



National Agromet Advisory Service Bulletin

Friday 26th April 2019

(For the period 26th April to 1st May 2019)



Issued by

India Meteorological Department

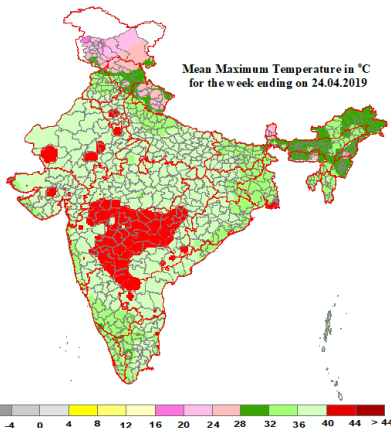
Weblink For

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

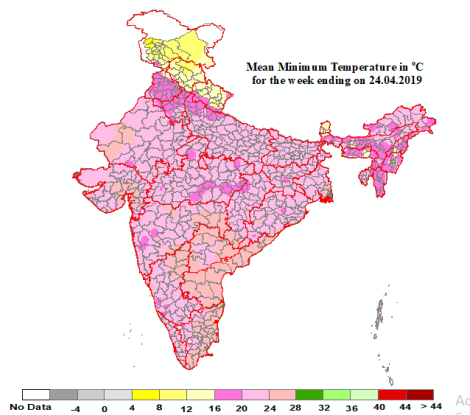
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 24.04.2019

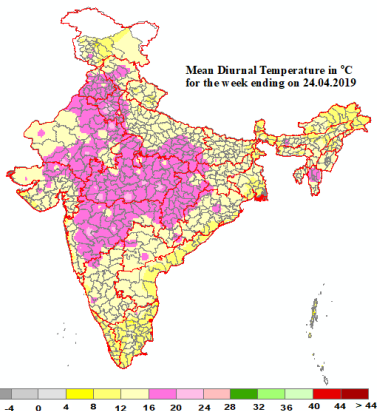
Mean Maximum Temperature (°C) for the week ending on 24.04.2019



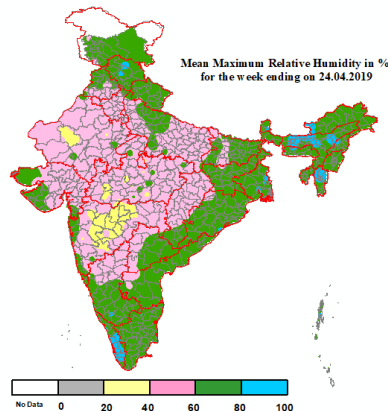
Mean Minimum Temperature (°C) for the week ending on 24.04.2019



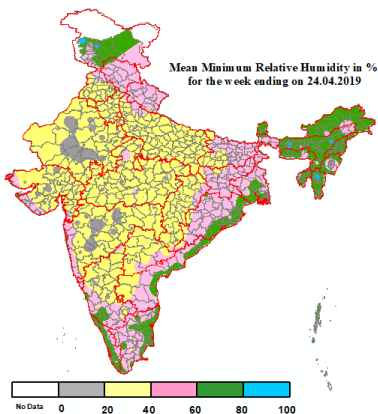
Mean Diurnal Temperature Variation (°C) for the week ending on 24.04.2019



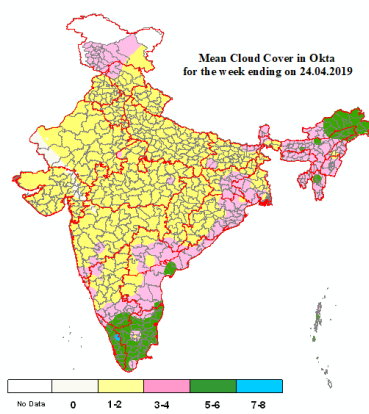
Mean Maximum Relative Humidity (%) for the week ending on 24.04.2019



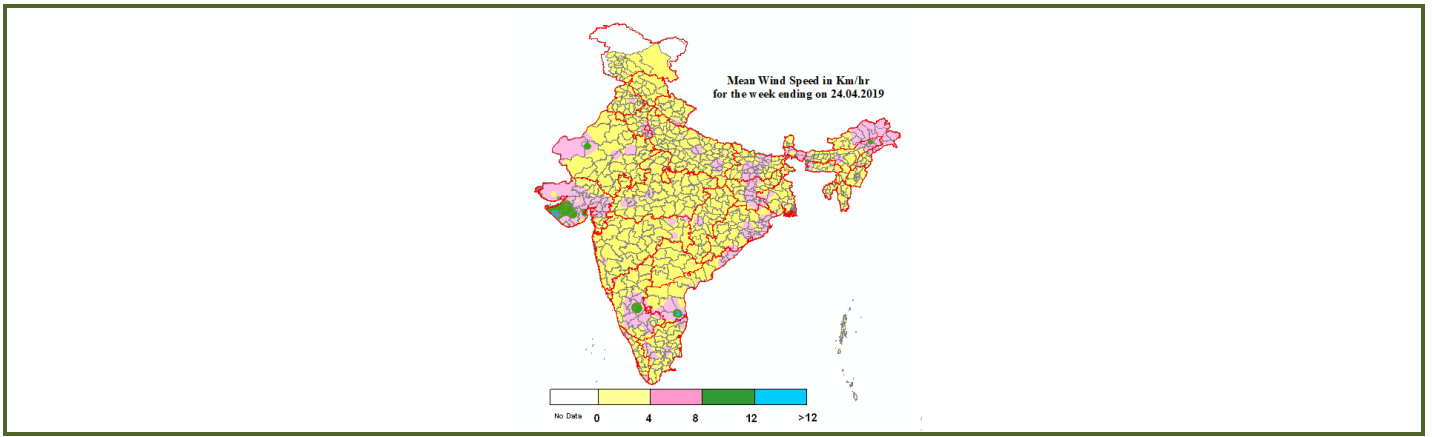
Mean Minimum Relative Humidity (%) for the week ending on 24.04.2019



