



National Agromet Advisory Service Bulletin

Friday 7th February 2020

(For the period 7th to 11th February 2020)



Issued by

India Meteorological Department

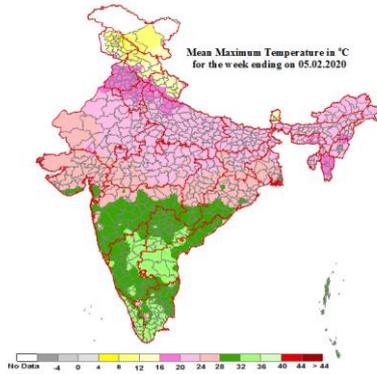
Weblink For

District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

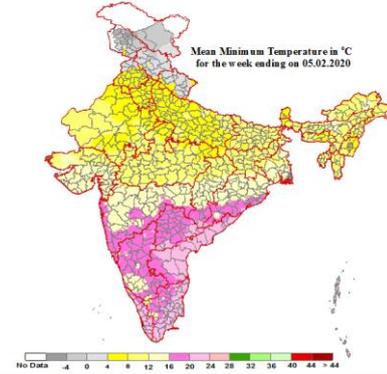
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

spatial distribution of weather parameters for the week ending on 05.02.2020

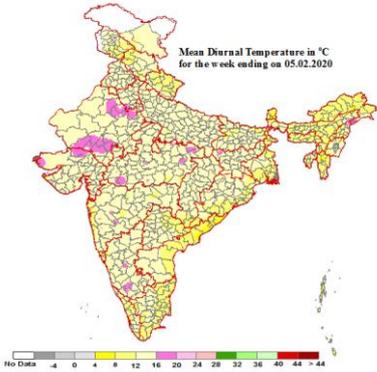
Mean Maximum Temperature (°C) for the week ending on 05.02.2020



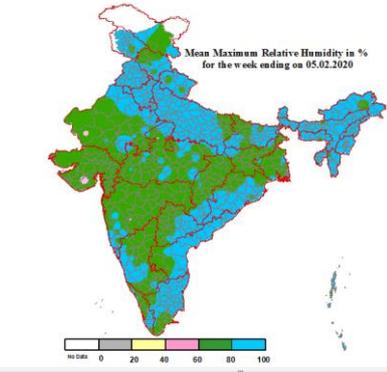
Mean Minimum Temperature (°C) for the week ending on 05.02.2020



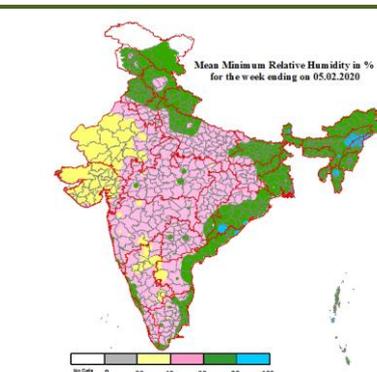
Mean Diurnal Temperature Variation (°C) for the week ending on 05.02.2020



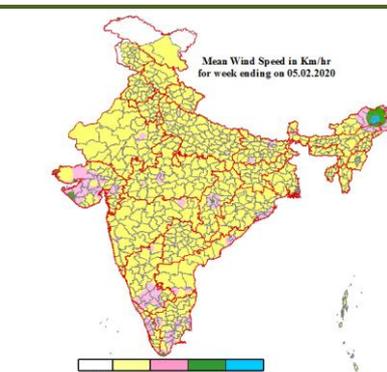
Mean Maximum Relative Humidity (%) for the week ending on 05.02.2020



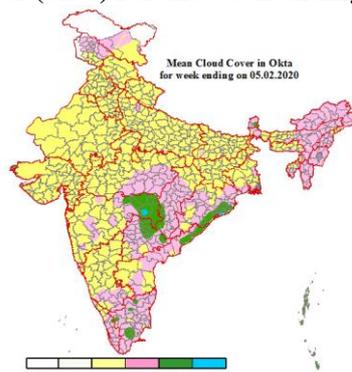
Mean Minimum Relative Humidity (%) for the week ending on 05.02.2020



Mean Wind Speed (km/hr) for the week ending on 05.02.2020

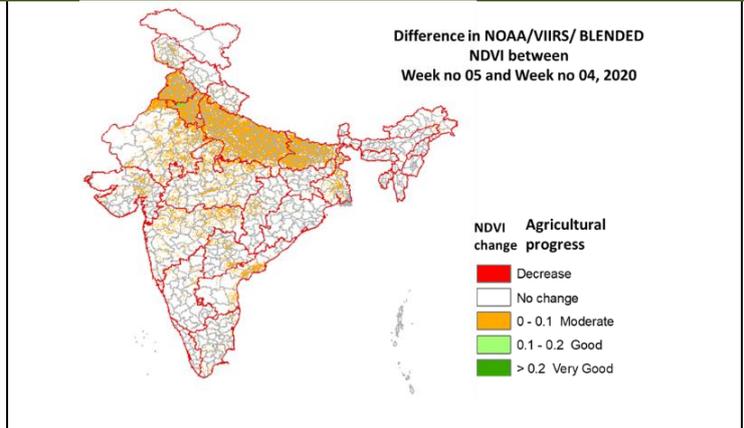
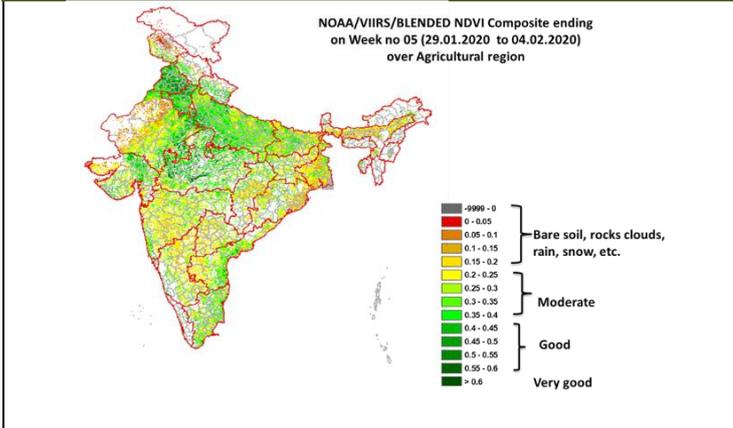


