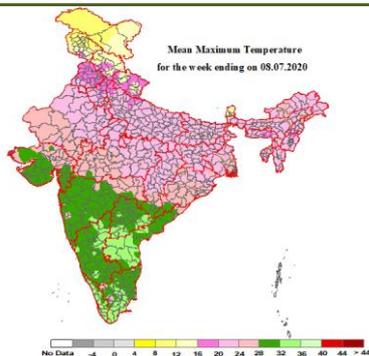
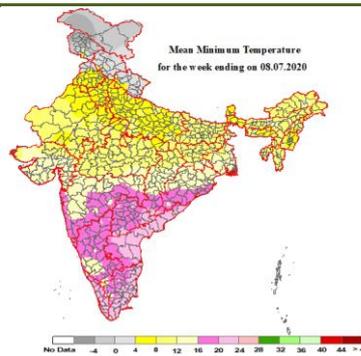


Spatial distribution of weather parameters for the week ending on 08.07.2020

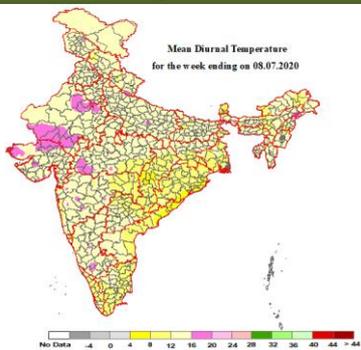
Mean Maximum Temperature (°C) for the week ending on 08.07.2020



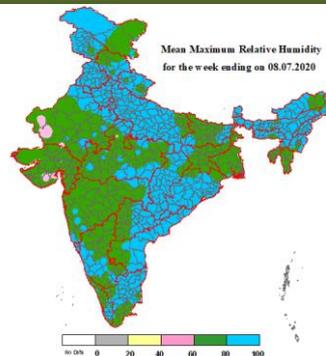
Mean Minimum Temperature (°C) for the week ending on 08.07.2020



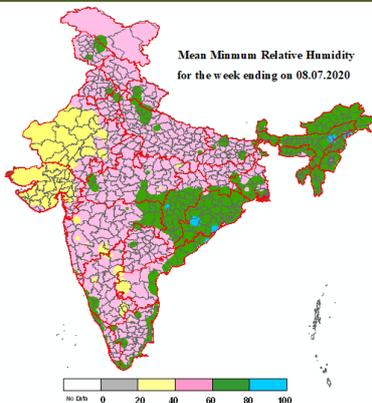
Mean Diurnal Temperature Variation (°C) for the week ending on 08.07.2020



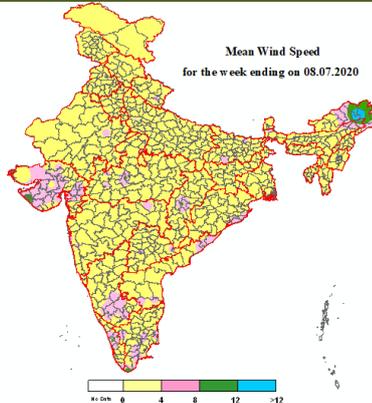
Mean Maximum Relative Humidity (%) for the week ending on 08.07.2020



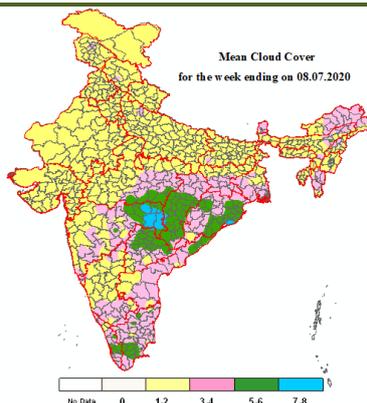
Mean Minimum Relative Humidity (%) for the week ending on 08.07.2020



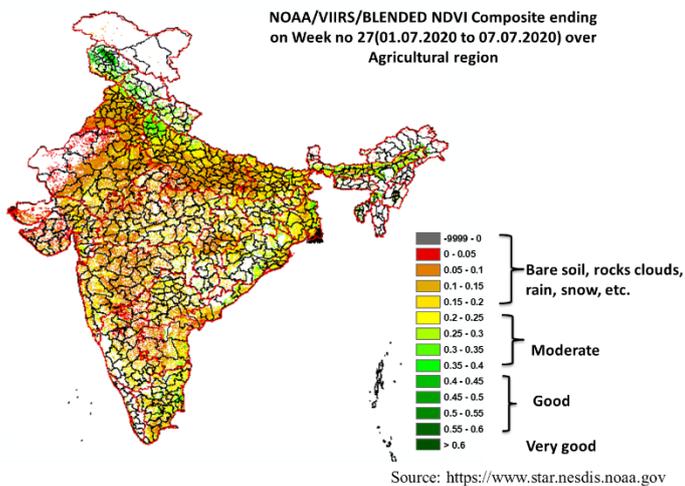
Mean Wind Speed (km/hr) for the week ending on 08.07.2020



Mean Cloud Cover (okta) for the week ending on 08.07.2020

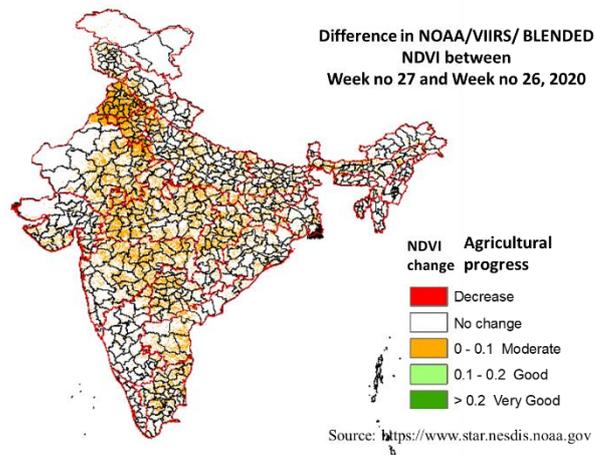


NOAA/VIIRS/BLENDED NDVI composite for the week number 27(01.07.2020 to 07.07.2020) over Agricultural regions of India



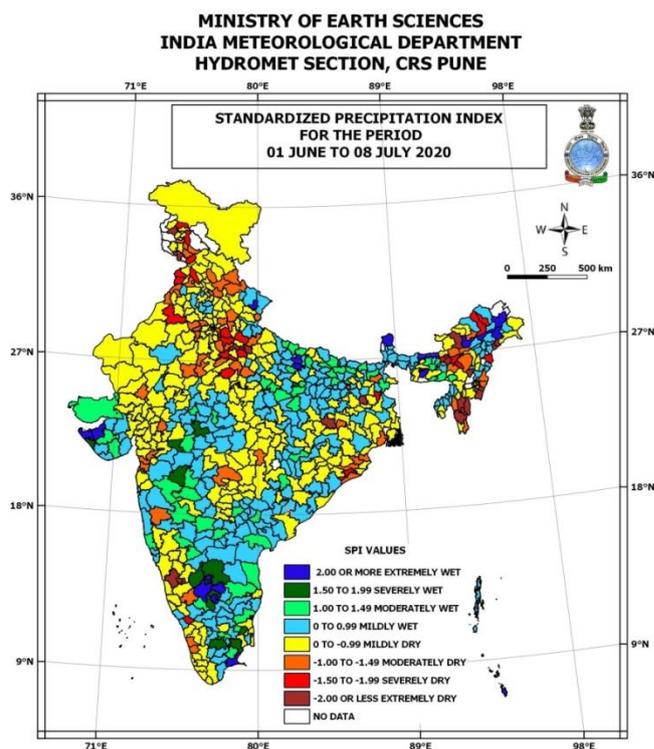
Agricultural vigour was good at few places of Jammu & Kashmir & North Eastern states and at isolated places of Himachal Pradesh, Uttarakhand, Coastal Tamilnadu & Kerala. Rest of the country NDVI could not be captured due to cloud cover as well as land preparation / sowing for khariff season is under progress

