



# *National Agromet Advisory Service Bulletin*

*Friday 12<sup>th</sup> April 2019*  
*(For the period 12<sup>th</sup> to 17<sup>th</sup> April 2019)*



*Issued by*  
*India Meteorological Department*

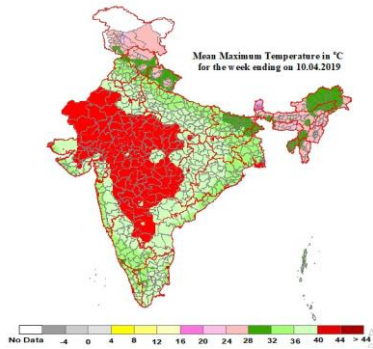
**Weblink For**

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

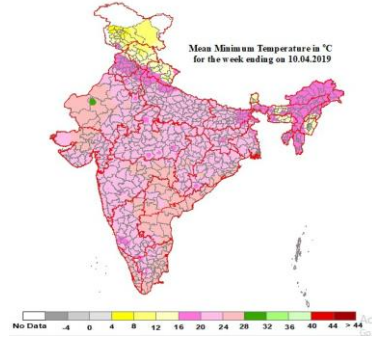
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 10.04.2019**

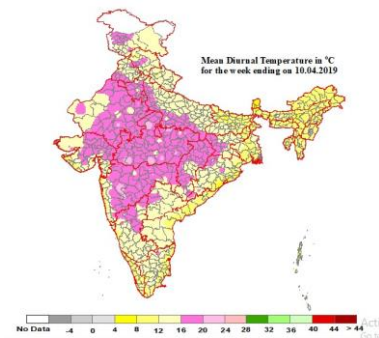
**Mean Maximum Temperature (°C) for the week ending on 10.04.2019**



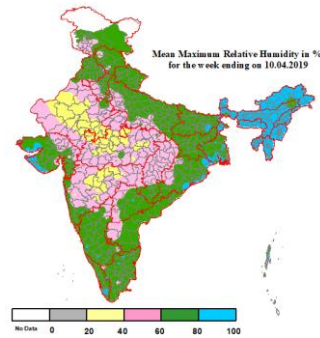
**Mean Minimum Temperature (°C) for the week ending on 10.04.2019**



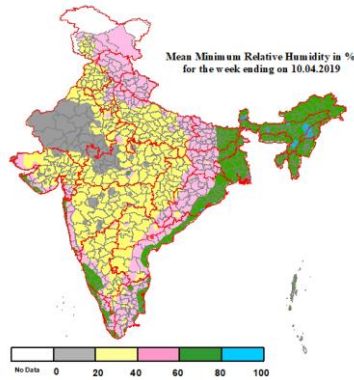
**Mean Diurnal Temperature Variation (°C) for the week ending on 10.04.2019**



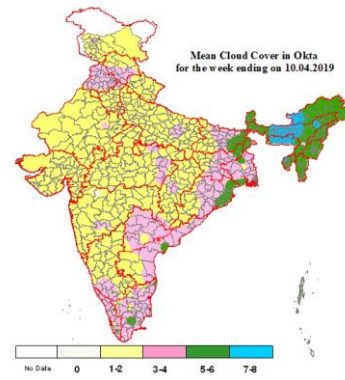
**Mean Maximum Relative Humidity (%) for the week ending on 10.04.2019**



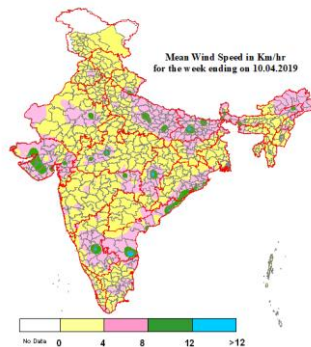
**Mean Minimum Relative Humidity (%) for the week ending on 10.04.2019**



**Mean Cloud Cover (okta) for the week ending on 10.04.2019**



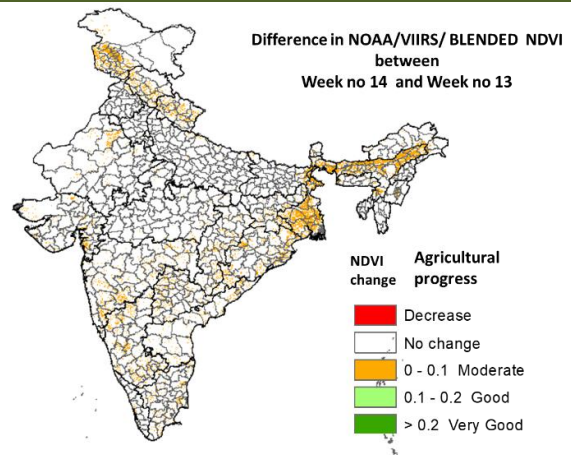
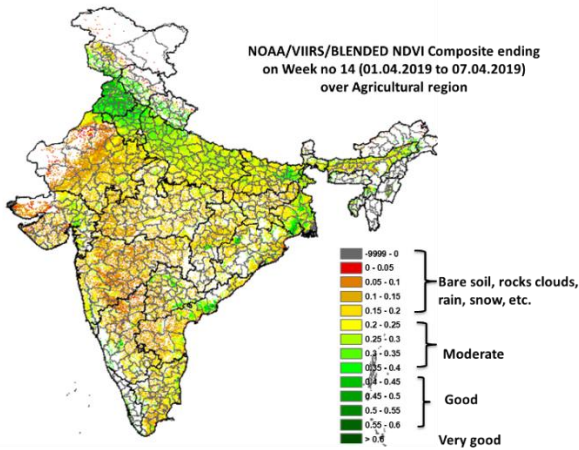
**Mean Wind Speed (km/hr) for the week ending on 10.04.2019**





**NOAA/VIIRS/BLENDED NDVI composite for the week number 14 (01.04.2019 to 07.04.2019) over Agricultural regions of India**

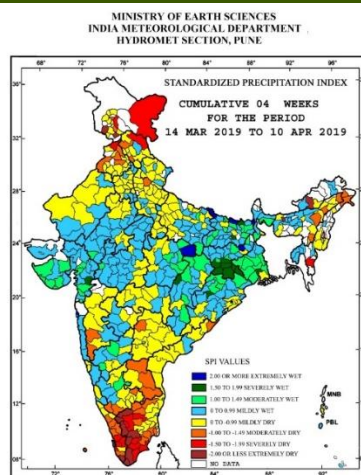
**Difference in NOAA/VIIRS/BLENDED NDVI between week number 14 and week number 13**



Agriculture vigour is good at many places over Punjab and at isolated places over Jammu & Kashmir adjoining Punjab, Uttarakhand, Gangetic West Bengal, interior Odisha and North Coastal Andhra Pradesh, Telangana and South Interior Karnataka. It was moderate over rest of the country.

