



National Agromet Advisory Service Bulletin

Friday 5th April 2019
(For the period 5th to 10th April 2019)



Issued by
India Meteorological Department

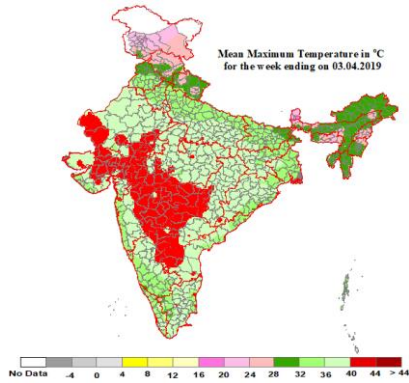
Weblink For

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

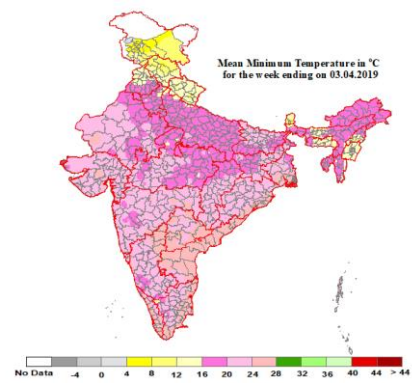
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 03.04.2019

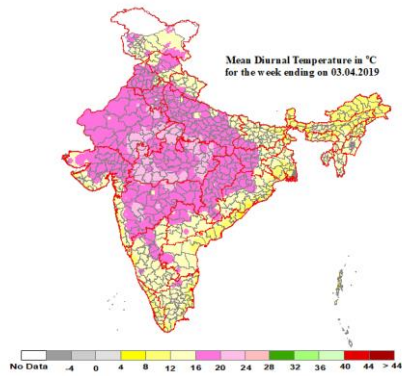
Mean Maximum Temperature (°C) for the week ending on 03.04.2019



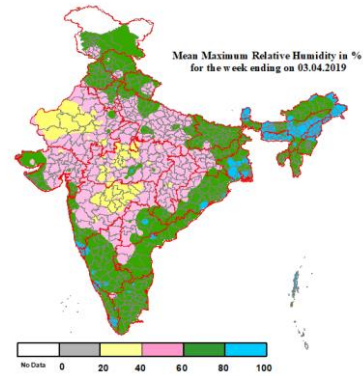
Mean Minimum Temperature (°C) for the week ending on 03.04.2019



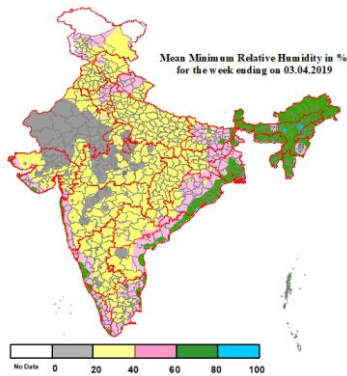
Mean Diurnal Temperature Variation (°C) for the week ending on 03.04.2019



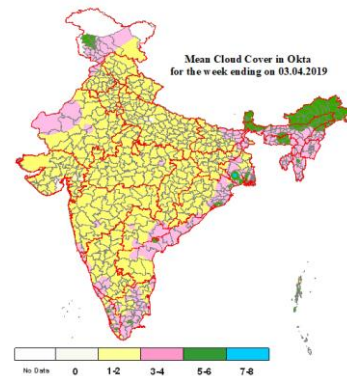
Mean Maximum Relative Humidity (%) for the week ending on 03.04.2019



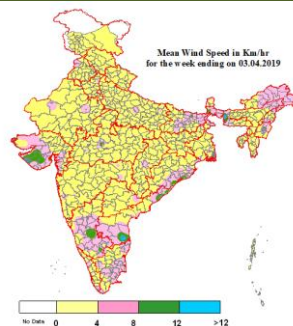
Mean Minimum Relative Humidity (%) for the week ending on 03.04.2019



Mean Cloud Cover (okta) for the week ending on 03.04.2019

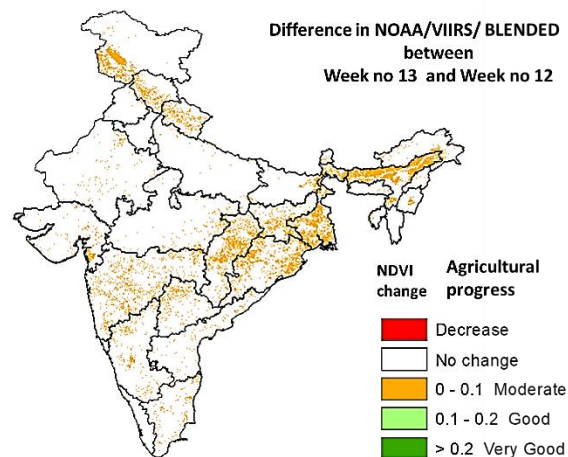
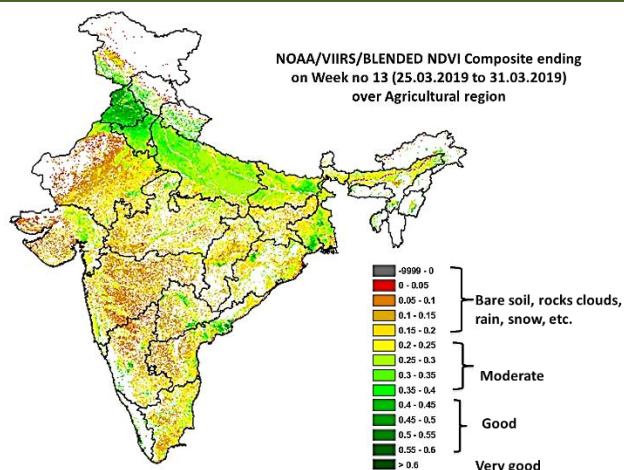