Difference in NOAA/VIIRS/BLENDED NDVI between week number 27, 2020 and week number 26, 2020



Good difference in agricultural vigour was observed over isolated places of Himachal Pradesh, Uttarakhand, Sub Himalayan Westy bengal, Sikkim, Assam, Meghalaya, Arunachal Pradesh, Tamilnadu and Kerala

Standardised Precipitation Index for the period 1st June to 8th July 2020



- Extremely/ Severely wet conditions exist in Anantapur district of Andhra Pradesh; Lower Dibang Valley, Papumpara districts of Arunachal Pradesh; Tinsukia, Dhemaji, Baksa, Chirang districts of Assam; Jamnagar, Porbandar, Devbhumi Dwarka districts of Gujarat; Bangalore Rural, Bangalore Urban, Chitradurga, Tumkur, Ramanagara, Chickballapur districts of Karnataka; Barwani, Dewas districts of West Madhya Pradesh; Aurangabad district of Maharashtra; East Garo Hills districts of Meghalaya; Dindigul, Pudukkottai, Ramanathapuram, Ariyalur districts of Tamilnadu; Ambedkar Nagar, Basti, Sant Ravidas Nag districts of Uttar Pradesh; Nicobar district of Andaman & Nicobar Islands; North Sikkim district of Sikkim; Bageshwar district of Uttarakhand.
- Extremely/Severely dry conditions exist in East Kameng, Tirap, West Siang districts of Arunachal Pradesh; Darrang, Nagaon, Morigaon districts of Assam; Anantnag, Baramula, Jammu, Kathua, Bandipore districts of Jammu; Shimoga district of Karnataka; Wynad district of Kerala; Gwalior district of West Madhya Pradesh; Chandel, Imphal East districts of Manipur; Aizwal, Champhai, Lunglei, Serchhip districts of Mizoram; Tuensang, Paren districts of Nagaland; Khurda district of Orissa; Amritsar, Hoshiarpur, Tarn Taran districts of Punjab; Hanumangarh districts of Rajasthan; Daman districts of Union Territory; Farrukhabad, Agra, Aligarh, Badaun, Bulandshahar, Etah, Mainpuri, Shamli districts of Uttar Pradesh; Deoghar, Gumla, Pakur districts of Jharkhand.
- Moderately wet to moderately dry conditions were experienced in remaining districts of the country.

Weather Forecast for next 5 days valid upto 0830 hours of 15th July, 2020

- ◆ Meteorological sub-division wise detailed 5 days precipitation forecast is given in Table below.
- ◆ No significant change in maximum temperatures likely over most parts of the country during next 3-4 days.

5 Day Rainfall Forecast (Mid-Day)

10th July 2020

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

- 10 July (Day 1):** ♦ **Heavy to very heavy rainfall** at a few places **with extremely heavy falls** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim; **heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places over Bihar, Arunachal Pradesh and Assam & Meghalaya; **heavy to very heavy rainfall** at isolated places over East Uttar Pradesh, Nagaland, Manipur, Mizoram & Tripura and Coastal Karnataka and **heavy rainfall** at isolated places over Uttarakhand, East Madhya Pradesh, Vidarbha, Chhattisgarh, Odisha, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.
- ♦ **Moderate to severe thunderstorm accompanied with lightning** very likely at a few places over Bihar and at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal & South Interior Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 50-60 kmph) likely over Southwest and Westcentral Arabian Sea and (speed reaching 40-50 kmph) likely over Eastcentral and adjoining Northeast Arabian Sea. **High Wave** (upto 4.6 m) along & off Gujarat coast. **Squally Weather** (speed reaching 40-50 kmph) likely over Kerala- Karnataka coasts and Lakshadweep areas. Fishermen are advised not to venture into sea over these areas.
- 11 July (Day 2):** ♦ **Heavy to very heavy rainfall** at a few places **with extremely heavy falls** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim; **heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places over East Uttar Pradesh, Bihar, Arunachal Pradesh and Assam & Meghalaya; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh and Nagaland, Manipur, Mizoram & Tripura and **heavy rainfall** at isolated places over Himachal Pradesh, Punjab, Haryana, Chandigarh & Delhi, Konkan & Goa, Coastal & South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe.
- ♦ **Moderate to severe thunderstorm accompanied with lightning** very likely at a few places over Bihar and at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal & South Interior Karnataka and Tamilnadu, Puducherry & Karaikal.
- ♦ **Strong Wind** (speed reaching 50-60 kmph) likely over Southwest and Westcentral Arabian Sea and (speed reaching 40-50 kmph) likely over Eastcentral and adjoining Northeast Arabian Sea. **High Wave** (upto 4.6 m) along & off Gujarat coast. **Squally Weather** (speed reaching 40-50 kmph) likely over Karnataka coast and Lakshadweep areas. Fishermen are advised not to venture into sea over these areas.
- 12 July (Day 3):** ♦ **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over East Uttar Pradesh; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, South Interior Karnataka and Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over Himachal Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Konkan & Goa, Rayalaseema, Coastal Karnataka and Kerala & Mahe.

♦ **Moderate to severe thunderstorm accompanied with lightning** very likely at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Marathwada.

♦ **Strong Wind** (speed reaching 50-60 kmph) likely over Southwest and Westcentral Arabian Sea and (speed reaching 40-50 kmph) likely over Northeast Arabian Sea. Fishermen are advised not to venture into sea over these areas.

13 July (Day 4): ♦ Heavy to very heavy rainfall likely at isolated places over East Uttar Pradesh, Assam & Meghalaya and Coastal Karnataka and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Madhya Maharashtra, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Interior Karnataka, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Bihar, Jharkhand, Gangetic West Bengal, Arunachal Pradesh and Assam & Meghalaya.

♦ **Strong Wind** (speed reaching 50-60 kmph) likely over Southwest and Westcentral Arabian Sea. **Squally Weather** (speed reaching 40-50 kmph) likely over Andaman Sea. Fishermen are advised not to venture into sea over these areas.

14 July (Day 5): ♦ Heavy to very heavy rainfall likely at isolated places over East Uttar Pradesh and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Assam & Meghalaya, Gujarat Region, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Coastal & South Interior Karnataka.

♦ **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Arunachal Pradesh and Assam & Meghalaya.

♦ **Strong Wind** (speed reaching 50-60 kmph) likely over Southwest and Westcentral Arabian Sea. **Squally Weather** (speed reaching 40-50 kmph) likely over Andaman Sea. Fishermen are advised not to venture into sea over these areas.

Weather Outlook for subsequent 2 days from 15th to 17th July, 2020

♦ Fairly widespread to widespread rainfall/thundershowers over plains of northwest India except over West Rajasthan where isolated rainfall is likely. Fairly widespread to widespread rainfall/thundershowers with isolated heavy falls over west along the west coast, central, east & northeast India. Scattered to fairly widespread rainfall/thundershowers likely over Islands and south India.

♦ **Strong Wind** (wind speed reaching 50-60 kmph) very likely over Southwest & Westcentral Arabian Sea during the period, (wind speed reaching 40-50 kmph) very likely over Eastcentral and adjoining Northeast Arabian Sea on 11th & 12th, **High Wave** (upto 4.6 m) along & off Gujarat coast and **Squally Weather** (speed reaching 40-50 kmph) likely over Karnataka coast and Lakshadweep areas on 11th, **Squally Weather** (speed reaching 40-50 kmph) likely over Andaman Sea on 13th & 14th July, Fishermen are advised not to venture into sea over these areas.