Mean Cloud Cover (okta) for the week ending on 05.02.2020



NOAA/VIIRS/BLENDED NDVI composite for the week number 05 (29.01.2020 to 04.02.2020) over Agricultural regions of India

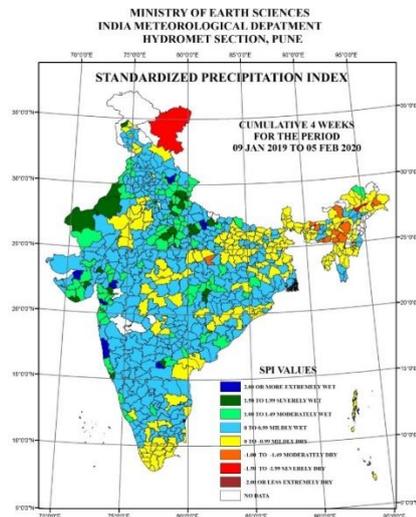
Difference in NOAA/VIIRS/BLENDED NDVI between week number 5 and week number 4



Agriculture vigour was good at many parts of Haryana & Punjab; at few parts of Uttarakhand, Uttar Pradesh, east Rajasthan, West Madhya Pradesh, Gujarat, Coastal Andhra Pradesh, Kerala and at isolated pockets of East Madhya Pradesh, Bihar, Jharkhand, North Eastern states, Chhattisgarh, Odisha, East Vidarbha, Konkan & Goa, Coastal Karnataka, Tamilnadu

Good difference in agricultural vigour has been observed at isolated palces of Bihar, Uttar Pradesh, Punajab and Haryana. It was moderate over rest of the country

**Standardised Precipitation Index
Cumulative 4 weeks for the period 9th Jan to 5th Feb 2020**



- Extremely/Severely wet conditions exist in Gandhinagar, Narmada, Navsari, Chhota Udepur, Botad, Gir Somnath, Morbi districts of Gujarat; Kupwara district of Jammu; Bhind, Gwalior districts of West Madhya Pradesh; Ratnagiri district of Maharashtra; Bikaner, Sri Ganganagar, Jaisalmer districts of Rajasthan; Barabanki, Gonda, Kanpur City, Unnao, Bareilly, Kanshiram Nagar, Sambhal districts of Uttar Pradesh; Nainital, Garhwal Tehri, Udham Singh Nagar districts of Uttarakhand; Durg, Bemetara districts of Chhattisgarh; South Goa district of Goa; Jogulamba Gadwal, Wanaparthy districts of Telangana.
- Moderately dry conditions exist in East Kameng, Lohit districts of Arunachal Pradesh; N. C. Hills, Barpeta, Karbi Anglong, Chirang districts of Assam; Sidhi district of West Madhya Pradesh; East Khasi Hills district of Meghalaya.
- Moderately wet to mildly dry conditions were experienced in remaining districts in the country.

Weather Forecast for next 5 days valid upto 0830 hours of 12th February, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ Fall in minimum temperatures by 2-3°C over northwest India during next 2 days and no significant change thereafter.
- ◆ No significant change in minimum temperatures over East India during next tow days and fall by 2-3 °C thereafter and No significant change in minimum temperatures over central India during next 24 hours and fall by 2-3 °C thereafter subsequent 24 hours.

5 Day Rainfall Forecast (MID-DAY)

7th February 2020

Met-Sub-Division	07-Feb Today	08Feb Sat	09Feb Sun	10Feb Mon	11Feb Tue
1. Andaman & Nicobar Islands	DRY	DRY	ISOL	ISOL	ISOL
2. Arunachal Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
3. Assam & Meghalaya	ISOL	DRY	ISOL	DRY	DRY
4. N. M. M. & T.	DRY	ISOL	SCT	ISOL	ISOL
5. S.H. West Bengal & Sikkim	ISOL	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	SCT	ISOL	DRY	DRY	DRY
7. Odisha	FWS	FWS	ISOL	DRY	DRY
8. Jharkhand	SCT	ISOL	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	ISOL	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	ISOL	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	DRY	DRY	DRY	DRY	ISOL
17. West Rajsthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	ISOL	ISOL	DRY	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	DRY	ISOL	DRY
24. Madhya Maharashtra	DRY	DRY	ISOL	ISOL	ISOL
25. Marathwada	DRY	ISOL	ISOL	ISOL	ISOL
26. Vidharbha	SCT	ISOL	ISOL	DRY	DRY
27. Chhattisgarh	FWS	SCT	ISOL	DRY	DRY
28. Coastal A. P. & Yanam	ISOL	SCT	SCT	ISOL	ISOL
29. Telangana	ISOL	SCT	ISOL	ISOL	ISOL
30. Rayalaseema	DRY	ISOL	ISOL	ISOL	ISOL
31. T.N.,Puducherry & Karaikal	DRY	ISOL	ISOL	ISOL	ISOL
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	ISOL	ISOL	ISOL
34. South Interior Karnataka	DRY	DRY	ISOL	DRY	ISOL
35. Kerala & Mahe	ISOL	ISOL	ISOL	DRY	DRY
36. Lakshadweep	DRY	DRY	DRY	DRY	DRY

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

7 February (Day 1): ♦ **Dense fog** very likely in isolated parts over Punjab.

♦ **Thunderstorm accompanied with Hail & lightning** at isolated places over Odisha. **Thunderstorm accompanied with lightning** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh and Gengetic West Bengal.

