



# *National Agromet Advisory Service Bulletin*

*Friday 29<sup>th</sup> March 2019*

*(For the period 29<sup>th</sup> March to 3<sup>rd</sup> April 2019)*



*Issued by*

*India Meteorological Department*

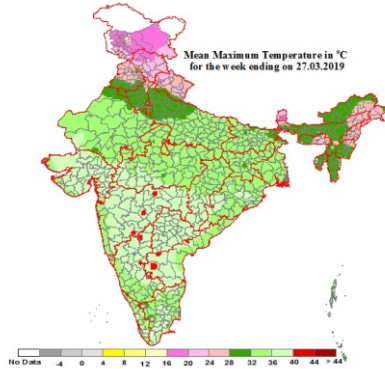
**Weblink For**

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

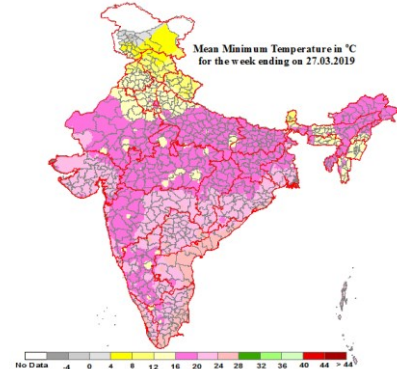
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

**Spatial distribution of weather parameters for the week ending on 27.03.2019**

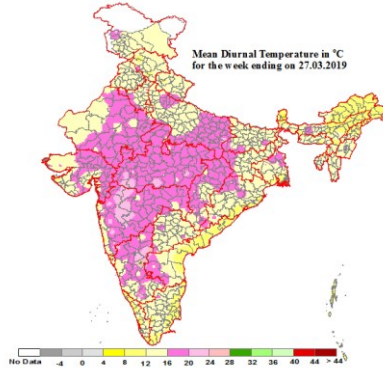
**Mean Maximum Temperature (°C) for the week ending on 27.03.2019**



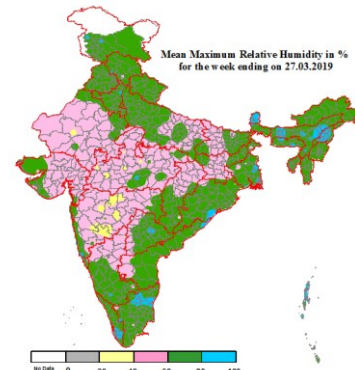
**Mean Minimum Temperature (°C) for the week ending on 27.03.2019**



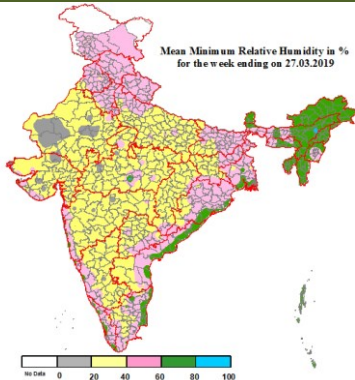
**Mean Diurnal Temperature Variation (°C) for the week ending on 27.03.2019**



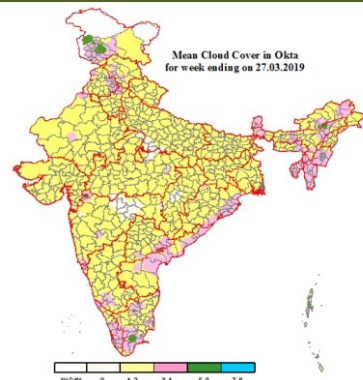
**Mean Maximum Relative Humidity (%) for the week ending on 27.03.2019**



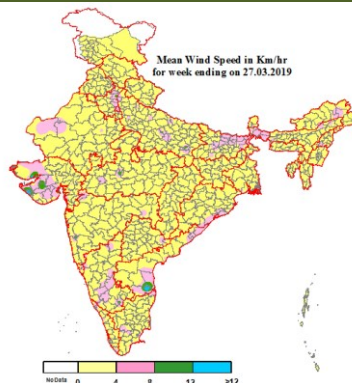
**Mean Minimum Relative Humidity (%) for the week ending on 27.03.2019**



**Mean Cloud Cover (okta) for the week ending on 27.03.2019**



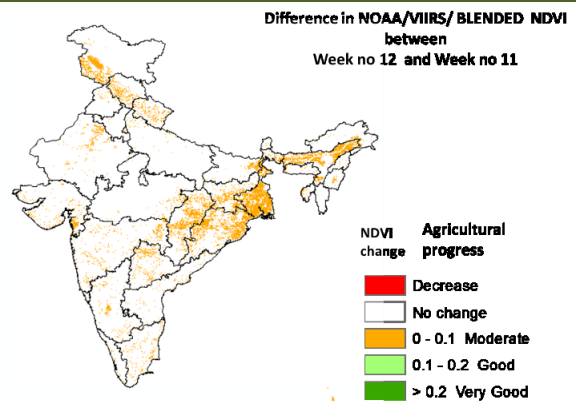
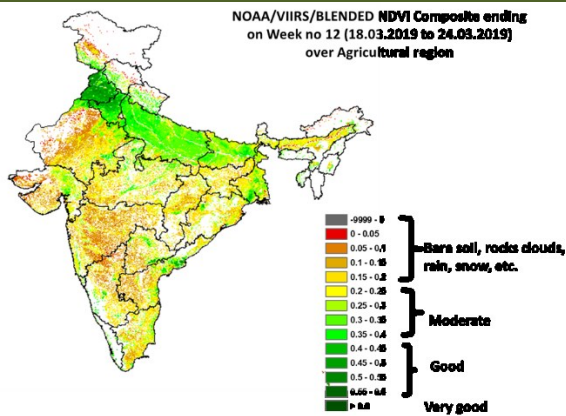
**Mean Wind Speed (km/hr) for the week ending on 27.03.2019**