Salient advisories

- **There is a possibility of attack of desert locust in the crop fields in West Uttar Pradesh; Locust attack is likely in some districts of Bihar, monitor the crops**, to control, adopt mechanical measures like making loud noise by beating drums, burning crackers, etc. during morning hours. For chemical control, spray Diflubenzuron 25% WP 10 g or **Chlorpyrifos 20% EC @ 2.4ml or Deltamethrin 2.8% EC @ 1 ml in litres of water**.
- **Moderate to severe thunderstorm accompanied with lightning** very likely at a few places over Bihar and at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal & South Interior Karnataka and Tamilnadu, Puducherry & Karaikal on 11th, **Moderate to severe thunderstorm accompanied with lightning** very likely at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Marathwada on 12th, **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Bihar, Jharkhand, Gangetic West Bengal, Arunachal Pradesh and Assam & Meghalaya on 13th, **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Arunachal Pradesh and Assam & Meghalaya on 14th July, provide support to young fruit plants, banana 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many places** over West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Bihar, Jharkhand, East Uttar Pradesh, Chhattisgarh, Konkan & Goa, Coastal Karnataka, South Interior Karnataka and Kerala during the period, over Himachal Pradesh from 10th to 12th, over Gujarat region from 12th to 14th, over East Madhya Pradesh from 11th, 13th & 14th and over West Uttar Pradesh from 11th to 14th along with **Heavy to very heavy rainfall** at a few places **with extremely heavy falls** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim; **heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places over East Uttar Pradesh, Bihar, Arunachal Pradesh and Assam & Meghalaya; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh and Nagaland, Manipur, Mizoram & Tripura and **heavy rainfall** at isolated places over Himachal Pradesh, Konkan & Goa, Coastal & South Interior Karnataka, Tamilnadu, Puducherry & Karaikal and Kerala & Mahe on 11th, **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over East Uttar Pradesh; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, South Interior Karnataka and Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over Himachal Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Konkan & Goa, Rayalaseema, Coastal Karnataka and Kerala & Mahe on 12th, **Heavy to very heavy rainfall** likely at isolated places over East

Uttar Pradesh, Assam & Meghalaya and Coastal Karnataka and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Gujarat State, Madhya Maharashtra, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Interior Karnataka, Kerala & Mahe and Tamilnadu, Puducherry & Karaikal on 13th, **Heavy to very heavy rainfall** likely at isolated places over East Uttar Pradesh and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands, Assam & Meghalaya, Gujarat Region, Madhya Maharashtra, Marathwada, Konkan & Goa, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Coastal & South Interior Karnataka on 14th **July**, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

▪ **Undertake the following operations:**

- Transplanting of rice in Coastal Karnataka, continue sowing of soybean, maize, cotton, red gram, green gram crops under sufficient moisture condition in North Interior Karnataka, continue sowing of maize, groundnut, cowpea, green gram, black gram, horse gram, field bean, ragi and vegetable crops in South Interior Karnataka
- undertake direct sowing of rice, groundnut, maize in Srikakulam district of Andhra Pradesh.
- sowing of red gram, cotton, jowar, soybean, green gram, etc. in Telangana.
- sowing of pigeon pea and sesame in Lower Brahmaputra Valley Zone of Assam.
- nursery sowing of rice in Odisha.
- land preparation for pigeon pea and sowing of sesame and kharif vegetables in Bihar
- land preparation for transplanting kharif rice in Sub-Himalayan West Bengal.
- preparation of medium/short duration rice nursery, sowing of maize in Madhya Pradesh.
- sowing/transplanting of rice using SRI or biasi method in Chhattisgarh.
- transplanting of rice, tomato, capsicum and chilli seedlings in Jammu & Kashmir.
- transplanting of rice seedlings in Sub Montane and Low Hills Sub Tropical Zone of Himachal Pradesh.
- transplanting of rice seedlings in Punjab.
- sowing of guar, bajra, maize, cluster bean, pulse crops in Western Zone of Haryana.
- transplanting of kharif onion, early cauliflower and cabbage as well as sowing of loki, torai, pumpkin, khira in West Uttar Pradesh.
- transplanting of rice seedlings and sowing of cabbage, cauliflower, broccoli and knolkhol in Bhabar&Tarai Zone of Uttarakhand.
- Continue sowing of kharif crops like cotton, soybean and pigeon pea in Madhya Maharashtra, Continue sowing of kharif crops like soybean, groundnut, green gram and black gram in Marathwada.

Detailed Agromet Advisories

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

Realised Rainfall: Significant rainfall occurred in all districts of Coastal Karnataka, in Belgavi, Bidar, Dharwad and Kalburgi districts of North Interior Karnataka and in Chikaballapur, Chikkamagaluru, Hassan, Kodagu and Shivamogga districts of South Interior Karnataka. Weather remained dry/mostly dry over the rest of the region; in all the districts of Kerala except in Thiruvananthapuram; Ariyalur, Coimbatore, Kanchipuram, Nilgiris, Pudukottai, Salem in Tamilnadu; in all the districts of Coastal Andhra except Nellore, Prakasam, all the districts of Rayalaseema and Hyderabad, Jogulamba Gadwal, M. Malkajgiri, Nalgonda, Ranjanna Sircilla and Y. Bhuvangiri districts of Telangana.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at **isolated places** over Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal & South Interior Karnataka and Tamilnadu, Puducherry & Karaikal on 11th July, 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.
- As **rain/thundershowers** likely at **most/many places** over Coastal Karnataka, South Interior Karnataka and Kerala during the period, over Coastal Andhra Pradesh & Yanam, Telangana on 13th & 14th, over Rayalaseema from 12th to 14th along with **heavy rainfall** at isolated places over Coastal Karnataka and Kerala & Mahe on 11th to 14th, over Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema on 13th and 14th and over Interior Karnataka on 13th July, arrange for adequate drainage to avoid water stagnation in the crop fields. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Karnataka

- In Coastal Karnataka, time is suitable for transplanting of paddy; apply basal dose of 17.5Kg Urea, 50Kg rock Phosphate, 13.5Kg of MOP and 12Kg of Magnesium Sulphate per acre at the time of transplanting. After 3-5 days of transplanting, go for application of 80g Pyrazosulfuron Ethyl 10WP well mixed with 30Kg of moist sand.
- In North Interior Karnataka, continue sowing of soybean, maize, cotton, red gram, green gram crops under sufficient moisture condition. To manage sucking pests in green gram, spray 0.25 gram Acetamiprid or 0.25 ml Flonicamide or 0.2 gram Thiamethoxam dissolved in one liter of water.
- In South Interior Karnataka, continue sowing of ragi and pulses like cowpea, red gram, green gram, black gram, horse gram, field bean. Continue sowing of vegetable/horticulture crops such as tomato, chilli, brinjal, radish, ladies finger, beans, carrot, onion, watermelon, mango, banana, sapota, etc. Continue transplanting of rice where seedlings are ready.

Kerala

- In High Altitude Zone, weather is congenial for fruit rot in arecanut, take necessary phyto-sanitary measures and provide proper drainage facilities. Undertake prophylactic spraying of Bordeaux mixture (1%) along with sticker during non-rainy time or copper oxychloride 50WP (2g/l) with sticker.
- In Problem Areas Zone, to control bud rot in coconut, small perforated sachets containing 2g of Mancozeb may be tied to the top of leaf axil. When it rains a small quantity of fungicide is released from the sachets to the leaf base, thus protecting the palm.

- In Central Zone, due to the increase in rainfall, there is a chance of Rhizome rot in banana. As a precaution, pour three litre of pseudomonas solution (20 gm per one litre) at the basin.
- In Southern Zone, incidence of eye shaped spots with grey coloured center and red or brown coloured marginal spots are the primary symptom, spray Pseudomonas @20 gram/ litre to the plant. Reduce the nitrogen fertilizer application to the severely affected areas. During severe infections, apply combination fungicides like Tebuconazol @ 50% + Trifloxystrobin 25 % (Nativo/ geziko) @ 4 gram/ 10 litre to the leaf.

