



National Agromet Advisory Service Bulletin

Friday 25th January 2019
(For the period 25th to 30th January 2019)



Issued by
India Meteorological Department

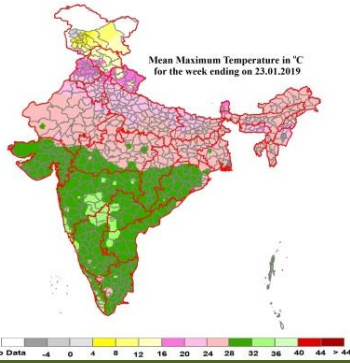
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District AAS Bulletin: <http://www.imdagrimet.gov.in/node/3545>

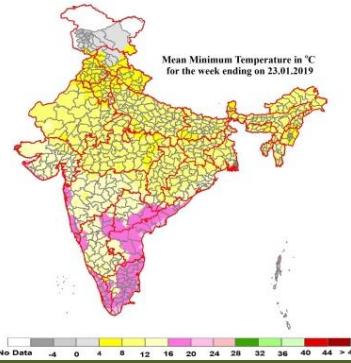
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 23.01.2019

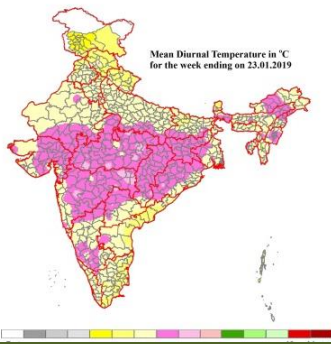
Mean Maximum Temperature (°C) for the week ending on 23.01.2019



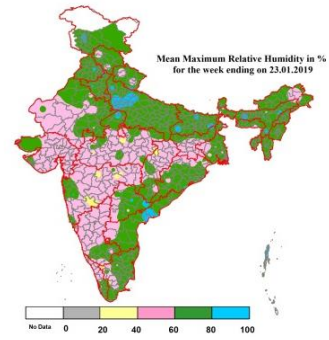
Mean Minimum Temperature (°C) for the week ending on 23.01.2019



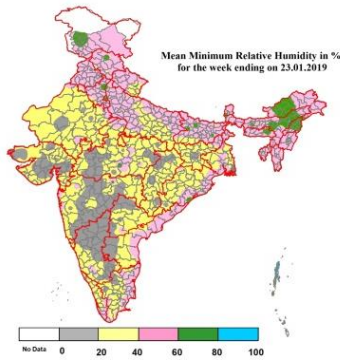
Mean Diurnal Temperature Variation (°C) for the week ending on 23.01.2019



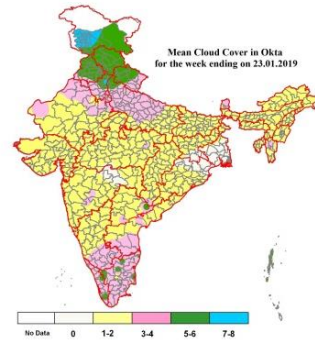
Mean Maximum Relative Humidity (%) for the week ending on 23.01.2019



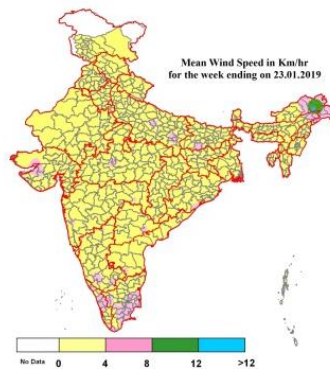
Mean Minimum Relative Humidity (%) for the week ending on 23.01.2019