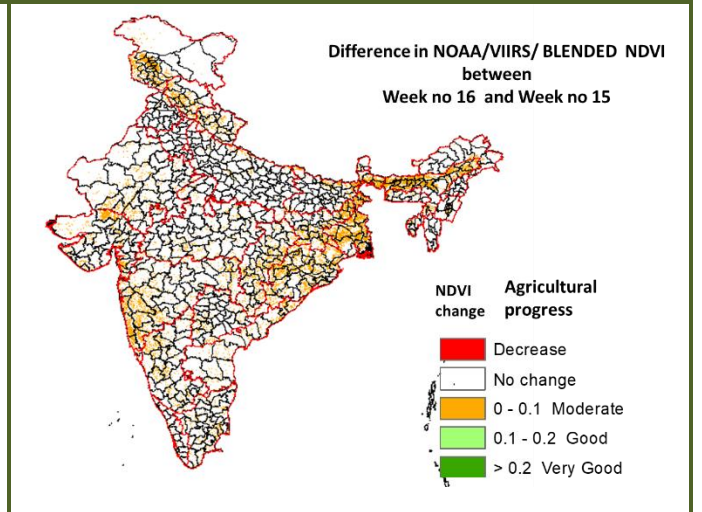
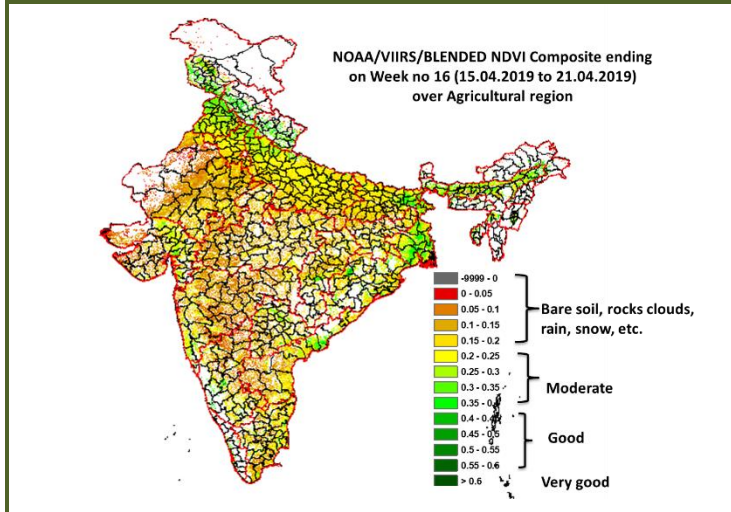
Mean Cloud Cover (okta) for the week ending on 24.04.2019



Mean Wind Speed (km/hr) for the week ending on 24.04.2019



NOAA/VIIRS/BLENDED NDVI composite for the week number 16 (15.04.2019 to 21.04.2019) over Agricultural regions of India **Difference in NOAA/VIIRS/BLENDED NDVI between week number 16 and week number 15**

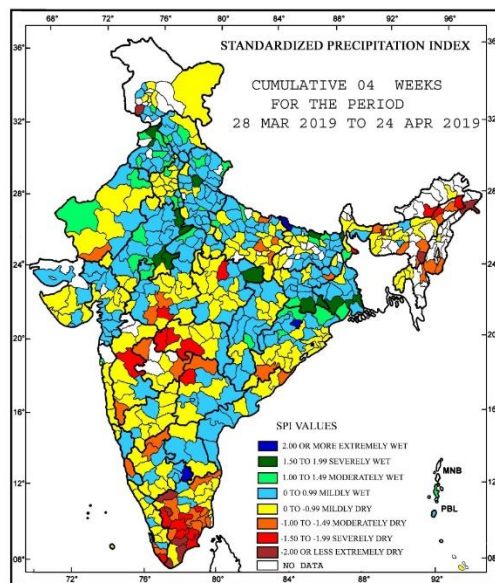


Agriculture vigour is good at isolated places over Gangetic West Bengal, interior Odisha (Bargarh), Chhattisgarh (Dhantari), South Interior Karnataka (Davangari), Coastal Karnataka , Himachal Pradesh and Uttarakhand. It was moderate over rest of the country.

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

Standardised Precipitation Index Cumulative 4 weeks for the period 28th March to 24th April 2019

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in many districts of Rajasthan; few districts of Madhya Pradesh; Mayurbhanj, Sonepur districts of Odisha; Deogarh, Gumla, East Singhbhum, West Singhbhum, Simdega districts of Jharkhand; West Champaran, Darbhanga, Kishanganj, Madhubani, Supaul districts of Bihar; Badaun, Jyotiba Phule Nagar districts of Uttar Pradesh; Ambala, Rewari, Chandigarh districts of Haryana; Patiala, Ropar, Muktsar, Fatehgarh Sahib districts of Punjab; Kolar district of Karnataka.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Bongaigaon, Tinsukia districts of Assam; Kinnaur, Lahaul & Spiti districts of Himachal Pradesh; Anantnag, Pulwama, Rajouri districts of Jammu & Kashmir; Nagapattinam, Ramanathapuram, Toothukudi, Virudhunagar, Tirupur districts of TamilNadu & Puducherry; Chamarajanagar districts of Karnataka; Alapuzha, Kottayam, Kollam districts of Kerala; districts of Lakshadweep;
- Moderately dry conditions experienced in few districts of Assam; Jammu & Kashmir; Kurnool district of Andhra Pradesh; Nizamabad district of Telangana; Coimbatore, Cuddalore, Kanyakumari, Madurai, Sivaganga, Thanjavur, Vellore, Viluppuram districts of TamilNadu & Puducherry; Udupi, Davangere, districts of Karnataka; Trivandrum and Kasargod districts of Kerala;

Significant weather features (All India weather summary and forecast bulletin (26-04-2019 Mid-day))

The well-marked low pressure area over east Equatorial Indian Ocean & adjoining southeast Bay of Bengal has concentrated into a depression over the same region and lay centered at 0830 hrs IST of today, 26th April 2019 near Lat. 2.7°N and Long. 89.7°E, about 1140 km east southeast of Trincomalee (Sri Lanka), 1490 km southeast of Chennai and 1760 km south-southeast of Machilipatnam. It is very likely to intensify further into a deep depression during next 24 hours and into a Cyclonic Storm during subsequent 12 hours. It is very likely to move northwestwards off Srilanka coast during next 96 hours and reach near north Tamilnadu & south Andhra Pradesh coasts on 30th April 2019 evening.

Weather Forecast for next 5 days valid upto 0830 hours of 1st May 2019

- **Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.**
- Day maximum temperatures are very likely to rise by 2-4°C over east India during next 4 days. No significant change likely over the rest of the country during this period.

5 Day Rainfall Forecast (Mid-day) 26th April 2019

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

% 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

26 April (Day 1): ♦ Squally wind, speed reaching 45-55 kmph gusting to 65 kmph and rough Seas very likely over east Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal. Squally weather very likely over south Andaman Sea. Fishermen are advised not to venture into these areas.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) and lightning** at isolated places very likely over Tamilnadu, Kerala and Assam & Meghalaya and **with gusty winds (wind speed reaching 30-40 kmph) and lightning** at isolated places very likely over south Madhya Maharashtra, Marathwada, south Konkan & Goa, north Coastal Andhra Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Odisha, Jharkhand and Bihar.