Andhra Pradesh

- In Srikakulam district, undertake direct sowing of rice, groundnut, maize utilizing the realized rainfall.
- In Vizainagaram and Visakhapatnam districts, undertake sowing of Red gram varieties which are resistant to wilt disease like ICPL-87119, ICP-8863, PRG-158 and LRG-52. Also go for intercropping with short duration crops like Blackgram, Green gram, millets and Ground Nut in Redgram.
- In Ananthpur and Kurnool districts utilizing the rainfall continue sowing of rainfed crops like Groundnut, Redgram, Castor, Sorghum and Bajra.
- In East Godavari district, undertake sowing of cowpea.
- In Krishna district undertake nursery sowing of rice and Black grams by treating the seed with Imidacloprid 600 FS @ 5ml/kg of seed to avoid sucking pests and viral diseases.
- In Prakasam district by planting bajra or sorghum as a border crop to Groundnut prevents from stem rot which was caused by thrips.
- In Chittoor district, undertake sowing of rainfed groundnut and transplanting of rice nurseries.
- In Nellore district present weather conditions are favourable for spodoptera in groundnut, to control eggs and first and second instar larvae application of 5% Neem oil is recommended other wise spray Qinolphos@ 400 ml (or) Chlorpyriphos @ 500 ml 200 litre per acre on non rainy day.

Telangana

- In Northern Telangana, take up sowing of rainfed crop like cotton, soybean, Redgram, Greengram etc. Take up the rice nurseries using Telangana Sona 15th July onwards. Do not sow cotton and soybean in light soils under rainfed conditions. Undertake sowing of medium duration varieties (Jagityal mashoori, J.G.L.384, Krishna J.G.L.11721, Warangal samba, Warangal sannalu, H.M.T sona, jaisriram) before July 15. Complete sowing of Soybean.
- In Southern Telangana by utilizing the realized rainfall undertake sowing of Redgram, Cotton, Jowar, Soybean, Greengram etc., as rainfed crops. Sow the paddy nurseries of Telangana Sona (RNR 15048) rice from 10th July to 25th July. Do not sow Cotton and Soybean in light soils under rainfed conditions. Sow the Greengram, Soybean after seed treatment with Carbendazim @ 2.5 g and Carbosulfan @ 30 g per kg of seed. • Take-up sowing of Redgram + Cotton (1:4 or 1:6) ratio and Redgram + Jowar (1:4) ratio and Redgram + Soybean (1:7) ratio as intercrop.

Tamil Nadu

- In Cauvery Delta Zone, prevailing weather condition is conducive for stem borer infection, apply Chlorpyriphos 20 EC 500 ml/ ac or Profenophos 50 EC 400 ml/ acre.
- In Southern Zone, due to the prevailing weather condition, the incidence of Mosaic virus is expected in Banana. The symptoms are found in foliage with chlorotic mottling or stripes, distorted leaves and distorted fruit with chlorotic streaks. To control spray Neem oil 40 ml + Trichoderma viride @ 40gm + sticky agent @ 10ml with 10liters of water.
- In South Zone, The prevailing weather condition is conducive for incidence of citrus canker disease, spray of Streptomycin sulphate 500-1000 ppm; or Phytomycin 2500 ppm or Copper oxychloride 0.2% at fortnight intervals. Prune badly infected twigs before the onset of monsoon.
- In High Rainfall Zone, at shooting stage of banana, use transparent polythene sleeves (4%) to cover the bunches to

increase the quality.

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

Realised Rainfall: Significant rainfall occurred in all districts except Dibang Valley, East Kameng and Lower Subansari districts of Arunachal Pradesh; all districts except Karbi Anglong, Morigaon, N.C.Hills, Nowgaon and Udalgiri districts of Assam; all districts of Meghalaya; Chhimituipui and Serchhip districts of Mizoram; all districts except Chandel district of Manipur; all districts except Longleng and Paren districts of Nagaland and all districts except West Tripura district of Tripura.

Advisories:

- **Thunderstorm accompanied with lightning** very likely at **isolated places** over Arunachal Pradesh, Assam & Meghalaya during the period, over Nagaland, Manipur, Mizoram & Tripura from 11th to 13th July, 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/dust storm.
- As **rain/thundershowers** likely at **most/many places** over Arunachal Pradesh, Assam & Meghalaya, Nagaland Manipur Mizoram & Tripura during the period along with **heavy rainfall** at isolated places, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Keep the cattle under shed during heavy rainfall.

Arunachal Pradesh

- In Arunachal Pradesh, complete transplanting before mid of July as sufficient water is there in the field. Due to continuous rain, the condition become favorable for leaf-blast and leaf-spot disease in Jhum rice in tillering stage. Spray Carbendazim @2g/litre water in Jhum field to control heavy infestation of leaf blast & leaf spot at 15 days interval on clear/sunny days,

Assam & Meghalaya

- In Hill Zone of Assam, continue planting of ginger, papaya, pineapple and banana and sowing of fodder crops (bajra, sorgum maize, lobia). Continue sowing of cotton, pigeon pea and nursery sowing of cauliflower. Spray Phosphamidon @ 400-500 ml/ ha in 800 litres of water against stem borer infestation in sugarcane when sky remains clear. Continue nursery sowing high yielding varieties of *Sali* rice.
- In Lower Brahmaputra Valley Zone, undertake transplanting of *Sali* rice. Continue sowing of pigeon pea and sesame. Due to favourable weather, there is chance of infestation of fruit sucking moth in citrus orchards. Farmers may go for destruction and disposal of fallen fruits. In addition, poison baiting with 0.1% Malathion 50 EC @ 1 ml/litre of water, molasses (1%) and fruit juice helps in efficient management of this pest. During monsoon period, provide mechanical support by bamboo sticks in order prevent the plant from logging.
- In Upper Brahmaputra Valley Zone, undertake transplanting of *Sali* rice seedlings of short duration, high yielding varieties the optimum age of seedlings during the time of transplanting should be 21 days and for of medium & long duration varieties, the age of seedling should be about 30-40 days. Withhold seed sowing operation in the nurseries which are prone to flood. In chronically flood affected areas, high lands should be selected for raising of community nursery to meet the seedling requirement when flood recedes.
- In Barak Valley Zone, continue main field preparation and transplanting of *Sali* rice. Undertake sowing of sesamum. To control Rhizome rot disease in ginger, drench the affected area with 0.3% Mencozeb 75 WP @ 2g/litre of water.
- In Central Brahmaputra Valley Zone, in flood affected areas, if water does not recede up to mid July, then undertake sowing of short duration varieties up to last part of July. Direct sowing of very short duration varieties (90 to 100 days duration) up to 8-10 September in case of flood up to August. Continue

transplanting of long duration Sali paddy variety at the end of July. For facilitate easy puddling and transplanting, farmers should arrange to inundate field by construction of new bunds or repairing of old bunds. Continue sowing of Arhar after current spell of rain. Undertake sowing of sesamum after current spell of rain.

