



National Agromet Advisory Service Bulletin

Friday 14th February 2020
(For the period 14th to 18th February 2020)



Issued by
India Meteorological Department

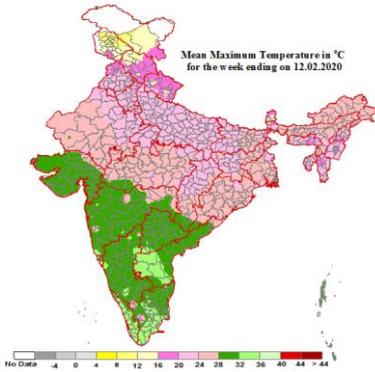
Weblink For

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

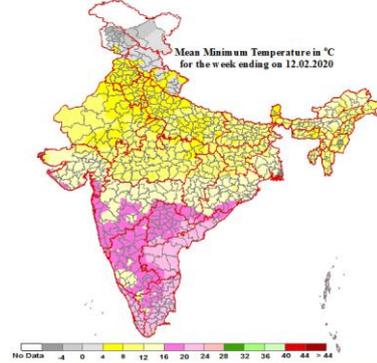
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

spatial distribution of weather parameters for the week ending on 12.02.2020

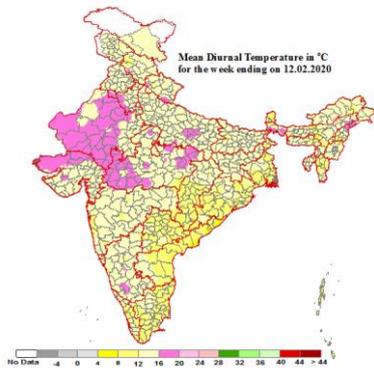
Mean Maximum Temperature (°C) for the week ending on 12.02.2020



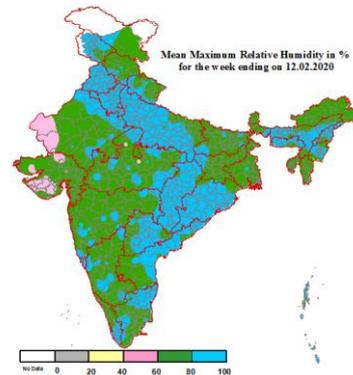
Mean Minimum Temperature (°C) for the week ending on 12.02.2020



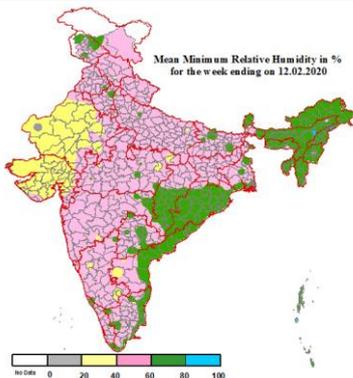
Mean Diurnal Temperature Variation (°C) for the week ending on 12.02.2020



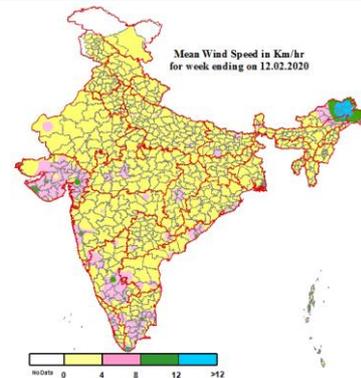
Mean Maximum Relative Humidity (%) for the week ending on 12.02.2020



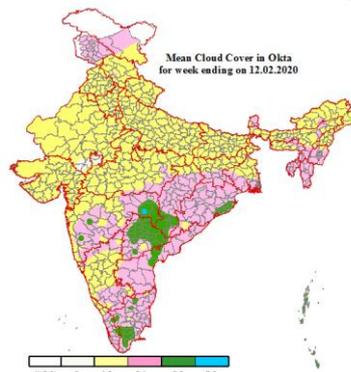
Mean Minimum Relative Humidity (%) for the week ending on 12.02.2020



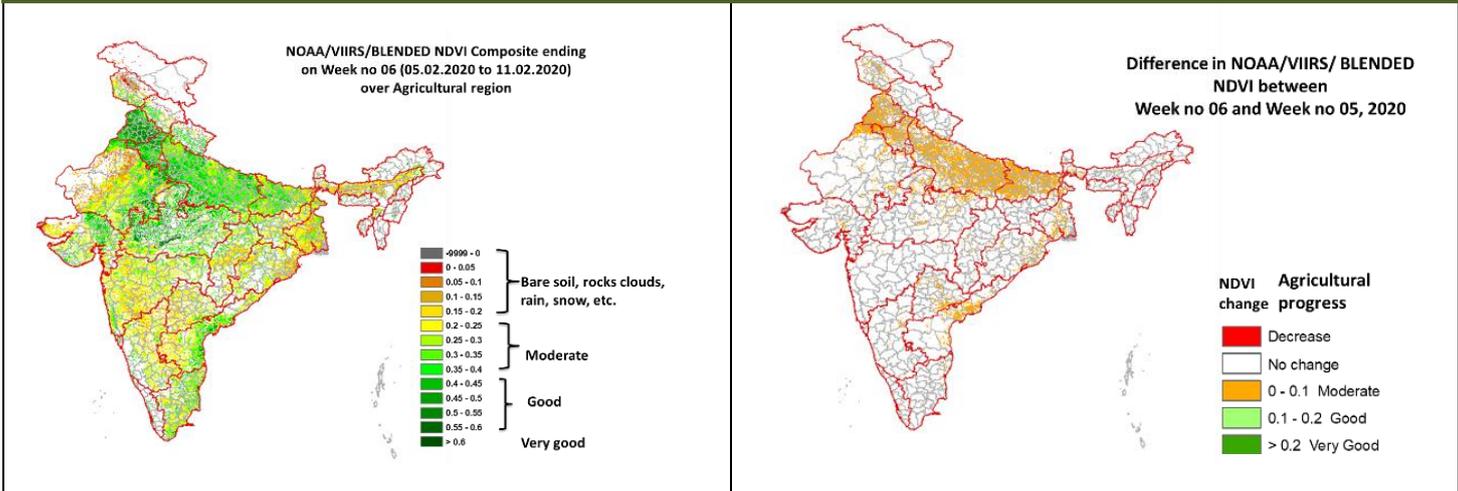
Mean Wind Speed (km/hr) for the week ending on 12.02.2020