Moderate difference in agricultural vigour was noticed at many places over Jammu & Kashmir, Assam and West Bengal. It was scattered to isolated over rest of the country.

**Standardised Precipitation Index  
Cumulative 4 weeks for the period 14<sup>th</sup> March to 10<sup>th</sup> April 2019**

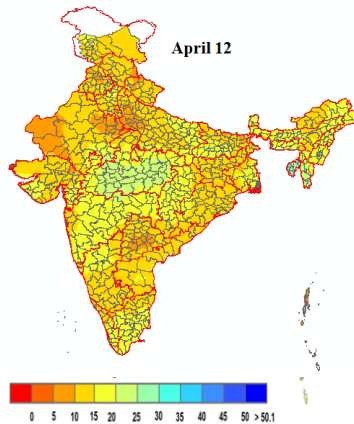


- Extremely/severely wet conditions experienced at a few districts of Jharkhand; Bhadrak district of Odisha; Aurangabad, Begusarai, Jahanabad, Monghyr, Muzaffarpur, Nawada, districts of Bihar; Allahabad district of Uttar Pradesh.
- Extremely/Severely dry conditions experienced at a few districts of TamilNadu & Puducherry; East Kameng district of Arunachal Pradesh; Bongaigaon district of Assam; West Tripura district of Tripura; Jalandhar district of Punjab; Mandi district of Himachal Pradesh; Baramula, Reasi, Badgam, districts of Jammu & Kashmir; Bikaner district of Rajasthan; Bangalore Urban, Ramanagara, Alapuzha, districts of Karnataka; Alapuzha, Kollam, Thrissur, districts of Kerala.
- Moderately dry conditions experienced at a few districts of Arunachal Pradesh; Cachar, Jorhat, Karbi Anglong, Tinsukia districts of Assam; Kanshiram Nagar district of Uttar Pradesh; Hoshiarpur, Kapurthala, Mansa, Moga districts of Punjab; Kinnaur, Una districts of Himachal Pradesh; Ramban, Rajouri districts of Jammu & Kashmir; Kolhapur, Satara districts of Maharashtra; Nellore, Anantapur, Chittoor districts of Andhra Pradesh; Medak, Rangareddy districts of Telangana; Coimbatore, Madurai, Nilgiri, Ramanathapuram, Salem, Tiruvallur, Tiruvarur, Viluppuram districts of TamilNadu &

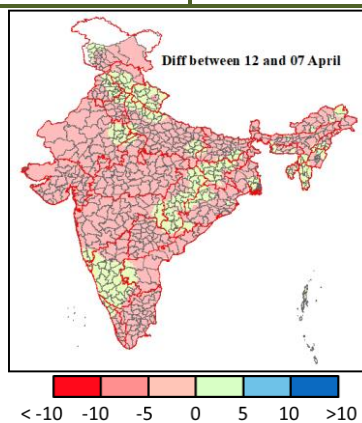
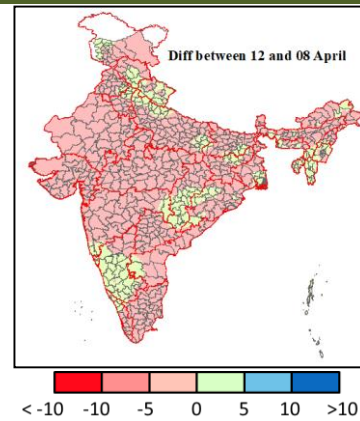
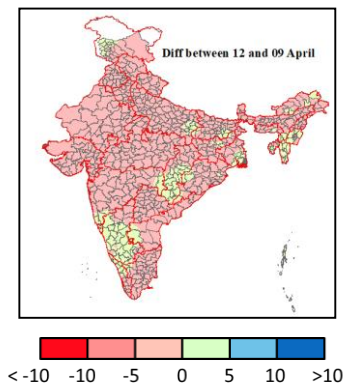
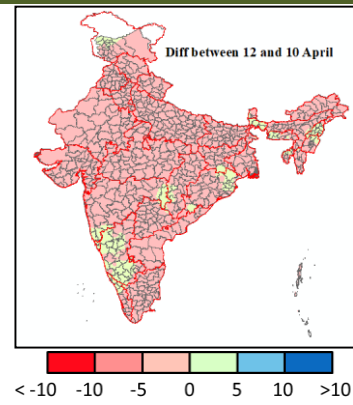
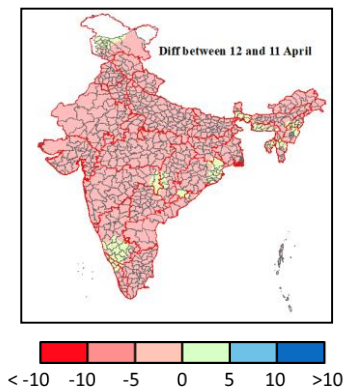
Puducherry; Davangere, Kolar, Tumkur districts of Karnataka; Ernakulam, Kottayam, Kozhikode, Malappuram, Palakkad, Pathanamthitta districts of Kerala.

- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

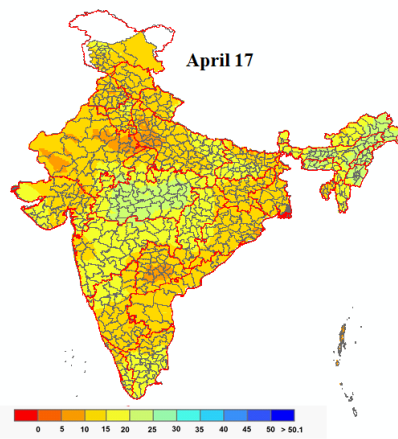
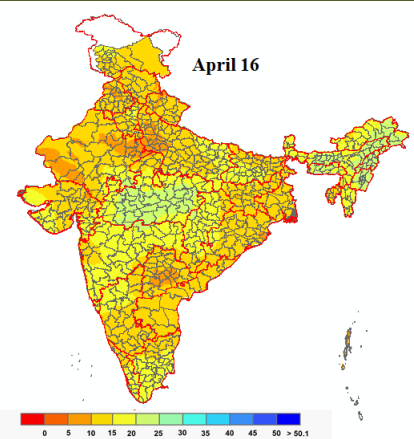
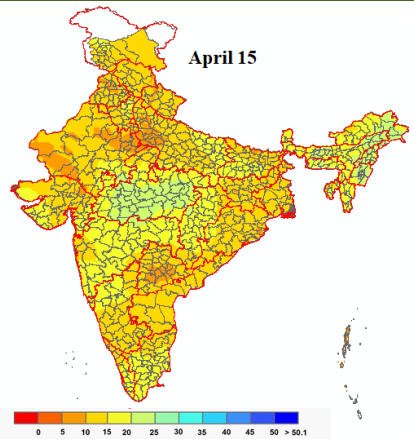
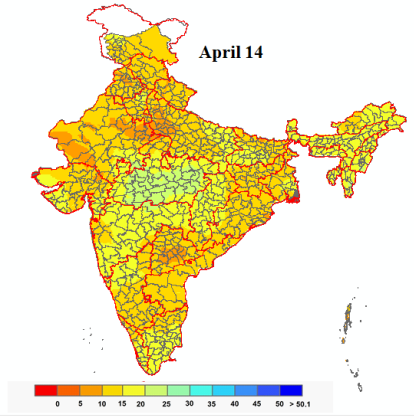
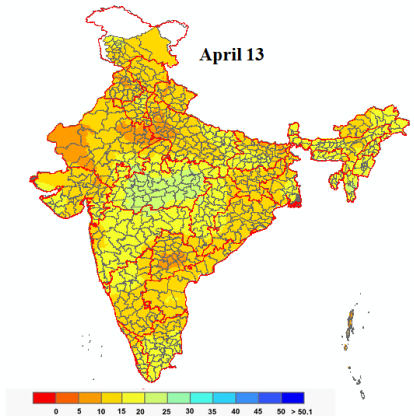
### Daily Soil Moisture (mm) for 12<sup>th</sup> April 2019 (ending at 0830 IST) for 60 cm depth



### Difference of Soil Moisture (mm) for 60 cm depth for past 5 days



**Forecasted Soil Moisture (mm) from 13<sup>th</sup> April to 17<sup>th</sup> April 2019 (ending at 0830 IST)  
for 60 cm depth**



**Weather Forecast for next 5 days valid upto 0830 hours of 16<sup>th</sup> April 2019**

**Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below**

- Day maximum temperatures are likely to rise by 2-3°C over East India during next 3 days. No significant change in day maximum temperatures likely over remaining parts of India during next 3 days. They are very likely to remain above normal by 2-3°C over parts of Telangana, Rayalaseema, interior Tamilnadu, Kerala, interior Maharashtra and northern parts of Gujarat state during next 3 days.

**5 Day Rainfall Forecast (Mid-day)  
12<sup>th</sup> April 2019**

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

- **12 April (Day 1): Heat Wave conditions** in isolated pockets very likely over Madhya Pradesh and Vidarbha.
- **Thunderstorm accompanied with squall and lightning** at isolated places very likely over Gangetic West Bengal and Jharkhand.
- **Thunderstorm/Duststorm accompanied with gusty winds and lightning** at isolated places very likely over West Uttar Pradesh and Rajasthan.
- **Thunderstorm accompanied with gusty winds and lightning** at isolated places very likely over Uttarakhand, Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Andhra Pradesh, Interior Karnataka and Kerala.
- **13 April (Day 2): Thunderstorm accompanied with squall and lightning** at isolated places very likely over Assam & Meghalaya.
- **Thunderstorm accompanied with gusty winds and lightning** at isolated places very likely over Vidarbha, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Nagaland, Manipur, Mizoram and Tripura, Madhya Maharashtra, Marathwada, Interior Karnataka and Kerala.
- **14 April (Day 3): Thunderstorm accompanied with squall and lightning** at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- **Thunderstorm accompanied with gusty winds and lightning** at isolated places very likely over Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Arunachal Pradesh, Madhya Maharashtra, Marathwada, Coastal Karnataka and Tamilnadu & Puducherry.
- **Heavy rainfall** at isolated places very likely over Assam & Meghalaya.
- **Squally winds**, speed reaching 40-50 kmph, very likely over **Northwest Arabian Sea**. Fishermen are advised not to venture into this region.
- **15 April (Day 4): Thunderstorm accompanied with hail storm, squall and lightning** at isolated places likely over North Interior Karnataka.
- **Thunderstorm accompanied with squall and lightning** at isolated places likely over Assam & Meghalaya and Nagaland, Manipur, Meghalaya & Tripura.
- **Thunderstorm accompanied with hail, gusty wind and lightning** at isolated places likely over Marathwada and Vidarbha.
- **Thunderstorm/Duststorm accompanied with gusty winds and lightning** at isolated places likely over West Uttar Pradesh and Rajasthan.
- **Thunderstorm accompanied with gusty winds and lightning** at isolated places likely over Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Madhya Pradesh, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Madhya Maharashtra, Telangana and South Interior Karnataka.
- **16 April (Day 5): Thunderstorm accompanied with squall, hail and lightning** at isolated places likely over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Rajasthan and Bihar.
- **Thunderstorm accompanied with hail, gusty winds and lightning** at isolated places likely over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Vidarbha and Chhattisgarh.
- **Thunderstorm accompanied with gusty winds and lightning** at isolated places likely over Madhya Pradesh, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura, Telangana, Rayalaseema, Coastal Karnataka, Tamilnadu and Kerala.
- **Heavy rainfall** at isolated places likely over Jammu & Kashmir.

### Weather Outlook for subsequent 2 days from 17<sup>th</sup> April to 19<sup>th</sup> April 2019

- Fairly widespread to widespread rain/thundershowers likely over Western Himalayan region; Scattered to fairly widespread over northeast India and southern parts of peninsular India and isolated to scattered rain/thundershowers over northwest, Central & East India.
- Dry weather likely over the rest of the country.