**NOAA/VIIRS/BLENDED NDVI composite for the week number 12 (18.03.2019 to 24.03.2019) over Agricultural regions of India**

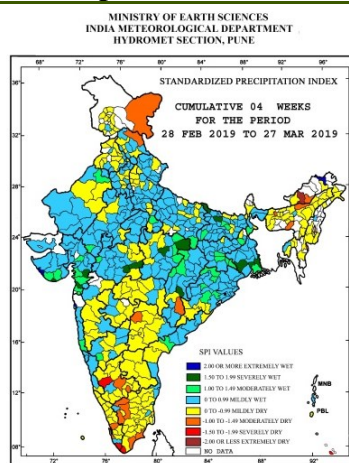
**Difference in NOAA/VIIRS/BLENDED NDVI between week number 12 and week number 11**



Agriculture vigour is good at most places over Punjab; few places over Haryana and at isolated places over West Uttar Pradesh, West Madhya Pradesh, East Bihar, part of Jammu & Kashmir adjoining Punjab, Uttarakhand, Gangetic West Bengal and north Coastal Andhra Pradesh, Southern Kerala. It was moderate over rest of the country.

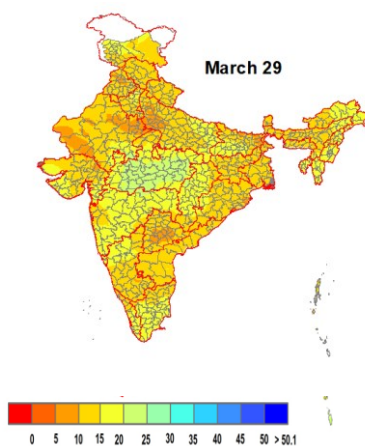
Moderate difference in agricultural vigour was noticed at most places over Gangetic West Bengal, many places over Jammu & Kashmir and scattered to isolated over rest of the country.

**Standardised Precipitation Index  
Cumulative 4 weeks for the period 28<sup>th</sup> February to 27<sup>th</sup> March 2019**

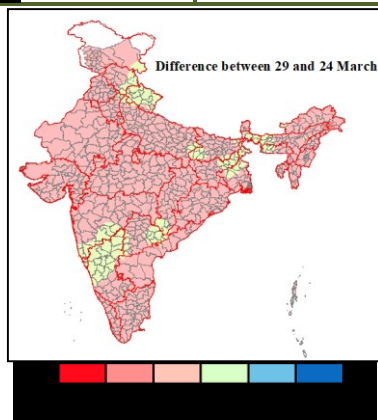
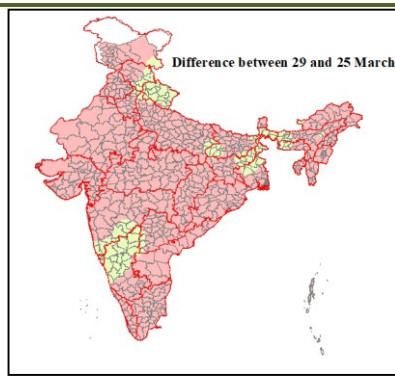
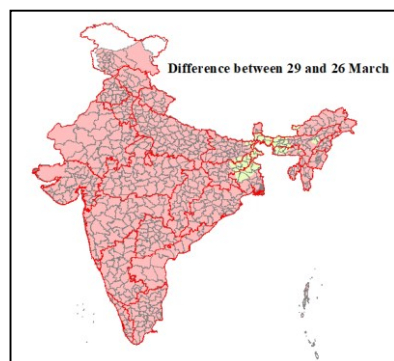
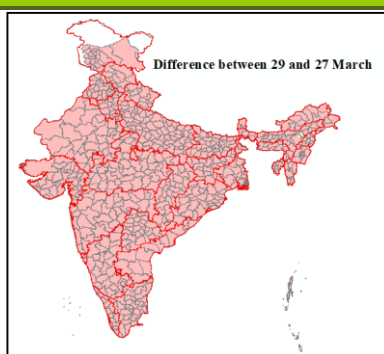
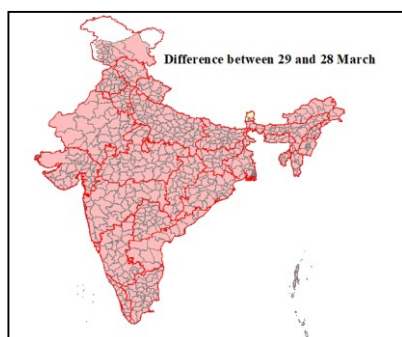