Mean Cloud Cover (okta) for the week ending on 12.02.2020

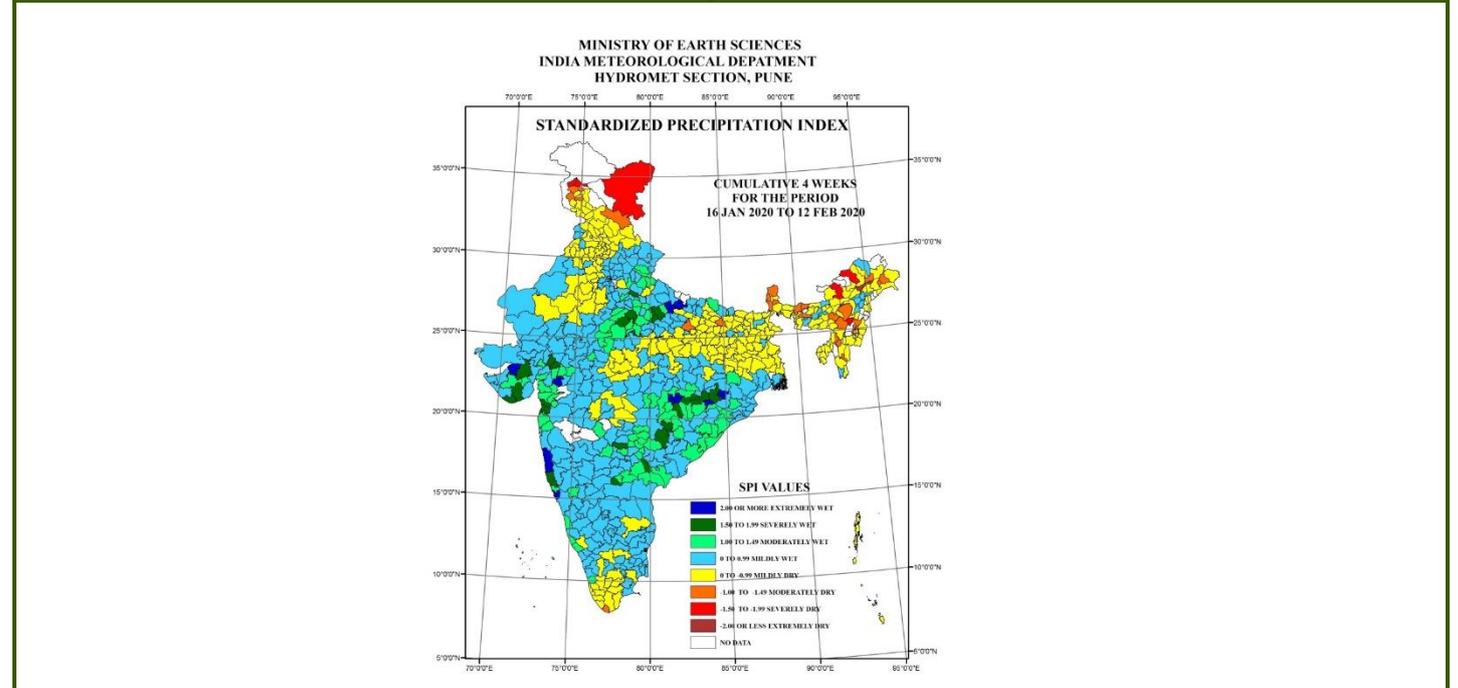


NOAA/VIIRS/BLENDED NDVI composite for the week number 06 (05.02.2020 to 11.02.2020) over Agricultural regions of India	Difference in NOAA/VIIRS/BLENDED NDVI between week number 6 and week number 5
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<p>Agriculture vigour was good at many parts of West Madhya Pradesh, Haryana & Punjab; at few parts of Uttar Pradesh, East Madhya Pradesh, Coastal Andhra Pradesh, Kerala and at isolated pockets of Uttarakhand, Bihar, North Eastern states, East Rajasthan, Gujarat, Northern part of Chattisgarh, Odisha, Telangana, Coastal Karnataka, Konkan and Tamilnadu</p>	<p>Good difference in agricultural vigour has been observed at isolated palces of Coastal Andhra Pradesh, East Uttar Pradesh and Bihar. It was moderate over rest of the country.</p>
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**Standardised Precipitation Index
Cumulative 4 weeks for the period 16th Jan to 12th Feb 2020**



- Extremely/Severely wet conditions exist in Valsad, Navsari, Aravalli, Chhota Udepur, Mahisagar, Amreli, Surendranagar, Gir Somnath, Morbi districts of Gujarat; Bhind, Gwalior districts of West Madhya Pradesh; Ratnagiri, Sindhudurg districts of Maharashtra; Bargarh, Deogarh, Sambalpur, Sonepur districts of Orissa; Barabanki, Gonda, Kanpur City, Unnao, Kanshiram Nagar districts of

Uttar Pradesh; Dhamtari, Durg, Mahasamund, Raipur, Bijapur, Narayanpur districts of Chhatisgarh; South Goa district of Goa; Jogulamba Gadwal, Kamareddy, Suryapet districts of Telangana.