♦ **Heat Wave Conditions** over many parts with **severe heat wave conditions** at isolated pockets very likely over Vidarbha; **Heat Wave Conditions** in some parts likely over West Madhya Pradesh and at isolated pockets over East Madhya Pradesh, south Rajasthan, south Uttar Pradesh, north Madhya Maharashtra and

Marathwada.

27 April (Day 2): ♦ Gale wind, speed reaching 65-75 kmph gusting to 85 kmph and rough to very rough Seas very likely over Southwest Bay of Bengal & adjoining east Equatorial Indian Ocean. Fishermen are advised not to venture into these areas.

♦ **Thunderstorm accompanied with lightning, squall (wind speed reaching 60-70 kmph) at isolated places over Assam & Meghalaya and (wind speed reaching 50-60 kmph)** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim.

♦ **Thunderstorm accompanied with gusty winds (wind speed reaching 30-40 kmph) and lightning** at isolated places very likely over north Coastal Andhra Pradesh and Nagaland, Manipur, Mizoram & Tripura.

♦ **Heat Wave Conditions** over many parts with **severe heat wave conditions** at isolated pockets very likely over Vidarbha; **Heat Wave Conditions** in some parts likely over West Madhya Pradesh and at isolated pockets over East Madhya Pradesh, south Rajasthan, south Uttar Pradesh, north Madhya Maharashtra , Chhattisgarh, Odisha, Jharkhand, Gujarat state and Marathwada.

28 April (Day 3):♦ Gale wind, speed reaching 80-90 kmph gusting to 100 kmph and very rough to high Seas very likely over Southwest Bay of Bengal & adjoining east Equatorial Indian Ocean along & off Sri Lanka coast. Strong wind speed reaching 30-40 Kmph gusting to 50 Kmph very likely along & off Tamilnadu & Puducherry coasts, Comorin area, Gulf of Mannar and over Kerala. Fishermen are advised not to venture into these areas.

♦ **Thunderstorm accompanied with lightning and squall (wind speed reaching 50-60 kmph)** at isolated places likely over Sub-Himalayan West Bengal & Sikkim and Assam & Meghalaya.

♦ **Thunderstorm accompanied with lightning and gusty winds (wind speed reaching 40-50 kmph)** at isolated places very likely over Kerala and **with gusty winds (wind speed reaching 30-40 kmph)** at isolated places likely over Nagaland, Manipur, Mizoram & Tripura.

♦ **Heavy rainfall** at isolated places very likely over Assam & Meghalaya and Arunachal Pradesh.

♦ **Heat Wave Conditions** over many parts with **severe heat wave conditions** at isolated pockets very likely over Vidarbha; **Heat Wave Conditions** in some parts likely over West Madhya Pradesh and at isolated pockets over East Madhya Pradesh, south Rajasthan, south Uttar Pradesh, north Madhya Maharashtra , Chhattisgarh, Odisha, Jharkhand, Gujarat state, Telangana and Marathwada.

29 April (Day 4): ♦ Gale wind, speed reaching 50-60 kmph gusting to 70 kmph with gradual increase to 80-90 kmph gusting to 100 kmph by evening, likely over Southwest Bay of Bengal along & off Tamilnadu & Puducherry coasts, Gulf of Mannar and Comorin area. Fishermen are advised not to venture into these areas.

♦ **Strong wind** speed reaching 40-50 kmph gusting to 60 kmph, likely over Kerala.

♦ **Thunderstorm accompanied with lightning and squall (wind speed reaching 50-60 kmph)** at isolated places likely over Assam & Meghalaya.

♦ **Thunderstorm accompanied with lightning and gusty winds (wind speed reaching 40-50 kmph)** at isolated places likely over Kerala, Coastal Andhra Pradesh, Coastal & South Interior Karnataka and Tamilnadu and **with gusty winds (wind speed reaching 30-40 kmph)** at isolated places likely over Jammu & Kashmir and Sub-Himalayan West Bengal & Sikkim.

♦ **Heavy rainfall** at isolated places likely over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, South Interior Karnataka and Kerala.

♦ **Heat Wave Conditions** over many parts with **severe heat wave conditions** at isolated pockets very likely over Vidarbha; **Heat Wave Conditions** in some parts likely over West Madhya Pradesh and at isolated pockets over East Madhya Pradesh, south Rajasthan, south Uttar Pradesh, north Madhya Maharashtra , Chhattisgarh, Odisha, Jharkhand, Gujarat region, Telangana and Marathwada.

30 April (Day 5): ♦ Gale wind, speed reaching 90-100 kmph gusting to 115 kmph and high to very high Seas likely over Southwest Bay of Bengal along & off north Tamilnadu & Puducherry and south Andhra Pradesh coasts. Fishermen are advised not to venture into these areas.

♦ **Thunderstorm accompanied with lightning, hail and gusty winds (wind speed reaching 40-50 kmph)** at isolated places likely over Jammu & Kashmir, Himachal Pradesh and Uttarakhand.

♦ **Thunderstorm accompanied with lightning and gusty winds (wind speed reaching 40-50 kmph)** likely

over Tamilnadu, Kerala, South Interior Karnataka, Coastal Andhra Pradesh; **gusty winds (wind speed reaching 30-40 kmph)** at isolated places likely over south Chhattisgarh & Sub-Himalayan West Bengal & Sikkim and with **Dust storm and gusty winds (wind speed reaching 30-40 kmph)** over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and north Rajasthan.

◆ **Heavy rainfall** at isolated places likely over north coastal Tamilnadu & Puducherry, south Coastal Andhra Pradesh, South Interior Karnataka, Assam & Meghalaya and Kerala.

◆ **Heat Wave Conditions** likely in some parts over Vidarbha and West Madhya Pradesh and at isolated pockets over East Madhya Pradesh.

Weather Outlook for subsequent 2 days from 1st May to 3rd May 2019

- Widespread rainfall likely over northeast India & Andaman & Nicobar Islands and scattered to fairly widespread over western Himalayan region, east & south peninsular India and Lakshadweep.
- Dry weather likely over the rest of the country.