♦ **Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and northeast Rajasthan.

♦ **Heavy rain** very likely at isolated places over Odisha.

08 February (Day 2): ♦ **Dense fog** very likely in at isolated parts over Punjab and Odisha.

♦ **Thunderstorm accompanied with gusty winds & lightning (speed reaching 30-40 kmph)** very likely at isolated places over Odisha. **Thunderstorm accompanied lightning** very likely at isolated places over Chhattisgarh.

♦ **Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and northeast Rajasthan.

09 February (Day 3): ♦ **Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and northeast Rajasthan.

♦ **Dense fog** likely in isolated parts over Odisha.

♦ **Thunderstorm** accompanied with **Hail & lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura and **Thunderstorm & lightning** at isolated places over Assam & Meghalaya.

10 February (Day 4): ♦ **Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh.

♦ **Dense fog** likely in isolated parts over Odisha.

11 February (Day 5): ♦ No Warning.

Weather Outlook for subsequent 2 days from 12th to 14th February, 2020

- ♦ Under the influence of a Western Disturbance Light/moderate isolated to fairly widespread rain/snow likely over Western Himalayan Region and isolated light rain/thundershowers likely over Punjab.
- ♦ Weather likely to be dry over the rest of the country.

Salient advisories

➤ **Advisory for Desert Locust:**

- On arrival/attack of locusts in Sriganganagar and Hanumangarh districts of Rajasthan, inform immediately to locust control room, Suratgarh at 09969341927, 09588849282 or to Deputy Director (Extension), Sriganganagar at 0154 2422345, 09928116968.
- In Arid Western Plain Zone of Rajasthan, where there is attack of locusts in Bikaner and Jaisalmer districts, apply Chloropyriphos (50%) 1 ml/litre or (20%) 2.5 ml/litre of water in standing crops.
- In Haryana, farmers are advised to keep vigil and immediately contact the nearest Krishi Vigyan Kendra, if they notice the locust.

- **Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh from 7th to 10th and over northeast Rajasthan from 7th to 9th Feb., apply light and frequent irrigation /sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit

plants from chilly winds, cover young fruit plants with straw/polythene sheets/gunny bags.

- **Thunderstorm accompanied with gusty winds & lightning (speed reaching 30-40 kmph)** very likely at isolated places over Odisha on 8th, **Thunderstorm accompanied with lightning** very likely at isolated places over Chhattisgarh on 8th, **Thunderstorm accompanied with Hail & lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura and **Thunderstorm & lightning** at isolated places over Assam & Meghalaya on 9th Feb., provide mechanical support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hail net for orchard crops to protect from mechanical damage in Nagaland, Manipur, Mizoram & Tripura. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- As **dense fog** very likely at isolated places over Odisha on 8th to 10th Feb. and over Punjab on 7th and 8th Feb., monitor the standing crops for incidence and spread of pest & diseases and monitor tomato and potato crops for blight disease. If late blight is noticed in Punjab, spray Ridomil Gold / CurzateM-8/ Secten/Melody Duo @700g or Revus @ 250 ml in 250-350 liters of water per acre and in Odisha, spray Mancozeb @ 3 gm/liter of water.
- As rain/thundershowers likely at many places over Odisha on 7th & 8th Feb., drain out excess water from the paddy, vegetable and upland crops like Sunflower, groundnut, pulses and recently transplanted rice field. Postpone intercultural operations, spraying and fertilization.
- Undertake sowing/ transplanting of following crops:
 - In Telanagana, continue sowing of Sesame .
 - Continue sowing of rice fallow pulses viz., black gram and green gram in Cauvery Delta Zone of Tamil Nadu.
 - In Kerala, undertake land preparation for *punja* rice
 - In South Interior Karnataka, continue transplanting of rice seedlings and sowing of ragi.
 - Continue sowing of pre-kharif rice in Manipur.
 - Continue sowing of long duration varieties of sunflower in Western Zone of Punjab.
 - Continue sowing of summer groundnut in Madhya Maharashtra.

Detailed Agromet Advisories

SOUTH INDIA [TAMIL NADU, TELANGANA, ANDHRA PRADESH, KARNATAKA, KERALA]

Realised Rainfall : Weather remained dry over the region.

Advisories:

Kerala

- In Problem Area Zone, plough the coconut fields. Inter cropping with banana and colocasia can be done in coconut gardens.
- In High Altitude Zone, undertake land preparation for *punja* rice. Select short duration varieties for the summer crop.
- In Central Zone, weather is congenial for white fly in chilli, apply 2% neem oil garlic emulsion or spray 20g Lecanicillium lecanii per one litre of water in ten days intervals.
- In Southern Zone, undertake harvesting of paddy.

