



National Agromet Advisory Service Bulletin

Friday 10th August 2018
(For the period 10th to 15th August 2018)



Issued by
India Meteorological Department

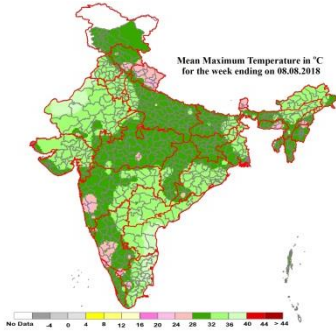
Weblink For

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

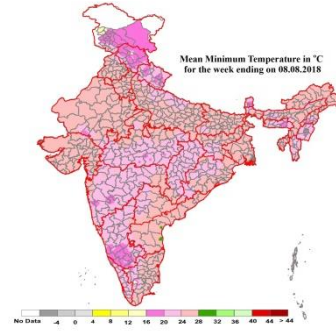
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 08.08.2018

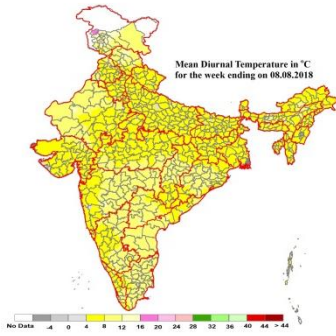
Mean Maximum Temperature (°C) for the week ending on 08.08.2018



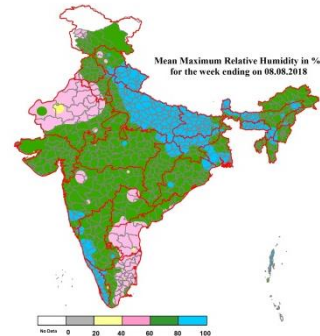
Mean Minimum Temperature (°C) for the week ending on 08.08.2018



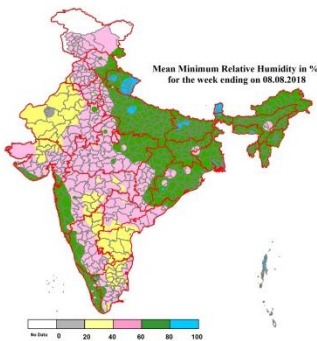
Mean Diurnal Temperature Variation (°C) for the week ending on 08.08.2018



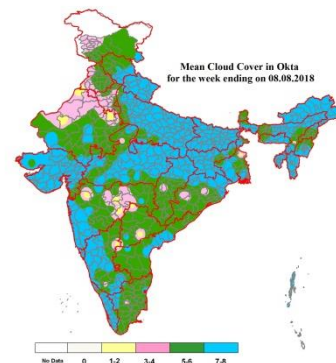
Mean Maximum Relative Humidity (%) for the week ending on 08.08.2018



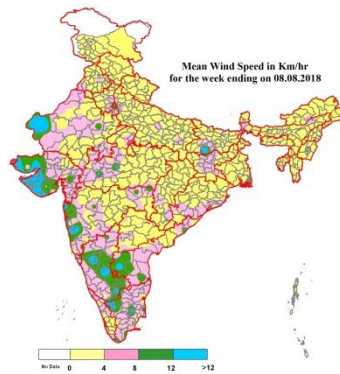
Mean Minimum Relative Humidity (%) for the week ending on 08.08.2018