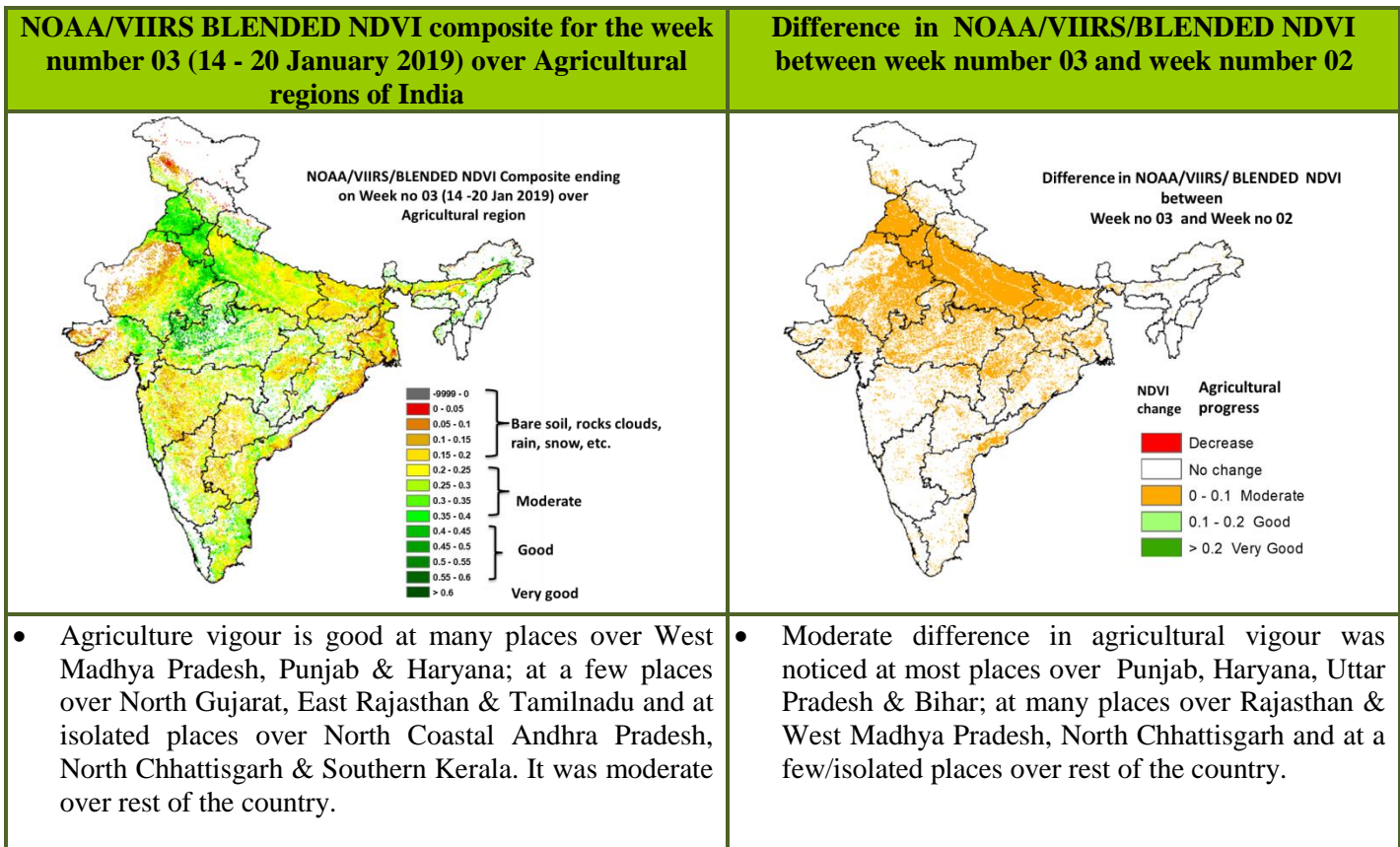


Mean Cloud Cover (okta) for the week ending on 23.01.2019

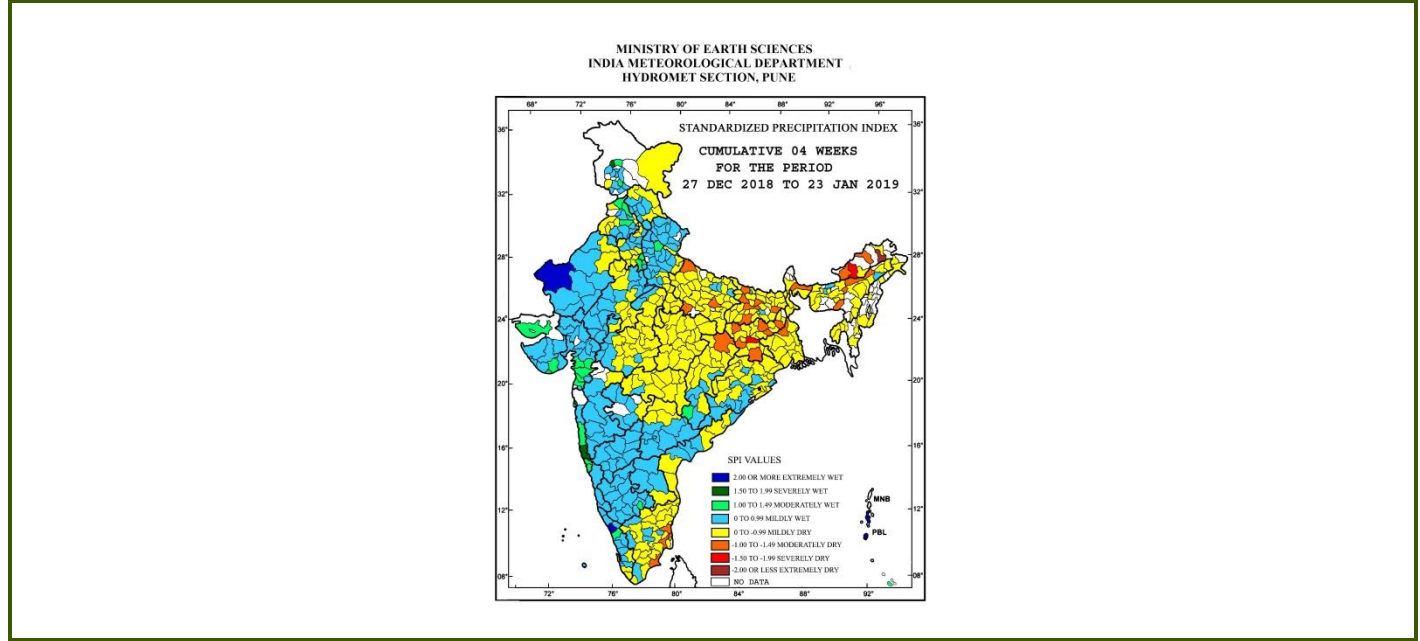


Mean Wind Speed (km/hr) for the week ending on 23.01.2019



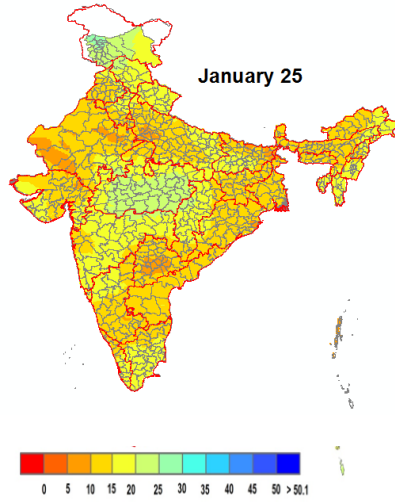


Standardised Precipitation Index Cumulative 4 weeks for the period 27th December 2018 to 23rd January 2019

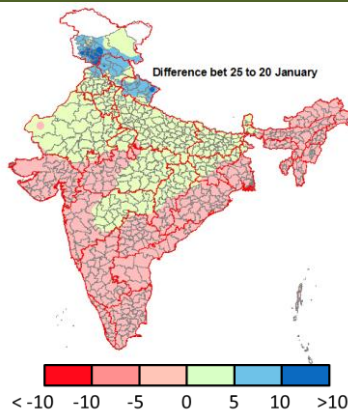
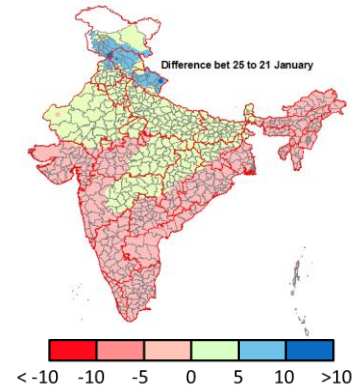
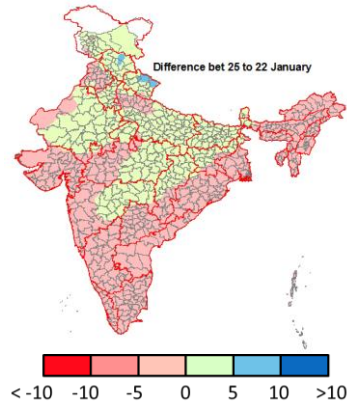
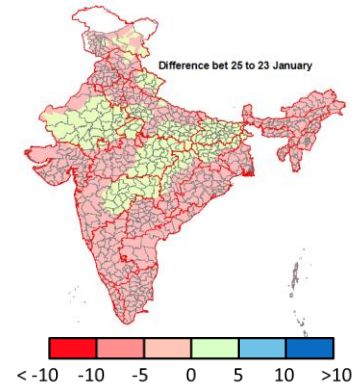
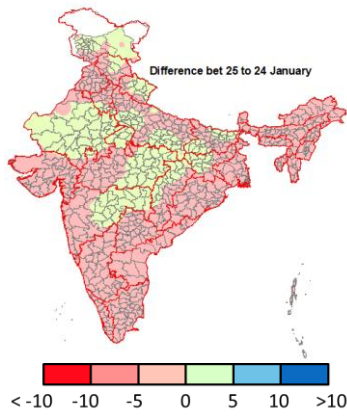


- Extremely/severely wet conditions experienced in North & Middle Andaman, South Andaman districts of Andaman & Nicobar Islands; Kupwara district of Jammu & Kashmir.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Ranchi district of Jharkhand.
- Moderately dry conditions experienced in few districts of Arunachal Pradesh; Jharkhand; Lakhimpur, Shonitpur, Morigaon districts of Assam; East Khasi Hills district of Meghalaya; Jalpaiguri, Birbhum districts of West Bengal; Bhagalpur, East Champaran, Gaya, Patna, Samastipur, Saran districts of Bihar; Banda, Jaunpur, Kheri districts of Uttar Pradesh; Surguja district of Chhattisgarh; Cuddalore, Nagapattinam, Ramanathapuram, Thanjavur districts of Tamil Nadu & Puducherry.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