- Moderately dry conditions exist in East Siang, Lohit districts of Arunachal Pradesh; Goalpara, N. C. Hills, Karbi Anglong, Kokrajhar, Hailakandi, Chirang districts of Assam; Saran districts of Bihar; Lahaul & Spiti districts of Himachal Pradesh; Baramula, Poonch, Srinagar, Kulgam districts of Jammu; Senapati district of Manipur; Kolasib, Serchhip districts of Mizoram; Kanyakumari districts of Tamilnadu; Jaunpur districts of Uttar Pradesh; Darjeeling district of West Bengal; North Sikkim, West Sikkim districts of Sikkim.
- Extremely/Severely dry conditions exist in East Kameng, Upper Subansiri districts of Arunachal Pradesh; Dhemaji district of Assam; Leh district of Ladakh; Kupwara, Bandipore districts of Jammu; Paren districts of Nagaland.
- 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 19th February, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table-below.
- ◆ No significant change in minimum temperatures over central India and East India during next 2-3 days. Fall by 2-4°C over plains of northwest India and by 2-3°C over West India for 2-3 days and no significant change thereafter. No significant change in temperatures over rest parts of the country.

5 Day Rainfall Forecast (MID-DAY) 14th February 2020

Met-Sub-Division	14-Feb Today	15Feb Sat	16Feb Sun	17Feb Mon	18Feb Tue
1. Andaman & Nicobar Islands	DRY	DRY	DRY	ISOL	SCT
2. Arunachal Pradesh	ISOL	ISOL	ISOL	FWS	SCT
3. Assam & Meghalaya	ISOL	DRY	DRY	ISOL	ISOL
4. N. M. M. & T.	ISOL	DRY	DRY	DRY	ISOL
5. S.H. West Bengal & Sikkim	ISOL	ISOL	ISOL	ISOL	ISOL
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Odisha	DRY	DRY	DRY	DRY	DRY
8. Jharkhand	DRY	DRY	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	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	ISOL
16. J & K and Ladakh	ISOL	DRY	DRY	DRY	ISOL
17. West Rajasthan	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	DRY	DRY	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	DRY	DRY	DRY
25. Marathawada	DRY	DRY	DRY	DRY	DRY
26. Vidharbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	DRY	DRY	DRY	DRY
28. Coastal A. P. & Yanam	DRY	DRY	DRY	DRY	DRY
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	DRY	DRY	DRY	DRY	DRY
31. T.N., Puducherry & Karaikal	DRY	DRY	DRY	DRY	DRY
32. Coastal Karnataka	DRY	DRY	DRY	DRY	DRY
33. North Interior Karnataka	DRY	DRY	DRY	DRY	DRY
34. South Interior Karnataka	DRY	DRY	DRY	DRY	DRY
35. Kerala & Mahe	DRY	DRY	DRY	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

14 February (Day 1): ♦ Strong winds (speed reaching 45-55 kmph) very likely over southwest & westcentral Arabian Sea. Fishermen are advised not to venture into these area.

15 February (Day 2): ♦ Dense fog very likely at isolated places over coastal Odisha.

16 February (Day 3): ♦ Dense fog very likely at isolated places over coastal Odisha.

17 February (Day 4): ♦ Thunderstorm accompanied with **lightning** likely at isolated places over Arunachal Pradesh.

18 February (Day 5): ♦ No Weather warning.

Weather Outlook for subsequent 2 days from 19th to 21st February, 2020

- ♦ Isolated to scattered rainfall activity likely over Western Himalayan region from 19th and over adjoining plains on 20th February.
- ♦ Isolated to scattered rainfall over Bay Islands, Bihar, Jharkhand, north Odisha, West Bengal and parts of northeast India from 20th February.
- ♦ Weather likely to be mainly dry over 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 Chloropyrifos (50%) 1 ml/litre or (20%) 2.5 ml/litre of water in standing crops.

➤ As **rain/thundershowers** likely at many places over Arunachal Pradesh on 17th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

➤ As **dense fog** very likely at isolated places over Odisha on 15th and 16th, monitor tomato and potato crops for blight disease.

➤ Undertake sowing/ transplanting of following crops:

- Complete sowing of sesame in North Telangana.
- Continue transplanting of rice, brinjal, tomato and chilli seedlings and sowing of ragi in South Interior Karnataka.
- Undertake land preparation and sowing of direct seeded Ahu rice in North Bank Plain Zone of Assam.
- Undertake sowing of summer green gram and black gram in Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam.
- Continue nursery sowing of brinjal, tomato, capsicum in Meghalaya.
- Undertake transplanting of 4-5 leaves stage seedlings of short to medium duration paddy in Odisha.
- Undertake direct sowing of vegetables like pumpkin and bitter guard in Bundelkhand Zone of Madhya Pradesh.
- Undertake sowing of maize, cowpea, bottle gourd and pumpkin and planting of sugarcane in East

Uttar Pradesh and sowing of maize, black gram and okra in West Uttar Pradesh.