Mean Cloud Cover (okta) for the week ending on 08.08.2018

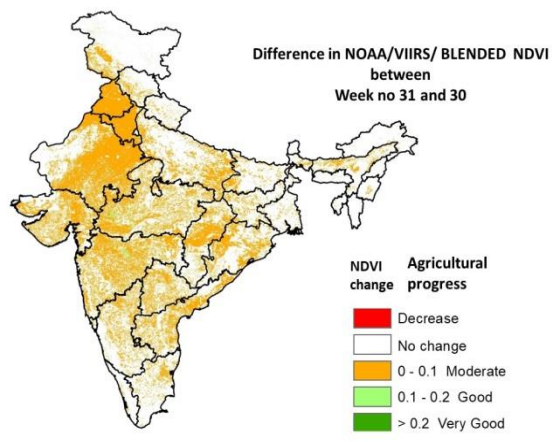
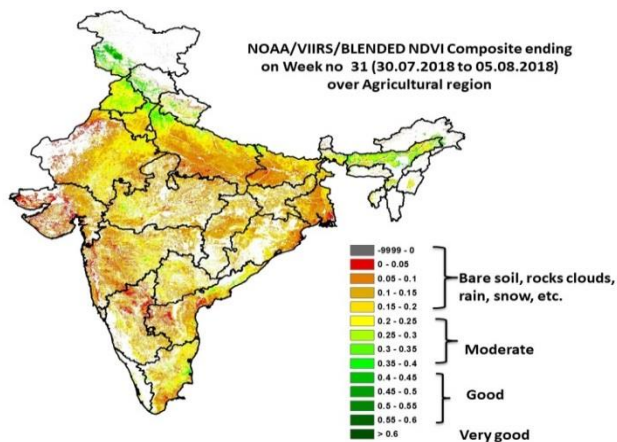


Mean Wind Speed (km/hr) for the week ending on 08.08.2018



NOAA/VIIRS/BLENDED NDVI composite for the week ending on 5th August 2018 over Agricultural regions of India

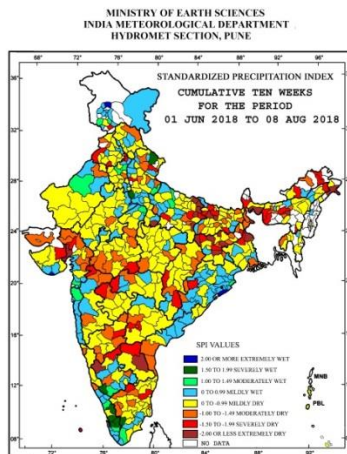
Difference in NOAA/VIIRS/BLENDED NDVI between 29th July and 5th August 2018



- Agriculture vigour is moderate over many parts of North eastern states, Sub-Himalayan West Bengal, Punjab and Jammu & Kashmir; few places over North Coastal Andhra Pradesh, Himachal Pradesh, East Rajasthan and at isolated places over Uttarakhand & adjoining Uttar Pradesh & Haryana, Tamilnadu & adjoining Rayalaseema, Interior Karnataka, Kerala, Odisha, Madhya Maharashtra, Marathwada & adjoining Telangana and West Madhya Pradesh. Due to persistent cloud cover, NDVI over crop cover could not be derived in remaining parts of Indian region.

- Good agricultural vigour was noticed over isolated pockets of Madhya Maharashtra, Marathwada, West Madhya Pradesh and Jammu & Kashmir.

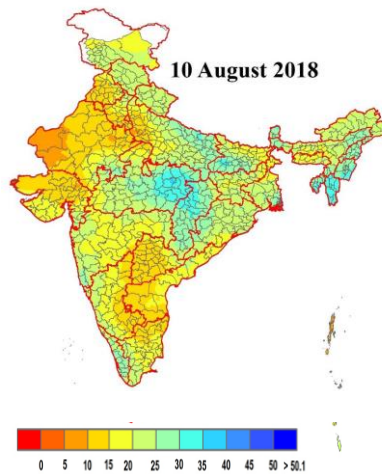
**Standardised Precipitation Index
Cumulative 10 weeks for the period 1st June to 8th August 2018**