## Salient Advisories

- **Squally winds**, speed reaching 40-50 kmph, very likely over **Northwest Arabian Sea**. Fishermen are advised not to venture into this region.
- Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over **Coastal Andhra Pradesh** on 12<sup>th</sup>, over **Kerala** on 12<sup>th</sup> & 16<sup>th</sup>, over **Interior Karnataka** on 12<sup>th</sup> & 13<sup>th</sup>, over **Coastal Karnataka** and **Tamil Nadu & Puducherry** on 14<sup>th</sup> & 16<sup>th</sup>, over **South Interior Karnataka** on 15<sup>th</sup>, over **Telangana** on 15<sup>th</sup> & 16<sup>th</sup> and over **Rayalaseema** on 16<sup>th</sup> April, thunderstorm accompanied with hail storm, squall and lightning at isolated places likely over **North Interior Karnataka** on 15<sup>th</sup> April, over **Nagaland Manipur, Mizoram** and **Tripura** on 12<sup>th</sup> and 16<sup>th</sup>, thunderstorm accompanied with squall & lightning at isolated places very likely over **Assam & Meghalaya, Nagaland Manipur, Mizoram** and **Tripura** from 13<sup>th</sup> to 15<sup>th</sup> April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane. Use hail net for orchard crops to protect from mechanical damage in North Interior Karnataka. Keep cattles in sheds during thunderstorm period
- As thunderstorm accompanied with gusty winds & lightning at isolated places very likely over **Chhattisgarh** on 12<sup>th</sup> & 13<sup>th</sup>, over Vidarbha on 12<sup>th</sup> & 16<sup>th</sup>, over Madhya Maharashtra on 13<sup>th</sup> to 15<sup>th</sup>, over Marathwada on 13<sup>th</sup> & 14<sup>th</sup> April, over **Odisha** on 13<sup>th</sup> to 16<sup>th</sup>, over **Bihar** on 14<sup>th</sup> & 15<sup>th</sup>, over **Jharkhand** on 14<sup>th</sup> & 16<sup>th</sup> and over Sub-Himalayan **West Bengal & Sikkim** on 15<sup>th</sup>, thunderstorm accompanied with squall, hail & lightning at isolated places very likely over **Bihar** on 16<sup>th</sup> April, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Use hail net for orchard crops to protect from mechanical damage in Bihar and undertake propping in sugarcane in Odisha.
- As thunderstorm/ dust storm accompanied gusty winds & lightning at isolated places very likely over **West Uttar Pradesh** and **East Rajasthan** on 12<sup>th</sup>, over **West Uttar Pradesh** and **Rajasthan** on 15<sup>th</sup>, thunderstorm accompanied gusty winds & lightning at isolated places very likely over **Uttarakhand** on 12<sup>th</sup>, over **Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh** and **Delhi** on 15<sup>th</sup> April, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
- Thunderstorm accompanied with squall, hail & lightning at isolated places very likely over **Punjab, Haryana, Chandigarh** and **Delhi** on 16<sup>th</sup> April, use hail net for orchard crops to protect from mechanical damage.
- As rain/thundershowers likely at many places over **Arunachal Pradesh**, over **Assam & Meghalaya** on 14<sup>th</sup> & 15<sup>th</sup> along with heavy rain at isolated places over **Assam & Meghalaya** on 14<sup>th</sup> April, rain/thundershowers likely at most places over **Jammu & Kashmir** 16<sup>th</sup> along with heavy rainfall at isolated places, at many places over **Himachal Pradesh, Uttarakhand** and **Punjab** April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- In view of the prevailing heat wave conditions in at isolated pockets over **Madhya Pradesh** and **Vidarbha**, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed. Make arrangement of curtains and proper ventilation in poultry house.



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

**Realised Rainfall:** Weather remained mainly dry over region.

**Advisories:**

- **Squally winds**, speed reaching 40-50 kmph, very likely over **Northwest Arabian Sea**. Fishermen are advised not to venture into this region.
- Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Coastal Andhra Pradesh on 12<sup>th</sup>, over Kerala on 12<sup>th</sup> & 16<sup>th</sup>, over Interior Karnataka on 12<sup>th</sup> & 13<sup>th</sup>, over Coastal Karnataka and Tamil Nadu & Puducherry on 14<sup>th</sup> & 16<sup>th</sup>, over South Interior Karnataka on 15<sup>th</sup>, over Telangana on 15<sup>th</sup> & 16<sup>th</sup> and over Rayalaseema on 16<sup>th</sup> April, thunderstorm accompanied with hail storm, squall and lightning at isolated places likely over North Interior Karnataka on 15<sup>th</sup> April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane. Use hail net for orchard crops to protect from mechanical damage in North Interior Karnataka

**Kerala:**

- In Problem Area Zone, prevailing weather condition is highly favourable for the incidence of whitefly attack in coconut, spray organic emulsion Nimbicidine @ 2ml/litre of water or Verticilliumlecanii\*109 ml spore count for the effective control of white fly pest.
- In High Altitude Zone, undertake planting of ginger.
- In Southern Zone, to control attack of pod borer in cowpea, spray 20 gram bird pepper extract in 1 litre cow's urine and 10 litres of water.
- In High Altitude Zone, leaf rust disease in coffee may become severe due to increase in relative humidity, apply fertilizers @ 85 kg urea, 150 kg rock phosphate and 66 kg Potash per hectare.
- In Central Zone, due to increase in temperature, attack of jassids in bhindi has increased, apply 2% neem oil emulsion once in a week or spray Lecanicillium Lecanii @ 20 g per litre of water.

**Andhra Pradesh:**

- In North Coastal Andhra Pradesh, weather is congenial for incidence of False smut and Yellow Stem borer in rice. Erect pheromone traps @ 8-9 per acre to monitor the pest. Spray propiconazole @ 1 ml/l or carbendazim @ 1 g per litre of water for control of False smut and Chlorpyrifos @ 2.5 ml/ lit of water for control of Yellow Stem borer.
- In South Coastal Andhra Pradesh, continue sowing of summer pulses.
- In Rayalaseema continue harvesting of rabi groundnut and continue sowing of summer groundnut with assured irrigation. In Kurnool district of Scarce Rainfall Zone of Rayalaseema, undertake harvesting of rice.

**Telangana:**

- Prevailing weather conditions are congenial for incidence of Tikka leaf spot in groundnut, spray Chlorothalonil @ 2 g/l or Tebuconazole @ 1 ml per liter of water.
- Prevailing weather conditions are congenial for incidence of Cut worm in rice, spray Chlorpyrifos @ 2.5 or Monocrotophos @ 1.6ml per liter of water.

**Tamil Nadu:**

- In Cauvery Delta Zone, undertake harvesting of black gram.
- In Western Zone, undertake sowing of cumbu. Prevailing weather condition is conducive for attack of mealy bug in tapioca and papaya, spray neem oil 2% or neem seed kernel extract @ 5%.
- In North western Zone, due to prevailing high temperature condition, sucking pest incidence will be more in vegetable crops, farmers are advised to install yellow sticky trap ( 5 no / acre) and foliar spray of neem oil and pungam oil ( 75 ml+75 ml+ 20 ml wetting agent / 15 litre of water ) to control the sucking pests.
- In South Zone, as moderate humidity is expected in the coming days, fruit borer may occur in chilli. Collect and destroy the damaged fruits and grown up caterpillars. When damage crosses economic threshold level spray Chlorpyrifos 20 EC @ 3 ml/ l or Quinolphos 25 EC @ 2.5 ml/ litre of water.