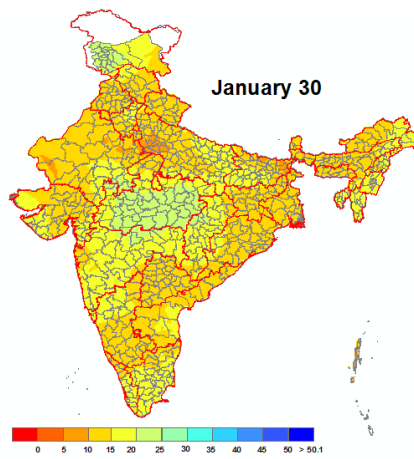
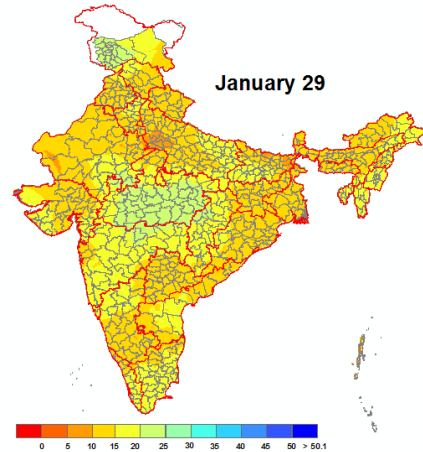
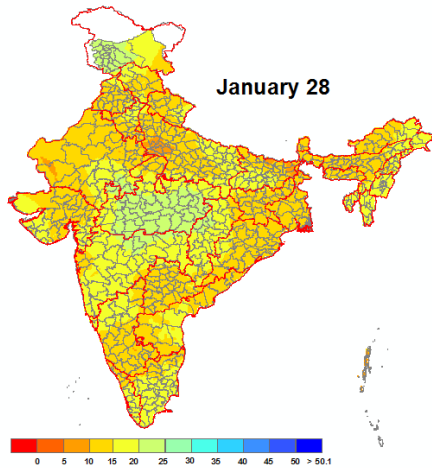
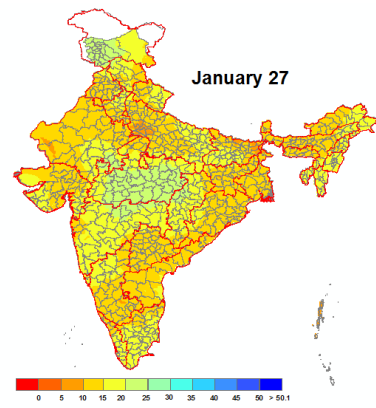
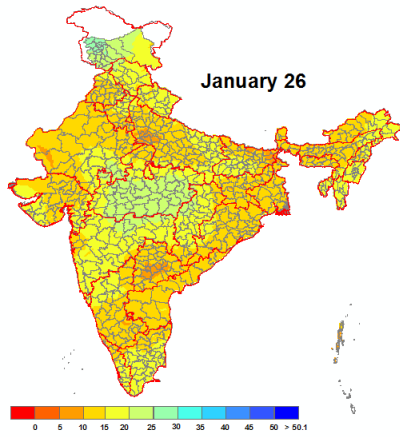
Daily Soil Moisture (mm) for 25th January 2019 (ending at 0830 IST) for 60 cm depth



Difference of Soil Moisture (mm) for 60 cm depth



**Forecasted Soil Moisture (mm) from 26th to 30th January 2019 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 30th January 2019

- Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- Shallow to moderate fog very likely at isolated places in the morning hours over northeastern states during next 5 days and over parts of coastal West Bengal, coastal Odisha and Coastal Andhra Pradesh during next 48 hours.
- Night minimum temperatures over Northwest India & adjoining central India and Gujarat State & north Maharashtra are very likely to fall by 2-3°C during next 3 days. No significant change in minimum temperatures likely over East India during next 3 days and fall by 2-3°C thereafter. No significant change likely over the rest of the country during next 3 days.

5 Day Rainfall Forecast (Mid-day) 25th January 2019

Met-Sub-Division	25-Jan Today	26Jan Sat	27Jan Sun	28Jan Mon	29Jan Tue
1. Andaman & Nicobar Islands	ISOL	DRY	DRY	ISOL	ISOL
2. Arunachal Pradesh	ISOL	SCT	ISOL	SCT	ISOL
3. Assam & Meghalaya	ISOL	ISOL	DRY	ISOL	ISOL
4. N. M. M. & T.	DRY	DRY	DRY	ISOL	ISOL
5. S.H. West Bengal & Sikkim	SCT	SCT	ISOL	ISOL	ISOL
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	ISOL
7. Odisha	ISOL	SCT	SCT	ISOL	DRY
8. Jharkhand	SCT	SCT	ISOL	ISOL	DRY
9. Bihar	FWS	SCT	ISOL	DRY	DRY
10. East Uttar Pradesh	FWS	ISOL	DRY	DRY	DRY
11. West Uttar Pradesh	SCT	DRY	DRY	DRY	DRY
12. Uttarakhand	FWS	ISOL	ISOL	DRY	DRY
13. Haryana, Chd & Delhi	ISOL	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	FWS	ISOL	DRY	DRY	DRY
16. Jammu & Kashmir	SCT	ISOL	DRY	DRY	ISOL
17. West Rajsthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	ISOL	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	FWS	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	DRY	DRY
24. Madhya Maharashtra	DRY	DRY	ISOL	DRY	DRY
25. Marathwada	ISOL	DRY	ISOL	DRY	DRY
26. Vidharbha	SCT	ISOL	DRY	DRY	DRY
27. Chhattisgarh	FWS	SCT	ISOL	DRY	DRY
28. Coastal Andhra Pradesh	DRY	SCT	SCT	ISOL	DRY
29. Telangana	SCT	SCT	ISOL	ISOL	DRY
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	DRY
31. Tamilnadu & Puduchery	ISOL	ISOL	ISOL	ISOL	DRY
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	ISOL	ISOL	ISOL	ISOL	DRY
34. South Interior Karnataka	DRY	ISOL	ISOL	ISOL	DRY
35. Kerala	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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- **25 January (Day 1):** Thunderstorm accompanied with hailstorm at isolated places very likely over East Madhya Pradesh, East Uttar Pradesh, Vidarbha, Bihar, interior Odisha, Jharkhand, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim and Telangana. Dense to very dense fog at isolated places very likely over Punjab and Dense fog at isolated places very likely over West Madhya Pradesh, Haryana, Chandigarh & Delhi, West Uttar Pradesh

and Rajasthan. Cold wave and ground frost conditions at isolated pockets very likely over Punjab. Squally wind speed reaching 40-50 kmph gusting to 60 kmph very likely over Equatorial Indian ocean and adjoining southeast Bay of Bengal. Fishermen are advised not to venture into these areas.

- **26 January (Day 2):** Thunderstorm accompanied with hailstorm at isolated places very likely over interior Odisha, Jharkhand, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Coastal Andhra Pradesh and Telangana. Dense to very dense fog at isolated places very likely over Punjab and Dense fog at a few places over West Rajasthan and at isolated places over West Madhya Pradesh, Haryana, Chandigarh & Delhi, West Uttar Pradesh, north Chhattisgarh and East Rajasthan. Cold wave and ground frost conditions at isolated pockets very likely over Punjab.
- **27 January (Day 3):** Thunderstorm accompanied with hailstorm at isolated places very likely over Coastal Andhra Pradesh. Dense fog at isolated places very likely over West Uttar Pradesh, East Madhya Pradesh and north Chhattisgarh.
- **28 January (Day 4):** No weather warning.
- **29 January (Day 5):** No weather warning.

Weather Outlook for subsequent 2 days from 30th January to 1st February 2019

- Fairly widespread rain/snow likely over western Himalayan region and isolated to scattered rain/thundershowers over plains of northwest India.
- Isolated rainfall is likely over Andaman & Nicobar Islands and south peninsula.
- Dry weather likely over the rest of the country.