- Undertake field preparations for planting of potato in Uttarakhand.
- Continue land preparation for sowing of green gram in Madhya Maharashtra.

Detailed Agromet Advisories

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

Realised Rainfall : Significant rainfall occurred in Srikakulam and Vizainagarm districts of Coastal Andhra Pradesh and J. Bhupalapally district of Telangana, in Ernakulam district in Kerala. Weather remained dry over the rest of the region.

Advisories:

Kerala

- In Problem Area Zone, undertake harvesting of paddy. Weather is congenial for anthracnose disease in cow pea; drench pits of cow pea with Copper Oxchloride 4g/litre of water before planting as a prophylactic measure.
- 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 pseudostem weevil in banana, spray 2.5 ml of Chlorpyrifos or 2 ml of Quinalphos per one litre of water in leaf axils and by inserting the nozzle through the boreholes made by the larvae.
- In Southern Zone, undertake harvesting of paddy.

Andhra Pradesh

- In North Coastal Zone, weather is congenial for incidence of sucking pest in sesame. Spray Mmonocrotophos @ 1.6 ml or Dimethoate @ 2 ml per litre of water.
- In Scarce Rainfall Zone, continue harvesting of red gram. Harvested produce may be threshed and sun-dried before storage.
- In Krishna Godavari Zone, provide protective irrigation in maize which is at teaselling/silking stage to grain filling stage to avoid moisture stress.
- In Southern Zone, the present weather conditions are favourable for leaf miner in groundnut. Spray Quinolphos @ 2 ml per litre of water.

Telangana

- Complete sowing of sesame by first fortnight of February in North Telangana.
- Prevailing weather conditions are congenial for the incidence of blast disease in rice, spray Tricyclazole @ 0.6 g or Isoprothiolane @ 1.5 ml or Kasugamycin @ 2.5 ml per litre of water twice in 10-15 days interval.
- North Telangana Zone, prevailing weather conditions are favourable for *spodoptera exigua* in Bengal gram. To control spray Thiodicarb @ 1g or Quinolphos @ 2ml or Acephate @ 1.5 g per litre of water.

Tamil Nadu

- In Cauvery Delta Zone, undertake harvesting of *Thaladi* paddy. Weather is congenial for infestation of the sucking pests including hoppers, thrips and white flies in the rice fallow black gram, Spray Azadiractin at 0.03% or Triazophos at 2.5 ml/litre of water.
- In Western Zone, weather is congenial for early shoot borer incidence in sugarcane; go for frequent irrigation to keep the field in wet condition; mulching is also advised.

- In High Rainfall Zone, weather is congenial for mealy bug in tapioca; spray fish oil rosin soap @ 25g/litre.

Karnataka

- In North Interior Karnataka, continue harvesting of pigeon pea and chickpea crops. Install 4 pheromone traps/acre for fruit fly monitoring in mango orchards. Apply irrigation to sugarcane crop. For the control of sucking pests (aphids) in safflower, spray Dimethoate (Rogar) @ 1.7ml per litre of water. To manage canker disease in citrus orchards, remove the dried branches and take up spraying of 1 % Bordeaux mixture.
- In South Interior Karnataka, continue transplanting of rice, brinjal, tomato and chilli seedlings and sowing of ragi. Undertake harvesting of Bengal gram crop. There is a possibility of occurrence of powdery mildew and hoppers in mango; spray wettable Sulphur @ 3gm/liter and Rogar @ 1.5ml/litre.
- In Coastal Karnataka, for control of sucking pests in pulses and vegetable crops, spray Imidacloprid 1.5 ml or Profenofos @ 1ml or Quinalphos @ 1 ml or Dimethoate @ 1ml per litre of water.

Animal Husbandry:

- In Karnataka, if the silkworm rearing house temperature falls below 22°C, raise it using room heater / charcoal stove. Cover the sides of poultry house with curtains to avoid chilling effect.

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.

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

Realised Rainfall: Weather remained mainly dry over the region.

Advisories:

Arunachal Pradesh

- As **rain/thundershowers** likely at many places over Arunachal Pradesh on 17th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- In Arunachal Pradesh, ensure proper moisture level during flowering and grain development stages in maize crop. To protect the potato crop from chilling injury apply light irrigation. Continue harvesting of matured pods of pea and ginger. For management of aphid infestation in maize crop, spray neem oil (1500 ppm) @ 4ml/litre on clear days.

Assam & Meghalaya

- In Hill Zone of Assam, continue main field preparation for transplanting *Boro* paddy seedlings. Apply irrigation at flowering and siliquae development stages in rapeseed & mustard. In view of increasing temperature, farmers are advised for light irrigation in standing crops and vegetables as per requirement. Monitor cole crops regularly for leaf feeders; if pest population is above ETL, spray B.t. @ 1.0 g/ litre of water or Spinosad @ 1 ml / 3 litre of water on clear days.
- In Lower Brahmaputra Valley Zone, maintain standing water in the *Boro* rice field at 5±2 cm depth after 2-3 days of transplanting and continue gap filling within 7-10 days after sowing. Continue harvesting of rapeseed and mustard. There is a chance of attack of insect/pests like, whorl maggot, hispa, stem borer, etc. in transplanted *Boro* rice; apply Chloropyrifos 20 EC at the concentration of 0.02% solution or Carbofuran 3G @ 4kg/bigha. Spray 2 gm Bavistin /litre of water for control blast disease in wheat crop at CRI, vegetative, ear head and flowering stages.