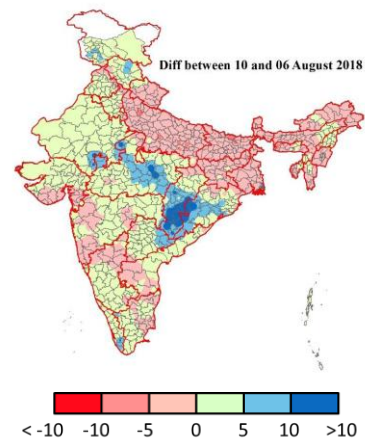
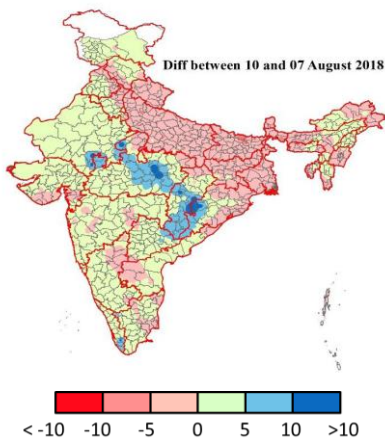
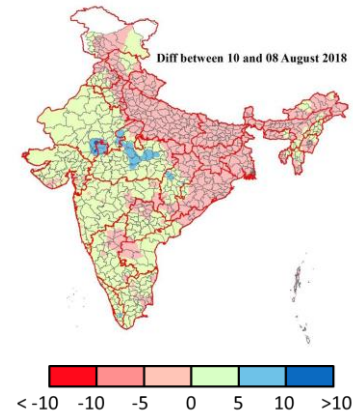
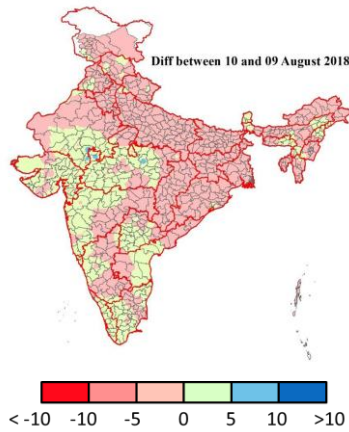
- Extremely/severely wet conditions experienced in Bandipore district of Jammu & Kashmir; Puri district of Odisha; Mathura district of Uttar Pradesh; Chamoli district of Uttarakhand; Diu districts of Saurashtra, Kutch & Diu; Theni district of Tamil Nadu & Puducherry; Kodagu district of Karnataka; Ernakulam, Kottayam, Palakkad, Idukki districts of Kerala.
- Extremely/Severely dry conditions experienced in many districts of Arunachal Pradesh; few districts of Assam; West Bengal; Jharkhand; West Garo Hills district of Meghalaya; Bolangir district of Odisha; East Champaran, Jamui, Muzaffarpur, Saran, Siwan, Vaishali districts of Bihar; Azamgarh, Ballia, Chandauli, Deoria, Fatehpur, Kushi Nagar, Mau, Maharajganj, Ghaziabad, Mahoba districts of Uttar Pradesh; Almora district of Uttarakhand; Ambala, Panchkula districts of Haryana; Ferozepur, Mansa districts of Punjab; Udhampur district of Jammu & Kashmir; Betul district of Madhya Pradesh; Ahmedabad, Mehsana districts of Gujarat Region; Surendranagar district of Saurashtra, Kutch & Diu; Nandurbar, Aurangabad, Buldhana districts of Maharashtra; Bastar, Rajnandgaon districts of Chhattisgarh; Cuddapah, Kurnool districts of Andhra Pradesh; Rangareddy district of Telangana; Viluppuram, Krishnagiri districts of Tamil Nadu & Puducherry; Yadgir, Bellary, Shimoga districts of Karnataka; Lakshadweep district of Lakshadweep.