Salient Advisories

- **Squally wind**, speed reaching 45-55 kmph gusting to 65 kmph and rough sea very likely over east Equatorial Indian Ocean & adjoining central parts of south Bay of Bengal. Squally weather very likely over south Andaman Sea. Fishermen are advised not to venture into these areas.
- **Gale wind**, speed reaching 80-90 kmph gusting to 100 kmph and very rough to high sea very likely over Southwest Bay of Bengal & adjoining east Equatorial Indian Ocean along & off Sri Lanka coast. Strong wind speed reaching 30-40 Kmph gusting to 50 Kmph very likely along & off Tamilnadu & Puducherry coasts, Comorin area, Gulf of Mannar and over Kerala on 29th April. Fishermen are advised not to venture into these areas.
- **Gale wind**, speed reaching 90-100 kmph gusting to 115 kmph and high to very high seas likely over Southwest Bay of Bengal along & off north Tamilnadu & Puducherry and south Andhra Pradesh coasts on 30th April. Fishermen are advised not to venture into these areas.
- **Thunderstorm** accompanied with gusty winds (**wind speed reaching 40-50 kmph**) and lightning at isolated places very likely over Tamilnadu on 26th & 30th, over Kerala on 26th, 28th, 30th and over South Interior Karnataka on 30th, thunderstorm accompanied with gusty winds (wind speed reaching 30-40 kmph) and lightning at isolated places very likely over Coastal Andhra Pradesh on 26th and 27th, 30th, strong wind speed reaching 40-50 kmph likely over Kerala on 29th 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. Keep harvested produce at safer places.
- **Thunderstorm** accompanied with lightning, hail and gusty winds (**wind speed reaching 40-50 kmph**) at isolated places likely over Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 30th, Thunderstorm accompanied with lightning and with Dust storm and gusty winds (wind speed reaching 30-40 kmph) over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and north Rajasthan on 30th April, Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) and lightning at isolated places very likely over Assam & Meghalaya on 26th, Thunderstorm accompanied with lightning, squall (wind speed reaching 60-70 kmph) at isolated places over Assam & Meghalaya on 27th, thunder storm accompanied with gusty winds (wind speed reaching 30-40 kmph) and lightning at isolated places very likely over Nagaland Manipur, Mizoram and Tripura on 27th April, provide mechanical support to young fruit plants and vegetables. Use hail net for orchard crops to protect from mechanical damage in Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Keep cattle/goats indoor during thunderstorm.
- As **thunderstorm** accompanied with lightning, squall (**wind speed reaching 60-70 kmph**) at isolated places very likely over Sub-Himalayan West Bengal & Sikkim on 27th and thundersquall (wind speed reaching 50-60 kmph) accompanied with lightning on 28th, thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning at isolated places very likely over Sub-Himalayan West Bengal & Sikkim on 30th April, Odisha, Jharkhand and Bihar on 26th 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.
- As **heat Wave** Conditions over many parts with severe heat wave conditions at isolated pockets very likely over **Vidarbha** on 28th & 29th; Heat Wave Conditions likely at isolated pockets over **north Madhya Maharashtra, Gujarat and Marathwada** on 28th & 29th April, Heat Wave Conditions in some parts likely over West

Madhya Pradesh and at isolated pockets over East **Madhya Pradesh**, Chhattisgarh on 29th & 30th April, Heat Wave Conditions likely at isolated pockets over Odisha, Jharkhand on 28th & 29th, over south **Rajasthan**, **south Uttar Pradesh** on 28th & 29th April apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.

- As **rain/thundershowers** likely over most/many places over **Arunachal Pradesh** and at many places over Assam & Meghalaya from 27th to 30th April, rain/thundershowers likely at many places over Andaman & Nicobar islands on 27th & 28th April, Heavy rainfall at isolated places likely over Assam & Meghalaya on 29th & 30th and over Arunachal Pradesh on 30th April, over north coastal Tamilnadu & Puducherry, south Coastal Andhra Pradesh on 30th, over South Interior Karnataka and Kerala on 29th & 30th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields. Keep harvested produce at safer places.
- In **Madhya Pradesh** and **Rajasthan**, as heat wave condition likely at some parts on 28th & 29th April, 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. Provide curtains and proper ventilation in poultry house.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in all the districts of Kerala except Kasargod and Kannur district, Dharmapuri, Dindigul, Kanyakumari, Krishnagiri, Namakkal, Nilgiris, Salem, Theni, Tirunelveli districts in Tamilnadu, Bangalore Rural, Bangalore Urban, Chikaballapur, Kodagu, Kolar, Mandya, Mysuru, Ramanagara districts of South Interior Karnataka during the week. Weather remained mainly dry over rest of the districts of Karnataka State. Weather remained mainly dry over rest of the States.

Advisories:

- **Gale wind**, speed reaching 80-90 kmph gusting to 100 kmph and very rough to high seas very likely over Southwest Bay of Bengal & adjoining east Equatorial Indian Ocean along & off Sri Lanka coast. Strong wind speed reaching 30-40 Kmph gusting to 50 Kmph very likely along & off Tamilnadu & Puducherry coasts, Comorin area, Gulf of Mannar and over Kerala on 29th April. Fishermen are advised not to venture into these areas.
Gale wind, speed reaching 90-100 kmph gusting to 115 kmph and high to very high Seas likely over Southwest Bay of Bengal along & off north Tamilnadu & Puducherry and south Andhra Pradesh coasts on 30th April. Fishermen are advised not to venture into these areas.
 - **Thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) and lightning** at isolated places very likely over Tamilnadu on 26th & 30th, over Kerala on 26th, 28th, 30th and over South Interior Karnataka on 30th, thunderstorm accompanied with gusty winds (**wind speed reaching 30-40 kmph**) and lightning at isolated places very likely over Coastal Andhra Pradesh on 26th and 27th, 30th, strong wind speed reaching **40-50 kmph** likely over Kerala on 29th 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. Keep harvested produce at safer places.
 - As **heavy rainfall** at isolated places likely over north coastal Tamilnadu & Puducherry, south Coastal Andhra Pradesh on 30th, over South Interior Karnataka and Kerala on 29th & 30th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops.
- Kerala:**
- In Southern Zone, undertake sowing of vegetable cowpea in rice fallow @60kg/ha after the current spells of heavy rain.
 - In coconut orchards, to minimize the sun scorch on the trunk, application of lime solution on the trunk upto a height of 2-3 m may be done. Provide mulching in coconut gardens. Dried coconut leaves and coconut husk can be used as mulch. Coir pith is an excellent organic source to conserve the moisture in coconut gardens.
 - In High Altitude Zone, attack of Pollu beetle and leaf thrips on pepper may be severe due to increased humidity, Monitor the crops. Apply mulch and protect the plants from the scorching sun.
 - 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 after current spells of rain.
- Andhra Pradesh:**
- In High Altitude Tribal Zone of North Coastal Andhra Pradesh, undertake harvesting of matured sunflower immediately. Undertake sowing of green manure crops like Sunhemp @ 12-15 kg/ac, Dhaicha @ 10-12 kg/ac and Pillipesara @ 8kg/ac etc. to increase the soil organic carbon.