- In Upper Brahmaputra Valley Zone, maintain 5±2 cm depth of water in the *Boro* paddy fields. Continue land preparation for sowing of okra, summer green gram and black gram. To control aphid attack in rapeseed & mustard crops, spray Dimethoate 30 EC or Chlorpyrifos 20 EC @ 0.5 litre/ha with a spray volume of 500-700 litres of water/ha against in fair weather.
- In Barak Valley Zone, for control of alternaria blight in rapeseed and mustard at flowering stage, spray Mancozeb 0.2 % @ 1.2-1.4 kg/ha or Captafol 0.2 % @ 1.3-1.4 kg/ha on clear days at an interval of 15-20 days.
- In Central Brahmaputra Valley Zone, undertake sowing of summer green gram and black gram. In wheat crop, apply Carbendazim @ 1g/litre of water against blight disease; uproot and burn the loose smut affected plants.
- In North Bank Plain Zone, undertake land preparation and sowing of the seeds of direct seeded Ahu rice varieties and sowing of green gram and black gram.
- 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.

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. Undertake land preparation for transplanting 20-30 days old rice & 4-5 leaves stage cucurbits 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. Spray Coragen @ 2ml/15litres water against pod borer infestation in rapeseed. For yellowing of tender leaves in rice, spray Chloropyrifos 0.05% @ 2ml/litre of water. Undertake land preparation for planting of ginger/turmeric and sowing of bhindi (ladies finger).
- 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, maintain optimum moisture in the maize field through irrigation and apply mulching to hold moisture in the field. Transplant young seedlings of summer vegetables to the main field. Use systemic insecticides to control fruit borer in eggplant, tomatoes, and ladies finger.
- In Nagaland, continue land preparation for sowing of *kharif* maize, okra and planting of ginger. 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. In view of increasing temperature, apply light irrigation to standing crops and vegetables as per requirement.

Animal Husbandry

- In Assam, vaccinate poultry birds against Ranikhet disease during this period. Provide adequate amount of feed and clean drinking warm water to livestock. Arrange for artificial warming especially for the young animals. Regularly check and provide dry bedding materials.

Fishery

- In Barak Valley Zone of Assam, apply CIFAX @ 1 litre per hectare for 1 meter water depth to prevent EUS disease. During winter season fishes are infested by various bacterial diseases; to control, apply Potash @ 4-5 mg per litre of water in the pond.

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

Realised Rainfall: Significant rainfall occurred in Angul, Bargarh, Bolangir, Boudh, Cuttack, Deogarh, Dhenkanal, Gajapati, Ganjam, Kandhamal, Keonjhar, Nawapara, Nayagarh, Rayagada, Sambalpur and Sonepur districts of Odisha. Weather remained dry/mainly dry over rest of the region.

Advisories:

Odisha

- As **dense fog** very likely at isolated places over Odisha on 15th and 16th, monitor tomato and potato crops for blight disease.
- Complete nursery raising of short to medium duration paddy; transplant 4-5 leaves stage seedlings in the main field. When onion seedlings are 12-15cm high, transplant in main field after application of 25-30kg N, 24 kg P, and 40 kg K as basal dose. Take up sowing of groundnut, sesame and sunflower. Raise broccoli seeds in the nursery bed; transplant the seedlings at 4-5 leaves or 25-30 days stage at a spacing of 40-45cm. Harvest matured sugarcane and crush immediately for better sugar recovery. Harvest matured cabbage and cauliflower. Harvest half ripened tomato for sale.
- There is a chance of powdery mildew in mustard crop; apply Sulfex @ 1 kg/acre in 200 litres of water. Due to unseasonal rain, yellowing of leaf with tip burning in the newly transplanted paddy seedlings may be seen; to control, spray Copper Oxchloride 4g plus Plantomycin 1g per litre of water.

Bihar

- Take up land preparation for sowing of summer vegetables such as okra, pumpkin, cucumber, sponge Gourd, ridge gourd and bitter melon; 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, maize and mustard crops to maintain soil moisture.
- At the time of 50 % flowering in pigeon pea, spray Cartap Hydrochloride @ 1.5ml/litre of water to control pod borer.

Jharkhand

- Take up sowing of summer maize. Continue transplanting of 21-25 days old summer paddy seedlings. Early sown potato crop is at maturity stage; when plant leaves became yellow harvest the crop and keep the tubers in shed at a height of 1.2 to 2 ft for hardening of skin. After harvesting potato, take up sowing of green gram in case of limited irrigation facility and summer vegetables like cauliflower, cabbage, tomato, bhindi, brinjal, chilli or cucurbitaceous vegetables in case of good irrigation facility. Irrigate wheat crop at heading stage. Early sown yellow *sarson* is at maturity stage; harvest crop when silique becomes bright yellow.
- To control Alternaria blight in wheat crop, spray Indofil M-45 or Diathen Z-78 @ 2 gm per litre of water.