- Extremely/severely wet conditions experienced in few districts of West Bengal; Upper Siang district of Arunachal Pradesh; Katni, Singrauli districts of Madhya Pradesh; Dhamtari district of Chhattisgarh.
- Extremely/Severely dry conditions experienced in East Kameng, district of Arunachal Pradesh; Kanyakumari, district of Tamil Nadu & Puducherry; Chikmagalur, district of Karnataka; Trivandrum district of Kerala.
- Moderately dry conditions experienced in Papumpara, district of Arunachal Pradesh; Cachar, Karimganj, Sonitpur, Bongaigaon districts of Assam; East Khasi Hills district of Meghalaya; Lahaul & Spiti district of Himachal Pradesh; Ladakh (Leh) district of Jammu & Kashmir; Bastar district of Chhattisgarh; Nizamabad district of Telangana; Coimbatore, Erode, Ramanathapuram, Toothukudi districts of Tamil Nadu & Puducherry; Bangalore Urban, Chamarajanagar, Tumkur districts of Karnataka; Alapuzha, Ernakulam, districts of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

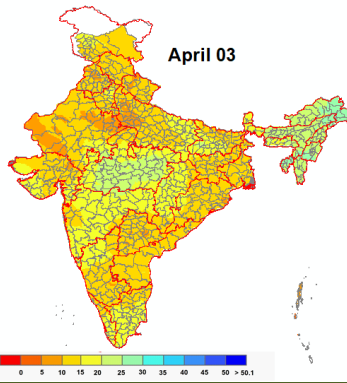
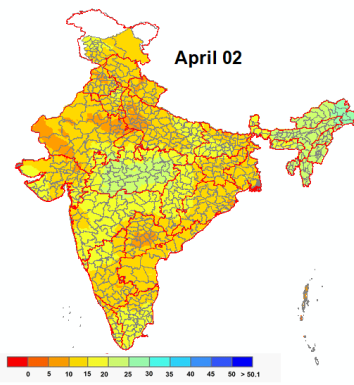
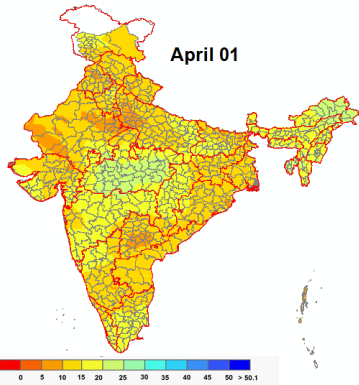
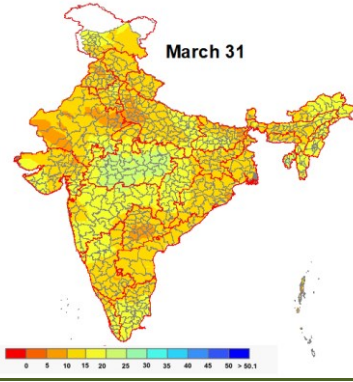
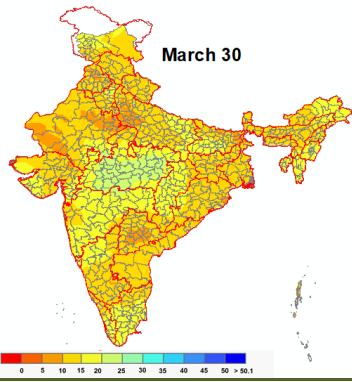
## Daily Soil Moisture (mm) for 29<sup>nd</sup> March 2019 (ending at 0830 IST) for 60 cm depth



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



**Forecasted Soil Moisture (mm) from 30<sup>th</sup> March to 3<sup>rd</sup> April 2019 (ending at 0830 IST)  
for 60 cm depth**



## Weather Forecast for next 5 days valid upto 0830 hours of 3<sup>rd</sup> April 2019

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

- Day maximum temperatures are likely to increase by 2-3°C over East India during next 2-3 days and no significant change over rest parts of the country.