- In North Coastal Andhra Pradesh, weather is congenial for incidence of Early Shoot Borer and Fall army worm in Sugarcane. For control, spray Chlorpyrifos @ 2.5 ml per litre of water.
- In Scarce Rainfall Zone of Andhra Pradesh to control fruit drop in Mango spray hexaconazole @1-2 ml. mixed with planofix @ 1 ml. in 4.5 L of water.
- In Rayalaseem, the present weather conditions are favourable for attack of white fly and jassids in greengram crop which is at pod filling stage. To control, spray Imidachloprid 0.3 ml./L or Diphenthiuron 1 g/ per litre of water on a non rainy day.

Telangana:

- As Heat Wave Conditions likely at isolated pockets over Telangana on 29th April, apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.
- In southern Telangana, to prevent fruit drop in mango spray NAA @ 0.25 ml per liter twice at 15 days interval and to improve fruit size in mango spray 13-0-45 @ 10g per liter + Boron @ 1.25 g per liter of water. Prevailing weather conditions are congenial for the incidence of Powdery Mildew in Mango. To control spray Wettable Sulphur @ 3 g or Hexaconazole @ 2ml per liter of water
- In Northern Telangana, undertake harvesting of rice when at least 80% of the grains are matured and Sesame when 75% capsules turn yellow in a spike.

Tamil Nadu:

- In North Western Zone, banana growers are advised to provide support to fruit bearing plants with help of bamboo pole / casuarina pole to avoid falling down due to increase of wind speed in the forthcoming days.
- In Western Zone, this is the best time for sowing of irrigated cumbu. As rainfall along with high wind speed may cause lodging, propping may be given to banana of more than 5 months old against lodging. Provide crop residue mulching to tree crops to conserve soil moisture from received and anticipated rain.
- In High Rainfall Zone, basins of all the established pepper vines may be applied with VAM and vermin compost and then mulched with dried leaves and irrigated copiously immediately (twice – one March and again in April) to increase the yield of pepper. Harvest pineapple when the colour of base of the fruit is slightly changed
- In Southern Zone, due to current weather condition, incidence of Coconut Skipper is expected in Coconut. The symptoms are one half of the leaflets are cut and rolled into a case. And the rolled leaflets are dried, spray Azadiractin @ 40ml + sticky agent @ 10ml with 10 litres of water. After 7 days of spray and after harvesting the coconuts, root feed with Carbosulfan @10ml with 75ml of water per tree.
- In Coastal Zone, attack of thrips and other sucking pest in cotton, spray Imidacloprid 200 SL @ 100 ml/ha (or) Dimethoate 30 EC @ 500 ml/ha or Azadiractin 0.03% EC @ 500 ml/ha.

Karnataka

- In South Interior Karnataka, continue land preparation and keep inputs ready for pre-monsoon sowing: cowpea, sesame, black gram and green gram crops are recommended for the sowing during May month; use varieties ragi (Indof-9, GPU-48), cowpea (TVX-994, KBS-1), black gram (karagav-3, T-9, Rashmi (LBG-625) for sowing during April-May months.
- In North Interior Karnataka, take up the repairs of bunds and check dam so as to reduce the run off to check the soil erosion. Apply irrigation in groundnut, sugarcane crops and mango orchards. Continue deep ploughing and incorporate the crop residue in the soil.
- In Coastal Karnataka, continue deep ploughing in rice field.
- In North Interior Karnataka, use mixture of Methyl euginol @1 ml or Malathion @1 ml or Dichlorovas @1 ml dissolved in one litre of water as bait for fruit fly management in Mango orchards.
- In South Interior Karnataka, spray Mancozeb @ 2 g/litre or Copper Oxychloride @ 3g/liter against leaf spot in arecanut. Spray Dimethoate @2 ml/lit of water to control Mealy bug infestation in Papaya plantations.

Animal Husbandry

- In Karnataka, 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. Cold water should be made available to the poultry birds.

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

Realised Rainfall: Rainfall occurred in East Kameng, East Siang, Lower Subansari, Papumpare, Upper Siang, Upper Subansari and West Siang districts of Arunachal Pradesh; East Khasi Hills district of Meghalaya and Aizwal district of Mizoram.

Advisories:

- Thunderstorm accompanied with gusty winds (**wind speed reaching 40-50 kmph**) and lightning at isolated places very likely over Assam & Meghalaya on 26th, Thunderstorm accompanied with lightning, squall (wind speed reaching 60-70 kmph) at isolated places over Assam & Meghalaya on 27th, thunder storm accompanied with gusty winds (**wind speed reaching 30-40 kmph**) and lightning at isolated places very likely over Nagaland Manipur,

Mizoram and Tripura on 27th April, provide mechanical support to young fruit plants, banana and staking in vegetables to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle in sheds during thundersquall period.

- As rain/thundershowers likely over most/many places over Arunachal Pradesh and at many places over Assam & Meghalaya from 27th to 30th April, Heavy rainfall at isolated places likely over Assam & Meghalaya on 29th & 30th and over Arunachal Pradesh on 30th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields. Keep harvested produce at safer places.

Arunachal Pradesh:

- Continue sowing of Jhum rice, planting of ginger, turmeric, sugarcane and banana. Continue sowing /transplanting of early kharif vegetables.
- Adopt sowing of leguminous crops like cowpea, French bean, soybean etc at 2-3 rows across the slope of Jhum field at desirable intervals or ratios with rice to prevent soil erosion and conserve moisture and fertility.