West Bengal

- In Sub-Himalayan West Bengal, carry out land preparation; transplant 25-30 days old Boro rice seedlings in the main field. 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. Carry out harvesting of matured pods of green pea. For managing cabbage butterfly, spodoptera and other sucking pests, apply combined formulation of Thiomethoxam + Lambda Cyhalothrin @ 1.5 ml/litre of water on clear days.

- In Gangetic West Bengal, complete transplanting of rice seedlings; keep the field and irrigation channels weed-free. Postpone irrigation to sunflower and late-sown potato crops. Apply SAF @ 2gm/litre of water as a preventive measure against blight infestation in sunflower crop.

Andaman & Nicobar Islands

- Provide light irrigation to the standing vegetables during evening hours. Apply 1% vermin wash as foliar spray to pulses as it is experiencing moisture stress. Drench the soil of cauliflower and cabbage with Trichoderma @ 10 g/litre of water to avoid infection. Observe for fruit borer in mango; place 1-2 pheromone traps per tree to control adult moths.

Animal Husbandry

- Provide sufficient clean drinking water to animals. Keep poultry shed dry and warm. Vaccinate cattle against foot & mouth disease (FMD). Vaccinate goat and sheep against PPR disease. Separate the piglets from mother at 8-12 weeks and de-worm them in a nearby veterinary hospital/centre.

Pisciculture

- Apply Lime @ 25kg /ac meter and Cifax 400 ml /acre meter pond water as prophylaxis measure. Keep the surroundings clear for better sunlight. Feed fish at mid-noon hours.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Significant rainfall occurred in Gondia district of Maharashtra. Weather remained mainly dry/dry over rest of the region.

Advisories:

Maharashtra

- In Konkan, to control fruit dropping and increase in production in mango (pea stage, marble stage and arecanut size stage), spray 1% Potassium nitrate. Apply irrigation to groundnut and orchards. Also apply mulch to orchards like mango, arecanut, coconut and cashewnut for soil moisture conservation.
- In Madhya Maharashtra, farmers are advised to continue harvesting of matured gram. Continue land preparation for sowing of green gram. To control pod borer in gram, erect bird perches in the field and spray HaNPV @10 ml per 10 litres of water. Apply Nitrogen @ 34 kg (Urea @ 74 kg) per ha to preseasonal sugarcane (12-16 weeks old). To control thrips in pomegranate, spray Spinosad 2.5 SC @ 10 ml in 10 liters of water. To control rust in wheat, spray Mancozeb @ 1.5 kg in 500 liters of water. To control fruit borer in tomato, spray Quinalphos 25% EC @ 20 ml in 10 liters of water.
- In Marathawada, to control white fly in sugarcane, spray Chlorpyrifos 20 % @ 30 ml or Fipronil 5 % @ 30 ml per 10 liters of water.
- In Vidharbha, farmers are advised to complete sowing of summer sesame. Continue harvesting of matured gram and safflower. To control aphids in wheat, spray Quinalphos 25% EC @ 40 ml in 10 liters of water. To control powdery mildew in mango, spray Hexaconazole 5% SC @ 10 ml in 10 liters of water.

Gujarat

- In Saurashtra & Kutch, apply irrigation to wheat and coriander crops when wind speed is low to prevent lodging. Continue land preparation for sowing of summer vegetable, groundnut and sesame. In brinjal and tomato, constant monitoring of borers by using pheromone traps 4-6 per acre is advised; if insect population is above ETL spray Chlorantraniliprole 18.5 % SC @ 3.0 ml or DDVP @ 7 ml/10 litres of water against fruit borer.
- In Middle Gujarat, apply irrigation in wheat crop at milking and dough stage. Carry out picking of matured fruits of vegetable and fruit crops. Plan for cultivation of summer crops. In present weather condition, constant monitoring of potato crop against attack of late blight is advised; spray Mencozeb

0.2% @ 25 gram in 10 litre of water for control of blight disease.

- In North Gujarat, apply light irrigation to the wheat (milking/dough stage), mustard (pod formation stage), gram (pod filling stage) and fruit crops. Carry out picking of matured fruits of tomato. Complete harvesting of matured spikes of castor. Spray Mencozeb 0.2% @ 25 gram in 10 litres of water for control of blight disease in potato.
- In South Gujarat, continue nursery sowing of rice in South Gujarat Heavy Rainfall Zone and transplanting of rice in South Gujarat Zone. Undertake intercropping of onion, garlic, mustard, cabbage, cauliflower, Green gram and Black gram in sugarcane crop. Apply foliar spray of neem oil @ 40 ml/10 litres of water for effective control of chilli mites. If the infestation is severe, apply Fenazaquin 10% EC @ 10 ml or Diafenthiuron 50% WP @ 10 gm or Propergite 57% EC @ 10 ml per 10 litres of water.

Animal Husbandry:

- In Gujarat, keep animals indoor during night time for protecting against extreme cold winds.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Significant rainfall occurred in Balod, Baloda Bazar, Bemetara, Bijapur, Dhamtari, Durg, Gariabad, Kanker, Mahasamund, Narayanpur, Raipur and Rajnandgaon districts of Chhattisgarh. Mainly dry weather prevailed over rest of the region.