Mean Wind Speed (km/hr) for the week ending on 03.04.2019



NOAA/VIIRS/BLENDED NDVI composite for the week number 13 (25.03.2019 to 31.03.2019) over Agricultural regions of India

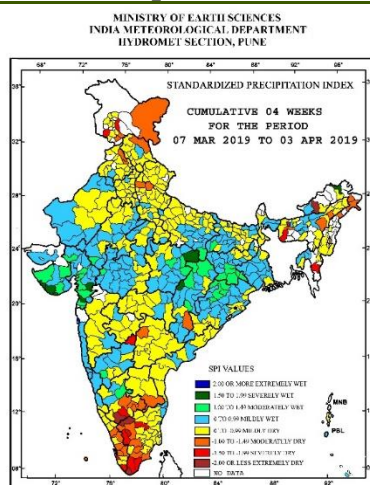
Difference in NOAA/VIIRS/BLENDED NDVI between week number 13 and week number 12



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

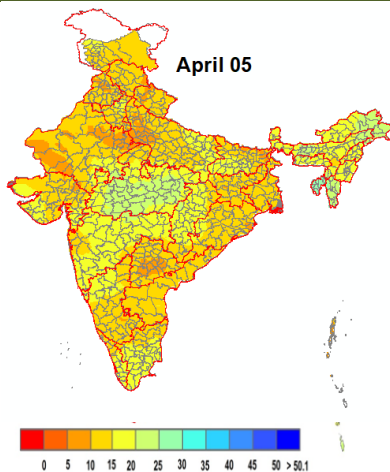
Moderate difference in agricultural vigour was noticed at many places over Jammu & Kashmir, Assam, West Bengal and north Chhattisgarh. It was scattered to isolated over rest of the country.

**Standardised Precipitation Index
Cumulative 4 weeks for the period 7th March to 3rd April 2019**

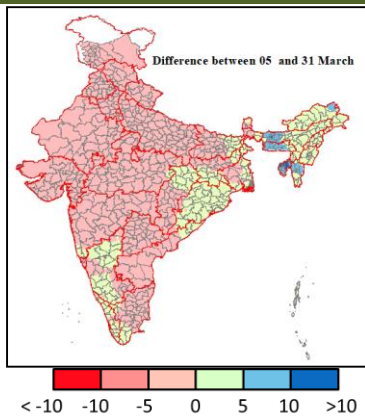
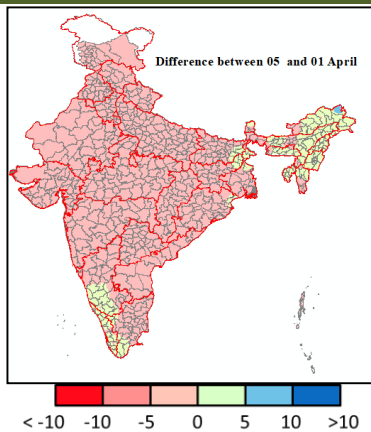
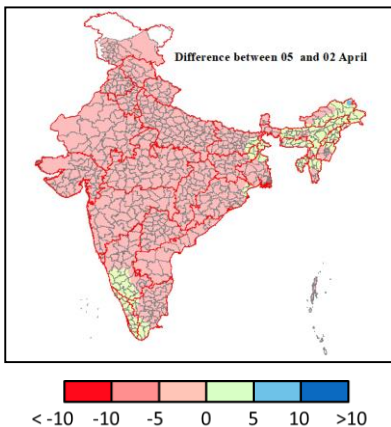
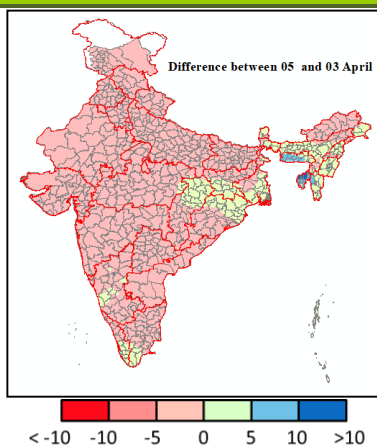
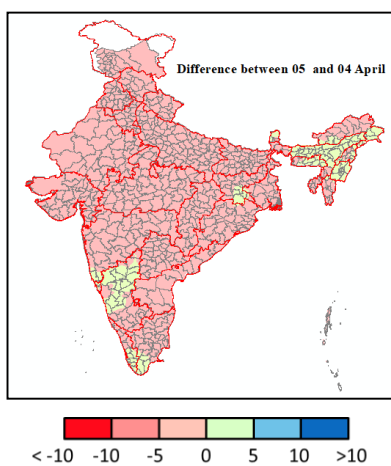