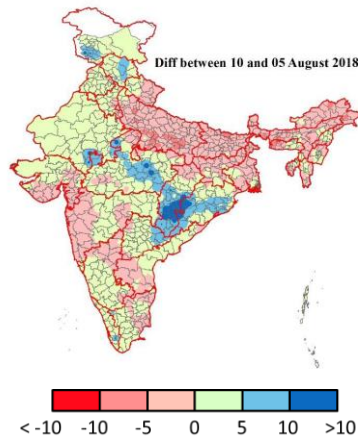
- Moderately dry conditions experienced in few districts of Gujarat Region; Karnataka; Upper Subansiri district of Arunachal Pradesh; Goalpara, Bongaigaon, Morigaon districts of Assam; Ri-Bhoi district of Meghalaya; West Tripura district of Tripura; Malda, North Dinajpur, Howrah districts of West Bengal; Nawarangpur, Nawapara districts of Odisha; Deoghar, Dhanbad, Godda, Seraikela-Khar, Ramgarh districts of Jharkhand; Araria, Begusarai, Katihar, Nalanda, Rohtas, Saharsa districts of Bihar; Jaunpur, Kanpur Dehat, Varanasi, Jyotiba Phule Nagar, Pilibhit, Rampur districts of Uttar Pradesh; Gurgaon, Sonapat districts of Haryana; Garhwal Pauri, Garhwal Tehri districts of Uttarakhand; Amritsar, Kapurthala districts of Punjab; Lahaul & Spiti district of Himachal Pradesh; Hanumangarh, Bundi districts of Rajasthan; Dewas, Dhar, Harda, Khargone, Vidisha, Ashoknagar, Alirajpur, Chhindwara, Dindori districts of Madhya Pradesh; Kutch district of Saurashtra, Kutch & Diu; South Goa district of Konkan & Goa; Dhule, Jalgaon, Satara, Jalna, Amraoti districts of Maharashtra; Jashpur, Kanker, Koriya, Raigarh districts of Chhattisgarh; Nellore, Prakasam districts of Andhra Pradesh; Medak district of Telangana; Coimbatore, Dharmapuri, Nagapattinam, Namakkal, Tirupur districts of Tamil Nadu & Puducherry; Kasargod district of Kerala.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Daily Soil Moisture (mm) for 10th August 2018 (ending at 0830 IST) for 60 cm depth

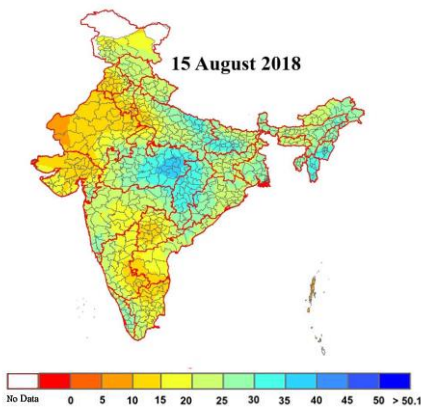
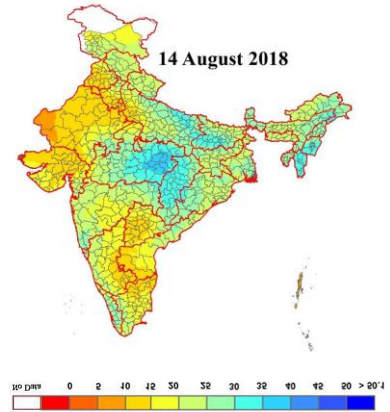
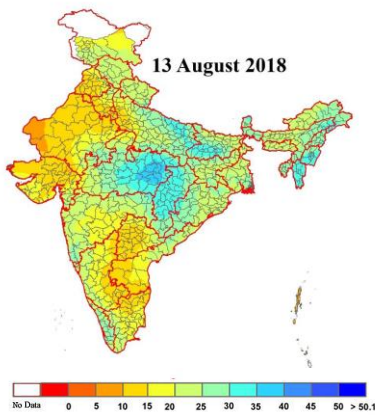
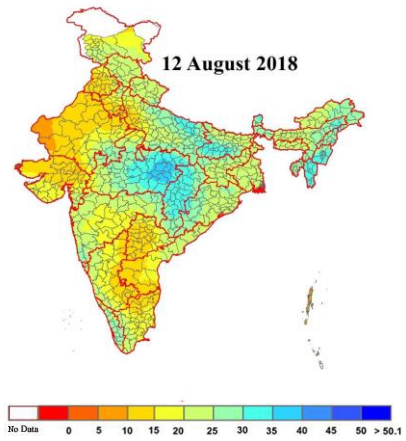
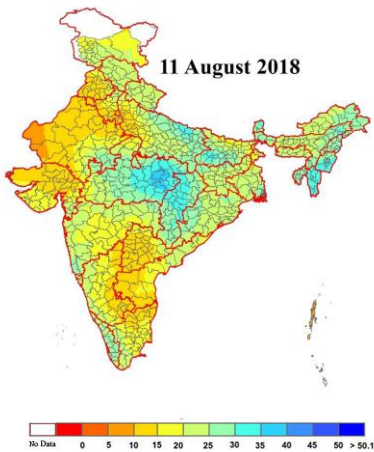