Andhra Pradesh

- In North Coastal Zone, undertake harvesting of Black gram. Keep the harvested produce in safe & dry places. Weather is congenial for incidence of Powdery mildew disease in pulses (black gram and green gram). Spray Dinocab (Karathane) @ 2 ml per litre of water on a non rainy day.
- In Scarce Rainfall Zone, undertake harvesting of Redgram. Harvested produce may be threshed sun dried before storage.
- In Krishna Godavari Zone, weather conditions are conducive for leaf folder is a problem in *rabi* paddy, to control the incidence of pest spray Monocrotophos @ 36 SL 1.6 ml or Chlorpyrifos 20 EC @ 2.5 ml or Phosphamidon 40 SL@ 2.0 ml, or Acephate 1.5g or cartap Hydro Chloride 2.0g or Chlorantriliprole 0.4ml or /litre of water on a non rainy day.
- In Southern Zone, the present weather conditions are favourable for thrips attack in groundnut. To control spray Monocrotophos @ 1.6 ml. or Imidachlopid @ 0.3 ml./litre or Acephate 1.5 g per litre of water on a non rainy day.

Telangana

- Continue sowing of Sesame till 1st fortnight of February
- In Southern Telangana to control stem borer in rice apply Cartap Hydrochloride 4 G granules @ 8 kg or Chlorantriliprole 0.4% granules @ 4 kg per acre on a non rainy day.
- North Telangana Zone, prevailing weather conditions are congenial for maruca and helicoverpa in redgram. Spray Chlorpyrifos @2.5 ml or Novaluron @ 0.75 ml along with Dichlorvos @ 2 ml per liter of water on a non rainy day.

Tamil Nadu

- In Cauvery Delta Zone, undertake sowing for rice fallow pulses viz., black gram ADT 3, ADT 6 and ADT 3 green gram. Weather is congenial for smut on rice, prophylactic spraying of fungicides viz., Probenconazole (200 ml/acre) or Copper hydroxide (500 g/acre) at the time of booting and milky stages may be adopted.
- In Western Zone, harvesting may be continued for samba rice. Weather is congenial for ear head bug incidence in paddy, spray Dichlorvos @ 2ml/liter of water.
- In Karaikal and Pondicherry, for rice fallow pulses, green gram variety, ADT 3 @ 25 kg/ha shall be used for sowing till second week of February.
- In High Rainfall Zone, undertake harvesting of pepper by hand picking the whole spikes when few berries in the spike start turning red. The berries are separated and dipped in hot water (80°C) for one minute and sun dried for 7 to 10 days.

Karnataka

- In North Interior Karnataka, continue harvesting of pigeon pea, chickpea and cotton. Apply light irrigation to the late sown chickpea crop. Continue planting of sugarcane. For control of earhead fly in sorghum, spray Malathion @ 2ml/litre of water. To manage, shoot borer in wheat, Cypermethrin @ 0.5 ml dissolved in one liter of water.
- In Coastal Karnataka, complete threshing of rice. Undertake deep ploughing in harvested rice fields. Place few grams of phorate 3G granules in plastic pouch and Keep it in crown region in arecanut. For control of back rot in cashew, spray Dithane M 45 @ 2ml / liter of water or Copper Oxy Chloride @ 3ml / liter of water or 1% Bordeaux mixture every month.
- In South Interior Karnataka, continue transplanting of rice seedlings and sowing of ragi. Continue planting of sugarcane. Cloudy weather favours the occurrence of purple blotch in onion crop; spray Propiconazole @2gm/liter of water followed by Carbendazim @ 1 gm/liter of water at 10 days interval. There is a possibility of occurrence of powdery mildew and hoppers in mango; spray Wettable Sulphur @

3gm/litre and Rogar @ 1.5ml/litre.

Animal Husbandry:

- In Karaikal and Pondicherry, in cattle, as a preventive measure for Babesiosis disease, apply Butox @ 2 ml/l of water on cattle and also spray it on the nearby areas of the cattle shed to control ectoparasites. In goat, as a preventive measure for Enterotoxaemia disease, vaccinate the animals once in a year before the onset of monsoon and don't allow the goat to feed on wet and young grass.
- In Karnataka, vaccinate (ET Vaccine) sheep and goats against Enterotoxemia. Cover the sides of poultry house with curtains to avoid chilling effect.

NORTHEAST INDIA [ARUNACHAL PRADESH, NMM&T, ASSAM, MEGHALAYA]

Realised Rainfall: Rainfall occurred in Anjaw and Upper Siang districts of Arunachal Pradesh. Weather remained mainly dry over rest of the region.

Advisories:

- **Thunderstorm** accompanied with **Hail & lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura and **Thunderstorm & lightning** at isolated places over Assam & Meghalaya on 9th Feb., provide mechanical support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hail net for orchard crops to protect from mechanical damage in Nagaland, Manipur, Mizoram & Tripura. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Arunachal Pradesh

- In Arunachal Pradesh, ensure proper moisture level during flowering and grain development stages in maize crop. During clear/dry days, two spray of Cypermethrin at 100 ml/ hectare is effective against stem-borer infestation in maize. Undertake harvesting of matured pods of pea.

