



National Agromet Advisory Service Bulletin

Thursday 24th April 2020
(For the period 24th to 28th April 2020)



Issued by
India Meteorological Department

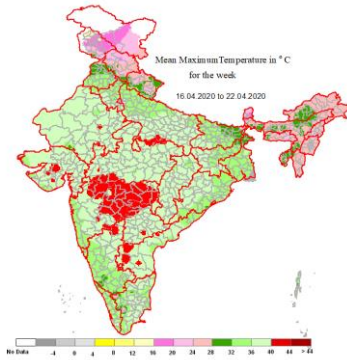
Weblink For

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

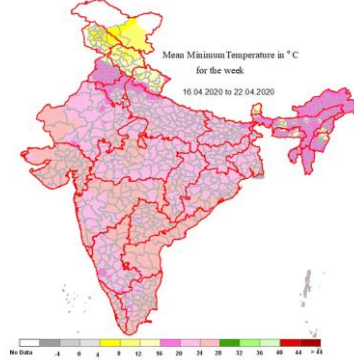
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

spatial distribution of weather parameters for the week ending on 22.04.2020

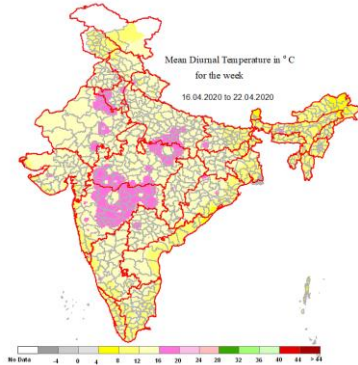
Mean Maximum Temperature (°C) for the week ending on 22.04.2020



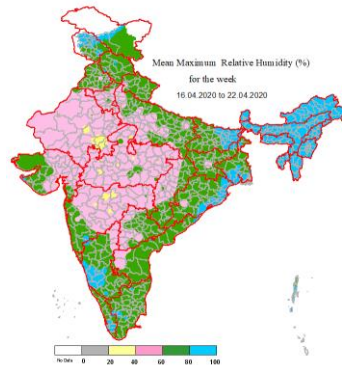
Mean Minimum Temperature (°C) for the week ending on 22.04.2020



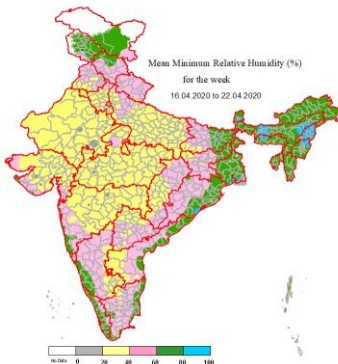
Mean Diurnal Temperature Variation (°C) for the week ending on 22.04.2020



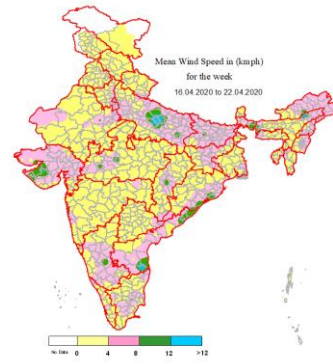
Mean Maximum Relative Humidity (%) for the week ending on 22.04.2020



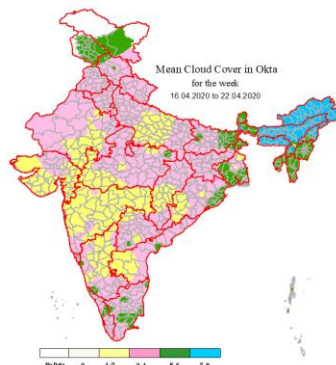
Mean Minimum Relative Humidity (%) for the week ending on 22.04.2020



Mean Wind Speed (km/hr) for the week ending on 22.04.2020

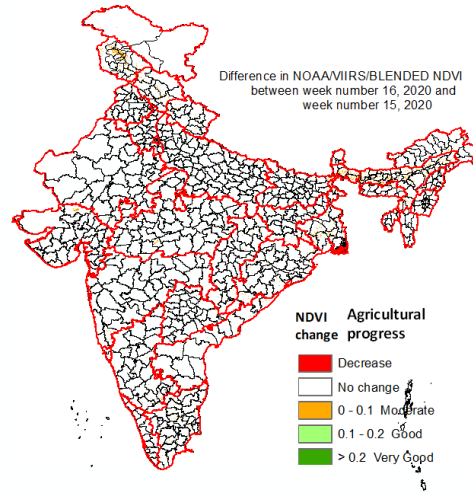
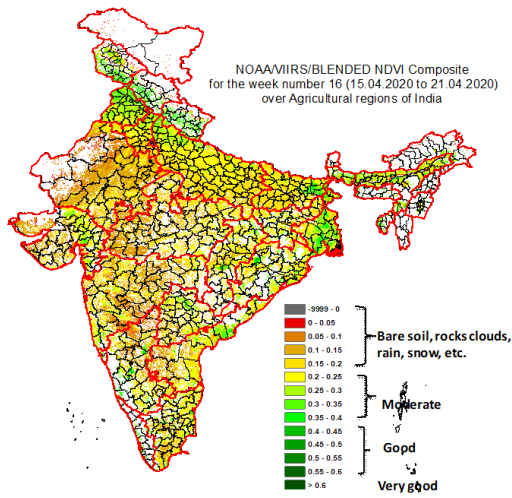


Mean Cloud Cover (okta) for the week ending on 22.04.2020



NOAA/VIIRS/BLENDED NDVI composite for the week number 16 (15.04.2020 to 21.04.2020) over Agricultural regions of India

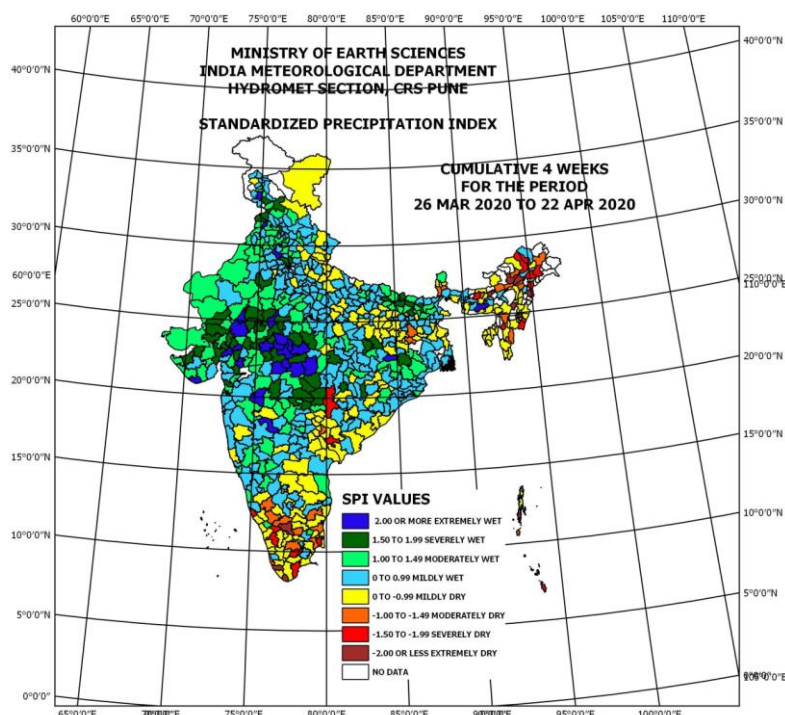
Difference in NOAA/VIIRS/BLENDED NDVI between week number 16, 2020 and week number 15, 2020