**Karnataka:**

- In South Interior Karnataka, for soil moisture conservation in mango orchard, weeds and crop residues mulching is recommended. Keep agricultural implements and seeds (cowpea, sesame, black gram and green gram) ready for sowing of crops.
- In Coastal Karnataka, undertake deep ploughing in rice field.
- In North Interior Karnataka, apply irrigation in groundnut, sugarcane crops and mango orchards. Continue deep ploughing and incorporate the crop residue in the soil.
- In South Interior Karnataka, spray water soluble Sulphur @ 5 g/liter of water or spray a mixture neem oil @20 ml + garlic solution @20 g + soap powder solution @5 g/liter of water to the coconut flower and fruit bunch.
- In Coastal Karnataka and North Interior Karnataka, spray Carbaryl @4 g /litre (50wp) of water, or Imidacloprid @0.25ml / litre of water against leaf hopper in mango orchard.

**Animal Husbandry**

- In Karnataka, apply 4-6 inch thick thatch as a roofing material in poultry house; animals may preferably be grazed during early morning and late evening hours to avoid exposure to extreme hot conditions and during hot hours; animals must be tied and fed in shaded place or under the tree; this will also help in reducing the water requirement. Heaping of fodder, straw may be completed as early as possible to prevent the damage of fodder due to pre-monsoon rains.
- In Tamil Nadu, increase in day and night temperature is expected. Hence, poultry farmers are requested to reduce the temperature by hanging wetted gunny bags or sprinkling the water over the sheds.

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

- **Realised Rainfall:** Significant rainfall occurred in Changlang, East Siang, Papumpare districts of Arunachal Pradesh; all districts of Assam except Bongaigaon, Dibrugarh, Jorhat, Kamrup (Metro), Karbi Anglong, Morigaon, N.C.Hills, Tinsukia; all districts of Meghalaya except West Khasi Hills; Champhai and Lunglei districts of Mizoram; in Tamenglong district of Manipur, all districts of Nagaland except Kephire and all districts of Tripura.

#### **Advisories:**

- As rain/thundershowers likely at many places over Arunachal Pradesh, Assam & Meghalaya on 14th & 15th , along with heavy rain at isolated places on 14th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Nagaland Manipur, Mizoram and Tripura on 12th and 16th, thunderstorm accompanied with squall & lightning at isolated places very likely over Assam & Meghalaya, Nagaland Manipur, Mizoram and Tripura from 13th to 15th April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Keep cattles in sheds during thunderstorm period.

#### **Arunachal Pradesh:**

- Continue sowing of Jhum rice, planting of ginger, turmeric, sugarcane and banana. Continue sowing /transplanting of early kharif vegetables.

#### **Assam:**

- In Lower Bramhaputra Valley of Assam, continue planting of banana, pineapple, citrus crop, papaya, colocasia and sowing of maize. Undertake transplanting of ahu rice. Standing water up to a depth of 2-3cm should be maintained in nursery at least 2-3 days prior to uprooting of seedling. Due to favorable weather, there is chance of attack of leaf spot in green gram and black gram crop. To control this disease, spray Carbendazim 0.05% @ 300-500 g in 600-700 litre of water at 12-15 days interval on non rainy days. Infestation stem borer, ear eating caterpillar, cut worm maybe found in boro rice crop, spray Chlorpyrifos 20 EC at 0.02% concentration @ 1 ml/litre of water to control the pest. Undertake plant protection methods after current spells of rain.
- In Barak Valley Zone of Assam, due to high temperature and humidity, there is chance of attack of Yellow Vein Mosaic disease on okra crop. To control the disease spray Rogar @ 2 ml/litre of water after current spells of rain.
- In North Bank Plain Zone of Assam, undertake transplanting of Ahu rice. Continue planting of banana and ginger/turmeric. Continue sowing of maize and planting of sugarcane.
- In Upper Bramhaputra Valley of Assam, continue transplanting of Ahu rice in the main field. Taking advantage of congenial weather in the coming 5 days farmers are advised to go for gap filling within 7-10 days after transplanting of ahu rice seedlings.
- In Central Bramhaputra Valley of Assam, continue sowing of summer pulses and summer vegetables. Continue land preparation and sowing of Oiltorius jute, ginger, turmeric, sugarcane and planting of papaya, coconut.
- In Hill Zone of Assam, continue transplanting of early ahu rice and nursery raising of transplanted normal ahu rice . Continue land preparation and sowing of summer green gram and black gram and planting of ginger.

#### **Meghalaya, Manipur, Mizoram, Tripura and Nagaland:**

- In Meghalaya, undertake sowing of maize at high and mid altitude region. Continue transplanting of tomato, chilli, brinjal and capsicum. Continue sowing of okra, cole crops (cabbage, cauliflower, broccoli) and root crops (radish, carrot).
- In Nagaland, continue sowing of green gram and nursery preparation Naga king chilli. Continue sowing of Jhum rice in Dimapur, Longleng districts. Continue sowing of maize Kohima, Longleng districts.
- In Manipur, maintain 5-8 cm water level in the field of pre-kharif rice. Undertake nursery raising for sowing of kharif rice and land preparation for sowing of soybean/ groundnut. Undertake harvesting of onion. Use Methyl Eugenol as trap @ 4-10 traps/ sangam against red pumpkin beetle attack in cucurbits crops. To prevent small sucking insects in the lower surface of leaves of tomato crop, use Neem oil @2-3 ml / lit of water after rains.
- In Mizoram, continue sowing of maize, cowpea and okra. Undertake harvesting of matured pod of Zero tillage green gram, black gram and pea.
- In Tripura, continue land preparation for sowing of jhum rice and complete transplanting of summer brinjal and tomato. There is a chance of attack of Yellow Stem Borer in boro rice. Attack can be controlled by flooding the field which kills larvae and pupae. The level of irrigation water can be raised periodically to submerge the eggs

deposited on the lower parts of the plant. The attack can also be managed by application of Thiomethoxam 1ml per 10 litre of water, twice at 7 days interval on non rainy day.

#### **Animal Husbandry:**

- In Manipur and Tripura, vaccinate pigs against swine fever after the age of 3 months and vaccinate cattle against FMD.
- In Meghalaya, provide coccidiostatic like Amprolium @ 25-65 mg/kg feed once a day as a preventive measure against coccidiosis disease in poultry.
- In Nagaland, Supply of plenty of clean and cool water must be ensured during summer months. Provide Electral Energy Electral Energy (1-2 gm/liter) in water during hot hours.
- In Mizoram, carry out deworming in goat.
- In Central Bramhaputra Valley of Assam, to control the anemia disease in 4 and 14 days piglet gives 'Imferon' injection after consulting local veterinary doctor. It is the time for vaccination against the Foot and mouth disease of domestic live stocks like cattle, goat & pigs.