Assam:

- In Lower Bramhaputra Valley of Assam, continue planting of ginger, papaya and sowing of maize and cow pea. Continue transplanting of ahu rice. Due to favorable weather, there is chance of attack of Gundhi bug in Boro rice at milky stage. To control the pest, apply 5% Malathion dust @ 2-3 kg per bigha of land to control the pest on non rainy days.
- In Barak Valley Zone of Assam, due to high temperature and humidity, there is chance of attack of Gandhi bug in *boro* rice. To control the disease apply 5% Malathion dust @ 20 kg per ha of land after current spells of rain.
- In North Bank Plain Zone of Assam, undertake transplanting of Ahu rice. Continue sowing of maize and planting of sugarcane and ginger/turmeric.
- In Upper Bramhaputra Valley of Assam, continue transplanting of Ahu rice in the main field. Gandhi bug attack may be seen in Boro rice at milky stage. Under fair weather condition, apply 5% Malathion dust @ 20 kg per ha of land to control of the pest. Gradual increase in temperature and relative humidity, incidence of blight may be observed in the green gram and black gram crops at vegetative stage. To control this disease apply Carbendazim 0.05% @ 300-500 g in 600-700 litre of water at an interval of 12-15 days.
- In Central Bramhaputra Valley of Assam, continue sowing of maize, summer pulses and summer vegetables. Continue land preparation and sowing of Capsularis jute and planting of sugarcane, ginger, turmeric, 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, continue 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 Longleng districts. Continue sowing of maize in Kohima, Longleng districts. While germinating, install yellow sticky trap for monitoring white flies and hopper in the field of okra crop. Undertake preparation of pits of size 3ft*3ft*3ft (1m*1m*1m) for planting of fruit trees. Pits may be filled with well dried FYM/organic manure, neem powder and lime for further planting
- In Manipur, maintain 5-8 cm water level in the field of pre-kharif rice. Continue nursery raising for sowing of kharif rice and land preparation for sowing of kharif maize, soybean/ groundnut. Use Methyl Eugenol as trap @ 4-10 traps/ sangam against red pumpkin beetle attack in cucurbits crops. Spray Dichlorovos 76 @ 0.5 ml/litre of water against fruit borer in tomato on a non rainy day.
- In Mizoram, continue sowing of Jhum rice, green gram, black gram, cucurbitaceous crops, maize, cowpea and okra.
- In Tripura, continue land preparation for sowing of Jhum rice. Maintain 5cm standing water in the field of Boro rice. Weather is conducive for Fruit & Shoot Borer infestation in summer brinjal and tomato. To manage the attack, apply Cypermethrin @ 1.5ml or Flubendamid 0.5 ml per litre of water.

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 Upper Bramhaputra Valley of Assam, present weather condition is congenial for the attack of Foot and Mouth Disease in livestock. As prophylactic measure, the mouth and leg parts of healthy animals should be washed periodically with baking soda and should be timely vaccinated. Infected cows and buffaloes should be isolated and kept separately.. Local veterinarian should be consulted as early as possible for proper diagnosis and immediate

treatment.

- In Lower Brahmaputra Valley of Assam, as a prophylactic measure the mouth and legs of healthy livestock should be washed periodically with baking soda and should be timely vaccinated. Infected cows and buffaloes should be kept separately. Potash should be applied in the areas where lesions have developed followed by washing with fresh water and thereafter application of alum. Local veterinarian should be consulted as early as possible for proper diagnosis and immediate treatment.

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.
- In Tripura, 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 East Singhbhum, Gumla, Khunti, Lohardagga, Saraikela, Simdega and West Singhbhum districts of Jharkhand; in Angul, Balasore, Bargarh, Bhadrak, Bolangir, Boudh, Dhenkanal, Gajapati, Jharsuguda, Kandhamal, Keonjhar, Khurda, Mayurbhanj, Nayagarh, Sonepur and Sundargarh districts of Odisha; and in East Sikkim, North Sikkim and West Sikkim districts in Sub-Himalayan West Bengal and Sikkim. Weather remained mainly dry over rest of the region.

Advisories:

- As thunderstorm accompanied with lightning, squall (wind speed reaching 60-70 kmph) at isolated places very likely over Sub-Himalayan West Bengal & Sikkim on 27th and thundersquall (wind speed reaching 50-60 kmph) accompanied with lightning on 28th, thunderstorm accompanied with gusty winds (wind speed reaching 40-50 kmph) & lightning at isolated places very likely over Sub-Himalayan West Bengal & Sikkim on 30th April, Odisha, Jharkhand and Bihar on 26th 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.
- Heat Wave Conditions likely at isolated pockets over Odisha, Jharkhand on 28th & 29th April, , apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.

Odisha:

- Apply irrigation to summer paddy crop and maintain water level up to 5-7cm. Irrigate sugarcane crop at 10 days interval. Take up sowing of baby corn and planting of ginger and yam. Carry out land preparation for planting of turmeric in the months of May and June. Go for harvesting of green gram, black gram and onion crops.
- If white ear head damage in summer paddy crop is more than 5%, spray Chlorantraniliprole 18.5 SC 80ml per acre @ 0.4ml/litre of water or Cartrap Hydrochloride 50% SP 400g per acre @ 2g/litre of water. Red spider mite is found in lady's finger and cowpea. Spray Kelthane @ 200 g a.i./acre at weekly interval.

Bihar:

- Harvesting and threshing of wheat crop may be done on priority basis. Provide irrigation to onion crop and summer vegetables like cucumber, pumpkin, lady's finger, sponge guard, etc. Apply irrigation to maize crop.
- For management of hairy caterpillar in green gram and black gram crops, spray Methyl Parathion 50EC@2.0ml/liter or Chlorpyrifos 20 EC@2.5ml/liter of water. Spray Chlorpyrifos 20 EC @20.5 ml/liter of water for stem borer in spring maize.

Jharkhand:

- Maintain proper water level in summer paddy and summer maize fields. Take up sowing of improved varieties of summer cowpea, ginger, turmeric and elephant foot yam. Sundry the harvested wheat crop before threshing. Also sundry grains before storing them. Take up weeding and intercultural operations in summer mung field.
- To control fruit & shoot borer in okra (bhindi), spray neem extract insecticide @ 1.5 to 2 ml / litre of water.
- To control viral leaf curling disease transmitted by white fly in bell pepper and chilli crops, spray Metasistox @ 1 ml/ litre of water.

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. Harvest potato crop immediately. Carry out transplanting of ginger and turmeric to main field. To control chilli fruit rot, spray Carbendazim + Mancozeb @ 2.5g/litre of water. Manage cob worm in maize by spraying Neem oil 1% @ 3ml/litre of water with sticker @ 0.5ml/litre at evening hours.
- In Gangetic West Bengal, complete the harvesting, sun drying and threshing of Boro paddy crop. To prevent dropping of tender fruits, apply irrigation to mango trees in ring system during afternoon hours and spray cold water on the leaves. For preventing pod borer attack in black gram and green gram, apply FEM@4ml/10litres of

water twice at an interval of 10 days. For white fly attack spray Overon@1ml/litre of water. Spray Buprofezin 25% SC @ 106 ml/bigha for BPH attack in paddy crop.