Agricultural vigour was good in isolated places of Himachal Pradesh, Uttarakhand, Gangetic West Bengal, Odisha, North Coastal Andhra Pradesh and Karnataka. It was not noticed in other parts of the country as crops have been harvested / sowing.

Moderate difference in agricultural vigour has been observed in some parts of Valley region of Jammu Kashmir

**Standardised Precipitation Index
Cumulative 4 weeks for the period 26th March to 22nd April 2020**



- Extremely/Severely wet conditions exist in Begusarai, Darbhanga, Gopalganj, Madhepura, Muzaffarpur, Sitamarhi districts of Bihar; Ahmedabad, Banaskantha, Kheda, Panchmahal, Sabarkantha, Gandhinagar, Narmada, Navsari, Patan, Aravalli, Chhota Udepur, Mahisagar, Jamnagar, Gir Somnath, Morbi districts of Gujarat; Jind, Sonapat districts of Haryana; Chamba district of Himachal Pradesh; Reasi, Udhampur districts of Jammu; Betul, Bhopal, Dewas, Harda, Hoshangabad, Indore, Khandwa, Neemuch, Raisen, Rajgarh, Ratlam, Sehore, Shajapur, Ujjain, Vidisha, Agar, Chindwara, Mandla, Sagar districts of West Madhya Pradesh; Aurangabad, Osmanabad, Buldhana, Chandrapur, Nagpur, Yeotmal, Wardha districts of Maharashtra; West Khasi Hills districts of Meghalaya Nawapara districts of Orissa; Amritsar, Gurdaspur, Kapurthala, Ropar districts of Punjab; Jalore, Banswara, Bhilwara, Bundi, Chittorgarh, Jhalawar, Kota, Sikar, Udaipur, Baran, Rajsamand districts of Rajasthan; Dadara & Nagar Haveli districts of Union Territory; Baghpat districts of Uttar Pradesh; West Singhum, Simdega districts of Jharkhand; Balod, Balrampur, Surajpur districts of Chhatisgarh; Adilabad district of Telangana.
- Extremely/Severely dry conditions exists in Papumpara, West Siang districts of Arunachal Pradesh; Darrang, Lakhimpur, Barpeta, Dibrugarh, Tinsukia districts of Assam; Palakkad, Kollam, Kasargod districts of Kerala; Gadchiroli district of Maharashtra; Chandel, Imphal West districts of Manipur; Kolasib districts of Mizoram; Tuensang, Mon, Paren districts of Nagaland; Erode, Kanyakumari, Madurai, Nilgiri, Tiruvarur, Toothukudi districts of Tamilnadu; Nicobar district of Andaman & Nicobar Islands; Khammam district of Telangana.
- Moderately wet to moderately dry conditions were experienced in remaining districts in the country.

Weather Forecast for next 5 days valid upto 0830 hours of 29th April, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ Maximum temperatures likely to remain above 40°C and 2-3°C above normal during next 3 days over interior Tamil Nadu, Rayalaseema, Telangana and North Interior Karnataka. Maximum temperatures likely to fall by 2-3°C over Gujarat state during next 3 days. No significant change in maximum temperatures over rest of the country during next 3 days.

5 Day Rainfall Forecast (MID-DAY)

24th April 2020

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

% 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 five days:

24 April (Day 1): ♦ **Thunderstorm accompanied with lightning, hail & squall** (speed reaching more than 60 kmph) very likely at isolated places over Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning, hail & squall** (speed reaching 50-60 kmph) at isolated places over Gangetic West Bengal; **with lightning, hail & gusty winds** (speed reaching 40-50 kmph) at isolated places over Odisha; **with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Chhattisgarh; **with lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Sub-Himalayan West Bengal & Sikkim and Jharkhand; **with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over West Uttar Pradesh, Rajasthan, Bihar, Telangana, South Interior Karnataka and Kerala & Mahe and **with lightning** at isolated places over Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamilnadu, Puducherry & Karaikal and Arunachal Pradesh.

Heavy rainfall very likely at isolated places over West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka and Kerala & Mahe.

Squally Weather very likely to prevail over Comorin-Maldives areas. Fishermen are advised not to venture into these areas.

25 April (Day 2): ♦ **Thunderstorm accompanied with lightning, hail & squall** (speed reaching 50-60 kmph) very likely at isolated places over Jharkhand; **with lightning & squall** (speed reaching 50-60 kmph) very likely at isolated places over Gangetic West Bengal; **with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Odisha and Telangana; **with lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Sub Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Uttar Pradesh, Rajasthan, Coastal Andhra Pradesh & Yanam, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe and **with lightning** at isolated places over Madhya Pradesh, Chhattisgarh, Arunachal Pradesh and Rayalaseema.

Heavy rainfall very likely at isolated places over West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and South Interior Karnataka.

Squally Weather very likely to prevail over Maldives area, north Bay of Bengal and along & off West Bengal-Odisha coasts. Fishermen are advised not to venture into these areas.

26 April (Day 3): ♦ **Thunderstorm accompanied with lightning & squall** (speed reaching 50-60 kmph) likely at isolated places over Gangetic West Bengal and Bihar; **with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Chhattisgarh, Odisha, Telangana and Tamilnadu, Puducherry & Karaikal; **with lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Uttar Pradesh, Rajasthan, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Kerala & Mahe and **with lightning** at isolated places over West Madhya Pradesh and South Interior Karnataka.

Heavy rainfall likely at isolated places over Jharkhand, Gangetic West Bengal, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam and Kerala & Mahe.

Squally Weather very likely to prevail over north Bay of Bengal and along & off West Bengal-Odisha coasts. Fishermen are advised not to venture into these areas.

27 April (Day 4): ♦ Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) likely at isolated places over Bihar; **with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Himachal Pradesh, Uttarakhand, Rayalaseema, Tamilnadu, Puducherry & Karaikal and Chhattisgarh; **with lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Gangetic West Bengal, Andaman & Nicobar Islands, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, Vidarbha, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, South Interior Karnataka and Kerala & Mahe and **with lightning** at isolated places over West Madhya Pradesh and Marathawada.