#### **Fishery:**

- In Barak Valley Zone, there is chance of bacterial disease in the fishes. To control the diseases apply lime @ 6 kg per bigha of pond.
- To avoid bacterial disease liming should be done @10kg/kani. During this time farmers either dig new pond or maintain his new pond by re digging. After digging before rain apply FYM 2400 kg and Lime 80 kg per kani may be applied.

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

Realised Rainfall: Rainfall occurred in Bhagalpur, Darbhanga, Kishanganj, Madhepura, Madhubani, Purnea, Sheohar, Sitamarhi, Supaul and West Champaran districts of Bihar; in Deogarh, Dhanbad, East Singbhum, Giridih, Godda, Gumla, Lohardagga, Pakur, Ramgarh, Simdega and West Singbhum district of Jharkhand; in Balasore, Mayurbhanj and Nawarangapur districts of Odisha; in all districts of Gangetic West Bengal except Birbhum, Howrah and Murshidabad and in all districts of Sub-Himalayan West Bengal & Sikkim except South Dinajpur during the week. Weather remained mainly dry/dry over the region.

#### **Advisories:**

- As thunderstorm accompanied with squall & lightning at isolated places very likely over Gangetic West Bengal and Jharkhand on 12<sup>th</sup>, thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Odisha on 13<sup>th</sup> to 16<sup>th</sup>, over Bihar from 14<sup>th</sup> & 15<sup>th</sup>, over Jharkhand on 14<sup>th</sup> & 16<sup>th</sup> and over Sub-Himalayan West Bengal & Sikkim on 15<sup>th</sup>, thunderstorm accompanied with squall, hail & lightning at isolated places very likely over Bihar on 16<sup>th</sup> April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Use hail net for orchard crops to protect from mechanical damage in Bihar and undertake propping in sugarcane in Odisha.

#### **Odisha:**

- Summer paddy crop is at PI to soft dough stage (ten to thirteen week) in main field. Apply irrigation and maintain water up to 5cm @ panicle initiation stage. Sugarcane crop is at early vegetative growth stage (six to eight weeks). Apply irrigation at seven days interval. Continue harvesting of Green gram and black gram crops. Onion crop is at bulb development to maturity (fourteen to eighteen week) stage. Apply irrigation at 7 days interval and stop irrigation 15 days prior to harvesting. Go for sowing of summer vegetables such as okra, bitter gourd, ridge gourd and cucumber. Go for planting of ginger.
- To control Fruit and Shoot borer in brinjal, apply 60ml Coragen 20 SC in 200 litres of water/acre. In case of Fruit borer in Tomato, apply 80 ml Spinosad 14.5SC in 200 litres of water/acre. Rise in temperature may favour infestation of purple blotch in onion. Spray Tebuconazole 18.3%+Azoxytrobin 11% 200g/acre @1g/litre of water to control the disease.

#### **Bihar:**

- Complete the sowing of green gram and black gram. Maintain optimum soil moisture for proper germination and seedling growth. Harvest matured wheat crop and lentil and store it in a safe place. Do not irrigate maize crop if there is sufficient soil moisture due to recent rainfall. Carry out intercultural operations in summer vegetables like cucumber, pumpkin, lady's finger, sponge guard, etc.
- Monitor for infestation of fruit and shoot borer in Lady's finger. If found, spray Malathion 50EC@ 1.0ml or Dimethoate 30EC@1.5 ml per litre of water. Monitor infestation of red pumpkin beetle in cucurbitaceous crop. Spray Dichlorvos 76EC @1 ml /litre of water on a non rainy day.

#### **Jharkhand:**

- Continue harvesting of timely-sown wheat crop. Dry & thresh the crops and store the dry grains. Take up land preparation and sowing of summer mung taking advantage of recent rainfall. Maintain 4-5 cm water level in rice fields at 21-28 days after transplanting.
- To control mite (Baruthi) attack in bhindi, brinjal, chilli, and cucurbit vegetables during summer, spray the

insecticide Omyte/Oberon @ 2 ml per liter of water. Spray Planofix @ 5 ml per 10 litre of water to check dropping of tiny litchi fruits.

#### **West Bengal:**

- In Sub-Himalayan West Bengal, Continue pit preparation for planting of new orchards of Mandarin orange. Take up land preparation for sowing okra. Carry out harvesting of potato crop immediately. Continue planting of ginger and turmeric. To control chilli fruit rot, spray Carbendazim + Mancozeb @ 2.5g/litre of water. Spray Neem oil 10000 ppm @ 3ml/litre with sticker @ 0.5ml/litre at evening hours to control insect/pest population for rice.
- In Gangetic West Bengal, keep Boro rice field weed free and maintain 5 cm of water. Spray Triazophos @1.5ml/liter of water for leaf eating caterpillar in mung crop. For BPH attack in Boro paddy, spray Imidachlorpit@3ml/10 litres of water at the base of plant at late afternoon hours. Apply Spinosad @ 1.5 ml per litre of water for fruit and shoot borer in tomato and brinjal crops.

#### **Andaman & Nicobar Islands:**

- In Andaman Islands, Carryout land shaping activity such as bunding, ring basin around the coconut tree and terrace in coconut garden as the soil condition is conducive. Collect and chop the available unwanted organic materials and fill the vermicompost tank for compost preparation. Spray carbendazim @ 2 g/lit to control powdery mildew in Bhendi.

#### **Animal Husbandry:**

- In Bihar, to avoid loss of essential body salts due to increasing temperature in animals, provide a salt mixture in appropriate quantity mixed with the feed and water to animals. De-worming of animals should be carried out.
- In Odisha, provide clean and adequate water to the cattle. Allow grazing either in morning or in afternoon hours.
- In West Bengal, vaccinate cattle against FMD and chicks against Ranikhet disease.

#### **Fisheries:**

- In West Bengal, pond preparation should be done through cultivation of Dhaincha @ 1-1.5kh/bigha for 30-45 days for seasonal & new pond.

### **WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**

**Realised Rainfall:** Weather remained mainly dry over Maharashtra and dry over Gujarat State.

#### **Advisories:**

- As heat wave conditions at isolated places very likely over Vidarbha on 12th April, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave.
- Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Vidarbha on 12th & 16th, over Madhya Maharashtra on 13th to 15th and over Marathwada on 13th & 14th April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.