Advisories:

Madhya Pradesh

- In Malwa Plateau Zone, apply manure and fertilizer in mango and other orchard gardens. Cut and destroy aphid-infested parts of mustard plant. If termites appear in wheat crop, apply mixture of 20 kg sand with Chlorpyrifos 20 EC @ 2.0 litre/acre in evening hours.
- In Vindhya Plateau Zone, apply irrigation to wheat crop at flowering and milking stages. Keep a close eye on the incidence of pod borer incidence in chick pea crop. If larvae exceed two larvae per meter row length, apply Profenophos 50 EC @ 2 litres per hectare using 500 liter of water.
- In Jhabua Hills Zone, apply fifth irrigation at milking stage (80-85 DAS) and sixth irrigation at dough stage (95-100 DAS) to wheat crop. Prepare nursery for summer vegetables. Irrigate winter vegetable crops. Dig the mature crop of ginger and turmeric.
- In Central Narmada Valley Zone, stop applying irrigation to mango orchard. Yellowing due to excessive moisture is observed in standing wheat crop; spray N P K 19:19:19 water-soluble manure at the rate of 100 g per pump; give light irrigation at 20 days intervals and avoid waterlogged condition. Gram crop is pod development stage and prone to pod borer attack; spray Indoxacarb 14.5 % SC @ 12-15 ml/pump in the initial stage of infestation; to control caterpillars in early stage, use 'T' shaped bird percher @ 20-25 & Foramen Trap @ 8 traps per acre; if attack is more (2-3 caterpillar in one meter row), spray Triazophos @ 800 ml/ha.
- In Bundelkhand Zone, go for direct sowing of vegetables like pumpkin, bitter guard, etc. as present weather is favorable. Monitor onion crop against thrips; to control, spray Acetamiprid @ 1g/ litre of water. Spray Imidacloprid @ 1.0 ml per litre of water to control aphids in crops like mustard, linseed, coriander and methi.

Chhattisgarh

- In Chhattisgarh Plain Zone, carry out roughing out of plants in wheat field after ear head emergence to maintain healthy and pure seed production. Complete sowing of summer vegetables like pumpkin, bitter gourd, bottle gourd, okra etc. Give support to the banana plants at the time of flowering. If outbreak of aphids is observed in mustard crop, apply Imidacloprid @ 80 ml/acre dissolved in 200 liters water.

- In Northern Hill Zone, timely sown wheat crop is at heading stage; irrigate the crop if required as this stage is very sensitive to moisture stress; application of nitrogen after irrigation is also advised. Timely sown early duration variety mustard crop is approaching maturity stage; harvest the crop when siliqua turns bright yellow in colour; dry the harvested crop in the sun for 2-3 days before threshing. Take up planting sugarcane sets after treatment with a fungicide. Maintain cleanness in mango orchard; prepare basin around the trees and apply recommended dose of manure and fertilizer.
- In Bastar Plateau Zone, pulses and oil seed crops are at branching and flowering stages; apply irrigation to maintain soil moisture. Use pheromone traps to control tobacco caterpillar and fruit borer in vegetables. For late blight in potato, spray of Metalaxyl @ 1.5 g or Cymoxanil @ 2 g per litre of water.

Animal Husbandry

- Vaccinate cattle for control of FMD, BQ and HS; vaccinate goat against PPR. To control ecto parasite use Butox and also de-worm cattle.

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

Realised Rainfall : Mainly dry weather prevailed over the region.

Advisories:

Jammu & Kashmir

- In Valley Temperate Zone, undertake field sanitation and proper drainage in saffron fields to avoid water logging. For control of rodents, identify live burrows; place Aluminium phosphide pouches (5-10g) in these burrows @ 1pouch/burrow.
- In Sub-Tropical Zone, carry out weeding operation in wheat crop. In case of outbreak of white rust and alternaria blight disease in rape seed and mustard crops, apply Mancozeb @ 0.25%.
- In Cold Arid Zone, carry out intercultural operations like weeding and hoeing, after applying vermicompost /FYM in polyhouses. Continue harvesting of Chinese cabbage, kale, spinach and lettuce in protected structures at weekly interval to avoid loss due to frost. Cover the trenches and low tunnels with polythene and blankets during the night to avoid loss due to sudden dip in temperature below -15°C.
- In Intermediate Zone, carry out intercultural operations like weeding and hoeing in onion and garlic. Provide staking to the pea vines and apply irrigation at first flower formation and pod formation stage depending upon the soil moisture condition. Undertake nursery sowing of summer vegetables like tomato, brinjal, chilli, capsicum and cucurbits (cucumber, bottle gourd and bitter gourd) etc. under protected structures like poly houses, poly tunnels etc.

Himachal Pradesh

- In Mild Hills Sub Humid Zone, apply *Chaubatia* paste at the cut end of pruned apple trees to prevent fungal infections. For the new orchards, dig the pits and keep them open for 15- 20 days. Later fill them with soil mixed with farm yard manure.
- In Sub Montane and Sub Tropical Low Hills Zone, carry out thinning and weeding operation in mustard crop. To control pod borer in the gram crop, install pheromone traps @ 3-4 traps per acre after flowering has reached 10-15%. Also install “T” shaped bird perches in and around crop field to control insect population. Continue planting of onion bulbs. Apply mulch in ginger and turmeric crops. Carry out intercultural operations in raddish, carrot, turnip, spinach, broccoli etc.
- In High Hill Temperate Dry Zone, while making apples beds, add cow's compost, superphosphate and Muriate of potash. Dig up the beds of apples and collect the root penetrating worms and kill them. Make a solution of Chlorpyrifos (20 EC) 500 ml/100 litres of water and irrigate with it.
- In Mid Hills Sub-Humid Zone, apply irrigation to pea crop in flowering to pod formation stage. Carry out weeding in coriander and fenugreek. Prepare field for summer vegetables like tomato, capsicum, okra, guard, etc. in lower hills areas.