Heavy rainfall likely at isolated places over Jharkhand, Odisha, Telangana, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

Duststorm/Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) likely at isolated places over Rajasthan.

28 April (Day 5): ♦ Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) likely at isolated places over Bihar; **with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Uttarakhand, Rayalaseema and Tamilnadu, Puducherry & Karaikal; **with lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Andaman & Nicobar Islands, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Uttar Pradesh, East Madhya Pradesh, Vidarbha, Jharkhand, West Bengal & Sikkim, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, South Interior Karnataka and Kerala & Mahe and **with lightning** at isolated places over Chhattisgarh, Madhya Maharashtra and Marathawada.

Heavy rainfall likely at isolated places over Andaman & Nicobar Islands, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.

Squally Weather likely to prevail over south Andaman Sea & adjoining southeast Bay of Bengal. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 29th April to 1st May, 2020

- A Low Pressure Area is very likely to develop over south Andaman Sea & adjoining southeast Bay of Bengal around 29th April. It is likely to become more marked over the same region subsequently.
- Fairly widespread to widespread rain/thundershowers likely over Andaman & Nicobar Islands with isolated heavy to very heavy falls.
- Fairly widespread to widespread rain/thundershowers likely over East and Northeast India and over parts of peninsular India.
- Isolated rainfall likely over the rest of the country outside Saurashtra & Kutch where dry weather is likely to prevail.

Salient advisories

➤ **Advisory for Desert Locust:**

In Arid Western Plain Zone of Rajasthan, where there is attack of desert locust in Bikaner and Jaisalmer districts, apply Chloropyriphos (50%) @ 1 ml/litre or (20%) @ 2.5 ml/litre of water in standing crops.

- **As Thunderstorm accompanied with lightning, hail & squall** (speed reaching more than 60 kmph) very likely at isolated places over Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 24th; with **lightning, hail & squall** (speed reaching 50-60 kmph) at isolated places over Gangetic West Bengal on 24th and over Jharkhand on 25th ; with **lightning & squall** (speed reaching 50-60 kmph) very likely at isolated places over Gangetic West Bengal on 25th & 26th and over Bihar from 26th to 28th , with **lightning, hail & gusty winds** (speed reaching 40-50 kmph) at isolated places over Odisha on 24th , with **lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Chhattisgarh on 24th , 26th & 27th , over Odisha and Telangana on 25th & 26th , over Punjab, Haryana, Chandigarh & Delhi on 26th , over Himachal Pradesh on 26th & 27th , over Uttarakhand and Tamilnadu, Puducherry & Karaikal from 26th to 28th and over Rayalaseema on 27th & 28th ; with **lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Jharkhand on 24th , over Sub Himalayan West Bengal & Sikkim from 24th to 26th , over Nagaland, Manipur, Mizoram & Tripura from 25th to 28th , over Assam & Meghalaya from 26th to 28th , over Gangetic West Bengal on 27th and over Andaman & Nicobar Island on 27th & 28th; with **lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over West Uttar Pradesh and Bihar on 24th , over Rajasthan from 24th to 26th , over Telangana on 24th , 27th & 28th , over South Interior Karnataka on 24th , 25th , 27th & 28th , over Kerala & Mahe from 24th to 28th , over Tamilnadu, Puducherry & Karaikal on 25th , over Uttar Pradesh and Coastal Andhra Pradesh & Yanam from 25th to 28th , over Rayalaseema on 26th , over Jharkhand from 26th to 28th , over Punjab, Haryana, Chandigarh & Delhi and Sub-Himalayan West Bengal & Sikkim on 27th , over Vidarbha and Odisha on 27th & 28th and over East Madhya Pradesh and West Bengal & Sikkim on 28th; with **lightning** at isolated places over Coastal Andhra Pradesh & Yanam and Tamilnadu, Puducherry & Karaikal on 24th , over Madhya Pradesh, Arunachal Pradesh and Rayalaseema on 24th & 25th , over Chhattisgarh on 25th & 28th , over South Interior Karnataka on 26th , over West Madhya Pradesh and Marathwada on 27th & 28th and over Madhya Maharashtra on 28th , along with **Dust Storm /Thunderstorm** accompanied with gusty winds (speed reaching 30-40 kmph) likely at isolated places over Rajasthan on 27th , provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.

- As **rain/thundershowers** likely at **most places** over Arunachal Pradesh on 24th , over Sub-Himalayan West Bengal and Assam & Meghalaya on 24th & 25th , over Nagaland, Manipur, Mizoram & Tripura and Gangetic West Bengal from 24th to 26th , over Odisha on 26th and over Kerala & Mahe from 26th to 28th; at **many places** over Kerala & Mahe on 24th & 25th , over Odisha on 24th , 25th & 27th , over Arunachal Pradesh on 25th , 26th & 28th , over Haryana, Chandigarh & Delhi on 26th , over Bihar, Jharkhand, Sub-Himalayan West Bengal and Assam & Meghalaya from 26th to 28th , over Uttar Pradesh on 27th , over Uttarakhand, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura and Andaman & Nicobar Islands on 27th & 28th and over Andhra Pradesh & Yanam, Telangana, Tamil Nadu, Puducherry & Karaikal and Lakshadweep on 28th , along with **Heavy Rainfall** over Arunachal Pradesh on 24th , over West Bengal & Sikkim on 24th & 25th , over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura from 24th to 26th , over Kerala & Mahe on 24th & 25th to 28th , over Odisha on 24th , 25th & 27th , over South Interior Karnataka on 24th , 25th & 28th , over Gangetic West Bengal on 26th , over Jharkhand on 26th & 27th , over Coastal Andhra Pradesh & Yanam on 26th & 28th , over Telangana on 27th , over Tamil Nadu, Puducherry & Karaikal on 27th & 28th and over Rayalaseema and

Andaman & Nicobar Islands on 28th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

➤ Undertake the following operations:

- sowing of *ragi*, corn, soybean, sesame, green gram, black gram crops and planting of ginger and turmeric in South Interior Karnataka.
- land preparation/sowing of summer vegetables, green gram and black gram and planting of ginger in Hill Zone of Assam.
- land preparation of soybean, *khariif* maize and groundnut and planting of ginger in Manipur.
- sowing of ginger, turmeric and elephant foot yam in Jharkhand.
- undertake sowing of summer *moong* in Bundelkhand Zone of Madhya Pradesh.
- land preparation for sowing of maize; nursery preparation for rice and transplanting of chilli on ridges or raised beds in Valley Temperate Zone of Jammu & Kashmir.
- sowing of Bt cotton or *desi* cotton in Western Zone and Central Plain Zone of Punjab.
- sowing of pea and sowing of cabbage and cauliflower seeds in nursery beds in High Hill Temperate Dry Zone of Himachal Pradesh.
- direct sowing of French bean, Amaranthus, lobia, lady finger, bottle gourd, cucumber, ridge gourd and summer radish West Uttar Pradesh.
- sowing of ginger and turmeric in Hill Zone of Uttarakhand.
- Sowing of cotton crop in Irrigated North Western Plain Zone of Rajasthan.