- Extremely/severely wet conditions experienced in few districts of West Bengal; Upper Siang district of Arunachal Pradesh; West Champaran, Muzaffarpur, districts of Bihar; Harda, Hoshangabad, Katni, Singrauli, districts of Madhya Pradesh and Dhamtari district of Chhattisgarh;
- Extremely/Severely dry conditions experienced in East Kameng, districts of Arunachal Pradesh; Bongaigaon district of Assam; West Garo Hills districts of Meghalaya; Kanyakumari, district of TamilNadu & Puducherry; Chikmagalur district of Karnataka; Trivandrum district of Kerala;
- Moderately dry conditions experienced in few districts of Arunachal Pradesh; 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 TamilNadu & 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.

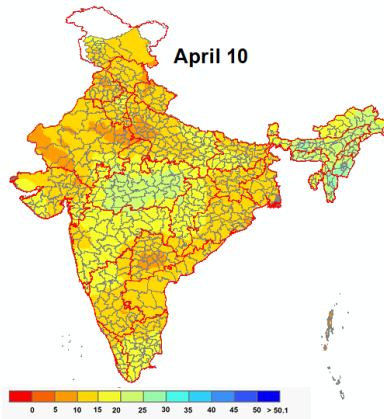
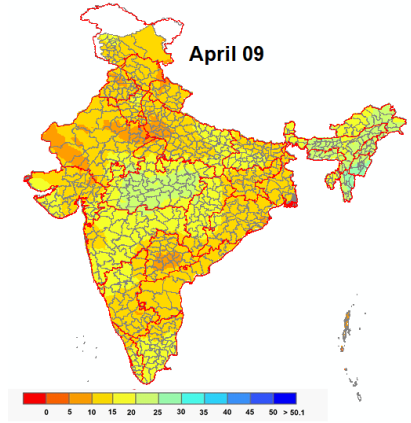
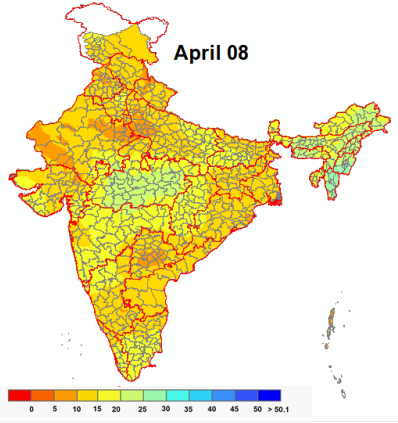
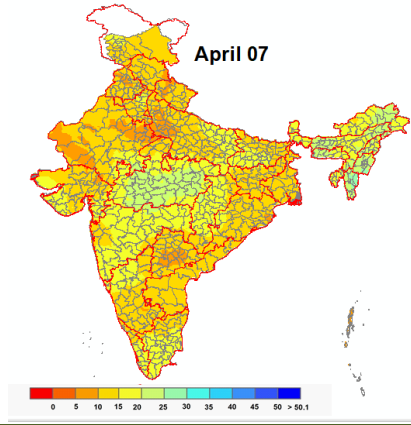
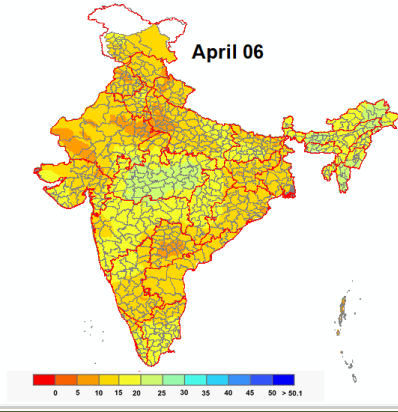
Daily Soil Moisture (mm) for 5th April 2019 (ending at 0830 IST) for 60 cm depth



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



**Forecasted Soil Moisture (mm) from 6th April to 10th April 2019 (ending at 0830 IST)
for 60 cm depth**



Weather Forecast for next 5 days valid upto 0830 hours of 10th April 2019

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

No significant change in day maximum temperatures is likely over major parts of India during next 3 days. They are likely to fall by 2-3°C over parts northwest India from tomorrow. They are very likely to remain above normal by 2-3°C over interior Maharashtra during next 3 days.