Assam & Meghalaya

- In Hill Zone of Assam, continue main field preparation for transplanting *Boro* paddy seedlings. Apply irrigation at flowering and silique development stages in rapeseed & mustard. Monitor cole crops regularly for leaf feeders; if pest population is above ETL, spray of B.t. @ 1.0 g/ litre of water or Spinosad @ 1 ml / 3 litre of water.
- In Lower Brahmaputra Valley Zone, undertake gap filling within 7-10 days after sowing. Undertake harvesting of rapeseed and mustard. Spray 2 gm Bavistin /litre of water for control blast disease in wheat crop at CRI , vegetative, ear head and flowering.
- In Upper Brahmaputra Valley Zone, undertake land preparation for sowing of okra, summer green gram and black gram. Coconuts harvested during Sep-Dec months can be used for sowing in the nursery bed.
- In Barak Valley Zone, spray Mancozeb 0.2 % @ 1.2-1.4 kg/ha or Captafol 0.2 % @ 1.3-1.4 kg/ha against alternaria blight disease in rapeseed and mustard at flowering stage. Spraying should be done at an interval of 15-20 days
- In Central Brahmaputra Valley Zone, complete transplanting of *Boro* rice seedlings at the earliest. Dead hills are to be replanted within 7-10 days of transplanting of *Boro* rice. Undertake land preparation for sowing of summer green gram and black gram. In wheat crop, apply Carbendazim @ 1g/litre of water against blight disease and for loose smut, uprooting and burn the affected plants.
- In North Bank Plain Zone, complete transplanting of *Boro* rice seedlings at the earliest. Weather is favourable for infestation of aphids and sawfly in rapeseed and mustard; apply Dimethoate 30EC or Chlorpyrifos @ 2ml per litre of water with a spray volume of 500-700 litres/ha for hand sprayer & 200-

250 litres/ha for power sprayer. Present weather is favourable for appearance of late blight in potato; spray Mancozeb @2.5g/litre of water.

- In Meghalaya, continue nursery sowing of brinjal, tomato, capsicum and harvesting of cole crop, ginger and turmeric. In mustard and turmeric, spray Azadirachtin 0.03 EC @ 5ml/litre against cabbage butterfly and aphids if infestation is above ETL and also spray fungicide Mancozeb @ 2.5g/1litre of water, spray at older leaves to avoid wider spread of leaf spot.

Manipur, Mizoram, Tripura and Nagaland

- In Manipur, continue nursery raising for sowing of pre-*kharif* rice. Undertake land preparation of main field for transplanting 20-30 days old seedlings. Apply mulching in the standing crop field using straw/dried leaves which is not infected by insect-pest to preserve soil moisture for the crop. Undertake land preparation for transplanting 20-30 days old rice & 4-5 leaves stage cucurbits seedlings. Spray 800ml Malathion 50 EC/250 litre water in mango against insect pest.
- In Mizoram, continue harvesting of turmeric, pea and soybean. Carry out intercultural operations near the base of the potato plants; apply irrigation at 2-3 days interval; use straw mulch for better soil moisture conservation. To manage leaf blight disease in maize, spray aproach (Methoxy-acrylates) @ 2 g/litre of water.
- In Tripura, follow the SRI techniques after transplanting *Boro* rice seedlings. Maintain 2 to 3 cm standing water in the rice field. Spray Monocrotophos @ 2ml per litre of water at an interval of 15 days against aphids infestation in the field of rabi legumes (toria, sesame, lentil etc.). Cloudy weather condition is conducive for fungal diseases like blight in potato; spray Mancozeb (Indofil M-45) @ 2.5gm per litre of water in potato fields at least twice at an interval of 10 days. Maintain moisture in the field of *rabi* maize through irrigation. Mulching is essential to retain the moisture for longer period with the locally available material.
- In Nagaland, continue land preparation for sowing of *kharif* maize. Farmers are advised to install pheromone traps @ 3-4 traps per acre for monitoring of the pest population for diamond back moth in cole crop, pod borer in pea and fruit borer in tomato.

Animal Husbandry

- In Assam, vaccinate poultry birds against Ranikhet disease during this period.

Fishery

- In Barak Valley Zone of Assam, at this time in fish pond fishes may be affected by EUS disease so farmers are advised to apply CIFAX @ 1 litre per hectare for 1 meter water depth to prevent the diseases in fishes. During winter season fishes are infested by various bacterial diseases. To control these diseases, application of Potash @ 4-5 mg per litre of water in the pond is recommended.

EAST INDIA [JHARKHAND, BIHAR, ODISHA, WEST BENGAL & SIKKIM, ANDAMAN & NICOBAR ISLANDS]

Realised Rainfall: Significant rainfall occurred in Bhadrak and Deogarh districts of Odisha. Weather remained dry/mainly dry over rest of the region.

Advisories:

Odisha

- **Thunderstorm accompanied with gusty winds & lightning (speed reaching 30-40 kmph)** very likely at isolated places over Odisha on 8th Feb., provide mechanical support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

- As **Dense fog** very likely at isolated places over Odisha on 9th & 10th Feb., monitor the standing crops for incidence and spread of pest & diseases and monitor tomato and potato crops for blight disease. If symptoms are noticed, undertake plant protection measures.
- As **rain/thundershowers** likely at many places over Odisha on 7th & 8th Feb., avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
- Drain out excess water from non-paddy nursery fields and recently transplanted rice field and pulse fields. Take up sowing of green gram, black gram, sesame and summer maize at optimum moisture conditions. Carry out transplanting of onion seedlings in the main field. Harvest vegetables, particularly cauliflower and cabbage, to avoid silting due to rain.
- Cloudy weather favours infestation of aphid in beans; spray 2 ml Dimethoate or Methyl demeton per litre water. Cut worm can be seen in potato. Apply 1% Chlorpyrifos dust or 2% Methyl parathion dust over the bunds of the affected field to restrict entry of insects in unaffected field. Spray 400 ml Chlorpyrifos or Zolon or Tryozophos in 200 litres of water /acre in the afternoon. Undertake plant protection methods after current spells of rain.