### 5 Day Rainfall Forecast (Mid-day)

29<sup>th</sup> March 2019

Met-Sub-Division	29-Mar Today	30Mar Sat	31Mar Sun	01Apr Mon	02Apr Tue
1. Andaman & Nicobar Islands	ISOL	ISOL	ISOL	DRY	DRY
2. Arunachal Pradesh	DRY	SCT	WS	WS	WS
3. Assam & Meghalaya	DRY	SCT	FWS	WS	WS
4. N. M. M. & T.	DRY	ISOL	FWS	WS	FWS
5. S.H. West Bengal & Sikkim	ISOL	SCT	FWS	SCT	SCT
6. Gangetic West Bengal	ISOL	ISOL	SCT	SCT	ISOL
7. Odisha	ISOL	ISOL	SCT	ISOL	ISOL
8. Jharkhand	ISOL	ISOL	SCT	ISOL	ISOL
9. Bihar	ISOL	ISOL	ISOL	ISOL	ISOL
10. East Uttar Pradesh	DRY	ISOL	ISOL	DRY	DRY
11. West Uttar Pradesh	DRY	ISOL	DRY	DRY	DRY
12. Uttarakhand	DRY	ISOL	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	ISOL	DRY	DRY	DRY
14. Punjab	DRY	ISOL	DRY	DRY	DRY
15. Himachal Pradesh	ISOL	ISOL	DRY	DRY	DRY
16. Jammu & Kashmir	SCT	SCT	DRY	DRY	DRY
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	ISOL	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	ISOL	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	ISOL	ISOL	DRY	DRY
21. Gujarat Region	DRY	DRY	DRY	DRY	DRY
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	ISOL	DRY	DRY	DRY	DRY
24. Madhya Maharashtra	DRY	ISOL	DRY	DRY	DRY
25. Marathawada	DRY	DRY	DRY	DRY	DRY
26. Vidharbha	DRY	ISOL	ISOL	DRY	DRY
27. Chhattisgarh	DRY	ISOL	ISOL	ISOL	DRY
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	DRY	DRY	ISOL	ISOL	ISOL
30. Rayalaseema	DRY	DRY	DRY	ISOL	ISOL
31. Tamilnadu & Puducherry	DRY	DRY	DRY	DRY	DRY
32. Coastal Karnataka	ISOL	DRY	DRY	DRY	ISOL
33. North Interior Karnataka	ISOL	ISOL	DRY	DRY	DRY
34. South Interior Karnataka	ISOL	DRY	DRY	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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

### Weather Warning during next 5 days

**29 March (Day 1):** ♦ Heat wave conditions very likely in some parts of West Rajasthan and in isolated pockets over Madhya Maharashtra, Marathawada, Gujarat State, Southwest Madhya Pradesh and Southeast Rajasthan.

♦Thunderstorm accompanied with gusty winds & lightning at isolated places very likely over North Interior Karnataka.

**30 March (Day 2):** ♦ Thunderstorm accompanied with squall & lightning at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.



**Thunderstorm accompanied with gusty winds & lightning** at isolated places very likely over Jammu & Kashmir, Arunachal Pradesh and West Bengal & Sikkim.

**Heat wave** conditions very likely in isolated pockets over West Rajasthan, Southeast Rajasthan, Madhya Maharashtra, Marathwada and Gujarat State.

**31 March (Day 3): ♦ Thunderstorm accompanied with squall & lightning** at isolated places very likely over Jharkhand, West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Thunderstorm accompanied with gusty winds & lightning** at isolated places very likely over Arunachal Pradesh, Odisha and Telangana.

♦ **Heavy rain** at isolated places very likely over Arunachal Pradesh.

**01 April (Day 4): ♦ Thunderstorm accompanied with squall & lightning** at isolated places likely over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Thunderstorm accompanied with gusty winds & lightning** at isolated places likely over Odisha, Jharkhand, Gangetic West Bengal and Telangana.

♦ **Heavy rain** at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

**02 April (Day 5): ♦ No weather warning.**

**Weather Outlook for subsequent 2 days from 03<sup>rd</sup> April 2019 to 05<sup>th</sup> April 2019**

♦ Fairly widespread rain/thundershowers likely over Northeastern states and isolated over Jammu & Kashmir, East India, South Peninsular India and Bay islands.

♦ Dry weather likely over the rest of the country.

### Salient Advisories

- As heat wave conditions very likely in some parts of West Rajasthan on 29<sup>th</sup> March and isolated pockets on 30<sup>th</sup> March and in isolated pockets over Madhya Maharashtra, Marathwada, Gujarat, Southeast Rajasthan on 29<sup>th</sup> and 30<sup>th</sup> March, Southwest Madhya Pradesh on 29<sup>th</sup> March apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave.
- As thunderstorm accompanied with gusty winds & lightning at isolated places very likely over North Interior Karnataka during next 24 hours, Arunachal Pradesh on 30<sup>th</sup> and 31<sup>st</sup>, Jammu & Kashmir and West Bengal and Sikkim on 30<sup>th</sup>, Odisha & Telangana on 31<sup>st</sup> March and 1<sup>st</sup> April, Jharkhand and Gangetic West Bengal on 1<sup>st</sup> April; Thunderstorm accompanied with squall & lightning at isolated places very likely over Assam & Meghalaya and Nagaland Manipur, Mizoram and Tripura on 30<sup>th</sup> March to 1<sup>st</sup> April, Sikkim on 31<sup>st</sup> March and 1<sup>st</sup> April, Jharkhand and West Bengal on 31<sup>st</sup> March and over Sub-Himalayan West Bengal on 1<sup>st</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 Odisha and Assam.
- As rain is likely at most places during 31<sup>st</sup> March to 2<sup>nd</sup> April along with heavy rain at isolated places on 31<sup>st</sup> over Arunachal Pradesh; many/most places over Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 31<sup>st</sup> March -2<sup>nd</sup> April alongwith heavy rain at isolated places on 1<sup>st</sup> April avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- Continue harvesting of rabi groundnut in Rayalaseema; gram in Chattisgarh, Jharkhand and Rajasthan; mustard, cumin and barley in Rajasthan, wheat in Gujarat and Uttar Pradesh and barley in Uttar Pradesh.
- In Assam undertake transplanting of *Ahu* rice.
- Complete sowing green gram, black gram in Bihar, Haryana. Gujarat.
- Complete planting of sugarcane in North Coastal Andhra Pradesh, Rajasthan and Delhi.