**5 Day Rainfall Forecast (Mid-day)
5th April 2019**

Met-Sub-Division	05-Apr Today	06Apr Sat	07Apr Sun	08Apr Mon	09Apr Tue
1. Andaman & Nicobar Islands	ISOL	DRY	DRY	ISOL	ISOL
2. Arunachal Pradesh	ISOL	ISOL	SCT	FWS	FWS
3. Assam & Meghalaya	SCT	FWS	FWS	WS	FWS
4. N. M. M. & T.	SCT	FWS	WS	WS	FWS
5. S.H. West Bengal & Sikkim	SCT	SCT	FWS	SCT	SCT
6. Gangetic West Bengal	SCT	SCT	FWS	SCT	SCT
7. Odisha	ISOL	SCT	ISOL	SCT	ISOL
8. Jharkhand	ISOL	SCT	SCT	ISOL	ISOL
9. Bihar	ISOL	SCT	ISOL	ISOL	ISOL
10. East Uttar Pradesh	DRY	ISOL	ISOL	ISOL	DRY
11. West Uttar Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
12. Uttarakhand	ISOL	ISOL	ISOL	ISOL	ISOL
13. Haryana, Chd & Delhi	ISOL	ISOL	ISOL	ISOL	ISOL
14. Punjab	ISOL	ISOL	ISOL	DRY	ISOL
15. Himachal Pradesh	ISOL	ISOL	ISOL	ISOL	SCT
16. Jammu & Kashmir	ISOL	ISOL	ISOL	SCT	FWS
17. West Rajsthan	ISOL	DRY	ISOL	ISOL	DRY
18. East Rajasthan	ISOL	ISOL	ISOL	ISOL	DRY
19. West Madhya Pradesh	ISOL	ISOL	ISOL	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	ISOL	DRY	DRY	DRY	DRY
25. Marathawada	ISOL	ISOL	DRY	DRY	DRY
26. Vidharbha	ISOL	DRY	DRY	ISOL	ISOL
27. Chhattisgarh	ISOL	ISOL	ISOL	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	ISOL	ISOL	DRY	ISOL	ISOL
30. Rayalaseema	DRY	DRY	DRY	ISOL	ISOL
31. Tamilnadu & Puducherry	ISOL	DRY	ISOL	ISOL	DRY
32. Coastal Karnataka	ISOL	DRY	ISOL	ISOL	DRY
33. North Interior Karnataka	ISOL	ISOL	DRY	DRY	DRY
34. South Interior Karnataka	ISOL	ISOL	ISOL	ISOL	ISOL
35. Kerala	ISOL	ISOL	ISOL	SCT	ISOL
36. Lakshadweep	DRY	ISOL	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

05 April (Day 1): ♦ Heat Wave conditions in many parts with severe at isolated pockets very likely over Rajasthan and in some parts over Madhya Pradesh and isolated pockets over East Uttar Pradesh, south Haryana, Vidarbha and Gujarat State.

♦ **Thunderstorm accompanied with squall (wind speed reaching 60-70 kmph) & lightning** at isolated places very likely over West Bengal & Sikkim.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places very likely over Jharkhand, Bihar, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Vidarbha, Chhattisgarh, Madhya Maharashtra, Marathwada, interior Karnataka, Telangana and Kerala.

♦ **Thunderstorm/duststorm accompanied with gusty winds (wind speed reaching 30-40 kmph) & lightning** at isolated places very likely over Rajasthan, Punjab, West Uttar Pradesh and Haryana, Chandigarh & Delhi.

06 April (Day 2): ♦ Heat Wave conditions in some parts very likely over West Rajasthan and in isolated pockets over Madhya Pradesh, East Uttar Pradesh and East Rajasthan.

♦ **Thunderstorm accompanied with squall (wind speed reaching 60-70 kmph) & lightning** at isolated places very likely over Odisha, Jharkhand, Bihar and West Bengal & Sikkim.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Thunderstorm accompanied with duststorm, gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places very likely over East Uttar Pradesh, East Rajasthan, Punjab and Haryana, Chandigarh & Delhi.

♦ **Heavy rain** at isolated places very likely over Gangetic West Bengal and Tripura.

07 April (Day 3): ♦ Thunderstorm accompanied with squall (wind speed reaching 60-70 kmph) & lightning at isolated places very likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places very likely over Odisha, West Bengal & Sikkim, Jharkhand, Bihar and north Coastal Andhra Pradesh.

♦ **Heavy rain** at isolated places likely over Assam & Meghalaya.

08 April (Day 4): ♦ Thunderstorm accompanied with squall (wind speed reaching 60-70 kmph) & lightning at isolated places likely over Assam & Meghalaya, Nagaland, Manipur & Mizoram and Odisha.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places likely over Gangetic West Bengal, Jammu & Kashmir and Kerala.

♦ **Thunderstorm accompanied with duststorm, gusty winds (wind speed reaching 40-50 kmph) & lightning** at isolated places likely over Punjab and Haryana, Chandigarh & Delhi.

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

09 April (Day 5): ♦ Heat Wave conditions in isolated pockets likely over Rajasthan.

Weather Outlook for subsequent 2 days from 10th April to 12th April 2019

♦ Fairly widespread to widespread rain/thundershowers likely over northeast India; isolated to scattered over Western Himalayan region and isolated over parts of northwest & central India, south peninsula and Bay Islands.

♦ Dry weather likely over the rest of the country.