Salient Advisories

- As squally wind speed reaching 40-50 kmph gusting to 60 kmph very likely over Equatorial Indian ocean and adjoining **Southeast Bay of Bengal** on 25th January, fishermen are advised not to venture into these areas.
- As thunderstorm accompanied with hailstorm at isolated places very likely over **Telangana, interior Odisha, Jharkhand, Sub-Himalayan West Bengal & Sikkim** and over **Chhattisgarh** on 25th and 26th, over **Bihar, East Madhya Pradesh** and **Vidarbha** on 25th, over **Coastal Andhra Pradesh** on 26th and 27th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor during thunderstorm/ hailstorm period.
- As cold wave and ground frost conditions at isolated pockets very likely over **Punjab** on 25th and 26th January, apply light and frequent irrigation/sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants and vegetables from cold winds, cover young fruit plants with Sarkanda/rice straw /polythene sheets/gunny bags. Provide frequent light irrigation in rice nursery to avoid low temperature injury to seedlings.
- As dense to very dense fog at isolated places very likely over **Punjab** on 25th and 26th, dense fog at a few places over **West Rajasthan** on 26th, dense fog at isolated places very likely over **Haryana, Chandigarh & Delhi** on 25th and 26th, over **West Uttar Pradesh** from 25th to 27th, over **Rajasthan** on 25th and over **East Rajasthan** on 26th, over **West Madhya Pradesh** on 25th and 26th, over **East Madhya Pradesh** on 27th, over **north Chhattisgarh** on 26th and 27th January, monitor the standing crops for incidence and spread of pest and diseases, potato, tomato and onion crops for early/late blight disease. If symptoms are noticed, undertake appropriate plant protection measures.
- As rain/snow likely at many places over **Uttarakhand** and **Himachal Pradesh** on 25th, rain/thundershowers at many places likely over **East Madhya Pradesh, Chhattisgarh, Bihar** and **East Uttar Pradesh** on 25th

January, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.

- As cold wave conditions at isolated places along with ground frost conditions at isolated places very likely over **Punjab** on 25th and 26th January, keep animals inside the sheds during night and provide dry bedding to protect them from cold. Increase protein level and minerals in the feed concentrate to keep the animals healthy to cope up with the cold condition. In Poultry, keep the chicks warm by providing artificial light in the poultry sheds.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - As thunderstorm accompanied with hailstorm at isolated places very likely over Telangana on 25th and 26th, over Coastal Andhra Pradesh on 26th and 27th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor.
 - As squally wind speed reaching 40-50 kmph gusting to 60 kmph very likely over Equatorial Indian ocean and adjoining southeast Bay of Bengal on 25th January, fishermen are advised not to venture into these areas.
 - **Kerala:**
 - In pepper gardens, inter cultural operations can be done without causing injury to the plants. Manuring of pepper vines may be done in basins taken around the plant, 10-15 cm deep and 30-40 cm radius, depending upon the growth of the plants. Provide enough sunlight on the vines by pruning shade trees. Spray pseudomonas 10-15 g/litre of water.
 - Short duration vegetable crops like Amaranthus, Cow pea etc. can be cultivated in the interspaces of newly planted banana. Apply first dose of fertilizers (50:65:65g NPK per plant). Spray 1% Bordeaux mixture as a prophylactic measure to control leaf spot in banana.
 - In Problem Area Zone, prevailing weather condition are highly favourable for the incidence of whitefly attack in coconut, spray organic emulsion Nimbicidine @ 2ml/lit for the effective control of white fly pest.
 - Adopt phyto-sanitary measures in the banana fields. Remove all the diseased and rotten leaves. Suckers removed after harvesting should be stored after cleaning. To improve the disease resistance, drench the basin with Pseudomonas @ 20g per litre of water. Apply lime 0.5 kg/pit 10-15days before planting Spray Sampoorna KAU multi mix @10g/litre in areas where micronutrient availability is low(banana at 2 month stage). Apply fertilizers @ 250g Urea, 285g Rock phosphate, 350g Potash, 500 g MgSO₄ and 2 kg lime per plant.
 - In Southern Zone, there is a chance of leaf rot in coconut, cut & remove affected leaves, spray 1% Bordeaux mixture / 2% Pseudomonas fluorescens.
 - **Andhra Pradesh:**
 - In South Coastal Andhra Pradesh and Rayalaseema, weather is congenial for incidence of sucking pest on groundnut. Spray Dimethoate @ 2 ml or Monocrotophos @ 1.6 ml per litre of water on a non rainy day.
 - **Telangana:**
 - In Telangana, prevailing weather conditions are congenial for incidence of hoppers and scales in mango. Control the hoppers by spraying dichlorvos @ 1 ml per liter + Neem oil @ 2.5 ml per liter of water and scales by spraying acephate @ 2.5g per liter of water. Also weather conditions are congenial for the incidence of Downy Mildew in grapes. Take-up spraying of Copper Hydroxide @ 1.75 g or Fosetyl @ 2.25 g or Azoxystrobin @ 0.5 ml or Kresoximmethyl @ 0.7 ml per liter of water alternately on a non rainy day and repeat at 5-7 days interval between 25-55 days after pruning.
 - **Tamil Nadu:**
 - In Western Zone, in view of expected wind speed of 6 – 8 km/hour, prop the opposite rows of sugarcane to avoid lodging. Irrigation to *Samba* rice crop may be stopped to facilitate harvesting where the crop is at maturity stage. Since low temperature is expected, the sowing of maize may be undertaken in the first week of February to get higher yields.
 - In North Eastern Zone, undertake sowing of fallow pulses, black gram and also green gram. Also, as a prophylactic measure to manage diseases in rice; foliar application of Pseudomonas fluorescence @ 0.5% (5 g /ml per litre) may be done commencing from 45 DAT with 10 days interval for 3 times.
 - In High Altitude Hilly Zone, to protect the horticulture crops from low temperature, mulching technique can

be done.

- In High Rainfall Zone, to control sigatoka leaf spot in banana, spraying of Propiconazole @ 1 ml /litre + teepol @ 0.5 ml/litre of water is advised.
- **Karnataka:**
- In South Interior Karnataka, continue nursery preparation for summer rice crop and planting of sugarcane. Continue harvesting of matured red gram crop. In Coastal Karnataka, spray Neem oil @ 3 ml/ litre in small trees of coconut against whitefly.
- In North Interior Karnataka, for the management of tur podfly in pigeon pea, spray the crop with Thiamethoxam @ 0.5 g or Imidacloprid @ 0.5 ml/litre of water.
- In South Interior Karnataka, to manage sucking pests and powdery mildew in mango, spray Carbaryl @ 4 g or Melathion @ 2 ml and wettable Sulphur @ 3 g or Carbendizeme @ 2 g dissolved in /liter of water. Repeat the same spray, if necessary at an interval of 15 days. As a precautionary measure, spray Carbendizim + Mancozeb (SAAF) @ 2.0 g/litre of water followed by (after 15 days) Chlorothalanyl @ 2 g/litre of water against leaf spot in banana.
- **Animal Husbandry**
- In Karnataka, vaccinate the livestock for Black Quarter and foot and mouth diseases. Maintain the optimum room temperature in sericulture, poultry and dairy unit by providing electric bulb. Ensure proper cross ventilation to avoid Ammonia accumulation in poultry.
- In Tamilnadu, due to chillness, there are chances of reduced weight of the livestock, farmers could offer some extra concentrate to the maintaining body weight, provide good lighting, ventilation and provide dry bedding to protect the young animals from chillness. Night temperature is below 22°C in Western Zone of Tamilnadu, hence, poultry farmers are advised to protect the birds by hanging jute bags in the side walls of the poultry shed. In Southern Zone, farmers are advised to prevent chick from Ranikeht disease, vaccinate 6 Week old chicks and RDVK vaccination confers immunity for 1 to 3 years.