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

Realised Rainfall: Rainfall occurred in Belagavi, Dharwad, Haveri, Koppal, Shivamogga and Vijayapura districts of Karnataka; in Kumaram Bheem district of Telangana; in Theni district of Tamilnadu and in Alappuzha, Ernakulam, Idukki, Kottayam, Pathanamthitta, Thiruvananthapuram and Wayanad districts of Kerala. Weather remained dry/mainly dry over rest of the region.

- **Advisories: As Thunderstorm accompanied with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Telangana on 25th & 26th, over Tamilnadu, Puducherry & Karaikal from 26th to 28th and over Rayalaseema on 27th & 28th; with **lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over over Telangana on 24th, 27th & 28th, over South Interior Karnataka on 24th, 25th, 27th & 28th, over Kerala & Mahe from 24th to 28th, over Tamilnadu, Puducherry & Karaikal on 25th, over Coastal Andhra Pradesh & Yanam from 25th to 28th, over Rayalaseema on 26th; with **lightning** at isolated places over Coastal Andhra Pradesh & Yanam and Tamilnadu, Puducherry & Karaikal on 24th, over Rayalaseema on 24th & 25th, over South Interior Karnataka on 26th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most places** over Kerala & Mahe from 26th to 28th; at **many places** over Kerala & Mahe on 24th & 25th and over Andhra Pradesh & Yanam, Telangana, Tamil Nadu, Puducherry & Karaikal and Lakshadweep on 28th, along with **Heavy Rainfall** over Kerala & Mahe on 24th & 25th to 28th, over South Interior Karnataka on 24th, 25th & 28th, over Coastal Andhra Pradesh & Yanam on 26th & 28th, over Telangana on 27th, over Tamil Nadu, Puducherry & Karaikal on 27th & 28th and over Rayalaseema on 28th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

Kerala

- In Southern Zone, weather is congenial for red palm weevil in coconut; as a prophylactic measure, apply 250 g neem cake mixed with equal volume of sand in innermost 2-3 leaf axils.
- In High Altitude Zone, it is ideal time for planting material preparation and planting of rooted pepper cutting. Also weather is congenial for white stem borer in coffee, apply Chlorpyrifos 2 ml in 1 liter of water to prevent egg laying by white stem bores.
- In Problem Area Zone, there are chances of occurrence of pseudostem weevil in banana; remove outer sheaths of pseudostem and spray Chlorpyrifos @ 2 ml/ litre of water.
- In Central Zone, there is a chance of panama wilt in banana varieties like poovan, kadali, etc.; drench the soil with 1g of Carbendazim dissolved in one litre of water.

Andhra Pradesh

- In Scarce rainfall zone of Andhra Pradesh, undertake harvesting of rice, maize and groundnut.
- In Southern Zone, keep Methyl eugenol traps @ 6-7 /acre for fruit fly in mango.
- In High Altitude Tribal Zone, undertake harvesting of paddy and maize.
- In North Coastal Zone, continue harvesting of rice and maize. Keep the harvested produce in safe place.
- In Krishna Godavari Zone, almost all the rabi season crops, viz., maize, bajra, jowar and pulses are at harvesting stage; carry out harvesting after crops attain maturity stage.

Telangana

- In Southern Telangana Zone, prevailing weather conditions are congenial for the incidence of leaf spot disease in vegetables; spray Carbendazim @ 1.0 g or SAAF @ 2.0 ml per litre of water during clear weather.
- In North Telangana Zone, prevailing weather conditions are favourable for powdery mildew in sesame crop. To control, spray Micobutanil @1g or wettable sulphur @ 3 g per litre of water. Also, for sucking pest in

sesame crop, spray Acephate @1.5 g or Imidacloprid @ 0.3 ml per litre of water. Take plant protection measures during clear weather.

Tamil Nadu

- In Western Zone, prevailing weather condition is conducive for mealy bug attack in tapioca and papaya, monitor the crop and if required, spray neem oil 2% or neem seed kernel extract @ 5% or Prefenophos @ 2ml /liter of water on a clear day.
- In Southern Zone, weather is conducive for incidence of citrus canker disease, spray Copper oxychloride (COC) @ 0.3% followed by 4 sprayings with Streptocyclin 100 ppm + COC @ 0.3 % at monthly intervals after pruning.
- In Coastal Zone, weather is congenial for wilt and root rot disease in vegetables; drench the soil with Carbendazim @ 1 g per litre or Carbendazim + Iprodione @ 1 g per litre or Trifloxystrobin + Tebuconazole @ 0.75 g per litre at the base of the diseased plant as well as around the healthy plant so as to wet 10-15 cm depth of soil.
- In Hilly Zone, to avoid nematode infestation in carrot crop, crop rotation should be followed; to control splitting disorder in carrot, maintain enough moisture in soil.

Karnataka

- In North Interior Karnataka, undertake harvesting of the rice crop by using combine harvester. Apply irrigation in sugarcane and watermelon crops. Resin making from grapes may be continued. For control of woolly aphids in sugarcane, spray Acephate 75 WP @ 1.0 gm or Chlorpyrifos 20 EC @ 2.0 ml or Melothion 50 EC @ 2.0 ml / litre of water.
- In Coastal Karnataka, undertake harvesting of ripened cashew fruits. To manage root grub in arecanut, pour 3 liters of Chloropyrifos solution @ 3 ml / liter of water to the base of each arecanut plant.
- In South Interior Karnataka, continue sowing of ragi, corn, soybean, sesame, green gram, black gram crops and planting of ginger and turmeric. Undertake land ploughing and strengthen the bund with fodder grass which will facilitate conservation of rainwater due to pre-monsoon showers. To manage tikka disease in groundnut, take up spraying of Carbandenzim @ 0.5 gm or Chlorothalanin @ 2.0 gram/liter of water during clear weather.

Animal Husbandry

- In Karnataka, provide sufficient green fodder and drinking water to cattle to get sustained milk yield.

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

Realised Rainfall: Significant rainfall occurred in all districts of Arunachal Pradesh, Meghalaya, Tripura and Mizoram; in all districts of Assam except Morigaon; in all districts of Manipur except Chandel and in all districts of Nagaland except Longleng, Mon, Paren and Zunheboto. Weather remained dry/mainly dry over the rest of the region.