### Detailed Agromet Advisories

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

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

- **Advisories:**

- **Kerala:**
  - In Problem Area Zone, use pheromone traps @ 1 no./25 cents for control of fruit fly in mango.
  - In High Altitude Zone, undertake planting of pepper and ginger.
  - In Central Zone, due to increasing temperature, incidence of whitefly, mealy bug and grass hopper may increase on vegetables, apply 2% neem oil emulsion once in a week.
- **Andhra Pradesh:**
  - In Rayalaseema, continue harvesting of rabi groundnut and stripping of pods with wet/dry pod threshers and drying of the produce.
  - In North Coastal Andhra Pradesh, complete planting of sugarcane. Apply Fipronil granules @ 10 kg/ac before planting and trash mulching @1.25 t/ac. for conservation of soil moisture. Undertake land preparation for sowing of green manure crops like Sunhemp @ 12-15 kg/ac, Dhaicha @ 10-12 kg/ac and Pillipesara @ 6-8kg/ac etc.
  - In South Coastal Andhra Pradesh, weather is congenial for incidence of mite in rice, spray Prophenophos @ 400ml or Dicophol @ 600ml./ per acre.
- **Telangana:**
  - Continue sowing of fodder crops like sorghum, bajra and maize can be taken up for fodder with assured irrigation facilities.
  - 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.
- **Tamil Nadu:**
  - In Western Zone, undertake land preparation to plant Tapiaco and cumbu.
  - In Cauvery Delta Zone, harvesting of matured Samba/Thaladi paddy may be continued .
  - In North Western Zone, spray pink pigmented Methylothrops @ 200 ml/ acre in Tapiaco to protect from increasing temperature.
- **Karnataka:**
  - In Coastal Karnataka, apply irrigation to the areca nut, coconut and black pepper gardens either in furrows or by drip irrigation. Each coconut tree requires 60-70 litre of water per day.
  - In North Interior Karnataka, apply irrigation in groundnut, sugarcane crops, mango (marble size) orchards. Continue deep ploughing in crop harvested fields.
  - In South Interior Karnataka, continue planting of ginger and turmeric. Apply irrigation in coffee (flowering stage) plantation through rain guns/sprinkler irrigation.
  - In North Interior Karnataka, for the control of Anthracnose disease on mango, spray Carbendaizem @1 gram or @1 gram Methyl Thiophenate or Chlorothalonil @2 gram dissolved in one litre of water in clear weather.
  - In South Interior Karnataka, to manage blast disease in rice remove the weed hosts around the field and spray Carbendazim @ 4gm/ litre of water or Tricyclozoal @0.6 gm/litre of water or Ediphenphose @ 1 ml/liter of water in clear weather. About 250-300 liter of spaying solution is required for one acre.
- **Animal Husbandry**
  - In Karnataka, leave the buffaloes in ponds during afternoon hours or sprinkle cold water 2-3 times a day on the body of the animal to overcome the heat. Provide dry fodder after uniform mixing with salt /molasses/jaggery to improve palatability to livestock. Apply 4-6 inch thick hay thatch as a roofing material. Spray water on the floor and roof of shelter periodically during peak hot hours.

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

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Kurung Kumey, Lohit, Lower Dibang Valley, Tawang, Upper Siang and West Siang districts of Arunachal Pradesh; Cachar, Dibrugarh, Hailakandi, Sibsagar and Tinsukia district of Assam; Weather remained mainly dry over rest of the region.
- **Advisories:**
  - As thunderstorm accompanied with gusty winds & lightning at isolated places very likely over over North Interior Karnataka during next 24 hours, Arunachal Pradesh on 30th and 31st ; Thunderstorm accompanied with squall & lightning at isolated places very likely over Assam & Meghalaya and Nagaland Manipur, Mizoram and Tripura on 30th March to 1st April, provide mechanical support to



young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds.

- As rain is likely at most places during 31<sup>st</sup> March to 2<sup>nd</sup> April along with heavy rain at isolated places on 31<sup>st</sup> over Arunachal Pradesh; many/most places over Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura on 31<sup>st</sup> March -2<sup>nd</sup> April along with heavy rain at isolated places on 1<sup>st</sup> April avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

- **Arunachal Pradesh:**

- Undertake sowing of *Jhum* rice during clear/dry days.
- Continue sowing /transplanting of early *kharif* vegetables.