Punjab, Haryana, Delhi

- In Punjab, in view of mainly dry weather, irrigate the standing crops as and take special care of vegetables and newly planted orchard plants as cold days conditions exists. Protect young evergreen mango plants from cold weather by preparing thatches using straw, plastic, etc.
- In Western Plain Zone of Punjab, regularly monitor wheat crop for yellow rust; on detection of the initial foci of infection, do only spot application surrounding the infected area with 0.1% Caviet/Opera/Tilt /Shine /Bhumper/Markzole/Stilt/Compass.
- 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 Western Plain Zone and Central Plain Zone of Punjab, prevailing weather is favourable for spread and development of white rust in oil seeds; 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 needful irrigation, chemicals and fertilizer in *rabi* crops during the period. Monitor gram crop for infestation of pod borer.
- In Eastern Zone of Haryana, in view of dry weather, irrigate crops and spray if necessary. There are more chances of Chepa insects in mustard crop, spray 250 to 400 ml of Methyl Demeton (Matassistanx) 25 EC or Dimethoate (Rogor) 30 E.C per acre mixed with 250 - 400 liters of water. There is possibility of black and brown rust in barley crop; spray 800 g Zineb or Mancozeb in 250 liters of water.
- In Delhi, undertake transplanting of chilli, tomato and brinjal. Considering the increase in temperature, apply light irrigation in standing crops and vegetables as per requirement and also monitor vegetable and mustard crops against attack of aphids. Monitor timely sown onion crop against attack of thrips and infection of purple blotch; spray Confidor @ 0.5 ml per 3 litre of water with sticky material (Tipol 1.0 gram /litre for thrips and Dithane-M -45 @ 3 grams per litre of water with sticky material (Tipol 1.0 g/litre) for purple blotch disease.

Uttar Pradesh

In East Uttar Pradesh,

- Take up sowing of maize at seed rate of 20 kg per hectare for hybrid varieties and 22-25 kg per hectare for other varieties. Take up sowing of cowpea, bottle gourd and pumpkin. Undertake planting of spring season sugarcane crop; irrigate the field two weeks prior to sowing. Dig mature potato tubers; send them to market for selling or store properly. Irrigate wheat, Bengal gram and chick pea crops as per requirement.
- Spray Methyl-O-Demeton 25 E.C @ 1 litre or Melathian 50 E.C. @ 1.5 litres per hectare for the control of aphids in mustard.

In West Uttar Pradesh,

- Take up sowing of maize, black gram and okra. Carry out sowing of cucurbits, chilli, tomato and brinjal crops in the nursery; transplant young seedlings of tomato, chilli and cole crops during this week as temperature is favourable. Irrigate wheat crop at tillering stage (40–45 days after sowing) and give third irrigation at the time of lump formation (60–65 days after sowing).
- Monitoring of the wheat crop regularly against rust disease is advised. If symptoms of black, brown or yellow rust appears, spray wheat crop with Dithane M-45 @ 2.5 g per litre of water. Wrap plastic sheets around mango tree trunk to prevent climbing of young mealy bugs (nymphs); apply grease to seal any cracks in the polythene sheets.

Animal Husbandry

- Give salt and minerals in addition to dry/green fodder to the cattle. Give balanced feed to the poultry birds. Keep poultry sheds clean for healthy birds.

Uttarakhand

- In Bhabar and Tarai Zone, carry out weeding and hoeing in wheat crop. Undertake field preparations for sowing of potato. On the occurrence of yellow blisters in the lower leaves or brown spot on the leaves or withering of leaves by turning yellow from the tip in the wheat crop, spray Propiconazole 25EC @ 1 litre/ha. If the upper part of leaves of onion is turning yellow, spray solution of Propiconazole or Tebuconazole @ 1 ml/litre of water.
- In Hill Zone, carry out weeding and hoeing operation in vegetable pea. Carry out weeding operation in wheat crop. Undertake transplanting of cauliflower seedlings. Undertake field preparation for cultivation of rainfed potatoes in high altitude areas.
- In Sub Humid Sub Tropic Zone, undertake field preparation for planting of spring sugarcane. Undertake harvesting of potatoes.

Rajasthan

- In Arid Western Plain Zone, weather is congenial for attack of termite in standing crops, apply 4.0 litre Chloropyrifos or 300 ml Imidacloprid per ha with irrigation.
- In Semi-Arid Eastern Plain Zone, pod borer (*Heliothis*) insect is likely to attack gram crop at pod formation stage; dust Malathion 2% @ 25 kg per hectare and in areas having facility of water, spray Malathion 50 EC @ 1.0 ml per litre water.
- In Sub Humid Southern Plain and Aravali Hill Zone, undertake field preparation for sowing of improved varieties early okra crop.
- In Irrigated North Western Plain Zone, if symptoms of white rust disease appear after 50-60 days of sowing in mustard, spray Metalaxyl @ 2 g per litre of water. Second spray of 0.2 % solution of Metalaxyl 4 % + Mencozeb 64 % (68 WP) should be done at 15 days of interval.

The Agromet Products in this Bulletin are generated by Agrimet Division, weather forecast issued by NWFC, New Delhi and AgrometAdvisories are prepared based on the DAAS Bulletins issued by different Agrometeorological Field Units.