Bihar

- Take up land preparation for sowing of summer vegetables such as okra, pumpkin, cucumber, sponge Gourd, ridge guard and bitter guard; apply 15-20 tonnes of FYM during land preparation; apply Chlorpyrifos 20EC @ 2 litres/acre during land ploughing to protect vegetable crops from cutworm attack. Irrigate wheat and maize crops to maintain soil moisture. Carry out harvesting of matured elephant foot yam, turmeric and early-sown mustard crops.
- To protect mango plants from mealy bug, spray Imidacloprid 17.8 SL @ 1 ml /3 litres of water. To control cutworm in wheat crop, apply Carbaryl 50% WP @ 800g in 800 litres of water/acre or Dichlorvos 76% EC@ 112-150ml in 200-400 litres of water/acre.

Jharkhand

- Continue transplanting of summer paddy; dip 21-25 days old seedlings in the solution of 25 ml Chlorpyrifos + 1-2 % urea (10 g /liter of water) prepared in 25 liter of water for 4-5 hours before transplanting. Irrigate wheat crop at critical stages.
- Mustard crops is at seed hardening stage; aphid attack is likely to be more in next few days; spray Methyl Demeton or Rogar (Dimethoate) @ 1 ml per litre mixed with teepol @ 5 ml per litre.

West Bengal

- In Sub-Himalayan West Bengal, if sufficient moisture is available, continue sowing of wheat using Zero Tillage machine. Continue sowing of cruciferous crops on raised nursery beds. Continue harvesting matured cole crops. Provide irrigation to mustard and potato crops.
- For control of aphids in Lab bean, apply ash in case of lower infestation and Thiomethoxam 0.3 SG @1g/3 litres of water in case of heavy infestation.
- In Gangetic West Bengal, complete transplanting of rice seedlings; carry out weeding in the rice field. Postpone irrigation to wheat, sunflower and potato crops as rainfall is expected. There are chances of blight infestation in sunflower crop after light rain and cloudy weather; Apply SAF @ 2gm/litre of water as preventive measure.

Andaman & Nicobar Islands

- Provide light irrigation to the standing vegetables during evening hours. Clear the crown of coconut tree and remove the old bunches to avoid the attack of rhinoceros beetles. Observe for downy mildew in

cucurbits as the weather is conducive.

Animal Husbandry

- In West Bengal, Provide sufficient clean drinking water to animals. Vaccinate animals against foot and mouth diseases (FMD). Keep poultry shed dry and warm.

Pisciculture

- In Andaman & Nicobar Islands, harvest the well grown fishes to reduce the population in the pond as water level is expected to go down. Complete the renovation work of ponds as the weather and soil condition is conducive.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Weather remained mainly dry/dry over the region.

Advisories:

Maharashtra

- In Konkan, Continue transplanting of rice seedlings. To control aphids in pulses (horse gram and cowpea), spray Dimethoate @ 10 ml per 10 litres of water. Apply 3rd split dose Urea @ 750 g and muriate of potash @ 667 g to coconut trees (5 years old).
- In Madhya Maharashtra, Undertake land preparation for sowing of green gram. Continue harvesting of matured gram. Complete sowing of summer groundnut. Continue sowing of summer groundnut. To control rust in wheat, spray Mancozeb @ 1.5 kg in 500 liters of water. To control aphids in safflower, spray Acetamiprid 20 SP @ 2 ml per 10 liters of water.
- In Marathwada, Apply irrigation to wheat, gram, vegetables and mrig bahar citrus orchards. Undertake harvesting of pomegranate. Undertake planting of sugarcane.
- In Vidharbha, Complete sowing of groundnut. Continue land preparation and transplanting of rice seedling (22 to 25 days old). Undertake sowing of water melon and musk melon. To control sap sucking pest in mustard, spray Quinalphos 25% EC @ 40 ml in 10 liters of water. Continue sowing of summer sesame (AKT-101/ NT-11-91) up to first fortnight of February with assured irrigation facilities. Undertake harvesting of matured gram. Keep the harvested produce in safer place.

Gujarat

- In Middle Gujarat, carry out hand weeding and intercultural operations and apply irrigation in cucurbits. To prevent blight disease infestation in chickpea, spray Mencozeb @ 27 gm in 10 liters of water at 10 days interval as precautionary measure. For the control of Anthracnose in chilli, spray Chlorothalonil @ 27 gram or Fosetyl @ 20 gm in 10 liters of water at 15 days interval.
- In Saurashtra & Kutch, undertake land preparation for sowing of summer groundnut and sesame and keep inputs ready for sowing. To improve the quality of wheat grain, spray 2 % Urea solution before the last irrigation and spray Mancozeb @ 25 gm/10 litres of water. Under present weather condition attack of thrips and aphids has been reported in cumin crop; for control, spray Acetamiprid @ 5 gm or Imidacloprid 17.8 % @ 5 ml/10 liters of water.
- In North Gujarat, irrigate the crops during evening hours under cold and dry weather condition to minimize cold effect. Continue harvesting of matured spikes of castor. There are chances of attack of aphid in the mustard crop; for effective control, spray Dimethoate @ 10ml or Phosphamidon @ 3ml adding in 10 liters of water.
- In South Gujarat, undertake nursery sowing of rice in South Gujarat Heavy Rainfall Zone and transplanting of rice in South Gujarat Zone. For higher flowering in mango crop to spray 0.5 % urea solution. For effective control of castor capsule borer in castor, spray Chlorpyrifos 20 EC @ 20 ml or Quinalphos 25 EC @ 20 ml or Dichlorovos 76 EC @ 7 ml in 10 liters of water.

Animal Husbandry:

- In Gujarat, provide adlib warm water to lactating animals, keep young calves indoors during night time to protect from cold, provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Chindwara and Mandla districts of East Madhya Pradesh. Mainly dry weather prevailed over rest of the region.