- **Assam:**

- In Lower Brahmaputra Valley of Assam,. Continue planting of sugarcane , banana, capsularis jute and summer vegetables.
- In Barak Valley Zone of Assam, continue land preparation and sowing of *Ahu* rice.
- In North Bank Plain Zone of Assam, undertake sowing of transplanted *Ahu* rice. Undertake sowing of the seeds of direct seeded *Ahu* rice. In intermittent flash flood affected areas, farmers are advised to sow *Bau* rice. Undertake sowing of summer green gram and black gram and planting of banana and ginger/turmeric.
- In Upper Brahmaputra Valley of Assam, undertake transplanting of *Ahu* rice in the main field. Undertake land preparation/planting of ginger/turmeric.
- In Central Brahmaputra Valley of Assam, undertake land preparation for sowing of Capsularis jute, summer pulses and summer vegetables. Continue harvesting of wheat crop .
- In Hill Zone of Assam, in view of increasing temperature, farmers are advised to irrigate wheat crop in milking and grain filling stage. Light irrigation should be done when wind velocity remains calm.

- **Meghalaya, Manipur, Mizoram, Tripura and Nagaland**

- In Meghalaya, undertake land preparation for 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 Manipur , maintain 5-8 cm water level in the field of pre-*kharif* rice. Continue transplanting of 4-5 leave stage cucurbits seedlings, planting of tomato, brinjal and sowing of bhindi.
- In Mizoram, undertake sowing of maize, cowpea and okra.
- In Tripura, undertake harvesting of *rabi* maize after spells of rain and land preparation for sowing of *jhum* rice.
- In Nagaland ,undertake sowing of Green gram and nursery preparation Naga king chilli.

- **Animal Husbandry**

- In Arunachal Pradesh, carry out deworming in cattle with anti helmentic drugs (particularly Tapeworms) viz. Fento Plus @ 1 tablet per 30 kg body during this time.
- 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 (1-2 gm/litre) in water during hot hours.

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

- **Realised Rainfall:** Rainfall occurred in Kandhamal district of Odisha and in East Sikkim and North Sikkim districts of Sub-Himalayan West Bengal & Sikkim during the week. Weather remained mainly dry/dry over the region.

- **Advisories:**

- As thunderstorm accompanied with gusty winds & lightning at isolated places very likely West Bengal and Sikkim on 30<sup>th</sup> , Odisha on 31<sup>st</sup> March and 1<sup>st</sup> April, Jharkhand and Gangetic West Bengal on 1<sup>st</sup> April; Thunderstorm accompanied with squall & lightning at isolated places very likely Sikkim on 31<sup>st</sup> March and 1<sup>st</sup> April, Jharkhand and West Bengal on 31<sup>st</sup> March and over Sub- Himalayan West Bengal

on 1<sup>st</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 Odisha.

➤ **Odisha:**

- Apply irrigation to summer paddy and maintain water up to 5cm from panicle initiation to grain filling stage... Onion crop is at bulb development (twelve to sixteen week) stage. Apply irrigation at 7 days interval. Complete the sowing of summer maize during this week as late sowing may cause reduced yield. Go for sowing of banana, papaya, cucumber, guar, ridge gourd, okra, pumpkin, spinach, etc. Harvest mature winter vegetables.

• **Bihar:**

- Provide irrigation in summer vegetables and late sown wheat, summer and rabi maize and sunflower. Continue sowing of green gram and black gram. Complete the sowing of summer vegetables. Carry out land preparation for sowing of elephant foot yam.
- To protect the mango from the infestation of powdery mildew, spray sulphur based fungicide @1.0ml/litre of water on the foliage of the trees. Protect onion, tomato, brinjal and chilli crops against attack of insect-pest and diseases. Dusting of Chlorpyrifos 2% dust @20 kg/hectare near root of the plant is advised for control of grubs infestation in red pumpkin. In case of severe infestation, spray Dichlorvos76EC@1 ml/litre of water.

• **Jharkhand:**

- Maintain 4-5 cm water level in paddy field and carry out weeding at 21-28 days after transplanting. Apply one irrigation to wheat crop at milky to maturity stage. Harvest mature gram, lentil and field pea crops; dry them, thresh them and store the grains @ 8 – 10% moisture level. Continue sowing of summer cowpea, mung summer vegetables where irrigation facility is available.
- If ear head of wheat crop is affected with loose smut disease (in which ear head appears black and does not bear any grain), destroy it carefully after hand picking and burning.

• **West Bengal:**

- In Sub-Himalayan West Bengal, undertake land preparation for planting of new orchards Mandarin orange.
- In Gangetic West Bengal, maintain 5 cm water level in Boro paddy field. Remove the weeds by hand weeding and keep the bunds clean. Carry out intercultural operations like light spading and weeding in rabi onion and garlic crops on non rainy day.
- In Sub-Himalayan West Bengal, to control the diamond back moth on cruciferous vegetables, spray Dinotefuran 20 SG @ 1g/liter of water. If stem borer is observed on maize crop, apply Chlorantraniliprole 0.4%GR @ 1.5kg/acre at the time of second earthing up after spells of rain.
- In Gangetic West Bengal, spray Triazophos@1.2 ml or Propenophos@1.5ml/litre of water for stem borer attack in boro paddy during panicle initiation stage on non rainy day.

• **Andaman & Nicobar Islands:**

- In Andaman Islands, provide light irrigation to coconut and spices during evening hours as the weather is dry with low humidity. Apply Triazophos @ 2 ml/litre along with neem oil 5 ml to control mealy bug in fruits and vegetables as the weather is conducive.
- In Nicobar Islands, carry out soil application of 2.5 kg Trichoderma viridae mixed with 12.5 tones farm yard manure in 1 ha of coconut palm.