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

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - **Arunachal Pradesh**
 - Undertake sowing early/local maize and cowpea.
 - There is chance of attack of white rust/downy mildew disease in mustard at flowering/pod formation stage. Spray Bavistin @ 1 g per litre of water. In present weather condition there is high probability of attack of late blight in potato. Spray Mancozeb @ 2 g/4 litres of water.
 - **Assam:**
 - Complete transplanting of the *Boro* rice in the main field at the earliest. Apply irrigation in the *boro* rice fields to maintain standing water of 5±2 cm depth. Gap filling may be done within 7 to 10 days after transplanting. Continue sowing of okra. Undertake sowing of ridge gourd and sponge gourd.
 - Prevailing weather (temperature and humidity) is favourable for development of late blight disease in potato and tomato. Therefore farmers are advised to spray the crop with Mancozeb @ 0.25% (25 g in 10 litres of water) as prophylactic measures against late blight. Farmers are advised to go for earthing up operation in potato at stolon and tuber formation stages. If there is heavy infestation of weed, go for one or two intercultural operation.
 - In Hill Zone of Assam, in view of falling both maximum and minimum temperature, farmers are advised for light irrigation at evening time to protect the crop from probable frost. Spray Chlorpyrifos 20 EC or Quinalphos 25 EC (70-80 ml per 70-80 litre of water per bigha) is advocated when moderate infestation of stem borer is observed in rice.
 - Due to low temperature coupled with heavy fog, there is chance of attack of saw fly and aphid in the field of rapeseed/mustard at vegetative stage. Spray Chlorpyrifos 20 EC or Dimethoate 30 EC or Ragor @ 2 ml per litre of water. Farmers are advised not to spray any insecticide during the flowering stage, which may kill the pollinated insects lead to reduce the yield. Due to favourable weather, there is chance of infestation of pod borer in pea crop. To control this pest spray Dichlorvos 100EC @ 0.5ml/litre of water.
 - In Hill Zone of Assam, monitor onion crop against infection of thrips disease. Spray Imidacloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 gram /litre).
 - Due to favourable weather condition, there is chance of incidence of wilt disease in the pulse crops such as chick pea, lentil etc. It is advised to drench the soil with Bavistin @ 1ml/litre of water.
 - **Meghalaya:**
 - Continue nursery raising of tomato and capsicum and harvesting of cole crops (cabbage, cauliflower, broccoli), ginger and turmeric.

- **Manipur:**
 - Undertake nursery raising of pre- *kharif* rice. If flowering in rapeseed/ mustard has started, then four bee boxes (colonies) may be kept for one hectare crop area. Avoid spray of insecticides in such area.
 - Spray Imidachloprid @ 0.25 ml/ litre of water to the infected patches in rapeseed/ mustard against pod borer. Spray Pyrethrum @ 2ml/ litre of water against aphid. For organic control against aphid, sprays that consist of Azadirachtin or neem oil.
- **Mizoram:**
 - Continue harvesting of pulses.
 - Apply Carbaryl 0.2 per cent or Malathion 0.15 per cent suspension containing sugar or jaggery @10 g/litre at fortnightly intervals on citrus fruits at flowering and fruit initiation stage.
- **Tripura:**
 - Continue transplanting of *Boro* rice. Transplanting should be done @ 2 3 seedlings per hill at a spacing of 20 X 15 cm and a thin layer of water (1 - 2 cm) should be maintained in the main field up to 10 days after transplanting.
 - Maintain moisture in the field of toria, sesame and lentil through irrigation. Mulching is essential to retain the moisture for longer period with the locally available material.
 - There is chance of attack of leaf blight in maize field. Spray Matalaxyl 1000 g / Mancozeb 2 g/litre at 10 days interval after first appearance of the disease. Also spray Mancozeb (Indofil M-45) @ 2.5gm per litre of water against fungal diseases like blight in the potato field at least twice at an interval of 10 days.
 - There is chance of fungal diseases like blight in potato. Spray Mancozeb (Indofil M-45) @ 2.5 g per litre of water in the potato field at least twice at an interval of 10 days.
- **Nagaland:**
 - Continue harvesting of cabbage/ winter vegetables timely as it may split if not harvested in time.
 - Weeding should be done frequently in Assam lemon field and daily monitoring should be done for aphid.
- **Animal Husbandry**
 - In Central Bramhaputra Valley Zone of Assam, in winter protect poultry birds from cold by using electric bulb (300Watt for 100 sq.feet) to prevent Coryza disease. In case of lacrimation and swelling of the head, treat the fowl with Sulphur drugs.
 - In North Eastern States, to protect poultry birds from cold winds, gunny bags or plastic sheath curtains should be installed on the side walls of shed house and bedding material (litter) should be increased by six inches. Care should be taken not to restrict ventilation. Undertake vaccination against ranikhet disease in poultry during this period. Dew appearing grasses/herbs should not be given to goat/sheep as fodder.
- **Fishery**
 - To protect the fish population against various bacterial diseases in winter season.

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

- **Realised Rainfall:** Rainfall occurred in Nicobar and South Andaman districts of Andaman & Nicobar Islands during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As thunderstorm accompanied with hailstorm at isolated places very likely over Bihar on 25th, over interior Odisha, Jharkhand, Sub-Himalayan West Bengal & Sikkim on 25th and 26th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor.
 - **Odisha:**
 - Paddy crop is at sowing to three week stage in nursery. Prepare the main field for transplanting three week seedlings. Apply well rotten FYM @ 2 ton before final land preparation and 25kg DAP with 20kg MOP per acre in short duration variety and 35kg DAP and 25 kg MOP per acre in medium duration variety before transplanting. Transplant summer rice within January for lower stem borer infestation, lower Irrigation requirement, protection from the hail storm during April and sufficient time available for kharif crop. Take up harvesting of mature tomato, cabbage and cauliflower. Current weather is favourable for sowing of sunflower utilizing stored soil moisture. For better germination, soak the seeds in water for 12 hours before sowing. Irrigate wheat crop at crown root initiation (CRI) stage. Arhar crop is at seed maturity to harvesting stage. Continue harvesting the matured arhar pods and dry it under the sun for 3-4 days.
 - Green gram and black gram crops are at vegetative stage to flowering stage (four to six week) stage. Spray 60ml Imidacloprid 17.8% SL or 50ml Thiomethaxome 25%WG mixing with 200 litres of water per acre crop area for aphids and spray wettable Sulphur 600g/acre @ 3g/litre water for powdery mildew. In case of Tikka disease in ground nut, carry out dusting with Sulphur or apply 400g Chlorothalonil 75WP by mixing in 200lt water and spray over 1 acre thrice at weekly interval. Fruit borer may infest cabbage, cauliflower and tomato. Spray Fipronil 5% SL 400 ml or Emamectin Benzoate 5% SG 80 g or Indoxacarb 14.5% SC 200 ml mixing in

200 litres of water per acre crop. Undertake plant protection measures on a non rainy day.