Difference of Soil Moisture (mm) for 60 cm depth





Forecasted Soil Moisture (mm) from 11th to 15th August 2018 (ending at 0830 IST) for 60 cm depth



Weather Forecast for next 5 days valid upto 0830 hours of 15th August 2018

- Meteorological subdivision wise detailed 5 days rainfall forecast is given in Table below.
- No significant change in maximum and minimum temperatures over most parts of the country during next 3-4 days.

5 Day Rainfall Forecast (Mid day) 10th August 2018

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

% Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

Weather Warning during next 5 days

- **10 August (Day 1):** Heavy to very heavy rain at isolated places very likely over Tamilnadu and Kerala; heavy rain at isolated places very likely over Uttarakhand, East Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh and Coastal & South Interior Karnataka. Rough to very rough Sea conditions are likely to prevail over west central Arabian Sea. Fishermen are advised not to venture into this area.
- **11 August (Day 2):** Heavy to very heavy rain at isolated places very likely over Uttarakhand and Sub-Himalayan West Bengal & Sikkim; heavy rain at isolated places very likely over Himachal Pradesh, Uttar Pradesh, Chhattisgarh, Bihar, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Coastal Andhra Pradesh, Coastal Karnataka, Tamilnadu and Kerala. Rough to very rough Sea conditions are likely to prevail over west

central Arabian Sea. Fishermen are advised not to venture into this area.

- **12 August (Day 3):** Heavy to very heavy rain at isolated places likely over Himachal Pradesh, Uttarakhand, Chhattisgarh, Jharkhand, Sub-Himalayan West Bengal & Sikkim; heavy rain at isolated places likely over Jammu & Kashmir, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Madhya Pradesh, Bihar, Gangetic West Bengal, Odisha, Coastal Karnataka and Kerala. Rough to very rough Sea conditions are likely to prevail over Central Bay of Bengal, Central Arabian Sea and along and off Maharashtra, Andhra Pradesh and Tamilnadu Coasts. Fishermen are advised not to venture into these areas.
- **13 August (Day 4):** Heavy to very heavy rain at isolated places likely over Uttarakhand, Coastal Karnataka, Odisha, Nagaland, Manipur, Mizoram & Tripura; heavy rain at isolated places likely over Himachal Pradesh, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Jharkhand, Gangetic West Bengal, Konkan & Goa, South Interior Karnataka and Kerala. Rough to very rough Sea conditions are likely to prevail over Central Bay of Bengal, Central Arabian Sea and along and off Maharashtra, Andhra Pradesh and Tamilnadu Coasts. Fishermen are advised not to venture into these areas.
- **14 August (Day 5):** Heavy to very heavy rain at isolated places likely over Odisha, Coastal Karnataka and Kerala; heavy rain at isolated places likely over East Uttar Pradesh, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa and South Interior Karnataka. Rough to very rough Sea conditions are likely to prevail over Central Bay of Bengal, Central Arabian Sea and along and off Maharashtra, Andhra Pradesh and Tamilnadu Coasts. Fishermen are advised not to venture into these areas.