• **Animal Husbandry**

- In Bihar, provide clean water to the milch animals and keep them in the shaded place during noon hours in view of increasing temperature.
- In Jharkhand, provide protection to poultry birds against Ranikhet disease, apply 2 drop F-1 strain in nose of one day old chick. After 8 to 10 week apply R2B (Mukteshwer strain) vaccine after consultation with the veterinary doctor. Take preventive measures against FMD in cattle and PPR in goat/sheep.
- In West Bengal, de-worm all new born animals and vaccinate lambs/kids against PPR.
- In Andaman & Nicobar Islands, provide cool drinking water with electrolyte to poultry birds to reduce mortality due to rise in temperature.

• **Fisheries**

- In Odisha, if the water temperature of the pond goes above 30<sup>0</sup>C or water level goes below 1meter depth, go for early harvest and discontinue fish seed production and culture activity. Fish breeding and culture activity are discouraged.

- 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 in isolated pockets over Madhya Maharashtra, Marathwada, and Gujarat on 29<sup>th</sup> and 30<sup>th</sup> March, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave.
- **Maharashtra:**
  - In South Konkan, apply irrigation to groundnut, vegetable crops and orchards. Undertake mulching with leaves, weed or paddy straw for conservation of soil moisture.
  - In Madhya Maharashtra and Marathwada, apply drip irrigation to vegetables. Also erect shade net to protect vegetables from bright sunshine.
  - In Madhya Maharashtra for the control of leaf blight in maize, spray Mancozeb 80 % WP @ 30 g per 15 litre of water.
  - In Vidarbha apply irrigation to green gram, groundnut, sesame, vegetables and orchards in morning or evening hours. Undertake mulching in orchards for conservation of soil moisture. Undertake intercultural operation like hoeing and weeding in groundnut and sesame.
- **Gujarat:**
  - As prevailing heat wave conditions at isolated places over Gujarat very likely to continue during next 48 hours, undertake soil mulching or apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave; mulching with straw/polythene to conserve soil moisture is advised.
  - In Saurashtra & Kutch, apply light irrigation in sesame, pulses, vegetable crops and mango orchards. Carry out intercultural operations in timely sown groundnut, green gram and black gram crops.
  - In Middle Gujarat, undertake sowing of green gram. Carry out thinning operation in sesame after 20 to 25 days after sowing; maintain 10 cm distance between two plants. Carry out weeding operations in timely sown summer groundnut and bajra crops. Complete harvesting of wheat crop and capsules of castor.
  - In North Gujarat, complete sowing of sesame, green gram, cowpea and vegetable crops. Apply irrigation in timely sown pearl millet crop. Carry out weeding and intercultural operations in timely sown groundnut. Undertake harvesting of matured wheat crop and papaya fruits.
  - In South Gujarat, maintain optimum water level in transplanted rice crop. In mango orchard undertake mulching and to maintain moisture and protect the fruits from spongy tissue. Undertake weeding in summer pulses crops. As there is increase in temperature, apply irrigation in vegetable and fruit crops.
- **Animal Husbandry**
  - In Gujarat, as prevailing heat wave conditions at isolated places very likely to continue during next 48 hours,, 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.

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

**Realised Rainfall:** Rainfall occurred in Dhamtari, Kabirdham districts of Chhattisgarh. Weather remained dry over the region during the week.

- **Advisories:**
  - As heat wave conditions at isolated places very likely in isolated pockets over Southwest Madhya Pradesh on 29<sup>th</sup> March apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave and mulching with straw/polythene to conserve soil moisture.
- **Madhya Pradesh:**
  - In East Madhya Pradesh, apply irrigation in wheat, gram and vegetables. Undertake intercultural operations in Sugarcane. Continue direct sowing for vegetables like pumpkin, bitter gourd, etc. Continue digging up of matured tubers of potato. Continue sowing of okra, maize (baby corn, sweet



corn), moong, urad, groundnut and sunflower. In Kymore Plateau and Satpura Hill Zone, undertake seedling preparation for summer vegetables and sowing of watermelon, melon, cucumber etc. Continue sowing of okra. Undertake harvesting of gram and mustard.