▪ **Bihar:**

- As rain/thundershowers at many places likely over Bihar on 25th January, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- Stop irrigation to wheat and maize crops as rainfall is forecast for this week. Do not provide any irrigations to mustard crop at flowering stage as it may cause flower drop. Complete the transplanting of rabi onion at the earliest. Carry out digging out operation in potato. Take up intercultural operations in vegetable crops.
- Mustard crop at flowering stage is vulnerable to the attack of aphids. To control aphids, spray Monocrotophos @ 2 ml or Imidachloprid @ 1 ml per litre of water. For monitoring of pod borer in gram crop, install Pheromone traps @ 3-4 traps per acre, if flowering has reached 10-15% and place “T” shaped bird perches in and around crop field for controlling insect population. If infestation is observed in potato crop field, spray Chlorpyrifos 20 EC @ 2.5-3 ml per liter of water is advised. Undertake plant protection measures after current spells of rain.

▪ **Jharkhand:**

- Farmers wishing to cultivate summer rice may sow the seeds immediately after preparation of the nursery bed. Before sowing, seed must be treated with Bavistin + Thiram (1 gram + 1 gram) per kg of seeds. Harvest the timely sown rapeseed crop when siliqua turns into bright yellow colour. Sun-dry the harvested crop for 2-3 days before threshing. Prepare field for transplanting cucurbits vegetable like long gourd, round gourd, bitter guard, sponge gourd, cucumber, water melon and musk melon. Early to medium duration variety of potato matures within 80-120 days. Stop irrigation to such crops and remove the upper leaves/parts (Dehauling) of the crop, before 7 – 10 days of digging.
- Timely sown pulse crops like pea, lentil, gram etc. are at pod formation stage. If the crops are attacked by pod borer insect, spray insecticide Monocrotophos @ 1 ml per litre of water. However, if the farmers are interested to sell green pods of gram / pea, spray bio-insecticide like Delfin @ 2 gm per liter of water. It is the time of bearing flowers in mango and litchi tree. Spray insecticide like Monocrotophos 36 E.C. @ 2 ml per litre of water and mix the fungicide Bavistin in the solution @ 1 gm per litre of solution as a preventive measure against various disease and insects. For vigorous flowering and fruiting PGR Meeraculan @ 1 ml per liter of solution may be added in the solution. Undertake plant protection measures on a non rainy day.

▪ **West Bengal:**

- In Sub-Himalayan West Bengal, do not provide irrigation to mustard, garden pea, cole crops and potato crops as rainfall is forecasted. Carry out pruning of dry and overcrowded branches of Mandarin orange trees. Harvest mature cabbage, cauliflower and other cole crops.
- In Gangetic West Bengal, prepare main field and transplant 35 days old paddy seedlings. Prepare land out collect seeds for sowing sunflower. Give light irrigation to potato and wheat crops. Carry out thinning in mustard crop and maintain plant spacing at 12-15 cm. Carry out intercultural operations like spading and weeding in vegetable crops.
- In Sub-Himalayan West Bengal, for management of sucking pest in vegetables crops, spray Dadece @ 1.5g/liter of water with sticker @ 0.5ml/litre. For management of mustard aphid sprays Dinoteforun 20% S G @ 0.5gram/litre of water. To avoid browning and hollow heart in cabbage and cauliflower crops, apply Borax 20% @ 2g/litre of water. To control aphid in Lab bean crop, apply ash in case of lower infestation and Thiomethoxam 0.3 SG @ 1g/3 litres of water in case of heavy infestation. Undertake plant protection measures on a non rainy day.
- In Gangetic West Bengal, spray Acephate-75% Wettable Powder @ 0.75g/litre of water for mites and thrips in potato. Apply a mixture of Thiamethoxin and Mancozeb @ 3g/liter of water or a mixture of Diomithomorf and Mancozeb @ 3g/litre of water for leaf blight in potato at tuber formation stage.

▪ **Andaman & Nicobar Islands:**

- In Andaman Islands, dip seedlings of chilly in 1 % Trichoderma solution for one hour before transplanting to the main field for management of diseases. Do weeding and thinning of densely sown plants of radish in the vegetable field.
- In Nicobar Islands, make basin around the coconut tree and mulch with crop residue.

• **Animal Husbandry**

- In Bihar, falling trend of temperatures may adversely affect the milk production of milch animals. Farmers are advised to give protein enriched diets to the animals. Keep Animals and new born chicks in warm places at night.
- In Odisha, clean the shed and deworm the animals. Give them mineral mixture along with salt regularly and provide wheat grains, jaggery etc. @ 10%-20% in the daily ration during winter season to meet the energy requirement of the animals. Poultry birds are prone to respiratory infection and CRD (Chronic Respiratory Diseases). Provide the warm housing and good ventilation.
- In Jharkhand, vaccinate cattle against FMD and pigs against swine fever. To treat Fowl Cholera and pullorum disease poultry birds should be given Oxytetracycline @ 1gm /litre water.

- In West Bengal, protect livestock against FMD and poultry birds against Ranikhet disease.
- In Andaman & Nicobar Islands, provide electrolytes 1% with drinking water to the piglets during sunny times to prevent heat stress.
- **Fisheries**
- In Odisha, Pisciculture farm ponds should be regularly cleaned. In winters, reduce the amount of food for fishes and provide them at 2-3PM.
In West Bengal, apply Lime (Calcium Carbonate) depending on water pH. Lime should be broadcasted in split doses. Do health check-up of fish by periodical netting. Diseased fish should be isolated from main stock and should be treated with potassium permanganate and sodium chloride based on the severity of infestation. Keep the pH of pond water between 7.5-8.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Advisories:**
 - **Maharashtra:**
 - As thunderstorm accompanied with hailstorm at isolated places very likely over Vidarbha on 25th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor.
 - In South Konkan, maintain water level of 5 cm in *rabi* rice. To control incidence of leaf folder on rice crop, spray Monocrotophos 12 ml/10 litres of water. Apply light irrigation to groundnut. Also carry out earthing operation in 1 month old crop. In case of non-availability of residual moisture in the field of *Kulith* crop, apply irrigation at flowering and pod formation stage. In North Konkan, maintain water level of 5 cm in *rabi* rice. As wind speed is expected around 10-16 Km/hr, provide support to newly planted mango grafts; also carry out earthing up operation in vegetables.
 - In Madhya Maharashtra, apply irrigation to standing crops like gram, wheat, orchards and vegetables. undertake preparatory tillage operations for summer groundnut. Apply irrigation to sorghum (90-95 days old) and wheat (80 to 85 days old using sprinkler irrigation). Continue sowing of summer groundnut
 - In Marathwada, apply irrigation to orchards and vegetables.
 - In West Vidarbha, in wheat (18-20 days old), undertake top dressing of nitrogen @ 40 kg/ha with urea. Undertake sowing of summer groundnut (TAG 24, SB-11). Broad bed furrow (BBF) sowing with sprinkler irrigation is advisable for the crop. In East Vidarbha, undertake sowing of summer groundnut. Continue transplanting of 22-25 days old summer rice seedlings.
 - In Vidarbha, to control aphids in wheat at tillering stage, spray Thiamethoxam 25 WG 50 g or Diamethoate 30 EC @ 750 ml/500 litres of water per hectare.
 - In Madhya Maharashtra, for the control of thrips and blight in onion, spray Fipronil 5 SC @ 15 ml or Profenophos 50 EC @ 10 ml or Carbosulphan 25 EC @ 15 ml + Mancozeb @ 25 g or Carbendazim @ 10 g or Tebuconazol @ 10 ml + Sticker @ 10 ml per 10 liters of water using knapsack spray pump.
 - **Gujarat:**
 - In South Gujarat, continue nursery sowing of summer rice and planting of sugarcane crop. Apply irrigation in gram (pod formation stage). Two sprays of Potassium Nitrate 1.5% at 15 days interval in mango is advised to get early flowering.
 - In North Gujarat, continue picking of matured clusters of castor. Apply irrigation in wheat (milking stage) and castor crops. Carry out the intercultural operations in mustard, castor crops.
 - In Saurashtra & Kutch, apply irrigation to wheat (milky stage), garlic and chick pea (pod formation stage) crops. Continue harvesting of pigeon pea and picking of matured clusters of castor.
 - In South Gujarat, spray Fenvalerate @ 20 ml in 10 liters of water in chickpea at the stage of 50% flowering and 50% pod formation for effective control of pod borer.
 - In Middle Gujarat, if infestation of leaf curl virus is noticed in potato, eradicate diseased plant with tubers; apply organic fertilizers. Spray Dimethoate @ 10 ml /10 litres of water for control of aphid.
 - In North Gujarat, weather is congenial for outbreak of late blight in the potato crop; for effective control, spray Metalaxil MZ (Redomel gold) @ 20 g/10 liters of water.
- **Animal Husbandry**
- In Gujarat, protect the animals from cold wind; keep them inside the shed at night time. Provide adlib warm water to lactating animals. In poultry, keep the chicks warm by providing artificial light in the poultry sheds and use curtain at the windows. Give balanced feed to the poultry birds.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Weather remained mainly dry/dry over the region during the week.
- **Advisories:**