- **Advisories:** As **Thunderstorm accompanied with lightning, hail & squall** (speed reaching more than 60 kmph) very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 24th; with **lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Nagaland, Manipur, Mizoram & Tripura from 25th to 28th and over Assam & Meghalaya from 26th to 28th, provide mechanical support to banana, young fruit plants and vegetables to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most places** over Arunachal Pradesh on 24th, over Assam & Meghalaya on 24th & 25th, over Nagaland, Manipur, Mizoram & Tripura from 24th to 26th; at **many places** over over Arunachal Pradesh on 25th, 26th & 28th, over Assam & Meghalaya from 26th to 28th and over Nagaland, Manipur, Mizoram & Tripura and Andaman & Nicobar Islands on 27th & 28th, along with **Heavy Rainfall** over Arunachal Pradesh on 24th and over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura from

24th to 26th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

Arunachal Pradesh

- In Arunachal Pradesh, continue sowing of maize and rice; nursery sowing of vegetables and planting of ginger. Direct seed sowing of *Jhum* rice may be done immediately.

Assam & Meghalaya

- In Hill Zone of Assam, continue land preparation/sowing of summer vegetables, green gram and black gram and planting of ginger. Undertake land preparation for transplanting of *Ahu* rice. Continue harvesting of wheat.
- In Upper Brahmaputra Valley Zone, repair the bunds of *Boro* and *Ahu* paddy fields to conserve rain water. Present weather is congenial for occurrence of blight disease in the green gram and black gram crops; to control the disease, apply 0.05% Carbendazim (i.e., 300-500g in 600-700 litres of water per hectare area of land) under fair weather condition at an interval of 12-15 days. Complete the planting of rhizomes of ginger by the end of this month.
- In Lower Brahmaputra Valley Zone, continue sowing of jute and planting of banana. Continue transplanting of *Ahu* rice. Provide mechanical support in the banana, citrus and papaya plantations to protect them from strong winds.
- In Barak Valley Zone, undertake stem cutting, leaf-bud cuttings and air layering in Assam lemon. Stem cuttings may be raised in polyethylene bags under partial shade as the best nursery techniques.
- In Central Brahmaputra Valley Zone, continue sowing of *Oiltorius* jute and summer vegetables like lady's finger, bottle guard, pumpkin, ridge guard, cucumber, etc. Complete planting of ginger and turmeric. Complete sowing of normal direct seeded *Ahu* rice and *Bao* rice within April.
- In North Bank Plain Zone, continue transplanting of early *Ahu* rice. Farmers of flood affected low lying areas are advised to collect and sow the suitable varieties of *Bao* rice. Continue planting of banana, sugarcane and papaya and sowing of maize. Complete planting of ginger and turmeric. There is a chance of stem borer attack in citrus plants during this period; apply paste made by mixing lime, water and 5% Malathion dust on the stems of the plants up to a height of about 1m from the ground to prevent the attack.
- In Meghalaya, continue transplanting of 1 month old seedlings of cucurbits, brinjal, chilli, tomato and capsicum; irrigate immediately. Continue sowing of maize. Provide shade and protect the newly grafted plants of *Khasi* Mandarin.

Manipur, Mizoram, Tripura and Nagaland

- In Manipur, continue land preparation of soybean, *kharif* maize and groundnut and planting of ginger. Undertake nursery plot preparation for raising *kharif* rice nursery. Locally made yellow traps applied with petroleum jelly or castor oil can be used to effectively manage aphids in cucumber and other vegetables.
- In Mizoram, make channels around the field of maize, black gram and vegetable crops to drain out excess water. Undertake harvesting of matured cobs of maize.
- In Tripura, to manage the attack fruit & shoot borer in summer brinjal and tomato, apply Cypermethrin @ 1.5ml or Flubendamide 0.5 ml per litre of water. Maintain 5cm standing water in the field of *Boro* rice; curled leaves from the margin to the middle and wither off of leaf tips may be noticed in the field due to attack of thrips; flood to submerge the infested field for two days.
- In Nagaland, continue sowing of *Jhum* rice and planting of ginger. If in maize crop elongated papery windows of all sizes are seen spread all over the leaves in a few adjacent plants, the crop might have been infested with FAW; spray 5% neem seed kernel emulsion (NSKE) or Azadirachtin 1500 ppm @ 5ml/litre of water during clear weather.

Animal Husbandry

- In Northeastern region, before the onset of monsoon, immunize the farm cattle against FMD (Foot & Mouth Disease), HS (Hemorrhagic Septicemia) and BQ (Black Quarter) diseases after consultation with local veterinary doctor. Vaccinate pig against Swine Fever.

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

Realised Rainfall: Significant rainfall occurred in Araria, Begusarai, Bhagalpur, Darbhanga, East Champaran, Gopalganj, Katihar, Kishanganj, Madhepura, Madhubani, Muzaffarpur, Purnea, Saharsa, Samastipur, Saran, Sheohar, Sitamarhi, Supaul and West Champaran districts of Bihar; in East Singbhum, Khunti, Sahebganj, Sarikela, Simdega and West Singbhum districts of Jharkhand; in Angul, Balasore, Bhadrak, Cuttack Deogarh, Dhenkanal, Ganjam, Jagatsingpur, Jajpur, Jharsuguda, Kandhamal, Kendrapada, Keonjhar, Mayurbhanj,

Nayagarh, and Rayagada districts of Odisha; in all districts of Gangetic West Bengal except Birbhum, Murshidabad, Nadia and Purulia and in all districts of Sub-Himalayan West Bengal. Weather remained dry/mainly dry over rest of the region.

- **Advisories: As Thunderstorm accompanied with lightning, hail & squall** (speed reaching 50-60 kmph) at isolated places over Gangetic West Bengal on 24th and over Jharkhand on 25th; with **lightning & squall** (speed reaching 50-60 kmph) very likely at isolated places over Gangetic West Bengal on 25th & 26th and over Bihar from 26th to 28th, with **lightning, hail & gusty winds** (speed reaching 40-50 kmph) at isolated places over Odisha on 24th, with **lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Odisha on 25th & 26th; with **lightning & gusty winds** (speed reaching 40-50 kmph) at isolated places over Jharkhand on 24th, over Sub Himalayan West Bengal & Sikkim from 24th to 26th, over Gangetic West Bengal on 27th and over Andaman & Nicobar Island on 27th & 28th; with **lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Bihar on 24th, over Jharkhand from 26th to 28th, over Sub-Himalayan West Bengal & Sikkim on 27th, over Odisha on 27th & 28th and over West Bengal & Sikkim on 28th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most places** over over Sub-Himalayan West Bengal on 24th & 25th, over Gangetic West Bengal from 24th to 26th and over Odisha on 26th; at **many places** over over Odisha on 24th, 25th & 27th, over Bihar, Jharkhand and Sub-Himalayan West Bengal from 26th to 28th and over Gangetic West Bengal and Andaman & Nicobar Islands on 27th & 28th, along with **Heavy Rainfall** over West Bengal & Sikkim on 24th & 25th, over Odisha on 24th, 25th & 27th, over Gangetic West Bengal on 26th, over Jharkhand on 26th & 27th and over Andaman & Nicobar Islands on 28th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

Odisha

- Continue sowing of okra. Continue planting of ginger rhizomes having 2-3 eyes. Transplanted rice crop is at milking to maturity stage; harvest matured crop during clear weather and store it in a safer place. Carry out harvesting of groundnut crop during clear weather, when plant turns yellow and leaves start drying; in case no rain, apply light irrigation 2-3 days before harvesting; after harvest, dry the pods to reduce the moisture to 8-9 % before storing. Continue harvesting of onion crop during clear weather when the leaves turn yellow. In case of fruit borer in tomato, apply 80 ml Spinosad 14.5SC in 200 litres of water/acre on a clear day.