Salient Advisories

- As heat wave conditions in many parts with severe at isolated pockets very likely over **Rajasthan** and in isolated pockets over **East Uttar Pradesh, south Haryana** on 5th April, in some parts over **West Rajasthan** and in isolated pockets over **East Uttar Pradesh and East Rajasthan** on 6th April and also heat wave conditions in isolated pockets likely over **Rajasthan** on 9th April, heat wave conditions at isolated places over **Madhya Maharashtra, Vidarbha and Gujarat State** on 5th April, **heat wave conditions** in some parts over **Madhya Pradesh** on 5th and at isolated pockets on 6th April, 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 dust storms, gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over **East Uttar Pradesh, East Rajasthan** on 6th, over **Punjab, Haryana, Chandigarh and Delhi** on 6th & 8th April, provide mechanical support to young fruit plants and staking in vegetables to prevent the crops from lodging due to strong winds. Undertake propping in sugarcane.
- Thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over **Assam & Meghalaya and Nagaland Manipur, Mizoram and Tripura** on 5th & 6th, thunderstorm accompanied with squall (**wind speed reaching 60-70 kmph**) & lightning at isolated places very likely on 8th April, thunderstorm accompanied with squall (**wind speed reaching 60-70 kmph**) & lightning at isolated places very likely over **West Bengal and Sikkim** on 5th and 6th, over Odisha on 6th & 8th, over **Bihar and Jharkhand** on 6th April, thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over **Odisha, Jharkhand and West Bengal & Sikkim** on 7th and over **Gangetic West Bengal** on 8th April, over **Vidarbha and Madhya Maharashtra** on 5th 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 Assam, Odisha and Madhya Maharashtra. Keep cattles in sheds during thunderstorm period.
- As rain/thundershowers likely at most/ many places over **Assam & Meghalaya, Nagaland, Manipur Mizoram & Tripura** from 6th to 9th April along with heavy rain at isolated places over Assam & Meghalaya on 7th & 8th, over Nagaland, Manipur & Mizoram on 8th and over Tripura on 6th April; rain/thundershowers likely at many places over **Arunachal Pradesh** on 8th & 9th April, over **West Bengal** on 7th along with heavy rain at isolated places very likely over Gangetic West Bengal on 6th 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**;; mustard, cumin and barley in Rajasthan, wheat and barley in Uttar Pradesh.
- 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.

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

- **Realised Rainfall:** Weather remained mainly dry/dry over the region.
- **Advisories:** Thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over Kerala on 5th & 8th, over Interior Karnataka and Telangana on 5th 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.
- **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 Southern Zone, nut fall is noticed in coconut plantations due to intense heat and existing high temperature, irrigation is recommended once in a week.
 - 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 Northern Zone, warm humid conditions can cause mahali disease in arecanut, spray Hexaconazole (contaf) 1 ml/litre or Bordeaux mixture 1%. Repeat after 20-25 days.
- **Andhra Pradesh:**
 - In South Coastal Andhra Pradesh, undertake sowing of summer pulses.
 - In Rayalaseema, undertake sowing of summer groundnut with assured irrigation.
 - In North Coastal Andhra Pradesh, weather is congenial for incidence of stem borer on rice, spray Cartap hydrochloride 4 G granules @ 8 kg/acre.
- **Telangana:**
 - Undertake spraying of Planofix @ 3 ml/15 lit of water to avoid flower drop and help in fruit formation in Mango.
 - Prevailing weather conditions are congenial for the incidence of stem borer and leaf folder on rice, spray Cartap hydrochloride @ 2 g or Chlorantraniliprole @ 0.3 ml per liter of water.
- **Tamil Nadu:**
 - Due to dry weather conditions irrigation may be given to summer irrigated sesame at flowering stage to avoid flower drop. In Western Zone, undertake land preparation to plant Tapiaco and cumbu.
 - In North western Zone, moisture stress is noticed in groundnut crop due to high temperature and dry weather conditions. To protect the groundnut crop, irrigate the field once in seven days and micro irrigation farmers may irrigate the field through sprinkler irrigation once in five days for achieve good yield.
 - 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/1 or Quinolphos 25 EC @ 2.5 ml/1.
- **Animal Husbandry:**
 - 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.
 - The present weather would raise thermal humidity index of more than 72. This may be provide discomfort to animals. Daily bathing of animals and keeping the cattle shed cool by operating foggers is necessary to prevent the reduction in milk production.
- **Karnataka:**
 - In Coastal Karnataka, apply protective irrigation to coconut, mango, arecanut, banana, cashew and pepper gardens once in 5 to 7 days.
 - 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, complete planting of ginger and turmeric. Apply irrigation in coffee plantation through rain guns/sprinkler irrigation.
 - In North Interior Karnataka, for the control of leaf hoppers, spray the mango orchard with Carbaryl @ 4 gram or Imidacloprid @ 0.25 ml dissolved in one litre of water. In case of abrupt increase in the hopper population, then go for spraying with Azadirectin @ 7 ml dissolved in one litre of water.
 - In South Interior Karnataka, spray Neem oil @ 5 ml or Coragen @ 0.1ml / litre of water in arecanut against bagworm.
- **Animal Husbandry**
 - In Karnataka, 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. Leave the buffaloes in ponds during afternoon hours or sprinkle the cold water 2-3 times a day on the body of the animal to overcome the heat.