Advisories:

Madhya Pradesh

- In Malwa Plateau Zone, due to high relative humidity, infection of blight may occur in potato and tomato. Farmers are advised to do constant monitoring in both the crops. If symptoms appear then spray of Carbandizam @ 1.0 gm / litre of water or Dithane-M-45 @ 2.0 gm / litre of water is recommended. In wheat crop, if termite appear then application of mixture of 20 kg sand with Chlorpyrifos 20 EC @ 2.0 litre/acre should be done in evening hours.
- In Vindhya Plateau Zone, the chickpea crops is in flowering/pod formation stage and this is crucial time for incidence of pod borers complex(Viz. pod fly, pod bug and Plume moth) exceeded 2-3 caterpillar per sq. m. spray of profenophos 50 EC @ 1500 ml. / ha in 600-700 litter of water or dusting of methyl parathian 2% dust @ 25 kg/ha is recommended for the control of caterpillar.
- In Jhabua Hills Zone, apply third irrigation to wheat crop at booting stage (50-55 DAS) and fourth irrigation at head initiation stage (65-70 DAS) so as to maintain sufficient moisture in the field. Irrigate winter vegetable crops. Irrigate mustard crop at seed formation stage (60-65 DAS) and chick pea crop at pod filling stage (60-70 DAS).

Chhattisgarh

- **Thunderstorm accompanied lightning** very likely at isolated places over Chhattisgarh on 8th Feb., provide mechanical support to banana, young fruit plants and vegetables, propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- In Chhattisgarh Plain Zone, If Yellow Vein Mosaic (YVM) disease is observed in pulses crop, destroy the affected plants and spray Metasystox or Rogar insecticide @1 ml/litre of water on a non rainy day.
- In Northern Hill Zone, continue transplanting of onion seedlings. Prepare field by the first week of February for planting sugarcane. To control pod borer in gram, use pheromone traps; spray *neem* extract @ 5% to prevent female insects laying eggs; in case of heavy infestation, spray Quinalphos @ 0.05% on a non rainy day.
- In Bastar Plateau Zone, prepare field for planting sugarcane. Raise seedlings of cucurbitaceous crops in poly bags. To control white fly in tomato crop, apply Thiamethoxam 25 WG 400 g/ha or Acetamiprid 20% WP 100ml/ha on a non rainy day.

Animal Husbandry

- In Madhya Pradesh, vaccinate the cattle for control of FMD and HS disease. Cowshed with be whitewashed with lime and cows/ buffaloes should be prevented from Haemorrhagic Septicaemia (HS) and black quarter disease through vaccination. Provide green fodder. To control ecto parasite use Butox and also deworming to cattle.

NORTH INDIA [JAMMU & KASHMIR, HIMACHAL PRADESH, UTTARAKHAND, PUNJAB, HARYANA, DELHI, UTTAR PRADESH & RAJASTHAN]

Realised Rainfall : Rainfall occurred in Nainital district of Uttarakhand. Mainly dry weather prevailed over rest of the region.

Advisories:

- **As Cold wave conditions** very likely in isolated parts over Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh from 7th to 10th and over northeast Rajasthan from 7th to 9th Feb., apply light and frequent irrigation /sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants from chilly winds, cover young fruit plants with straw/polythene sheets/gunny bags.

Jammu & Kashmir

- In Sub-Tropical Zone, carry out hoeing operation in late sown wheat crop. As weather is congenial for wilt and blight attack on chickpea crop, apply Bavistin/Carbendazim @ 3gm/litre of water. Carry out weeding and hoeing in onion, garlic fields.
- In Cold Arid Zone, plough fields to retain more moisture during the winter months. It will also help in uprooting of the weeds and decomposition of crop residues. Continue harvesting of Chinese cabbage, kale, spinach and lettuce in protected structures at weekly interval to avoid loss due to frost.
- In Intermediate Zone, there may be chance of soft rot/root rot in pulse crops. If symptoms observed, apply Mancozeb @ 2.5 g/litre of water and Ridomil MZ @ 2.5 g/litre of water alternately. Weather conditions are favourable for the attack of alternaria blight in mustard crop. If observed, apply Mancozeb @ 2.5 g/litre of water and ridomil MZ @ 2.5 g/litre of water alternately.
- In Valley Temperate Zone, provide drainage channels in *rabi* crop fields like wheat, oats, lentils, pea, brown sarson and chicken pea wherever there is probability of water accumulation; keep bunds and irrigation channels clean.

Himachal Pradesh

- In Mild Hills Sub Humid Zone, carry out pruning of pear trees so as to maintain balance between vegetative and reproductive growth.
- In High Hill Temperate Dry Zone, cover the small plants with grass to avoid cold paralysis. Remove and destroy disease-stricken branches.
- In Sub Montane and Sub Tropical Low Hills Zone, undertake planting of onion bulbs. Also undertake sowing of cole crops in polyhouses. Apply mulch in ginger and turmeric crops. Carry out intercultural operations in raddish, carrot, turnip, spinach, broccoli etc. Due to high relative humidity, infection of blight may occur in potato and tomato. If symptoms appear then spray Carbendazim @ 1 g/litre of water or Dithane-M @ 2g/ litre of water.
- In Mid Hills Sub-Humid Zone, undertake transplanting of onion nursery.