Bihar

- Continue sowing of summer green gram. Carry out harvesting of wheat crop during clear weather. Postpone irrigation to maize crop if some amount of rainfall is received; drain out excess water from the field. Apply need-based irrigation to vegetable crops. If outbreak of mealy bug in mango orchards is noticed, spray Dimethoate 30EC @ 1.5 ml per liter of water during clear sky. To control shoot and fruit borer in brinjal crop, collect infested fruits and shoots and bury them; if pest population is high, spray Spinosad 48 EC @ 1 ml per 4 litres of water when sky is clear.

Jharkhand

- Undertake sowing of ginger, turmeric and elephant foot yam. Continue harvesting wheat and other matured Rabi crops during clear weather. Provide support to cucurbitaceous vegetables for vigorous growth and also for preventing leaves from coming in contact with soil. Keep 5 cm water level in summer paddy field during PI to flowering stage; to control shoot borer, apply granular insecticide Carbofuran-3G @ 12kg or Forate-10G @ 4 kg/acre. Spray Indoxacarb @ 1ml per litre of water to control yellow mosaic in okra crop. To control white fly and sucking pest in summer green gram crop, spray Imidachloprid 17.8% @ 1 ml per litre of water. Take plant protection measures during clear weather.

West Bengal

- In Sub-Himalayan West Bengal, carry out intercultural operations like weeding and earthing up in maize crop. Continue land preparation for turmeric cultivation. Maintain proper drainage channels in ginger field and avoid waterlogging. Carry out transplanting of new seedlings to establish new orchards of Mandarin orange. In Jute & Mesta field, spray neem oil 10,000 ppm @ 3ml/litre of water with sticker in the evening hours as preventive measure. For Yellow stem borer in *Boro* rice, spray Forate-10G @ 3kg/bigha and for sheath blight, spray Triticonazole @ 0.5 gm or Propiconazole 1ml per litre of water twice at 10 days interval

on a clear day.

- In Gangetic West Bengal, avoid excess irrigation to *Boro* rice to prevent rotting of base. Carry out harvesting of early transplanted paddy at 80% maturity and transfer it to safe place immediately. Carry out plucking of matured pods of early sown green gram. Provide support to banana plants to prevent lodging due to high winds. In late sown *Boro* paddy at milking stage, spray Carbaryl 50 WP @ 2g/litre of water for gundhi bug and Buprofezin 25% SC @ 106 ml/bigha for BPH attack. For preventing pod borer attack in late sown green gram at pod development stage, apply FEM @ 4 ml/10 litres of water twice at an interval of 10 days and for white fly attack, spray Oberon @ 1 ml/litre of water. Take plant protection measures on a clear day.

Andaman & Nicobar Islands

- Do weeding and apply Triazophos @ 2 ml/litre of water along with neem oil 5 ml to control mealy bug in fruits and vegetables. Make basin around the coconut tree and apply vermicompost @ 10 kg per tree.

Animal Husbandry

- Deworm all the livestock and poultry to prevent parasitic load. Keep an earthen bowl filled with 20g Potassium permanganate and 40 ml Formalin per 100 ft³ space to fumigate and disinfect poultry shed. Feed mineral mixture @ 50-60gm to adult and up to 30-60gm to growing animals every day to boost their immunity.

Fishery

- In Andaman & Nicobar Islands, make temporary shed within the fish pond and BBF to avoid heat stress in fish as the temperature of pond water rises during midday.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Significant rainfall occurred in Kolhapur in Madhya Maharashtra, Osmanabad in Marathwada in Maharashtra, Weather remained dry/mainly dry over the region.

- **Advisories: As Thunderstorm accompanied with lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over Vidarbha on 27th & 28th; with **lightning** at isolated places over Marathwada on 27th & 28th and over Madhya Maharashtra on 28th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Maharashtra

- In Konkan, harvest matured mangoes; keep the harvested fruits in shade to prevent spongy tissue disease and from heat. To protect newly planted young coconut plants and mango saplings from bright sunlight erect shade net. Undertake harvesting of matured groundnut, cashew and mango. As dry weather is prevailing, apply irrigation to plantation crops like banana, coconut and arecanut.
- In Madhya Maharashtra, for soil moisture conservation, apply mulch in orchards. Continue harvesting of matured mango and cashew. To enhance pod formation of *summer* groundnut, spray 00:52:34 micronutrient @ 70 g and multi- micronutrient @ 50 g per 15 litre of water. To control shoot fly in sugarcane, spray Chlorantraniliprole 18.5% SC @ 3 ml per 10 litres of water/ ha. To control fruit borer in pomegranate, spray 5% NSKE. To control sucking pest in groundnut, spray Methyl Demeton 25 E.C. @ 10 ml in 10 litres of water.
- In Marathawada, as dry weather is prevailing, apply irrigation to groundnut, sugarcane and vegetables. Undertake harvesting of matured watermelon, muskmelon and vegetables. To control *ambia bahar* fruit dropping due to nutritional deficiency, spray Potassium nitrate @ 15g + Chelated zinc @ 5 g per litre of water. To improve the quality of pomegranate fruits, spray 00:00:50 micro nutrient @ 10 g per litre of water.
- In Vidarbha, to protect newly planted mango saplings from bright sunlight, erect shade net. Continue cultivation of vegetables like bitter gourd, tinda, ridge gourd, smooth gourd, bottle gourd, cowpea, clusterbean and coriander. To control leaf curl in chilli, spray Fipronil 5 EC @ 15 ml or Spinosad 45 EC @ 4 ml in 10 litres of water. To control jassid in sesame, spray Quinalphos 25% @ 20 ml per 10 litres of water.