Andaman & Nicobar Islands:

- As rain/thundershowers likely at many places over Andaman & Nicobar islands on 27th & 28th April, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.
- In Andaman & Nicobar Islands, mulch the basins of arecanut and coconut with crop residue to conserve moisture and reduce weed infestation.

Animal Husbandry:

- In Jharkhand, provide plenty of fresh water to the cattle for drinking and bathing. Considering the hot weather, give a mixture of vitamin C and anti-stress solution of cool water to poultry birds and spray cool water during noon time.
- In Odisha, provide sufficient clean drinking water to animals and poultry birds.
- In West Bengal, provide only tap water to poultry birds for drinking purpose and add electrolytes in water. Keep fewer birds per cage and arrange fans for better ventilation. Avoid grazing cattle during mid day and do not feed them mustard cake.
- In Andaman & Nicobar Islands, fumigate per 100 cubic feet space of poultry sheds with 20g potassium permanganate and 40 ml of formaline in an earthen bowl for disinfection.

Fisheries:

- In West Bengal, for control of Ulcer disease in fish, apply 13 kg Lime per bigha fish pond. After 7 days, apply 1.3 kg bleaching powder per bigha fish pond. In order to avoid bird menace, give net covering over the fish pond.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Weather remained mainly dry over the region.

• Advisories:

- Heat Wave Conditions over many parts with severe heat wave conditions at isolated pockets very likely over Vidarbha on 28th & 29th; Heat Wave Conditions likely at isolated pockets over north Madhya Maharashtra, Gujarat and Marathwada on 28th & 29th April, apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.

Maharashtra:

- In South Konkan, Continue harvesting of early sown varieties of rice. Remove water from the fields at least 8-10 days before harvesting and continue harvesting of early sown groundnut. Apply irrigation to late sown groundnut. Provide shade for protection of newly planted orchard saplings like mango grafts/ coconut seedlings from bright sunshine. Also apply mulch in newly planted orchards.
- In Madhya Maharashtra, Provide shade for protection of young fruit plants from scorching sun. Apply irrigation to vegetables and orchards. To control sap sucking insects in vegetables, spray 5 % Neemark or Fipronil @ 25 ml per 10 litres of water. To control powdery mildew & hoppers in mango, spray Imidacloprid 17.8 SL@ 3 ml + Sulphur 80 wp @ 25 g per 10 liters of water. To control leaf roller and leaf miner, spray Cypermethrin 25 EC @ 4 ml or Quinalphos 25 EC @ 20 ml per 10 liters of water. For control of army worm/ Spodoptera frugiperda in maize, spray Chlorantraniliprole (18.5 % S.C.) @ 150 ml per ha in 500 liters of water.
- In Marathwada, Provide shade for protection of young fruit plants of sapota from scorching sun. Apply irrigation to sugarcane, vegetables and orchards like pomegranate. To control stem borer in sugarcane, spray Chlorantranilipole 18.5 % SC @ 4 ml per 10 liters of water.
- In Vidarbha, In view of heat wave conditions over many parts with severe heat wave conditions at isolated pockets very likely from 26th to 29th April, apply light and frequent irrigation to standing crops like summer sesame, groundnut, green gram, vegetables and orchards. Provide shade for protection of young fruit plants from scorching heat. To control hopper in mango, spray Imidacloprid 17.8% SL @ 4 ml in 10 litres of water.

Gujarat:

- In North Gujarat, apply light irrigation in pearl millet (tillering), groundnut, sesame, cluster bean crops and pomegranate, sapota, lemon and papaya orchards. Pluck matured vegetables/fruits (bhindi, tomato, cucumbers, water melon and muskmelon) regularly.
- In Saurashtra & Kutch, continue deep ploughing of the fields. Apply light irrigation in groundnut (pegging), pearl millet, sesame, black gram, green gram, tomato, bhindi and fruit crops in the morning or in the evening hours. Carry out intercultural operations in pearl millet, sesame, green gram, black gram and vegetable crops. Continue harvesting of matured papaya fruits.
- In South Gujarat, in transplanted rice field, maintain water level of 2-3 cm. Continue deep ploughing of the fields and 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 Middle Gujarat, carry out weeding operations in green gram, cowpea, bajra and groundnut 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.

- In South Gujarat, present weather conditions are favourable for attack of thrips, aphids and anthracnose in mango orchards; to control, spray Dimethoate @ 2 ml + Carbendizum @ 1 g/litre of water.

Animal Husbandry

- In Gujarat, as heat wave conditions are likely to prevail, grazing /feeding of cattle/goats may be done during morning/ evening hours. Keep animals under shade/shed during noon hours. Put curtains on south-west side of poultry house and sprinkle water on curtains during noon time. Provide plenty of cold water mixed with minerals for drinking and shower the animals with cold water two to three times in a day.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in Dhamtari, Jashpurnagar district of Chhattisgarh. Weather remained dry over rest of the region during the week.

Advisories:

- Heat Wave Conditions in some parts likely over West Madhya Pradesh and at isolated pockets over East Madhya Pradesh, Chhattisgarh on 29th & 30th April, apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.

Madhya Pradesh

- In East Madhya Pradesh, continue harvesting of matured wheat. In Kymore Plateau and Satpura Hill Zone, continue sowing of moong and summer vegetables and sowing of watermelon, melon, cucumber etc.
- In Vidhyan Plateau Zone, apply irrigation through thala method or drip method of irrigation to standing fruit crops of Papaya and Banana.
- In West Madhya Pradesh, in summer groundnut and maize crop due to high temperature, evapo-transpiration rate is very high. Therefore, farmers are advised to spread mulch or paddy straw in between the rows so that evapo-transpiration rate can be reduced. Farmers' having 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. Apply irrigation in the vegetable and orchard crops at evening time and regular monitoring the crops against insect-pest disease infestation.
- In present weather, in mango orchards, wrapping of plastic sheets around mango tree trunk should be done for preventing climbing of young (nymphs) mealy bugs. Apply grease to seal any cracks in the polythene sheets. Apply irrigation in fruit orchards at regular intervals to keep optimum moisture in the basin.

Chhattisgarh:

- 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, farmers are advised to keep their animal in shade and give regularly water to them Farmer are advised to cover Animal and poultry sheds with gunny bag so that inner temperature may maintain normal. To prevent Rani khet disease vaccinate the poultry. Provide windows for fresh air in poultry shed and animal shed. During summer, @50-60 grams salt per animal per day must be fed.
- 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 hanged 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: Rain occurred in Chamba, Kangra, Kullu and Sirmaur districts of Himachal Pradesh; Baramula, Doda, Kathua, Ramban, Reasi and Udhampur districts of Jammu & Kashmir and Chamoli and Uttarkashi districts of Uttarakhand during the week. Weather remained mainly dry/dry over rest of the region.