- In Satpura Plateau Zone, due to prevailing high temperatures undertake mulching in summer groundnut and maize to conserve soil moisture
- In West Madhya Pradesh, continue transplanting of tomato, chilli and brinjal. Continue harvesting of matured gram. Continue digging up of matured tubers of potato. Continue sowing of green gram and black gram. Continue sowing of cucurbitaceous crops, musk melon and water melon. Continue digging up of matured bulbs of onion and garlic. Continue harvesting of matured wheat.
- In Bundelkhand Zone, there are chances of leaf curl disease in papaya, chilli, tomato and brinjal crop, if found, spray Methyl Dematon 25 E.C. @ 2.0 ml/litre of water.
- **Chhattisgarh:**
  - Continue harvesting of gram and lentil crops. Apply irrigation in summer rice, sugarcane, wheat and summer vegetable crops. Continue inter-culture, fertilizer application, earthing followed by irrigation in sugarcane crop at knee height stage. Continue sowing of summer vegetables like pumpkin, bitter gourd, bottle gourd, sponge gourd, okra etc. Undertake harvesting of wheat.
  - In Bastar Plateau Zone, continue harvesting of matured wheat. Continue sowing of summer moong, urad and sunflower. Continue sowing of okra, cowpea and coriander and planting of summer sweet potato, arvi and bunda. Undertake sowing of sponge gourd, cucumber, ridge gourd watermelon, muskmelon and bitter gourd.
- **Animal Husbandry**
  - In Madhya Pradesh, keep animals in dry and shaded place and provide green fodder, fresh and clean water three times a day. Provide mineral mixture and fresh and clean water to birds.
  - In Chhattisgarh, special attention should be given to milch animals with regard to feed and water looking to high temperature. Give lot of clean water to the animals and keep them in the shaded place.

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

- **Realised Rainfall:** Rain/snow occurred in Kinnaur and Kullu district of Himachal Pradesh and Bandipore district of Jammu & Kashmir during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
  - As heat wave conditions at isolated places very likely in some parts of West Rajasthan on 29<sup>th</sup> March and isolated pockets on 30<sup>th</sup> March and in isolated pockets over Southeast Rajasthan on 29<sup>th</sup> and 30<sup>th</sup> March, apply light and frequent irrigation to the standing crops to cope up with the excess evaporative demand due to heat wave.
  - As thunderstorm accompanied with gusty winds & lightning at isolated places very likely over Jammu & Kashmir on 30<sup>th</sup>, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds.
- **Jammu & Kashmir:**
  - In Sub Tropical Zone, undertake harvesting of mustard crop when pods turn yellow and undertake sowing of summer vegetables. Undertake transplanting of tomato, brinjal and chillies from nursery to field crop.
  - In Intermediate Zone, monitor rabi pulses like gram and pea for wilt and blight incidence. If symptoms observed drench the affected spots with Carbendazim @ 1 gm in 1 liter of water.
  - In Valley Temperate Zone, carry out weeding followed by hoeing in rabi crops like wheat, oats, lentil, pea, gram.
- **Uttarakhand:**
  - In Bhabar and Tarai Zone, apply irrigation in wheat crop. Carry out weeding and hoeing operations in onion. Undertake transplanting of tomato, capsicum and brinjal.
  - Continue sowing of potato in high altitude. Carry out weeding operation in potato in valley area, wheat, onion and garlic. Undertake transplanting of tomato, brinjal, chilli and capsicum to the main fields.
  - In Sub-Humid Sub-Tropic Zone, undertake sowing of autumn sugarcane crop.

- **Himachal Pradesh:**

- In Mid hills sub humid region weather is congenial for incidence of late blight disease in potato spray carbandizam@ 1.0 gm/litre of water.
- In High Hill Temperate Zone, carry out pruning in apple trees.

- **Punjab, Haryana & Delhi:**

- 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. Monitor mustard and vegetable crops for sucking pests.
- In Western Plain Zone, gram crop can be affected by Ascochyta blight, spray Tilt or Indofil M45 at 10 days interval. Undertake sowing of summer moong and summer mash.
- In Delhi, complete planting of sugarcane and onion. 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. Monitor the vegetable and mustard crops against attack of aphid. If pest population is above ETL than, spraying of Imidacloprid @ 0.25 to 0.5 ml per litre of water.

- **Uttar Pradesh:**

- In East Uttar Pradesh, continue harvesting of wheat and barley. Continue planting of spring sugarcane and continue sowing of ladies finger, moong and lobia as intercrop in sugarcane.
- In West Uttar Pradesh, continue sowing of green gram and black gram. In view of increasing temperature farmers are advised for light irrigation in vegetable crops and undertake sowing of French bean, cluster bean.

- **Rajasthan:**

- Harvest the matured crop of gram, mustard, cumin seeds, barley, isabgoal. Undertake sowing of bottle gourd, cucurbits. Prepare field for summer chilli.
- In Irrigated North Western Plain Zone, complete planting of sugarcane. Also on availability of free field and two irrigations, farmers are advised to do sowing of summer moong.
- In Flood Prone Eastern Plain Zone, the rising temperature increases infestation of powdery mildew in mango resulting into flower and fruit drops. Spray Karathane @ 1ml/l water to manage the disease. Spray 3g copper oxy chloride dissolved in one litre on citrus plants after pruning operation.

- **Animal Husbandary**

- In Uttar Pradesh, provide mineral mixed diet to cattle. Keep them under shed to protect from heat. Vaccinate cattle against foot and mouth disease. Vaccinate poultry birds against Ranikhet disease. Maintain cleanliness in the poultry shed, keep checking their health, and consult the veterinarian if necessary.
- In Semi Arid Eastern Plain Zone of Rajasthan, Foot & Mouth Disease may spread in cows and buffaloes. Vaccinate the animals against FMD. If animal is affected then isolate the affected animal and wash its mouth with 0.1% potassium permanganate solution.

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