Gujarat:

- In Saurashtra and Kutch, apply light and frequent irrigation to summer vegetables, groundnut and fodder crops. Under present weather condition, heliothis infestation is found in groundnut crop; if infestation is above ETL, spray Emamectin Benzoate 5 % SG @ 7 gm/10 litres of water.
- In South Gujarat, undertake land preparation for rice. Apply irrigation to vegetables crops at an interval of 3 to 4 days as there is increase in temperature. Install Nauroji fruit fly trap @ 10 trap / ha in mango orchard nearby sapota orchard. Spray Mancozab @ 30 g/10 liters of water to manage leaf spot in sweet corn crop.

- In North Gujarat, to protect against high temperature condition, cover papaya fruits with gunny bags; to protect against high wind, provide support to heavy fruiting plants. Pluck bhindi, tomato and cucumbers regularly. Carry out intercultural operations in groundnut, pearl millet, sesame, green gram, vegetable and cowpea crops. Apply light and frequent irrigation in green gram, cowpea crops and mango gardens. Mulching with straw/polythene is recommended to conserve soil moisture.
- In Middle Gujarat, continue harvesting of tobacco. Ensure proper moisture level in the crop fields. Continue picking of matured vegetables.

Animal Husbandry

- In Gujarat, keep animals under shade during noon hours and provide plenty of water mixed with minerals. Also provide balanced feed & adopt vaccination schedule. Make arrangement of curtains and proper ventilation in poultry house.

CENTRAL INDIA [M.P., CHHATTISGARH]

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

- **Advisories: As Thunderstorm accompanied with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Chhattisgarh on 24th, 26th & 27th, with **lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over East Madhya Pradesh on 28th; with **lightning** at isolated places over Madhya Pradesh on 24th & 25th and over Chhattisgarh on 25th & 28th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm.

Madhya Pradesh

- In Malwa Plateau Zone, carry out harvesting of wheat crop at physiological maturity or at 12-14% grain humidity; before storage, clean grains properly and dry them to the recommended level of moisture content; clean the storage place; repair the cracks and crevices in the walls and if possible, spray 0.5 % Malathion solution and keep the chamber closed for 7-8 days. Continue sowing of green gram after seed treatment with rhizobium culture and PSB. Undertake sowing of summer vegetables like tomato, chilli, bhindi and cluster beans. Carry out timely harvesting of cauliflower crop for better yield quality.
- In Keymore Plateau Zone, harvest the matured wheat crop and keep it in a safe place. Procure seeds for sowing summer mung. Carry out field preparation and sowing of summer vegetables. Irrigate mango, pomegranate and lemon orchards at 3-4 days interval.
- In Jhabua Hills Zone, harvest wheat crop, dry it properly, carry out threshing and store it in a safe place. Apply irrigation to summer green gram and black gram crops at 7-10 days interval. Cut the leaves of matured onion crop and let it dry in the field for one week; dig onion crop when properly dried and store in a safe place. Carry out picking of tomato, cauliflower, brinjal, spinach, fenugreek, carrot, cabbage, chilli, etc. To control fruit rot disease in jackfruit, apply two sprays of Mancozeb @ 2.0 g/ml per litre of water at 15 days interval.
- In the Nimar valley Zone, do not burn the residual waste of wheat crop as it would kill the beneficial bacteria in soil as well as destroy the soil structure. Carry out deep ploughing of fields after harvesting of rabi crops so that eggs, pupating stages of insects and weed seeds are destroyed.
- In Vindhya Plateau Zone, harvest standing *Rabi* crops immediately and store the grains at up to 8% moisture. Prepare field for the sowing of *mung*, *urd* and cucurbitaceous vegetables. Continue transplanting of brinjal and tomato. Carry out gap filling in mango orchards with new plants.
- In Gird Zone, carry out harvesting of wheat crop; before storage, clean grains properly and dry them to the recommended level of moisture content; clean the storage place; repair the cracks and crevices in the walls and if possible, spray 0.5 % Malathion solution. Harvest lentil and gram/chick pea crops and store them safely. Considering the increase in temperature, apply irrigation to summer vegetables at morning/evening hours. Irrigate mango orchards at fruit setting stage.

Chhattisgarh

- In Chhattisgarh Plain Zone, carry out harvesting of matured *Rabi* crops on priority basis; ensure proper drying prior to storage of harvested grains, millets, pulses at farm/home; do not use/reuse previous season's jute bags to prevent pest infestation; use treated and dried gunnies after soaking in 5% neem solution. Farmers and agricultural labours involved in crop cutting, plucking of fruits/vegetables and poultry/fishery

are advised to take necessary precautions against the spread of COVID-19 virus and follow social distancing.

- In Northern Hill Zone, summer rice is at tillering stage, apply top dressing of Nitrogen. Apply need-based irrigation and carry out intercultural operation in tomato, brinjal, chilli, okra and other vegetable crops; increase the frequency of irrigation as per environmental temperature. As temperature is increasing, dig out onion and garlic tubers from the fields.
- In Bastar Plateau Zone, give irrigation at regular intervals and foliar spray of boron to watermelon crop. Spray Chloropyrifos @1.5 ml /litre of water to control stem borer in summer rice. If yellowing in bhindi crop is noticed at early stage, remove the plant and burn it; in case of severe infestation, spray Dimethoate 30 EC @ 1.5 ml per litre of water during morning/evening hours.

Animal Husbandry

- During summer season, keep animals in shade; provide them balanced feed and water mixed with salt and sugar; this will mitigate the effects of heat.

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

Realised Rainfall : Significant rainfall occurred in Kapurthala and Nawashahar districts of Punjab; in Chandigarh and East Delhi; in all the districts of Himachal Pradesh except Hamirpur, Kangra, Kinnaur and Una; in all the districts of Jammu and Kashmir except Badgam, Jammu, Kargil, Leh, Pulwama, Samba and Srinagar and in Rudraprayag and Uttarkashi districts of Uttarakhand. Weather was mainly dry over rest of the region.

- **Advisories: As Thunderstorm accompanied with lightning, hail & gusty winds** (speed reaching 30-40 kmph) at isolated places over Punjab, Haryana, Chandigarh & Delhi on 26th, over Himachal Pradesh on 26th & 27th and over Uttarakhand from 26th to 28th; with **lightning & gusty winds** (speed reaching 30-40 kmph) at isolated places over West Uttar Pradesh on 24th, over Rajasthan from 24th to 26th, over Uttar Pradesh from 25th to 28th and over Punjab, Haryana, Chandigarh & Delhi on 27th, along with **Dust Storm /Thunderstorm** accompanied with gusty winds (speed reaching 30-40 kmph) likely at isolated places over Rajasthan on 27th, provide mechanical support to banana, young fruit plants and vegetables and carry out propping up in sugarcane to prevent the crops from lodging due to strong winds. Provide hailnet for orchard crops to protect from mechanical damage. Keep harvested produce at safer places. Keep cattle/goats indoor during thunderstorm/dust storm.
- As **rain/thundershowers** likely at **many places** over Haryana, Chandigarh & Delhi on 26th, over Uttar Pradesh on 27th and over Uttarakhand on 27th & 28th, avoid irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Keep harvested produce at safer places.