- As rain/thundershowers at many places likely over East Madhya Pradesh and Chhattisgarh on 25th January, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- As dense fog at isolated places very likely over West Madhya Pradesh on 25th and 26th, over East Madhya Pradesh on 27th, over north Chhattisgarh on 26th and 27th January, monitor the standing crops for incidence and spread of pest and diseases, potato, tomato and onion crops for early/late blight disease. If symptoms are noticed, undertake appropriate plant protection measures.
- As thunderstorm accompanied with hailstorm at isolated places very likely over East Madhya Pradesh on 25th, over Chhattisgarh on 25th and 26th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor.
- **Madhya Pradesh:**
 - In East Madhya Pradesh, undertake weeding in late sown wheat followed by application of urea after current spells of rain. Continue earthing up and application of nitrogenous fertilizer in potato.
 - In West Madhya Pradesh, apply irrigation in wheat, gram, mustard, garlic and vegetables. Continue harvesting of matured pods of green pea. In Jhabua Hill Zone, continue harvesting of green chilli, okra, beans, cucurbits and fenugreek.
 - In Satpura Plateau Zone, present weather conditions are suitable for the infestation of aphids in mustard, spray Imidacloprid @ 0.5 ml/litre of water after current spells of rain.
 - In Jhabua Hill Zone, to control attack of sucking pest in mustard, spray Thiamethoxam or Acetamiprid @ 0.35-0.45 g/litre of water.
 - In Vindhya Plateau Zone, there is possibility of outbreak of thrips due to cloudy weather in the garlic crop. For control, spray Chloropyriphus 20 EC @ 1.5 litres per hectare.
- **Chhattisgarh:**
 - Undertake harvesting of timely sown early varieties of mustard when siliqua turns into bright yellow colour and digging up of matured tubers of early and medium varieties of potato after current spells of rain. Continue seedling preparation of cucurbits in polythene bags. Undertake planting of spring sugarcane.
 - In Bastar Plateau Zone, continue field preparation for planting of sugarcane.
 - In Plain Zone, if Yellow Vein Mosaic (YVM) disease is observed in pulses then destroy the affected plants and spray Metasystox or Rogor insecticide @ 1 ml/litre of water after current spells of rain.
 - In Bastar Plateau Zone, for the control of aphids in mustard crop, spray Methyl Demeton or Dimethioate @ 0.05% at evening hours after current spells of rain.
- **Animal Husbandry**
 - In Madhya Pradesh, newly borne calves should be protected from cold. For this floor should be covered with paddy straw litter which provides a thermal mulch. Feed the cattle with dried fodder chaff cutting mixed with legume fodder such as Berseem, Lucerne etc.
 - In Chhattisgarh, provide concentrate feed to cattle mixed with dry and green fodder and ensure for feeding enriched diet having protein, carbohydrate, fat, vitamins etc.

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

- **Realised Rainfall:** Rainfall/snow occurred in all districts of Jammu & Kashmir except Jammu and Ladakh(Leh), all districts of Himachal Pradesh except Lahaul & Spiti, all districts of Uttarakhand except Udham Singh Nagar, rainfall occurred in Fatehgarh Saheb, Gurdaspur, Hoshiarpur, Jalandhar, Kapurthala, Ludhiana, Nawanshahar, Patiala, Ropar districts of Punjab, Faridabad, Katihal, Karnal, Mewat, Yamunanagar districts of Haryana, New Delhi, North Delhi, North East Delhi, South Delhi, South West Delhi districts of Delhi, Bijnor, G.B. Nagar, Ghaziabad, Meerut, Moradabad and Saharanpur districts of West Uttar Pradesh during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/snow likely at many places over Uttarakhand and Himachal Pradesh on 25th, rain/thundershowers at many places over East Uttar Pradesh on 25th January, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - As dense to very dense fog at isolated places very likely over Punjab on 25th and 26th, dense fog at a few places over West Rajasthan on 26th, dense fog at isolated places very likely over Haryana, Chandigarh & Delhi on 25th and 26th, over West Uttar Pradesh from 25th to 27th, over Rajasthan on 25th and over East Rajasthan on 26th January, monitor the standing crops for incidence and spread of pest and diseases, potato, tomato and onion crops for early/late blight disease. If symptoms are noticed, undertake appropriate plant protection measures.
- **Jammu & Kashmir:**
 - In Sub Tropical Zone, drain out excess water from the wheat, mustard and vegetable fields under water

stagnation condition. As rainfall is expected, postpone application of plant protection measures against insect, pest and diseases in mustard and gobi sarson.

- In Intermediate Zone, as there is possibility of light to moderate rain, farmers are advised to postpone all intercultural operations as well as fertilizers and pesticide applications in pulses and wheat fields.
- Weather is congenial for the infestation of yellow rust in wheat crop. If observed, apply Propiconazole (Tilt) 25 EC @ 0.1 % (1ml/litre of water) on a non rainy day.
- Weather conditions are favourable for the attack of alternaria blight in mustard crop. If observed, spray Mancozeb @ 2.5 g/litre of water and Ridomil MZ @ 2.5 g/litre of water alternately on a non rainy day.
- In Valley Temperate Zone, provide drainage channels in vegetable fields to avoid water logging.

▪ **Uttarakhand:**

- In Bhabar and Tarai Zone, continue weeding and hoeing pulses after current spells of rain. Continue sowing of fruit crops like-apple, pear, plum, wall nut etc.
- In Hill Zone, install beekeeping box in mustard field to enhance pollination. To save the young fruit plants from frost, it should be covered with the plastic sheet with proper circulation of wind and light.
- In Sub-Humid Sub-Tropic Zone, due to possibility of rainfall, postpone irrigation in timely sown wheat.
- In present weather conditions, monitor the mustard crop constantly for aphids. In early stage cut and destroy the infested part of the plant.