- In North Bank Plain Zone, water logged condition is harmful for Olitorious jute. Hence, to avoid water accumulation, measures should be taken to get rid of excess water from the fields. Continue harvesting of matured cobs of maize at the earliest. Remove excess water from the ginger field and maintain proper drainage facilities in the field. To control Rhizome rot disease in ginger, drench the affected area with 0.3% Mencozeb 75 WP @ 2g/litre of water.
- In flood affected areas of Barak Valley Zone and North Bank Plain Zone, undertake sowing of Sali rice of semi dwarf varieties like Pankaj (145-150 days duration) and Lakhimi (140-150 days duration); tall varieties like Swarnaprova (115-120 days duration); late Sali varieties like Manohar Sali and Andrew Sali (can be sown from mid July to first week of August); direct seeded late Sali varieties like Luit, Kapilee and Dishang (90-95 days duration).if there is the total damage of seedlings or crops of rice in the main field, undertake sowing of seeds for replanting with medium to short duration varieties in nursery bed within 1st week of August. Initiative should be taken for raising community nursery sowing for late planting with old seedlings of the varieties if there is more than 50% damaged. Undertake late and staggered planting with the old seedlings of the varieties like Profulla and Gitesh if the field is heavily damaged. Farmers also undertake direct seeding with the photo insensitive short duration variety of Sali rice. Adopt submergence tolerance varieties for repeat flood prone areas. For higher production undertake transplanting of long duration *Sali* paddy variety and complete transplanting within July. For facilitate easy puddling and transplanting, farmers should arrange to inundate their field by construction of new bunds or repairing of old bunds. The farmers are suggested to use 21-25 days old seedlings and adopt closer spacing of 15 cm X 15 cm for transplanting with the late sown seedlings.
- In Lower Brahmaputra Valley Zone, Central Brahmaputra Valley Zone and North Bank Plain Zone of Assam, undertake harvesting of early and timely sown Capsularis jute preferably at pre-flowering stage (120 days after sowing) to get better quality fibre at the earliest and kept in the field in standing position for 3-4 days before retting for proper defoliation.
- In Meghalaya, continue nursery sowing/ transplanting of *Sali* rice. Drain out the field for some time (2-3 days) to facilitate the tillering. Ensure proper drainage system in the ginger/turmeric and vegetable crop field. Spray Azadirachtin 1500 ppm @ 5ml/ litre of water inside the whorls against Fall Army Worm incidence in maize when weather is clear. Do staking with bamboo structure for support in cucurbit crops.

Manipur, Mizoram, Tripura and Nagaland

- In Manipur, continue main field preparation and transplanting of *kharif* rice; Undertake harvesting of *pre-kharif* rice. Drainout water nearly 15days before harvesting *pre-kharif* rice. To control Fall Army worm in maize, manual destruction of egg masses and caterpillars may be done. Pheromone traps @ 4/ha for monitoring and 10/ ha for mass trapping of adult insects may be done. Spray Emamectin Benzoate 5% SG @6/15 litre water if infestation is above ETL.SprayDichlorovos 76% EC @ 1ml/ litre of water if hairy caterpillar infestation in soybean/ groundnut is above ETL after current spell rain.
- In Mizoram, farmers are advised to identify and replace the dead seedling with fresh/new seedling of rice. Maintain minimum water level (4-5 cm) at the field. Drain out excess water and store to newly prepared field for better process of transplanting. Continue transplanting of low land rice seedlings. Farmers are advised not to transplant huge area of land in same rice variety. Farmers should not pluck out the whole

seedling stock in sowing time; at least 20% of the seedling must keep as contingency measure. Apply Tricyclazole 0.6g/lit of water against rice blast disease for better control of the disease in upland rice during sunny days.

- In Tripura, continue transplanting of Aman rice. Due to substantial decrease in sunshine hours with occasional rain there is chance of attack of stem borer in *Jhum* rice. Spray primarily neem based medicine against attack of stem borer. Maintain good drainage facilities in maize and groundnut field. Due to cloudy and humid weather Stem rot or stem bleeding and powdery mildew may occur in cucumber and pumpkin. Apply Copper Oxi Chloride spray and Sulfex respectively 2 to 3 gm per litre of water.
- In Nagaland, continue main field preparation and transplanting of 21-28 day's old seedling in the main field. Continue sowing of soybean and groundnut. Apply extracts from neem seed or leaves against Fall Army Worm in maize. Undertake mulching in ginger to reduce weed growth

Animal Husbandry

- In North Bank Plain Zone of Assam, present weather is prone to heat stress to poultry. So the poultry farmer are advised to give them lemon water and Glucon-D @ 10 gm/1litre of water control heat stress.
- In Northeastern states, carry out immunizations against Brucellosis and Anthrax diseases in cattle & buffaloes. Also carry out vaccination (RDF1) against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks.
- In Arunachal Pradesh, during current humid condition, disinfecting the animal sheds with lime powder/bleaching powder/ 4%NaOH at regular interval is advised. De-worming must be done at the beginning of the rainy season and throughout the season because worms multiply more during this period.

Fishery

- In Northeastern states, repair and construct dykes, which accounts for a proper slope and will help in drainage. Construction of a proper outlet channel is required to drain out excess water due to heavy rainfall. Maintain the optimum water level to avoid the algal bloom. Do periodical netting at interval of 15 days to know the health status of the existing fish stock.
- In North Bank Plain Zone of Assam, farmer are advised to control the algal bloom in the fish pond and prevent overflow.
- In Barak Valley Zone of Assam, fish grower farmers are advised to apply the Cowdung @135 kg/bigha, lime @20kg/bigha and fertilizers like Urea & SSP@ 3.5 kg & 2.5 kg per bigha in the pond for providing the essential needed nutrients to enhance the natural productivity through production of aquatic biota, which serve either directly or indirectly as the food of fishes.
- In Lower Brahmaputra Valley Zone of Assam, due to flood water, fish pond may be submerged or going to be submerge so, farmers are advised to surrounding the fish pond with the nylon net immediately so that the growing fishes can not be run away from the fish pond.

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

Realised Rainfall: Significant rainfall occurred in North & Middle Andaman and South Andaman districts of Andaman & Nicobar Islands, in all districts of Bihar except Begusarai, Monghyr and Sheikhpura; in all district of Jharkhand except Sahebganj; in all districts of Odisha except Nayagarh, in all districts of Sub-Himalayan West Bengal & Sikkim and in all Gangetic West Bengal except East Midnapore. Weather remained dry/mostly dry over the rest of the region.

Advisories:

- **Moderate to severe thunderstorm accompanied with lightning** very likely at a few places over Bihar;

thunderstorm accompanied with lightning at isolated places over Jharkhand, West Bengal & Sikkim, Odisha on 11th, **thunderstorm accompanied with lightning** very likely at isolated places over Bihar, Jharkhand, West Bengal & Sikkim, Odisha on 12th & 13th, **Thunderstorm accompanied with lightning** likely at isolated places over Bihar, Jharkhand, Gangetic West Bengal on 14th July, provide support to young fruit plants, banana 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.

- As **rain/thundershowers** likely at **most/many** places over West Bengal & Sikkim, Bihar, Jharkhand, during the period along with **Heavy to very heavy rainfall** at a few places **with extremely heavy falls** at isolated places very likely over Sub-Himalayan West Bengal & Sikkim; **heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places over Bihar on 11th, **heavy to very heavy rainfall** at isolated places over Bihar, Sub-Himalayan West Bengal & Sikkim and **heavy rainfall** at isolated places over Gangetic West Bengal on 12th, **heavy rainfall** at isolated places over Bihar, Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands on 13th, over Jharkhand, West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands on 14th **July**, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Odisha

- North Eastern Coastal Plain Zone, utilizing past rain, undertake wet nursery sowing of rice ; in rain deficient blocks, nursery should be prepared with assured irrigation facility. Complete sowing of pigeon pea and undertake sowing of YMV resistant okra varieties.
- In South Eastern Ghat Zone, complete nursery raising for transplanted kharif rice; treat seeds with Trichoderma viride @ 10 g or Carbendazim 50% WP @ 1.5 g/kg seeds. Undertake sowing of maize and arhar. Carry out direct sowing of ragi as conditions are favourable.
- In Western Undulating Zone, paddy seedlings are at 'germination to two-week' stage in nursery. Prepare the main field so that three-week-old seedlings can be transplanted. Continue sowing of arhar, groundnut and maize crops.