#### **Maharashtra:**

- In South Konkan, undertake harvesting of early sown varieties of rice. Remove water from the fields at least 8-10 days before harvesting. Undertake harvesting of early sown groundnut. Dry the harvested pods in sunshine for 3 to 4 days. To control leaf miner in watermelon, apply Dimethoate @ 10 ml per 10 liters of water.
- In Madhya Maharashtra and Marathwada, continue harvesting of onion. For control of shoot fly in sugarcane, spray Chlorantranilprole 18.5% SC @ 4 ml per 10 litres of water. In groundnut, spray 00:52:34 @ 70 g and multi-micronutrient @ 50 g per 15 liter of water to enhance pod formation followed by irrigation. For control of aphids and jassids in sunflower, spray Dimethoate 30 EC @ 0 ml per 10 liters of water. Apply fertilizer dose of Nitrogen @25kg (Urea 54 kg) to the Suru Sugarcane crop at the time 12 to 16 weeks after planting. For control of army worm/ Spodoptera Frujiperda in maize, spray Chlorantranilprole (18.5 % S.C.) @ 150 ml per ha in 500 liters of water.
- In Marathwada, undertake harvesting of turmeric, vegetables and fruit crops as early as possible. Keep the harvested produce in safer place.
- In Vidarbha, to control blast in rice, spray Hinosan @ 6 ml or Copper Oxychloride @ 25 g along with Streptocycline @ 0.5 g in 10 liters of water. To control tikka disease in groundnut, spray Deltamethrin 2.8% @ 500 ml/ha in 500 liters of water on a non rainy day.

#### **Gujarat:**

- In Middle Gujarat, complete sowing of green gram and cowpea crops. Due to high temperature conditions, reduce interval between two irrigations. In present dry weather condition, spread plastic or fodder as mulch in vegetable crops for conserving soil moisture. Carry out weeding operations in timely sown summer bajra, groundnut crops. Protects the papaya fruits with gunny bags against high temperature and maintain the proper moisture near root zone area.
- In North Gujarat, apply irrigation in pearl millet, groundnut, sesame, cluster bean crops. Carry out intercultural operations in pearl millet, sesame, green gram, cowpea, groundnut, cluster bean and vegetable crops. Continue harvesting of matured papaya fruits and wheat crops.
- In Saurashtra & Kutch, apply light irrigation in groundnut, sesame, pulses, vegetable crops and mango orchards.



Carry out intercultural operations in pearl millet, sesame, green gram, black gram and vegetable crops. Continue harvesting of matured papaya fruits.

- In South Gujarat, maintain optimum water level in transplanted rice crop. Undertake Pruning in bare orchards. To control water evaporation from sugarcane field, spread dry leaves of sugarcane in between two rows of sugarcane crop. As there is increase in temperature, apply irrigation in vegetable and fruit crops. Undertake weeding in summer pulses and groundnut crops.
- In Saurashtra & Kutch, in all vegetable crops, thrips infestation is observed above ETL; spray neem seed extract 5 % @500 ml or neem seed oil @50 ml with Profenofos @20 ml or Imidacloprid 30.5 SC @3 ml or Lemdacyhelothrin @10 ml/10 litres of water for thrips control.

#### **Animal Husbandry**

- In Gujarat, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Make arrangement of curtains and proper ventilation in poultry house.

### **CENTRAL INDIA [M.P., CHHATTISGARH]**

**Realised Rainfall:** Rainfall occurred in Bastar district of Chhattisgarh. Weather remained dry over rest of the region during the week.

#### **Madhya Pradesh:**

- As heat wave conditions at isolated places very likely over Madhya Pradesh on 12<sup>th</sup> April, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave.
- In East Madhya Pradesh, undertake harvesting of matured gram and wheat. Undertake intercultural operations in Sugarcane. Continue direct sowing for vegetables like pumpkin, bitter gourd, etc. In Kymore Plateau and Satpura Hill Zone, undertake land preparation for sowing of moong and summer vegetables and sowing of watermelon, melon, cucumber etc.
- In West Madhya Pradesh, Farmers' having good irrigation facility is advised to start sowing of summer moong in fallow fields and choose the improved varieties and treat the seed with Rhizobium culture before sowing. In view of maximum temperature will be around by 42°C during next 5 days, hence; farmers are advised to irrigate the vegetable and orchard crops at evening time and regular monitoring the crops against insect-pest disease infestation.
- In Bundelkhand Zone, there are chances of attack of red pumpkin beetle and fruit fly in cucurbit crops; hence farmers are advised to spray Trizophas 40 E.C. @ 2.0 ml per litre of water or Malathion 50 E.C. @ 1.0 ml per litre of water for their control.

#### **Chhattisgarh:**

- Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Chhattisgarh on 12<sup>th</sup> & 13<sup>th</sup> April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- In Chhattisgarh Plain zone, farmers are advised for proper water management in summer vegetables, summer maize, groundnut and sunflower as per the requirement. Farmers having drip irrigation system for vegetables and plantation crops should regulate the water discharge rate accordingly to maintain proper soil moisture around root zone. Maintain optimum water level in summer rice.
- In Bastar Plateau Zone, complete harvesting of wheat. After the harvest of wheat crop, deep ploughing should be done for sowing of green manure crops in the month of May.
- Undertake sowing of sponge gourd, cucumber, ridge gourd watermelon, muskmelon and bitter gourd. In mango orchards, for control of infestation of mango hopper/sucking pests, fumigation of 10 part disel+ 1 part Imidacloprid should be carried out under the tree and at all four direction.

#### **Animal Husbandry**

- In Madhya Pradesh, dairy farmers are advised to provide 100 g salt/animals/ per liter water and 40 g salt/goat per liter water once in a week. Possibility of high wind speed during the next 5 days; farmers are advised to repair their cattle shade to protect their animals.
- Present weather is suitable for the sheep wool cutting, hence sheep raiser are advised are do wool cutting to avoid heating during the day time.
- In Chhattisgarh, special attention should be given to milch animals with regard to feed and water in view of the prevailing high temperature. Give lot of clean water to the animals and keep them in the shaded place. If possible arrange the fogger in animal shed and sprinkling of water should be done at an interval of every four to five hours. There is a chance of attack of Heat stroke in cattle at present weather condition. Hence, farmers are requested to avail plenty of drinking water for them and do not allow them to remain in sunlight during noon hours. To keep their room cool, Jute bag may be hung as curtain in the windows and it should be wetted time to time.

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

**Realised Rainfall:** Rainfall occurred in Bageshwar and Rudraprayag districts of Uttarakhand, in Ambala district of Haryana and Ropar district of Punjab during the week. Weather remained mainly dry/dry over rest of the region.