▪ **Himachal Pradesh:**

- Carry out thinning and weeding operations in timely sown mustard crop after current spells of rain.
- In Sub-Montane and Low Hills Sub-Tropical Zone, if symptoms of yellow rust appears in the wheat crop in the form of yellow powder/stripes on the leaves, then spray fungicides tilt (Propiconazole) 25 EC/folicure (Tebuconazole) 25 EC/bayletan 25 WP @ 0.1% i.e. 30ml or 30 g per 30 litres of water per kanal after current spells of rain and repeat the spray after 15 days interval. To control pod borer in the gram crop, install Pheromone trap @ 3-4 traps per acre if flowering has reached 10-15%. Install “T” shaped bird perches in and around crop field to control the insect population.
- Weather is congenial for incidence of aphids in mustard crop. In early stage cut and destroy the infested part of the plant. If insect population reaches above ETL than spray Rogar or Quinalphos @ 2.0 ml/litre water. To control attack of white rust on mustard crop, spray Dithane-M-45 @ 2 g/ litre of water. Undertake plant protection measures after after current spells of rain.

▪ **Punjab, Haryana & Delhi:**

- As cold wave and ground frost conditions at isolated pockets very likely over Punjab on 25th and 26th January, apply light and frequent irrigation/sprinkler irrigation in the evening to protect the crops from cold injury. To protect young fruit plants from cold winds, cover young fruit plants with straw/polythene sheets/gunny bags.
- In Punjab, to protect young fruit plants from cold, cover young fruit plants/vegetables with Sarkanda/rice straw/polythene sheets/gunny bags. Continue thinning and weeding in late sown mustard. Continue sowing of sunflower. Complete transplanting of tomato seedlings. Undertake sowing of long duration varieties of sunflower. Complete sowing of spring potato in the 2nd fortnight of this month.
- In Haryana, continue transplanting of matured seedlings of tomato, cauliflower, & cabbage in prepared field.
- In Delhi, continue planting of winter sugarcane at optimum soil moisture for better seed germination. Continue transplanting of onion. Continue transplanting of cauliflower, cabbage, broccoli and tomato. Continue sowing of spinach, coriander, fenugreek. Continue preparation of seedling of early cucurbitaceous crops in small polythene bags in poly houses.
- In Punjab, check aphid damage in mustard and if aphid population is above ETL, spray 40 g Actara 25 WG or 400 ml of Rogor 30 EC or 600 ml Dursban/Coroban 20 EC in 80-125 litres of water per acre. For control of late blight of potato, spray Indofil M-45/Markzeb/Kavach @ 500-700 g in 250-350 litres of water per acre. Monitor wheat crop for yellow rust, apply spot application of Tilt @ 1mL/liter of water on a non-rainy day.
- In Delhi, monitor timely sown onion crop against attack of thrips, spray Imidacloprid @ 0.5 ml per litre of water with sticky material (Tipol 1.0 g/litre).

▪ **Uttar Pradesh:**

- As thunderstorm accompanied hailstorm at isolated places very likely over East Uttar Pradesh on 25th January, use hail net for orchard crops to protect from mechanical damage. Provide support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattle indoor.
- In East Uttar Pradesh, continue transplanting of onion. Distance should be 15 to 10 cm in onion crop. Continue planting of spring Sugarcane. In wheat crop give remaining dose of nitrogen i.e 40kg N₂/ha or 88kg urea/ha. Remove weeds from maize crop after 40-50 days of sowing. In tomato crop sown last month apply 40kg nitrogen/ha per hectare (88kg urea/ha). In garlic the second & last dose of urea should be 74kg/ha after 60 days or sowing. Spray Zinc Sulphate 5 kg & urea 20kg in 1000 litre water per hectare on wheat crop. Undertake application of fertilizers after current spells of rain.
- In West Uttar Pradesh, nursery preparation should be done for chilli, tomato and brinjal crops in poly house. Continue thinning and weeding in late sown mustard crop. Continue transplanting of onion seedling. Seedling

should not be older than six weeks. Weather is suitable for growing of carrot seed crop in this week. Continue transplanting of late varieties of cabbage, cauliflower, knolkhol etc. Continue sowing of spinach, coriander, fenugreek. Continue sowing of garlic in raised bed.

- In West Uttar Pradesh, install pheromone traps @ 3-4 traps per acre for monitoring of the pest population for diamond back moth in cole crops, pod borer in pea and fruit borer in tomato. In present weather, wrapping of plastic sheets around mango trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets.
- In East Uttar Pradesh, due to prevailing foggy weather condition, there is chances of attack of late blight in potato crop, for control, spray Indofil-M-45/Kavach /Antracol @ 500-700 g per acre or Blitox @ 750-1000 g per acre in 250-350 litres of water per acre at weekly interval 2-3 times after current spells of rain.
- **Rajasthan:**
 - In Arid Western Plain Zone, increased humidity may increase the chances of blight in cumin and leaf blight in wheat & barley crops, therefore, regularly watch the fields, to diagnose insect pest & disease infestation. On appearance of diseases, apply Mencozeb @ 2-3g/l along with water to control blight in cumin and leaf blight in wheat & barley crops. Repeat the spray after 15 days if required.
 - In Semi Arid Eastern Plain Zone, this is the suitable time for giving third irrigation in normal sown wheat (60-65 DAS at jointing stage), second irrigation in late sown wheat at tillering stage (40-45 DAS) and also provide irrigation to gram at pod formation stage. Also, gram and late pea is likely to be attacked by Gram pod borer. Under rainfed Condition, farmers are advised to dust Malathion 5% after pod initiation. Under Irrigated Condition, spray Malathion 50 EC @ 1.25ml per litre water or Quinalphos 1.5% @ 25 kg per ha.
 - In Sub Humid Southern Plain and Aravali Hill Zone, late sown wheat is on tillering stage so irrigation should be done and top dress 50 kg/ha urea. In timely sown wheat booting stage apply 2nd irrigation. For the control of broad leaves weeds in wheat spraying of Sulphosulphuron 75% + Metsulfuron methyl 5% 32gm a.i./ha at 30-35 days after sowing in 400 to 500 litre of water.
 - In Flood Prone Eastern Plain Zone, due to cool and humid weather alternaria blight (black spot) disease may attack in mustard crop in some pockets, destroy the infested plants, spray Iprodione or Mencozeb @ 2 kg/800 litre solution. In mustard crop uproot orabanche colonies. Rainfall received is sufficient for the wheat crop, so there is no need of irrigation in wheat crop.
- **Animal Husbandary**
 - In Punjab, in view of cold wave conditions at isolated places, keep animals inside the sheds during night and provide dry bedding to protect them from cold. Increase protein level and minerals in the feed concentrate to keep the animals healthy to cope up with the cold condition. Animals should be given mineral mixture along with salt regularly and wheat grains, jaggery etc. may be provided @ 10%-20% in the daily ration during winter season to meet the energy requirement of the animals, 10% extra dry matter should be provided over and above the total requirement to fulfill the extra energy requirement in winter. In Poultry, keep the chicks warm by providing artificial light in the poultry sheds.
 - In Uttar Pradesh, animal sheds should be kept dry & warm. Keep animals warm by using dry sack or straw. Provide sufficient light to chicks & keep them warm.
- **Apiculture**
 - In Jammu & Kashmir, the temperature has fallen, so give the winter packing immediately to colonies. Check the colonies for nector and give artificial food to honey bees as there is scarcity of flowers during these days. Keep the colonies in sun on clear day.
- **Poultry**
 - In Jammu & Kashmir, cover the poultry shed with gunny bags in order to protect the birds from cold weather. Proper ventilation should be maintained in poultry rooms. There should be a good source of light and heat in poultry houses. Proper hygiene should be maintained. Well-insulated windows can act as a sun trap during winters. Adequate clean drinking water should be available all the time.

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