Bihar

- **Locust attack is likely in some districts of Bihar; farmers are advised to be alert. To protect crops from locust attack, make loud sound in the field and spray the insecticides Chlorpyrifos 50% E.C. @ 2.5 ml / liter of water, Fipronil 5 % A.C. and Neem oil @ 5 ml/ liter of water.**
- In North West Alluvial Plain Zone, complete the nursery sowing of paddy up to 10th July; weeding is advised in 10-15 days old paddy nursery. Undertake sowing of pigeon pea in upland areas; apply 20kg/ha Nitrogen, 45kg/ha Phosphorus and 20 kg/ha Potash and 20 kg Sulphur/ha during land preparation; keep seed rate @ 18-20 kg/ha; treat seeds with Thiram/Captan @ 2.5gm/kg of seeds. Continue sowing of sesame and sunflower after seed treatment with Thiram @ 2gm/kg of seeds.
- In North West Alluvial Zone, make bund for conserving rain water in the field; undertake transplanting of 20-25 days old rice seedling in prepared fields; apply Nitrogen 100 kg/ha, Phosphorus 60 kg/ha, Potash 40 kg/ha and zinc sulphate 25 kg/ ha before transplanting; add one packet/acre of Blue Green Algae (BGA) as it is rich source of nitrogen in those fields where standing water is available.

Jharkhand

- In North and Central Eastern Plateau Zone, undertake sowing of pigeon pea, green gram and black gram. Undertake transplanting with suitable seedlings in low land (Don-1) if sufficient water is available for

puddling.

- Central & North Eastern Plateau Zone, prepare nursery bed by ploughing the field 3-4 times; apply 10 quintal FYM at the time of field preparation; for every 100 sq m area apply 2.2 kg urea, 6.25 kg SSP, 1.6 kg MoP; before sowing treat the seeds with Carbendazim @ 2g per kg seeds. Present weather is conducive for occurrence of blast and leaf spot in nursery seedlings; to control, spray Endofil M-45 @2g/litre of water or Beam (Tricyclazole) @ 6 g/10 litres of water. Undertake sowing of high-yield variety of groundnut. Prepare field for sowing of moong and urad.

West Bengal

Sub-Himalayan West Bengal:

- In Hill Zone, complete transplanting kharif rice in the main field. Undertake sowing of soybean after current spells of heavy rain.
- In Terai Zone, prepare main field for the transplantation of Aman paddy with proper levelling for uniform distribution of water and fertilizer; apply well rotten FYM @ 1 tonne/bigha; carry out transplanting of 21 days seedlings. Carry out harvesting of jute crop at the start of fruit setting.

Gangetic West Bengal:

- In Coastal Saline Zone, prepare main field for Aman paddy by ploughing and mixing dhaincha plants; arrange proper bunding surrounding the main field. Undertake nursery sowing seeds of brinjal and chilli in upland through ridge furrow system.
- In Undulating Red and Laterite Soil Zone, undertake nursery sowing of Aman rice in the low land after current spells of heavy rain ; arrange to drain out excess water from the nursery beds. Carry out preparation of the main field for Aman paddy in the upland; clean the bunds of the main fields to conserve the rainwater. Drain out excess rain water from vegetable fields.
- In New Alluvial Zone: prepare land by ploughing 2-3 times to make the soil well pulverized and puddled so that weeds may mix in the soil and get well rotten; transplant 20-25 days old seedlings; wash the roots followed by treating overnight with Chlorpyrifos solution @ 1 ml/litre of water.

Andaman & Nicobar Islands

- Prepare rice nursery in raised bed for medium duration variety; incorporate manure @ 12.5 t/ha with neem cake for preparation of rice transplanting field as fair amount of rainfall is expected. Make multiple gabion structure with boulders in stream (nallas) near vegetable and rice field to stop and store the running water for future use. Setup pheromone trap @ 1/100 m² area of vegetable field to collect the adult moth as the weather is conducive for spread. Transplant 40 to 45 days old Chili seedlings with the spacing of 75cm or 95 cm.

Animal Husbandry

- In West Bengal, feed only dry food to cattle; don't allow cattle to graze in submerged fields; keep the shed clean and dry; disinfect the shed with bleaching powder; if wound found at foot and mouth, wash the wound with Potassium permanganate solution.

Fishery

- In West Bengal, drain out excess water from the fish ponds and keep the pond water clean; use Terramycin tablets to control bacterial diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

Realised Rainfall: Significant rainfall occurred in Dhule, Jalgaon, Kolhapur, Nasik, Pune, Satara in Madhya Maharashtra; Beed, Hingoli, Jalna, Nanded in Marathwada, Hingoli, Jalna, Nanded and in all districts of Vidarbha; in Aravalli, Dadra & Nagar Haveli, Daman, Dang, Narmada, Navsari, Surat, Tapi, Vadodara and Valsad districts of Gujarat Region and in all districts of Saurashtra & Kutch except Bhavnagar. Weather

remained dry/mostly dry over the rest of the region.

Advisories:

- **Thunderstorm accompanied with lightning** at isolated places over Madhya Maharashtra, Marathwada on 11th & 12th, over Vidarbha on 13th July, provide support to young fruit plants, banana 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many** places over Konkan & Goa during the period, over Gujarat region from 12th to 14th, along with **heavy rainfall** at isolated places over Konkan & Goa from 11th to 14th, over Vidarbha, Gujarat State and Madhya Maharashtra on 13th & 14th **July**, arrange for adequate drainage to avoid water stagnation in the crop fields. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Maharashtra

- In Konkan, maintain 2-5 cm water level in the fields. Continue transplanting of 30 days old finger millet seedlings. Apply 1st split dose of nitrogen @ 35kg (urea) per acre to 6 weeks turmeric in Ratnagiri, Raigad, Thane, Palghar districts)
- In Madhya Maharashtra, continue sowing of kharif crops like cotton, soybean, jowar, groundnut, black gram, green gram and pigeon pea. Continue transplanting of 21-25 days old rice seedlings. Undertake nursery sowing of onion (varities : Phule Samarth and Baswant 780). Continue transplanting of rice (21-25 days old) and finger millet (30 days old) seedlings.
- In Marathwada, continue sowing of kharif crops like soybean, groundnut, green gram and black gram. Farmers are advised to wait for sowing in (Hingoli district: Vasmat taluka; Jalna district: Jalna taluka, Osmanabad district : Lohara, Paranda, Tuljapur, Umarga talukas and Parbhani district : Gangakhed taluka) till receipt of sufficient rainfall. To control white grub in sugarcane, apply metarhizium anisopliae @ 4 kg per acre during clear weather.
- In East Vidharbha, continue sowing of kharif crops like cotton, pigeon pea, green gram and black gram. Undertake gap filling in early sown cotton to maintain optimum plant population. Continue transplanting of 21-25 days old rice seedlings. Continue sowing of kharif crops like cotton, pigeon pea and soybean.

Gujarat

- In North Gujarat, undertake sowing of pearl millet, green gram, groundnut, maize, pigeon pea, cowpea, sesame, hybrid cotton and B.T. cotton; Sowing of cotton, pigeon pea, castor and sesame as an intercrop with groundnut is suggested to reduce crop loss due to uneven weather and erratic rainfall. Harvest matured fruits of mango, lemon and pomegranate. Prepare nursery bed for raising seedlings of kharif vegetable crops like chilli, tomato, brinjal, etc.
- In Middle Gujarat, undertake sowing of kharif pearl millet. Continue nursery preparation for rice and vegetable (chili, brinjal and tomato) crops. Carry out picking of matured vegetables and fruits.
- In South Gujarat, continue transplanting rice seedlings aged 21 days and above @ 2-3 seedlings per hill at a distance of 20 x 15 cm (Japanese method) in the land prepared for transplanting; before planting, give root-treatment to seedlings with bio-fertilizer. If sugarcane field is in water-logged condition due to recent rain, provide proper drainage to remove water from root-zone. Undertake sowing bottle gourd (Anand BG-1), ridge gourd (GJH RG-1), sponge gourd, bitter gourd, cucumber (Gujarat cucumber -1) at the distance of 1.5m x 1m distance; apply 15 to 20 tonnes/ha FYM at the time of soil preparation.
- In Saurashtra and Kutch, continue sowing of pigeon pea. Undertake sowing of cucurbits such as bottle gourd, bitter gourd, ridge gourd and pumpkin. Continue sowing of vegetables such as ladyfinger, cluster bean, kidney bean, cowpea, tur, Amranthus, etc.