- **Realised Rainfall:** Rainfall occurred in Changlang, East Siang, Kurung Kumey, Lohit, Papumpare, Tawang, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh; Baksa, Barpeta, Cachar, Chirang, Dhubri, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Kamrup(Metro), Karimganj, Kokrajhar, Lakhimpur, N.C.Hills, Nowgaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam; East Garo Hills, East Khasi Hills and Ri-Bhoi districts of Meghalaya; Aizwal and Champhai districts of Mizoram; Bishnupur, Churachandpur and Imphal West districts of Manipur and all districts of Tripura.
- **Advisories:**
- As rain/thundershowers likely at most/ many places over Assam & Meghalaya, Nagaland, Manipur Mizoram & Tripura from 6th to 9th April along with heavy rain at isolated places over Assam & Meghalaya on 7th & 8th, over Nagaland, Manipur & Mizoram on 8th and over Tripura on 6th April.; rain/thundershowers likely at many places over Arunachal Pradesh on 8th & 9th 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 (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over Assam & Meghalaya and Nagaland Manipur, Mizoram and Tripura on 5th & 6th, thunderstorm accompanied with squall (**wind speed reaching 60-70 kmph**) & lightning at isolated places very likely on 8th 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. Undertake 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. 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.
 - In Barak Valley Zone of Assam, continue land preparation and sowing of Ahu rice.
 - In North Bank Plain Zone of Assam, continue 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. Continue sowing of summer green gram and black gram and planting of banana and ginger/turmeric. Undertake sowing of maize and planting of sugarcane.
 - In Upper Bramhaputra Valley of Assam, continue transplanting of Ahu rice in the main field. Continue land preparation/planting of ginger/turmeric.
 - In Central Bramhaputra Valley of Assam, continue sowing of Capsularis jute, summer pulses and summer vegetables. Continue harvesting of wheat crop. Undertake land preparation and sowing of Oiltorius jute, ginger, turmeric, sugarcane and planting of papaya, coconut.
 - In Hill Zone of Assam, Continue transplanting of transplanted 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, continue 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 planting of tomato, brinjal and sowing of bhindi.
 - In Manipur, 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 greengram, blackgram, toria and pea.
 - In Tripura, continue land preparation for sowing of jhum rice and transplanting of summer brinjal and tomato.
 - In Tripura, there is a chance 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.
 - In Nagaland , undertake 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.
- **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 Mizoram, carry out vaccination against Ranikhet disease in poultry.
- In Lower Brahmaputra Valley of Assam, before monsoon season, immunize cattle and buffalo against FMD (Foot & Mouth Disease), HS (Hemorrhagic Septicemia) and BQ (Black Quarter) diseases. For details contact local veterinarian.
- **Fishery:**
- In Upper Brahmaputra Valley of Assam, it is time to prepare the ponds for new batch of fishes. Dry up the bottom of the ponds for 15-20 days and remove the upper layer of the bottom soil followed by ploughing and addition of lime. After 7-15 days of application of lime, add cow dung and other fertilizers after proper consultation with fishery extension officer.

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

- **Realised Rainfall:** Rainfall occurred in Soputh Andaman and Nicobar districts of Andaman & Nicobar Islands, in Simdega district of Jharkhand, in Ganjam district of Odisha and in Cooch Behar, Darjeeling, East Sikkim, Jalpaiguri, North Sikkim and South Sikkim districts of Sub-Himalayan West Bengal & Sikkim during the week. Weather remained mainly dry/dry over the region.
- **Advisories:**
- As rain/thundershowers likely at many places over West Bengal on 7th, heavy rain at isolated places very likely over Gangetic West Bengal on 6th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- As thunderstorm accompanied with squall (**wind speed reaching 60-70 kmph**) & lightning at isolated places very likely over West Bengal and Sikkim on 5th and 6th, over Odisha on 6th & 8th, over Bihar, and Jharkhand on 6th April, thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over Odisha, Jharkhand and West Bengal & Sikkim on 7th and over Gangetic West Bengal on 8th 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. Sugarcane crop is at early vegetative growth stage (five to seven weeks). Apply irrigation at seven days interval. Green gram and black gram crops are at seed maturity to harvesting stage. Harvest the matured pods. Onion crop is at bulb development to maturity (thirteen to seventeen 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, cluster bean, cow pea and ridge gourd by the end of March.
- To prevent onion tip burn, apply 400ml Hexaconazole by mixing in 200 litres of water and spray over 1 acre. In case of Fruit and Shoot borer in brinjal, go for application of 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.
- **Bihar:**
- Complete the sowing of green gram and black gram by 10th of April. Maintain optimum soil moisture for proper germination and seedling growth. Harvest matured wheat crop and lentil crop immediately and store it in a safe place as rainfall is expected at a few places the next two days. Carry out intercultural operations in summer vegetables like cucumber, pumpkin, lady's finger, sponge gourd, etc. Carry out land preparation and undertake sowing of elephant foot yam.
- Monitor onion crop against thrips. If infestation is above ETL, spray Profenofos@1ml/litre or Imidacloprid@1ml/4 litres 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:**
- Undertake harvesting of matured wheat, gram and lentil crops. Dry & thresh the crops and maintain 8 – 10% moisture level at the time of storage of dry grains. Continue sowing of summer cowpea and summer mung where irrigation facility is available. Continue sowing of okra after seed treatment with Carbendazim or Thiram @ 2 g per kg seeds. Maintain 4-5 cm water level in rice fields and carry out weeding at 21-28 days after transplanting.
- To control Pyrella nymph and adults in sugarcane, spray Monocrotophos or Emidacloropid @ one liter per hectare and for control of shoot borer, apply Chlorpyriphos 10G granules 2 to 3g in apical leaf part at 30 day after planting.
- **West Bengal:**
- In Sub-Himalayan West Bengal, undertake pit preparation for planting of new orchards of Mandarin orange.