Jammu & Kashmir

- In Valley Temperate Zone, undertake land preparation for sowing of maize. Undertake rice nursery preparation. Continue transplanting of chilli on ridges or raised beds. Carry out weeding in vegetable crop fields.
- In Intermediate Zone, continue transplanting of cucurbits. Continue sowing of okra. Continue transplanting of chilli. Continue harvesting of mustard and rabi pulses like chick pea and pea. Carry out hoeing and weeding operations in solanaceous crops.
- In Sub-Tropical Zone, undertake harvesting of wheat and *Rabi* pulses like gram, pea and lentil. Continue harvesting of mustard. Carry out hoeing and weeding operations in green gram.

Himachal Pradesh

- In Sub Montane and Low Hills Sub Tropical Zone, carry out deep ploughing of fields after harvesting of *Rabi* crops; it helps in destroying the eggs, pupating stages of insects and weed seeds. Undertake sowing of fodder maize, cowpeas and soybean. Undertake sowing of potato. Carry out intercultural operations in green gram.
- In High Hill Temperate Dry Zone, continue sowing of pea. Undertake sowing of cabbage and cauliflower seeds in nursery beds.
- In Mid Hills Sub Humid Zone, carry out hoeing and weeding operations in citrus fruit nurseries. Apply recommended dose of fertilizers in vegetables like onion, pea and cauliflower.

Punjab, Haryana, Delhi

- In Western Zone of Punjab, monitor the crop fields for infestation of disease/insect-pest; undertake harvesting on a dry and clear day only. Undertake sowing of Bt cotton or desi cotton during this month. Postpone irrigation to tomato crop. Prevailing weather is favourable for early blight of tomato, spray Indofil M-45 @ 600 gm in 200 litre of water per acre to protect tomato from late blight on a clear day. To control of purple blotch in onion, spray the crop with 300g of Caviet or 600g of Indofil M-45 mixed with 200 ml of Triton or linseed oil in 200 litres of water per acre as soon as first symptom of purple blotch appears; repeat application at 10 days interval.
- In Undulating Plain Zone of Punjab, plan harvesting of mature crops. Apply need based irrigation and fertilizers in sugarcane on a clear day.
- In Central Plain Zone of Punjab, undertake sowing of Bt cotton or *desi* cotton during this month. Prevailing weather is favourable for early blight of tomato; spray Indofil M-45 @ 600 gm in 200 litres of water per acre on a clear day.
- In Western Zone of Haryana, keep possibility of variable weather conditions in mind while harvesting/threshing of matured mustard/wheat/chickpea crops and transportation to mandi. Carry out field preparation for cotton crop as per the weather.
- In Eastern Zone of Haryana, keep harvested crops and grains in the protected place. Undertake sowing of green gram. Monitor lady finger crop against attack of mite; spray Ethion @ 1.5-2 ml/litre of water. Incidences of powdery mildew disease in cucurbitaceous crops may occur at present temperature; spray Carbendazim @ 1.0 gram per litre of water when sky is clear. To control shoot and fruit borer in tomato crop, collect and bury the infested fruits and shoots; install pheromone traps @ 2-3 traps per acre; if pest population is high, spray Spinosad 48 EC @ 1 ml /4 litres of water when sky is clear.
- In Delhi, harvest mature vegetables at morning and evening hours and keep harvested crops in a protected place. Undertake field preparation for sowing of pigeonpea and cotton. Undertake sowing of green gram and direct sowing of french bean, amaranthus, vegetable lobia, lady finger, bottle gourd, cucumber, ridge gourd and summer radish. Monitor lady finger crop against attack of mite; if population is high, spray Ethion @ 1.5-2 ml/litre of water when sky is clear. Maintain optimum moisture level in cucurbitaceous crops by application of light and frequent irrigation as dry conditions may lead to poor pollination and drop in yield.

Uttar Pradesh

- In East Uttar Pradesh, continue harvesting and threshing operations of wheat and mustard crop. Continue sowing of maize. Undertake sowing of green gram. Apply irrigation and carry out intercultural operations in bottle gourd and bitter gourd as per requirement. To prevent mango fruits from falling, sprinkle the tree with a 2 % solution of urea. To control shoot and fruit borer in brinjal crops, infested fruits and shoots should be collected and buried inside the soil; spray Spinosad 48 EC @ 1 ml /4 litres of water when sky is clear. To control fruit borer in tomato, spray Malathion @ 0.1% after plucking of fruits; don't pluck fruit within 3-4 day of spraying of chemicals.
- In West Uttar Pradesh, continue sowing of maize, green gram, bajra, sorghum, lobia and black gram. Harvest chickpea crop, separate seeds from straw and keep grains in a safe area. Undertake direct sowing of French bean, Amaranthus, lobia, lady finger, bottle gourd, cucumber, ridge gourd and summer radish as present temperature is suitable for germination of seeds. Undertake sowing of turmeric. To prevent mango fruit fall, spray Naphthalene Acetic acid @ 20 mg / liter of water or Planofix 5 mg / 10 liters of water when the sky is clear.

Uttarakhand

- In Sub Humid Sub Tropic Zone, continue harvesting of wheat crop. Continue sowing of spring sugarcane. Undertake picking of matured crop of bottle gourd and cucumber.
- In Hill Zone, carry out weeding and hoeing operations after 25 to 30 days of sowing of barnyard millet. Carry out earthing up operation in tomato. Undertake sowing of ginger and turmeric. Carry out earthing up operation in potato crops 30-35 days after sowing; use dry grass for mulching between the rows. Undertake harvesting of vegetable pea.
- In Bhabar and Tarai Zone, arrange proper storage for harvested wheat crop. Keep the harvested lentil crop in a safe place. Continue sowing of barnyard millet. Continue sowing of French bean. Continue plucking of vegetable pea. Carry out weeding in maize crop.

Rajasthan

- In Arid Western Plain Zone, undertake field preparation for sowing of cotton crop.

- In Irrigated North Western Plain Zone, undertake sowing of desi cotton upto 30 April. Use recommended varieties RG-8, RG-18, HD-123, RG 542 and hybrid variety Raj DH-9 with seed rate of 3 kg per bigha.
- In Flood Prone Eastern Plain Zone, harvest timely sown wheat crop.
- In Hyper Arid Partial irrigated zone, harvest rabi crops.
- In Semi Arid Eastern Plain Zone, weather is congenial for leaf curl and mosaic virus in papaya; spray Malathion 50 EC @ 1.0 ml per litre of water.

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