Animal Husbandry

- In Gujarat, maintain cleanliness in cattle farm/shed by using pesticides.

CENTRAL INDIA [M.P., CHHATTISGARH]

Realised Rainfall: Rainfall occurred in all districts of Chhattisgarh, in all districts of Madhya Pradesh except

Umariya, Alirajpur, Bhand, Datia, Gwalior, Morena, Sheopur Kalani and Shivpuri districts.

- **Advisories: Thunderstorm accompanied with lightning** at isolated places over East Madhya Pradesh, Chhattisgarh on 11th to 13th, over West Madhya Pradesh on 14th July, provide support to young fruit plants, banana 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely **at most/many places** over Chhattisgarh during the period, over East Madhya Pradesh from 11th, 13th & 14th along with **heavy rainfall** at isolated places over Madhya Pradesh, Chhattisgarh on 13th & 14th **July**, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Madhya Pradesh

- In Kymore and Satpura Hill Zone, undertake nursery raising of medium and short duration varieties of rice. Nursery bed must be 5-6 inch height, 4 feet width Seed rate required is 5 kg/hectare. Seed treatment must be done with Carbendazim 2-3 gram per kg seed. Apply FYM and compost in the nursery beds.
- In Jhabua Hills Zone, continue sowing of maize, black gram and soybean crops. Seed treated with 2.0 gm thiamin + 1.0 gm Carbendazim per kg of seed after that treated with rhizobium culture & PSB culture @ 5.0 gm/kg seed each before sowing of crop. Prepare field for cultivation of rainy season vegetables in raised furrow and poly-mulching method.
- In the Nimar Valley Zone, continue sowing of maize crop;
- In Kymore Plateau Zone, continue sowing of short/medium duration varieties of soybean and early maturing/medium term pigeon pea.
- In Bundelkhand Zone, continue planting of ginger and colocasia crops; select improved varieties and treat the seeds with fungicide before sowing. Continue nursery sowing of tomato, chilli, brinjal, etc. Carry out planting of new orchards of papaya, mango, lemon etc.

Chhattisgarh

- In Chhattisgarh Plain Zone, complete sowing of kharif crops like rice, Soybean, arhar, sesamum, maize, urad, moong and groundnut etc. The sowing should be done in lines. Seed treatment should be done before sowing. Granular fertilizers should be applied in line sowing. Undertake transplanting of rice. At the time of transplanting, 2-3 seedlings should be transplanted per hill. The spacings should be maintained 15 cms x 10 cms (early vars) and should be 20 cms x 10 cms (for medium to late duration vars)
- In Northern Hill Zone, continue sowing of kharif crops like pigeon pea, soybean, maize, groundnut, etc. Carry out intercultural operation in tomato, brinjal, chilli, okra and other vegetable crops.
- In Bastar Plateau Zone, continue transplanting of rice using SRI or biasi method. Continue sowing of maize up to the first fortnight of July. Carry out planting of tuber crops like colocasia, jimikand, ginger and turmeric by the end of June. Prepare vegetable nursery on a 15cm high raised bed; sow the seeds after seed treatment against rotting diseases; provide thin net around the nursery as a protection against vector diseases. Continue sowing of minor millet (Kodo) and finger millet.

Animal Husbandry

- In Madhya Pradesh, carry out vaccination of animals against the Black Quarter, Anthrax and other disease as per advice of animal experts. Vaccinate poultry birds to prevent Ranikhet disease (first F-1 in age of 7 days & second R2B in age of 8 week). Provide 50 gm mineral mixture per animal for supplement the nutrient requirement and green fodder 25 kg/cattle/day and concentrate mixture as per their requirement.

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

Realised Rainfall : Significant rainfall occurred in all the districts of Himachal Pradesh except Kinnaur, Kullu and Lahaul & Spiti; in Kathua and Reasi districts of Jammu & Kashmir and in all the districts of Uttarakhand; East UP except Chandauli, Farrukhabad, Hardoi, Kannauj, Kanpur Dehat, Kaushambi and Maharajganj districts. Rainfall occurred in Auraiya, Baghpat, Bareilly, Bijnor, Hamirpur, Jhansi, Jotiba Phule Nagar, Meerut, Moradabad, Muzaffarnagar, Pilibhit, Rampur, Saharanpur, Sambhal and Shahjahanpur districts of West UP; Banswara, Baran, Chittorgarh, Jhalawar, Kota, Pratapgarh, Rajsamand, Udaipur in East Rajasthan; Churu, Nagaur in West Rajasthan; Barnala, Fatehgarh Saheb, Gurdaspur, Ludhiana, Nawashahar, Patiala, Ropar, Sangrur, Sasnagar (Mohali) in Punjab; Ambala, Chandigarh, Faridabad, Gurgaon, Jhajar, Katihal, Karnal, Kurukshetra, Panchkula, Sonapat, Yamunanagar in Haryana; in all the districts of Delhi except Central Delhi, East Delhi, North East Delhi, North West Delhi and South Delhi; Banswara, Baran, Chittorgarh, Jhalawar, Kota, Pratapgarh, Rajsamand, Udaipur in East Rajasthan; Churu, Nagaur in West Rajasthan.

Advisories

- **There is a possibility of attack of desert locust in the crop fields in West Uttar Pradesh;** to control, adopt mechanical measures like making loud noise by beating drums, burning crackers, etc. during morning hours. For chemical control, spray Diflubenzuron 25% WP 10 g or **Chlorpyriphos 20% EC @ 2.4ml or Deltamethrin 2.8% EC @ 1 ml in litres of water.**
- **Moderate to severe thunderstorm accompanied with lightning** very likely at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh on 11th, **Moderate to severe thunderstorm accompanied with lightning** very likely at isolated places over East Uttar Pradesh; **thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh on 12th, **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan on 13th, **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan on 14th July, provide support to 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. Farmers are advised to avoid standing in the open or working in the field during thunderstorm period. Keep cattle/goats indoor during thunderstorm.
- As **rain/thundershowers** likely at **most/many places** over East Uttar Pradesh during the period, over Himachal Pradesh from 10th to 12th and over West Uttar Pradesh from 11th to 14th along with **heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places over East Uttar Pradesh; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh and **heavy rainfall** at isolated places over Himachal Pradesh on 11th, **Heavy to very heavy rainfall** at isolated places **with extremely heavy falls** at isolated places very likely over East Uttar Pradesh; **heavy to very heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh and **heavy rainfall** at isolated places over Himachal Pradesh on 12th, **Heavy to very heavy rainfall** likely at isolated places over East Uttar Pradesh, and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh on 13th, **Heavy to very heavy rainfall** likely at isolated places over East Uttar Pradesh and **heavy rainfall** at isolated places over Uttarakhand, West Uttar Pradesh, East Rajasthan on 14th **July**, arrange for adequate drainage to avoid water stagnation in the crop fields. Drain out excess water from the fields of pulses, maize and vegetables. Avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Store the harvested products at safe places. Keep the cattle under shed during heavy rainfall.

Jammu & Kashmir

- In Sub-Tropical Zone, undertake transplanting of rice seedlings. Continue sowing of maize and pulses. Avoid irrigation in cucurbits due to chances of rainfall. Carry out earthing up operation in turmeric.