Advisories:

- Thunderstorm accompanied with lightning, hail and gusty winds (wind speed reaching 40-50 kmph) at isolated

places likely over Jammu & Kashmir, Himachal Pradesh and Uttarakhand on 30th, Thunderstorm accompanied with lightning and with Dust storm and gusty winds (wind speed reaching 30-40 kmph) over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and north Rajasthan on 30th April, provide mechanical support to young fruit plants and vegetables. Use hail net for orchard crops to protect from mechanical damage in Jammu & Kashmir, Himachal Pradesh and Uttarakhand. Keep cattle/goats indoor during thunderstorm.

- Heat Wave Conditions likely at isolated pockets over south Rajasthan, south Uttar Pradesh on 28th & 29th April, apply light and frequent irrigation to the standing crops to cope up with the excessive evaporative demand. Do soil mulching or mulching with straw/polythene to conserve soil moisture.

Jammu & Kashmir:

- In Sub Tropical Zone, complete harvesting of early sown wheat and late sown pea. Carry out hoeing and weeding operations in summer pulses.
- In Intermediate Zone, continue sowing of okra and French bean. In temperate areas/higher reaches of the district, undertake sowing of maize crop after rains to utilize adequate soil moisture conditions for better germination of maize crop.
- In Valley Temperate Zone, provide proper drainage facilities and follow field sanitation in saffron fields. In apple, ensure orchard sanitation through destruction of pruned or diseased/infected twigs by burning. Adopt proper central drainage system. Maintain a gap of 3-4 days between insecticide and fungicide spray. Avoid mixing of fungicides, insecticide and spray suspensions. Adjuvants/Stickers may be added for better efficacy of fungicides especially during rainy days. Stickers should not be used with Dodine. Do not spray pesticides during bloom. Same systemic fungicides should not be repeated continuously in two sprays. Carry out weeding and hoeing operations in agro forestry systems. Undertake transplanting of vegetable seedlings in open fields. Irrigate all crops in field as and when required. Undertake sowing of beans and direct sowing of cucurbits. Maintain weed free conditions in the nursery and crops.

Himachal Pradesh:

- In High Hill Temperate Zone, carry out pruning of unwanted branches in apple trees. Undertake grafting work in apple nursery. To avoid mortality of seedlings in polyhouse due to damping off, carry out drenching of the beds with Bavistin (15-20g/10 litres of water) three weeks before sowing.
- In Mid-Hills Sub-Humid Zone, apply light irrigation to vegetables, nurseries and fruit crops. Undertake grass mulching of 6 inches thickness in the basins of temperate fruit trees.

Punjab, Haryana and New Delhi

- In Punjab, complete harvesting/threshing of wheat and mustard crop. Undertake sowing of summer moong, summer mash, bhindi, cowpea and cucurbits. Undertake transplanting of vegetables (tomato, chilli, brinjal). Undertake sowing of cotton including Bt cotton or desi Cotton.
- 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. To control dila, post-emergence application of 2, 4-D sodium salt 80 % @ 800 g per acre in 200-225 litres of water on a non rainy day.
- In Haryana, prepare the field and undertake 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. Undertake field preparation for sowing of pigeonpea and cotton. Apply light irrigation to the matured onion and garlic crops one week before digging.

Uttar Pradesh:

- In East Uttar Pradesh, Irrigate tomato crop whenever is required. To control fruit borer spray Malathion @ 0.1% after plucking of fruit. Don't pluck fruit within 3-4 day of spraying of chemical. Remove malformed inflorescences of mango at 30-40 cm. Irrigate Mango, Guava, Citrus, Ber & Papaya crops. Irrigate Mentha at the interval of 10-12 days and do first harvesting for oil extraction. continue harvesting and threshing of wheat and barley.
- In West Uttar Pradesh, continue harvesting and threshing of gram, wheat and barley.
- Undertake first irrigation to Maize, urad, moong jowar , bajra

Uttarakhand:

- In Bhabar and Tarai Zone, continue harvesting of wheat and pulses. Undertake transplanting of brinjal, tomato and capsicum in high hills. Apply lifesaving irrigation to plants and make necessary arrangement for moisture conservation. Continue sowing of French beans. To control the leaf blight disease in onion, spray tebuconazole or difinoconazole or propiconazole @ 500ml/ha with any sarvangi insecticide and sticker.
- In Hill Zone, apply mulch in onion and garlic. Apply life-saving irrigation in tomato, brinjal, chilli and capsicum. Mulching may be done with crop residues; this will suppress the weed growth besides conserving moisture. Carry

out earthing- up and weeding operations in potato fields when potato plants are about 8–10 cm high. Carry out mulching operation to suppress the weeds and preserve moisture.

- In Sub-Humid Sub-Tropic Zone, maintain proper soil moisture in early sown maize crop. Carry out threshing of harvested wheat crop.
- Animal Husbandry:
- In Sub-Humid Sub-Tropic Zone, provide fresh drinking water to cattle. Keep the cattle in shade during day time. Add mineral mixture in dry hay for feeding to animals.

Rajasthan:

- In Flood Prone Eastern Plain Zone and in Sub Humid Southern Plain and Aravali Hill Zone, harvesting, threshing and storing of wheat crop may be done as early as possible.. Dry the grains properly. Use fully dry and disinfected gunny bags for storage. The seed moisture content should not be more than 10-12% for seed storage.
- In Irrigated Northwestern Plain Zone, sowing of desi cotton American cotton and Bt Cotton may be done.
- In Semi Arid Eastern Plain Zone, fruit borer may attack okra crop, pick up the affected fruits and bury them in soil. Spray Melathion 50 EC @ 1.0 ml per litre water.

Floriculture:

- In Sub Tropical Zone of Himachal Pradesh, carry out cutting of flower spikes for proper development of gladiolus corms. Cover the Mother stock of Chrysanthemum with shade net. Collect the seeds of early sown marigold which is at maturity stage. Undertake flower harvesting of late sown marigold.

Apiculture:

- In Intermediate Zone of Jammu & Kashmir, inspect honey bee colonies at every fortnight interval to maintain cleanliness and to avoid mortality of honey bees due to brood and disease infestation. If there is insufficient/shortage of food in any colony, give artificial feeding of sugar/honey to the honey bee colonies. Shift honey bee colonies near the field of mustard.

Animal Husbandary

- In Uttar Pradesh Vaccinate cattle to control foot & mouth disease. Vaccinate fowl & R.D. timely in poultry birds.

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