Continue land preparation for planting of ginger and turmeric. Undertake sowing of Maize, Bajra and Jowar as green fodder. To control sucking pest on vegetables crops spray dadece @ 1.5g/litre of water with sticker @ 0.5ml/litre. Spray Neem oil 10000 ppm @ 3ml/litre with sticker @ 0.5ml/litre at evening hours to control insect/pest population for rice spray. Undertake plant protection methods after current spells of rain.

- In Gangetic West Bengal, spray a mixture of Tricyclozole and Hexaconazole @ 2ml/litre of water for control of blast attack in Boro paddy during panicle initiation. If head of sunflower is attacked by Lepidoptera caterpillar, spray Fame @ 3ml/10 litre of water at afternoon hours. Apply Spinosad @ 1.5ml/litre of water for control of shoot and fruit borer in brinjal. Undertake plant protection methods after current spells of rain.
- **Andaman & Nicobar Islands:**
 - In Andaman Islands, spray neem seed kernel extract @ 5 % to control white fly for the management of yellow vein mosaic disease in bhendi and repeat after 15 to 20 days interval. Mulch with dried coconut leaves around the coconut tree to conserve moisture. Take-up land shaping work in low-lying area.
 - In Nicobar Islands, make basin around the coconut tree to harvest rain water.
- **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. Vaccinate animals against FMD, BQ and PPR.
 - 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 Odisha, make arrangement for sufficient clean drinking water for the livestock at different locations. Do not allow the animals to graze in open field during peak temperatures. Arrange to feed green forages to animals on regular basis.
 - In West Bengal, vaccinate cattle against FMD and chicks against Ranikhet disease.
 - In Andaman & Nicobar Islands, provide vitamin-C and electrolyte along with drinking water to the poultry birds to prevent from heat stress.
- **Fisheries:**
 - In Odisha, if the water temperature of the pond goes above 30°C or water level goes below 1 meter 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 @ 1-1.5 kh/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 over some parts of Madhya Maharashtra, Vidarbha and Gujarat State on 5th 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 (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over Vidarbha and Madhya Maharashtra on 5th 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, apply irrigation to groundnut, vegetables and orchards. To control fruit borer in mango, apply Dichlorovhas (DDVP) @ 10 ml/10 litres of water. To control powdery mildew in mango, spray Hexaconazole 5% @ 5 ml or wettable Sulphur 80% @ 20 g per 10 litres of water.
 - In Madhya Maharashtra and Marathwada, undertake harvesting of onions. Keep the harvested produce in safer place. Undertake mulching in orchards. For control of sap sucking pests in vegetables, spray 5% Neemark. Also apply irrigation to groundnut, vegetables and orchards. To control sucking pest in tomato, chilli and brinjal, spray Dimethoate @ 20 ml per liters of water.
 - In Marathwada, due to hailstorm and gusty wind, flower and immature fruit drop has occurred in most of the mango orchards. In order to prevent further losses due to flower and fruit drop, spray NAA @ 15 PPM or 13:00:45 @ 15 g per liters of water.
 - In Vidarbha, apply irrigation to green gram, groundnut, sesame, vegetables and orchards. Undertake mulching in orchards for conservation of soil moisture. For control of fall armyworm in maize, spray Thiomethaxom(12.6%) + Lambdacyhalothrin(9.5%) @ 2.5 ml or Chlorantraniliprole 18.5% @ 3 ml in 10 litres of water.
- **Gujarat:**
 - In Saurashtra & Kutch, apply light irrigation in sesame, pulses, vegetable crops and mango orchards. Carry out intercultural operations in pearl millet, sesame, green gram, black gram and vegetable crops. Undertake

- harvesting of matured papaya fruits.
- In North Gujarat, apply irrigation in timely sown pearl millet crop. Carry out intercultural operations in pearl millet, sesame, green gram, cowpea, groundnut and vegetable crops. Continue harvesting of matured papaya fruits and wheat crops.
- In Middle Gujarat, complete sowing of green gram and cowpea crops. 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 bajra crops.
- In South Gujarat, maintain optimum water level in transplanted rice crop. 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.
- **Animal Husbandry**
 - In Gujarat, in view of the prevailing heat wave conditions at isolated places, 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:** Weather remained dry/mainly dry over the region during the week.
- **Advisories:**
 - As heat wave conditions very likely in some parts over Madhya Pradesh on 5th and at isolated pockets over Madhya Pradesh on 6th April, 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:**
 - Thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over Chhattisgarh on 5th, 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.
 - 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 Baramula and Kupwara district of Jammu & Kashmir during the week. Weather remained mainly dry/dry over rest of the region.