- In Cold Arid Zone, carry out hoeing and earthing up operation in potato. Continue land preparation for sowing of maize. Carry out budding operation in stone fruit plants like apricot, cherry, peach and plum.
- In Valley Temperate Zone, carry out weeding in vegetable crops. carry out hand weeding in rice, 18 to 20 days after transplanting. Carry out weeding in 25-30 days old kharif pulses. Continue land preparation for fresh plantation of saffron.
- In Intermediate Zone, complete transplanting of rice. Postpone intercultural operations in maize due to forecast of rainfall.

Himachal Pradesh

- In Sub Montane and Low Hills Sub Tropical Zone, undertake transplanting of rice seedlings. Carry out weeding in pulses. Undertake sowing of okra and French beans. Install bird perches in tomato, pea, brinjal and gram crops to control fruit borer insect. Install pheromone trap @ 2-3 traps per acre of crop field for monitoring the fruit borer.
- In Mild Hills Sub Humid Zone, to control premature leaf fall or on observation of alternaria spots on apple; spray Metiram and Paclostrobin @300g/200 litres of water. To control black rot in apple trees, spray the trees with Propineb or Zineb @ 600 g / 200 litres of water.
- In High Hill Temperate Dry Zone, to control cutworms in potato, cauliflower and cabbage, do drenching of Chloropyrifos 20 EC 3ml/litre of water after current spells of rain.
- In Mid Hills Sub Humid Zone, drain out excess water from maize field, as the crop is highly sensitive to standing water and it may cause rotting of stem. Undertake sowing of radish and turnip. To control fruit borer & leaf spot diseases in tomato, spray Redomil gold 25 gram /10 litres of water. Apply Nitrogen fertilizer in tomato, capsicum, gourds crops and brinjal etc.

Punjab, Haryana, Delhi

- In Western Zone of Punjab, continue transplanting of rice in the main field. Undertake sowing of okra varieties Punjab Suhawani and Punjab-8 which are tolerant to yellow vein mosaic virus. Undertake planting of evergreen fruit plants such as citrus, mango, litchi, guava, loquat, ber. It is also suitable time for the transplanting of papaya seedlings in the fields. Regularly monitor cotton crop for infestation of whitefly; if population reaches 6 whiteflies per leaf in the upper canopy, spray with 80g Ulala 50 WG (flonicamid) or 200g Polo in 125-150 litres of water/acre.
- In Western Plain Zone of Punjab, complete transplanting of early Basmati and sowing of moong. Conserve the rain water in the paddy fields by making broad and elevated bunds, avoid any chemicals spray in the fields. Avoid rain water to stand in the main crop as it is highly sensitive to standing water and promotes bacterial stalk rot. Severe attack of jassid and thrips has been noticed in the cotton fields, spray the crop with 80 g Ulala 50 WG or 40 ml of Confidor 200 SL/Confidence 555/ Imidacel or Markdor/Isogashi 17.8% or 40 g Actara/Extra Super/ Dotara/Thomson 25 WG in 100 litres of water per acre within one or two days. Spraying after next 2-3 days may be washed out with the rainwater. Protect the crop against white fly vector by using recommended insecticides.
- In Undulating Plain Zone of Punjab, complete transplanting of rice/basmati by this week for proper growth and development. Remove excess water from maize and brinjal.
- In Central Plain Zone of Punjab, complete the sowing of direct seeded basmati rice as soon as possible during the period. Undertake transplanting of Punjab Basmati -5, Punjab Basmati -4, Punjab Basmati 3, Punjab Basmati 2, Pusa basmati 1637, Pusa basmati 1718, Pusa Basmati 1121 during the period. Undertake sowing of okra and cucurbits such as cucumber, bottle gourd, sponge gourd, pumpkin, etc.
- In Western Zone of Haryana, due to possibility of light to moderate rain, continue transplanting of rice. Apply 1g Carbendazim per square meter mix with the sand and apply in nursery before 7 days of transplanting in the field for protection of Bakanae disease. Drain out the excess rain water in the cotton

crop. Due to possibilities of light to moderate rain, withhold the sowing of Bajra and Gvar. Prevailing high humidity in the environment /atmosphere may increase the infestation of sucking insect-pest. Regular monitoring and spraying as per university recommendation when sky remains clear. Due to possibility of rain, withheld/avoid the irrigation in existing vegetable crops and fruits plants for next three days.

- In Eastern Zone of Haryana, maintain social distancing during agricultural operations. Undertake transplanting of 20-25 days old paddy seedling, sowing of maize and fodder sorghum in prepared fields. Undertake sowing of cucurbits.
- In Delhi, maintain social distancing during picking of vegetables and other agricultural operations. Undertake transplantation of 20-25 days old paddy seedling in prepared fields where water facilities are available. Undertake sowing of bajra, maize, soyabean short duration varieties of pigeonpea (Pusa 991, Pusa 992, Pusa 2001, Pusa 2002) in this week. Undertake field preparation for sowing of kharif onion, lobiya, spinach, amaranthus, ladyfinger.

Uttar Pradesh:

- In East Uttar Pradesh, continue transplanting of rice nursery in main fields. Continue sowing of pigeon pea, green gram and black gram and Maize. Continue transplanting of brinjal, chilli and early cauliflower. Undertake broadcasting of Zinc sulphate @ 25 kg or spraying of Zinc sulphate @ 5 kg plus 2.5 kg lime in 100 litres of water per hectare for control of Khaira disease in rice crop. Start sowing of Kharif Sunflower, bajra, soybean, groundnut, jowar, guwar, lobia and fodder sorghum. Complete kharif onion nursery raising.
- In West Uttar Pradesh, continue transplanting of 20-25 days old paddy seedlings. Continue sowing of maize, groundnut and sesame. In case of no rain, prepare nursery for nursery crops for vegetables sown in kharif, such as brinjal, chili, tomato and early cauliflower, etc. Prepare field for transplanting of kharif onion, early cauliflower and cabbage. Do first weeding - hoeing to maize crop after 15-20 days. Undertake sowing of cowpea, jowar, maize, millet for green fodder. Provide proper drainage in all vegetables.

Uttarakhand

- In Sub Humid Sub Tropic Zone, continue transplanting of rice. Continue land preparation for sowing of maize.
- In Bhabar and Tarai Zone, carry out weeding and hoeing operations in rice field. Drain out excess water in tomato fields. Carry out weeding and hoeing operations in soybean. Keeping in view the possibility of rain in the coming days, stop irrigation in the maize crop. Undertake transplanting of brinjal. Undertake sowing of bottle gourd.
- In Hill Zone, carry out hoeing, weeding and gap filling in finger millets. Drain out excess water from brinjal field. Cover the fruit bearing apple trees with anti-bird net to protect from birds.

Rajasthan

- In Flood Prone Eastern Plain Zone, undertake field preparation for sowing of pearl millet and sorghum.
- In Transitional Plain Zone of Inland Drainage, prepare field for sowing of kharif crops. .
- In Semi Arid Eastern Plain Zone, for the sowing of kharif crops like pearl millet, sorghum, maize & cluster bean etc. arrange seed, fertilizers & chemicals in advance so that timely sowing of these crops can be done at the onset of monsoon.
- In Arid Western Plain Zone, Prepare the field by one ploughing by soil inverting plough and 2-3 harrowing and procure the certified seed for the sowing of kharif crops.
- In Irrigated North Western Plain Zone, in July, complete the sowing of sesame seeds. Also to Control fruit sucking pests in kinnow orchard, spray Methyl Dimeton 2.5 ml or Acitamidrid (20 SP) @ 0.4 ml or thiochlorid (240 SC) @ 1 ml per litre water.
- In Sub Humid Southern Plain and Aravali Hill Zone, complete sowing of maize, soyabean, sorghum.

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.