**Advisories:**

- As thunderstorm/ dust storm accompanied gusty winds & lightning at isolated places very likely over west Uttar Pradesh and East Rajasthan on 12th, over west Uttar Pradesh and Rajasthan on 15th, thunderstorm accompanied gusty winds & lightning at isolated places very likely over Uttarakhand on 12th, over Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Chandigarh and Delhi on 15th April, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
- Thunderstorm accompanied with squall, hail & lightning at isolated places very likely over Punjab, Haryana, Chandigarh and Delhi on 16th April, use hail net for orchard crops to protect from mechanical damage.
- As rain/thundershowers likely at most places over Jammu & Kashmir 16th along with heavy rainfall at isolated places, at many places over Himachal Pradesh, Uttarakhand and Punjab April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

**Jammu & Kashmir:**

- In Sub Tropical Zone, undertake harvesting of matured wheat at the earliest and complete harvesting of mustard crops as heavy rainfall is expected on 16th April. Complete transplanting of tomato, brinjal and chillies from nursery to field crop. Undertake sowing of summer pulses and okra. Monitor potato and tomato crop for potato leaf roll and tomato leaf curl respectively. Remove virus infected plants. Spray Imidacloprid @ 0.5ml/litre of water to check further spread of disease by whitefly on a non rainy day.
- In Intermediate Zone, continue transplanting of cucurbits (cucumber, bottle gourd, bitter gourd, sponge gourd and pumpkin) in low and mid intermediate areas and solanaceous vegetables (tomato, brinjal, chilli and capsicum) in mid and high intermediate areas of the district. Undertake sowing of okra and french bean. Carry out hoeing and weeding operations in 30 days old solanaceous vegetables (tomato, brinjal and chilli).
- In Valley Temperate Zone, carry out weeding and hoeing operations in agro forestry systems. Provide proper drainage to low lying mulberry plots. Start preparations for propagation of mulberry through cuttings. Apply irrigation to vegetable crops and carry out weeding operation.

**Floriculture :**

- Undertake planting of Liliun, Gladiolus and Dhalia. Start sowing of seeds for summer annual nursery. Remove suckers from budded rose plants.

**Himachal Pradesh:**

- In Mid-Hills Sub-Humid Zone, continue grafting in apple nursery. Apply light irrigation to vegetables, nurseries and fruit crops. Undertake grass mulching of 6 inches thickness in the basins of temperate fruit trees. Continue harvesting of gerbera at fully flower open stage and that of alstroemeria at coloured bud stage. Continue planting of marigold seedlings in the fields.
- In High Hill Temperate Zone, carry out pruning of unwanted branches in apple trees. Undertake grafting work in apple nursery.

**Punjab, Haryana:**

- In Punjab, undertake sowing of summer moong, summer mash, bhindi, cowpea and cucurbits. Undertake transplanting of vegetables (tomato, chilli, brinjal). In Western Plain Zone of Punjab, apply paddy straw or rice husk or sugarcane trash @ 20-25 q/acre between the rows of sugarcane to reduce soil temperature and moisture loss.
- In Haryana, prepare the field for sowing of cotton, continue transplanting of matured seedlings of tomato, cauliflower, cabbage in prepared field and undertake sowing of ladyfinger, bottle gourd, cucumber, ridge gourd and summer radish. Complete the sowing operation of green gram and black gram. Due to possibilities of moderate winds, make bundle of harvested mustard crop to avoid the spreading in the field. Undertake threshing of the harvested mustard & barley crop.
- In Delhi, continue sowing of spinach, coriander, fenugreek. Continue preparation of seedling of early cucurbitaceous crops in small polythene bags and nursery preparation of chilli, tomato and brinjal crops in poly house. Continue sowing of lady finger. Undertake sowing of green gram.

**Uttar Pradesh:**

- In East Uttar Pradesh, continue harvesting and threshing of wheat and barley. Undertake sowing of certified seed of ladies finger after proper field preparation and manure and fertilizers application.
- Undertake intercultural operations in bitter gourd, bottle gourd, cucumber, pumpkin, musk melon, pointed gourd(parwal), watermelon and apply irrigation in as per requirement. Undertake planting of spring season Sugarcane crop. Undertake cultivation of ladies finger, moong and lobia as intercrop in sugarcane.
- In West Uttar Pradesh, continue harvesting and threshing of gram, wheat and barley. Undertake sowing of Sorghum

and Bajra. In view of increasing temperature farmers are advised for light irrigation in vegetable crops.

**Uttarakhand:**

- In Bhabar and Tarai Zone, if the upper part of leaves of onion and garlic are turning yellow, spray solution of Propiconazole or Tebuconazole @ 1 ml/litre of water. To control the juice sucking insect in tomato and chilli, spray sarvangi insecticide.
- In Hill Zone, carry out weeding in onion and garlic. Continue transplanting in tomato, brinjal, chilli and capsicum.
- In Sub-Humid Sub-Tropic Zone, continue sowing of autumn sugarcane crop. Continue sowing of summer maize. Maintain proper soil moisture in early sown maize crop.

**Rajasthan:**

- In Sub Humid Southern Plain and Aravali Hill Zone, complete harvesting of wheat and barley. Due to rise in temperature, evapotranspiration rate will be increased, hence, irrigation should be applied in standing crops at 5 to 6 days intervals to maintain proper soil moisture.
- In Irrigated North Western Plain Zone, harvest matured wheat and gram. Also this is the optimum time of sowing for Desi Cotton. Prepare the field for sowing of cotton. Apply Zinc sulphate (Commercial grade) @ 6 kg/bigha in the soil at root-rot affected fields.
- In Semi Arid Eastern Plain Zone, looking into the rise in temperature, farmers are advised to irrigate their summer vegetables (cucumber, muskmelon, watermelon, bitter gourd, ridge gourd and summer okra) & young fruit plants (Mango, Anola, Pomegranate and Ber) and summer green gram.

**Animal Husbandary**

- Keep the animals sheds neat and clean. It must be well ventilated so that there is fresh air circulation in the shed. Ensure the availability of good quality and quantity of drinking water for the animals. Special care must be given to young ones.
- In view of the heat wave conditions in many parts with severe heat wave at isolated pockets very likely over Rajasthan during next 2 days, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours and provide plenty of water mixed with minerals for drinking. Also provide balanced feed & adopt vaccination schedule. Make arrangement of curtains and proper ventilation in poultry house.
- In Uttar Pradesh, arrange nutritious and digestive fodders for cattle. Keep them under shed to protect from heat. Undertake deworming in poultry. Maintain cleanliness in the poultry shed, keep checking their health, and consult the veterinarian if necessary.

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