Punjab, Haryana, Delhi

- In Punjab, due to mainly dry weather irrigate the standing crops as per weather conditions and take special care of vegetables and newly planted orchard plants as cold days conditions exists. Also, protect young evergreen mango plants from cold weather by preparing thatches using straw, plastic, etc.
- In Western Plain Zone of Punjab, undertake sowing of spring maize. If symptoms of alternaria blight are noticed in mustard, spray Blitox or Indofil m 45 @ 250 gm in 100 liters of water/acre followed by second spray of Score 25 EC @ 100ml and third spary of Blitox or Indofil M 45 @ 25 gm in 100 liters of water / acre at 15 days intervals.
- In Undulating Zone of Punjab, regularly monitor the potato crop, if symptoms of late blight are observed,

spray Indofil M-45/Mass M45/Markzeb/Kavach @ 500-750g using 250-350 liters of water per acre at 7 days interval.

- In Central Plain Zone of Punjab, prevailing weather is favourable for spread and development of white rust, spray Ridomil Gold @ 250g in 100 litres of water per acre. If needed, repeat the spray after 20 days interval.
- In Western Zone of Haryana, due to possibility of dry weather, apply chemical spray in wheat, mustard, barley and chickpea as per the need of the crop after dew evaporation.
- In Eastern Zone of Haryana, due to favourable temperature undertake sowing of tomato crops in the nursery and transplanting of young seedlings of tomato in this week. Monitor pod borer in gram, install Pheromone trap @ 3-4 traps per acre, if flowering has reached 20-25%. “T” shaped bird perches in and around crop field to be installed for controlling insect population. In present weather, monitor constantly marigold crop, against inflorescence rotting disease. If symptoms are found, spray Bavistin @ 1 gram/litre water. In present weather condition monitor constantly wheat crop against rust disease. If symptoms of black, brown or yellow rust appears, spray Dithane M-45 @ 2.5 grams per litre of water should be done.
- In Delhi, continue transplanting of onion, tomato, cauliflower, cabbage, knolkhol and broccoli crops in raised bed. Undertake sowing of spinach, coriander and fenugreek. Undertake transplanting of chilli, tomato and brinjal. Monitor pod borer in the gram crop; install pheromone traps @ 3-4 traps per acre; if flowering has reached 10-15%, install “T” shaped bird perches in and around crop field for controlling insect population. In present weather condition monitor potato against attack of late blight, spray Captan 2 gram\ litre of water.

Uttar Pradesh

In East Uttar Pradesh,

- Undertake irrigation to the wheat and other standing crops as per need and top dressing of nitrogen fertilizer in wheat @ 30 kg/ha under optimum soil moisture condition. Undertake transplanting of brinjal in the field.
- Undertake sowing of lady finger, lobiya, Rajma, after fertilizer application of 75 kg nitrogen 60 kg phosphorus and 60 kg potash/ha.
- Undertake Intercropping in guava, and anola orchards by tomato, lady finger, chili and lobia.
- Apply 50 kg urea/ha. with light irrigation to seed producing crops like reddish, carrot and beat.
- To protect the mustard crop from white mildew disease spray Mancojeb 75 w.p. @ 2 kg. in 800 ltr water /ha.
- To protect the gram from pod borer infestation spray Manocrotophos 36 E.C. dissolving 750 ml in 1000 ltr water.

In West Uttar Pradesh,

- Undertake irrigation to the wheat and other standing crops as per need and top dressing of nitrogen fertilizer in wheat @ 30 kg/ha under optimum soil moisture condition. For Mustard crop undertake irrigation and plant protection measures as per requirement. Undertake sowing of bottle gourd and bitter gourd crops.
- Due to continuous cloudy sky, mustard crop is likely to show outbreak of aphid, Painted class and leaf mulch, hence apply Chlorpyriphos 20% EC 1.0 liter / ha or Monocrotophos 36% S.L. Make a slurry in 400 to 400 liters of water at the rate of 500ml / ha when spraying in the clear sky.
- There is a possibility of outbreaks of Pod borer insects in the gram crop, pea crop so for its prevent this, spraying Qunalphos 25 EC@ 2 liters per hectare in 500 to 600 liters of water in clear sky.
- Potato crop is likely to show past scorching disease, to control it, make a solution in macrozeb or Ridomil

(2.5 g / liter water) and spray it at intervals of 10 to 12 days in clear sky. Stop irrigation to standing **Potato** crop one month before harvest for proper maturation of tubers.

Uttarakhand

- In Bhabar and Tarai Zone, undertake field preparation for sowing of potato. Undertake harvesting of yellow mustard. Carry out weeding and hoeing in wheat crop. Carry out mulching in pumpkin for soil moisture conservation.
- In Sub Humid Sub Tropic Zone, undertake harvesting of carrot and potato crop.
- In Hill Zone, carry out weeding operation in wheat crop. Prepare nursery beds for sowing of tomato seeds in poly houses. Undertake preparation of nursery beds for sowing of citrus seeds.

Rajasthan

- In Arid Western Plain Zone, weather is congenial for attack of blight in cumin crop, stop irrigating crop and apply 2.0 gram Mancozeb per litre water, if condition sustains then repeat the spray at an interval of 15 days.
- In Semi Arid Eastern Plain Zone, garlic & onion crop is likely to be affected by thrips insect attack. This insect suck the sap of leaves and causes white blotching on leaves. To control this insect farmers are advised to spray Methyl Dematon 25 EC or Malathion 50 EC @ 1.0 ml per litre water.
- In Sub Humid Southern Plain and Aravali Hill Zone, nursery preparation should be done for chilli, tomato and brinjal crops in poly house. Prepare seedling of early cucurbitaceous crops in small polythene bags in poly houses.
- In Irrigated North Western Plain Zone, weather is congenial for aphid in mustard crop, spray Dimethoyat 30 E.C. @ 1 litre per hectare or Melathion 50 E.C. 1.2 litre per hectare or Thaiomethokxam 25 W.G. @ 200 gram per hectare.

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