- **Advisories:**
- As heat wave conditions in many parts with severe at isolated pockets very likely over Rajasthan and in isolated pockets over East Uttar Pradesh, south Haryana on 5th April, very likely in some parts over West Rajasthan and in isolated pockets over East Uttar Pradesh and East Rajasthan on 6th April and also heat Wave conditions in isolated pockets likely over Rajasthan on 9th April, 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 dust storms, gusty winds (**wind speed reaching 40-50 kmph**) & lightning at isolated places very likely over East Uttar Pradesh, East Rajasthan on 6th, over Punjab, Haryana, Chandigarh and Delhi on 6th & 8th April, 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 rat control campaign around the wheat field and make preparation for harvesting. Continue harvesting of mustard crop when pods turn yellow. The bundles of the harvested plants should be kept in stack with head upwards before threshing. Complete sowing of summer vegetables. Continue transplanting of tomato, brinjal and chillies from nursery to field crop. Weather conditions are favourable for outbreak of aphids in late sown mustard. To control it, spray imidacloprid @ 0.5ml/litre of water.
 - In Intermediate Zone, keep strict vigil on appearance of yellow rust disease in wheat crop. If observed, apply Propiconazole (Tilt) 25 EC @ 0.1 % (1ml/litre of water). Prevailing weather is favourable for the attack of blight in wheat crop. If observed, apply combination of Mancozeb + Carbendazim @ 2 gm/litre of water.
 - To avoid rotting of onion bulb, stop irrigation after the bulb has attained diameter of 5 to 8 cm. Weather conditions are favourable for the attack of blight in onion crop. If observed, apply Mancozeb @ 2 gm/litre of water.
- **Floriculture :**
- In Valley Temperate Zone of Jammu and Kashmir, undertake planting of Lilium, Gladiolus and Dhalia. Continue mowing of lawns. Remove suckers from budded rose plants.
- **Uttarakhand:**
 - In Bhabar and Tarai Zone, apply irrigation in wheat crop. 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, complete sowing of potato in high altitude. Carry out weeding operation in potato in valley area. Carry out weeding in wheat, onion and garlic. Continue transplanting in tomato, brinjal, chilli and capsicum.
 - In Sub-Humid Sub-Tropic Zone, continue sowing of autumn sugarcane crop. Undertake sowing of summer maize. Maintain proper soil moisture in late sown wheat crop. Apply irrigation in the evening if required.
- **Himachal Pradesh:**
 - In Mid-Hills Sub-Humid Zone, carry out disbudding and de-shooting in carnation crop. 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. Apply irrigation to pea, tomato and wheat crops. To control late blight disease in potato, spray Carbendazim@ 1 gm/litre of water. Undertake grafting in apple nursery.
 - In High Hill Temperate Zone, carry out pruning of unwanted branches in apple trees. Undertake nursery sowing of cauliflower, cabbage, capsicum and tomato.
- **Punjab, Haryana:**
 - 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.
 - In Punjab, undertake sowing of summer moong, summer mash and cucurbits. Undertake transplanting of vegetables (tomato, chilli, brinjal). In Western Plain Zone of Punjab, gram crop can be affected by Ascochyta blight, spray Tilt or Indofil M45 at 10 days interval.
- **Uttar Pradesh:**
 - In East Uttar Pradesh, continue harvesting of wheat and barley. Continue planting of spring sugarcane. Undertake cultivation of ladies finger, moong and lobia as intercrop in sugarcane. To prevent yellow vein disease in ladies finger, spray Dimethiate-30 EC, 1.5 litre/litre of water.
 - Undertake harvesting of mustard, gram and arhar. Apply irrigation in normal sown moong and maize. Apply fertilizer after 30-35 days of sowing of maize.
 - In West Uttar Pradesh, undertake harvesting of timely sown wheat, mustard, gram and arhar. Undertake sowing

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

- **Rajasthan:**

- Harvest the matured crop of gram, mustard, cumin seeds, barley, isabgol. Undertake sowing of bottle gourd, cucurbits. Prepare field for summer chilli. Also harvest wheat in Arid Western Plain Zone.
- In Southern Humid Plain Zone, chances of attack of viral diseases in moong, spray Imidacloprid 600FS @ 1.25g/kg seeds for sowing.
- 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.

- **Animal Husbandary**

- 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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