal for both the weeks.

- Due to low temperature, occurrence of saw fly may be seen in the rapeseed & mustard crop. To control this pest, spray chloropyrifos 20EC @ 5mm/litre of water.
- The weather condition since past week was found favourable for occurrence of late blight in potato. To control, spray Mancozeb @ 2.5gram/litre of water in the fair weather. Alternatively, Zineb @ 25 gram per 10 litre of water may also be used.
- Farmers are suggested to go for manual weeding in vegetable crops (cabbage, broccoli, cauliflower etc.). Normally two such weeding is necessary for healthy crop growth, the first at 20 days and second at 40 days after transplanting.

Punjab

Rainfall received over Punjab is 9.6 mm rainfall (71% deficit) during 01 October to 20 December 2018. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- As dry weather is expected in coming days, farmers are advised to apply irrigation to early and normal sown wheat crop.
- The symptoms of late blight of potato appears in some areas of submontaneous Punjab. If symptoms of late blight is observed in the field then protect the crop by spraying Indofil M-45/Mass M-45/Markzeb/Antracole/Kavach @ 500-700 g or Mark copper/Copper oxychloride at 750-1000 g per acre using 250-350 litres of water per acre.
- As night temperatures are below normal these days, farmers are advised to protect the fruit plants particularly young ones from low temperature. Prepare the thatches on the young fruit plants and apply light irrigation to orchards. The plants are to be covered on all sides except south-west so that the plant gets sufficient sunlight.

Haryana

Rainfall received over Haryana is 9.9 mm rainfall (61% deficit) during 01 October to 20 December 2018. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- Due to dry weather conditions, farmers are advised to complete the sowing of late sown wheat as soon as possible. Do intercultural operation to conserve soil moisture and apply need based irrigation.
- Farmers are also advised to complete the sowing of late sown barley as soon as possible. Do intercultural operation to conserve soil moisture and apply need based irrigation.
- Due to fall in night temperature keep the animals under shed. Provide 50 grams iodized salt and 50 to 100 grams mineral mixture daily with animal feed/fodder to keep them healthy.

Himachal Pradesh

Himachal Pradesh has received 56.1 mm of rainfall during 01 October to 20 December 2018, which is 30% deficit. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- Farmers are advised to start earthing-up in potato, if crop has attained a height of 15-22 cm.
- Add mulch material in the space between two rows of vegetable crops for conservation of soil moisture and maintaining the soil temperature.
- Thinning and weeding is recommended in timely sown mustard crop.
- Planting of onion bulbs with 30x10 cm spacing may be taken up.
- Temperature is falling and cold wave is likely to grip the area, so protect the newly born calves and animals from cold.

Uttrakhand

Uttrakhand has received 25.1 mm of rainfall during 01 October to 20 December 2018, which is 68% deficit. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) is below normal for both the weeks.

- Keeping in view of the dry weather condition for next few days, farmers are advised to maintain proper soil moisture in crops through light irrigation.
- Mulching should be done on Cole crops for conserving soil moisture.
- Apply Urea as foliar spray on Leafy vegetables.
- 5-6 weeks after sowing, transplant onion seedling after treatment with recommended fungicides, pesticides and bio agents.

Jammu

Rainfall received during 01 October to 20 December 2018 over Jammu is 128.6 mm, which is 32% excess. The extended range weather forecast provided for next two weeks (21 to 27 December and 28 December to 03 January) over Jammu is below normal for both the weeks.

- In rainfed areas, farmers may go for sowing of wheat varieties like WH-1080, Raj-3077 with enhanced seed rate 125 kg /ha and recommended dose of fertilizers.
- In irrigated areas, farmers may go for sowing (Late wheat) of varieties WH-1021, PBW-590, PBW-373, Raj-3077, Raj-3765, DBW-16 where sufficient moisture is available.
- Apply cypermethrin 10EC @ 1ml/litre or chloropyriphos 3EC @ 2ml/litre to control mustard sawfly
- If attack of cutworm is observed in chickpea, apply 2 litres of Chlorpyriphos 20EC mixed with 25kg of dry sand and broadcast followed by hoeing.
- Protect young plants of vegetables and horticultural crops from cold waves and frost. Irrigate the plants regularly.

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