Weather Outlook for subsequent 2 days from 15th to 17th August 2018

- Fairly widespread to widespread rainfall likely over Western Himalayan region, Indo Gangetic plains, East India and also along the west coast.
- Isolated to scattered rainfall likely over Central & northeast India, Interior parts of south Peninsula and Islands and isolated rainfall over the rest parts of the country.

Salient Advisories

- As rough to very rough Sea conditions are likely to prevail over **west central Arabian Sea** on 10th and 11th, rough to very rough Sea conditions are likely to prevail over Central Bay of Bengal, Central Arabian Sea and along and off **Maharashtra, Andhra Pradesh** and **Tamilnadu Coasts** from 12th to 14th August, fishermen are advised not to venture into the sea over these areas.
- In **Kerala**, in low lying areas, strengthen the bunds to protect paddy fields from flood water. In flood affected areas, after receding of flood water, start preparation of nurseries in paddy fields where the water level is low with short duration varieties. To control soft rot in ginger, drench the soil with 1% Bordeaux mixture or 0.3% Mancozeb.
- Utilising the realized and expected rainfall, continue transplanting of rice in **Odisha** and **Bihar**. Complete transplanting of rice in **Jharkhand**. Continue transplanting of rice in **Meghalaya** and **Arunachal Pradesh**. In **North Gujarat**, continue sowing of castor and in **Saurashtra & Kutch**, continue sowing of castor, sorghum and cluster bean.
- In **Rayalaseema**, farmers are advised to go for the inter cultivation /hand weeding in the groundnut crop sown in June/July to reduce soil moisture loss. Take up sowing of contingency crops like red gram, castor, cowpea, kora, bajra, horsegram after receipt of sufficient rain instead of rainfed groundnut as there will be yield reduction in late sown groundnut crop.
- In **Assam**, complete transplanting of late Sali rice variety seedlings such as Manohar Sali, Biraj, Andrewasali in the main field. Prior to transplanting, it is advised to wash the uprooted seedlings and dip the root portion in 0.02% solution of Chlorpyrifos 20 EC (1 ml/litre of water) along with 1% Urea (10g/litre of water) for 3 hours as protective measure against stem borer, gall midge and hoppers.
- In the **Sub-Himalayan West Bengal**, in view of the rain at most places during the period with heavy/very

heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, maintain 3 to 5 cm water level in rice fields and drain out excess water. Provide proper drainage facility in soybean, ginger and turmeric fields.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala except Thiruvananthapuram, all districts of Coastal Karnataka, Bangalore (Rural), Chikamangaluru, Kodagu and Shivamogga districts of South Interior Karnataka, East Godavari, Krishna, Srikakulam, Vizianagaram and West Godavari districts of Coastal Andhra Pradesh, B. Kothagudem, J. Bhupalpally, Khammam, Mehbubabad, Pedapalle and Warangal (Urban) districts of Telangana and Kanchipuram district of Tamil Nadu and Puducherry during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Kerala and Coastal Karnataka during the period, at many places over South Interior Karnataka during the period and over North Interior Karnataka on 13th and 14th, along with heavy to very heavy rain at isolated places very likely over Tamilnadu on 10th, over Kerala on 10th and 14th over Coastal Karnataka on 13th and 14th, heavy rain at isolated places over Coastal Andhra Pradesh on 10th and 11th, over Coastal Karnataka from 10th to 12th, over South Interior Karnataka on 10th, 13th and 14th, over Tamil Nadu on 11th, over Kerala from 11th to 13th August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - As rough to very rough Sea conditions are likely to prevail along and off Andhra Pradesh and Tamilnadu Coasts from 12th to 14th August. Fishermen are advised not to venture into the sea over these areas.
 - **Kerala:**
 - In low lying areas, strengthen the bunds to protect paddy fields from flood water. After receding of flood water, start preparation of nurseries in paddy fields where the water level is low. In case of late sowing, short duration paddy varieties can be adopted. Abnormal leaf fall in rubber plantations may reduce yields. Spray 1% Bordeaux Mixture when rain stops. Tapping can be resumed. Repair damaged rain guards. Take care of tapping panels. Cover the ripening banana bunches with plastic to obtain high quality produce. Continue harvesting Nendran.
 - Due to continuous rain and cloudy condition, there is a chance of leaf folder attack in paddy. Use 2CC trichogramma cards per acre to control leaf folder and stem borer. Cut the cards in to small pieces and fix in different parts of the field in plastic cups. If the attack is severe, spray Chlorantraniliprole 3ml per 10 litre of water. For stem borer attack in paddy crop, apply Takumi ® @3g per 10 litres of water. Remove and destroy affected fruits and shoots of brinjal. Spray Flubendiamide (Fame) @ 1.5 ml in 10 litres of water 2-3 times at weekly interval. If infestation of pseudostem weevil is noticed in banana, spray 2.5 ml of Chlorpyrifos or 2 ml of Quinalphos per litre of water in leaf axils and by inserting the nozzle through the boreholes made by the larvae. To control soft rot in turmeric and ginger, drench the soil with 1% Bordeaux mixture. Undertake plant protection methods after current spells of rain.
 - **Andhra Pradesh:**
 - In Coastal Andhra Pradesh, continue transplanting of paddy seedlings. Clip the leaf tips before transplanting. For direct sown paddy, apply 25-30 kg urea as after weeding. Carry out earthing up in sugarcane at 120 days age.
 - In Rayalaseema, farmers are advised to go for the inter cultivation /hand weeding in the groundnut crop sown in June/July to reduce soil moisture loss. Take up sowing of contingency crops like red gram, castor, cowpea, kora, bajra, horsegram after receipt of sufficient rain instead of rainfed groundnut as there will be yield reduction in late sown ground nut crop. Cotton growing farmers are advised to choose high yielding varieties/Bt hybrids of cotton and take up sowing only after receiving sufficient rainfall. Prefer early maturing varieties/Bt hybrids, so that the cotton bolls mature before the heavy population buildup of pink bollworm. Under prevailing dry spell conditions, flower and fruit drop is noticed in sweet orange orchards. Farmers are advised to spray Planofix and apply 2,4 D @ 1g in 100 litres of water without adding any other chemicals. Spraying should be done before 11 am.
 - In Coastal Andhra Pradesh, for control of whitefly in green gram and black gram, make foliar application of 5% NSKE or keep yellow sticky traps @ 20 nos. per acre.
 - In Rayalaseema, spray Monocrotophos 320 ml or Dimethoate 400 ml or Imidachloprid @ 40 ml per acre for sucking pests in groundnut.

▪ **Telangana:**

- Take up sowing of Sunflower, Castor after receipt of the sufficient rainfall. In view of the dry spell, provide lifesaving irrigation to rain-fed crops like Cotton, Maize and Soybean wherever water is available in farm ponds. Farmers who have not taken up paddy planting till now are advised to sow alternate crops like short duration maize, paddy (prathumna), bajra, korra, ground nut, red gram and sunflower. Take-up nursery sowing of tomato and brinjal. Take up transplanting of chilli.
- Prevailing weather conditions are congenial for the incidence of sucking pests in cotton. To prevent the pests, apply Monocrotophos and water in 1:4 ratio with a soft brush on tender part of the stem for 30 days old crop. The prevailing weather conditions are congenial for incidence of sucking pests in vegetables. To control, spray Fipronil @ 2ml or Thiomethoxim @ 0.3g per litre of water. Prevailing weather conditions are favorable for development of leaf spot disease in bhendi, tomato and brinjal. To Control, spray Propineb @ 2g per litre of water. Undertake plant protection measures on a non rainy day.

▪ **Tamil Nadu:**

- Take up ploughing of paddy fields using the released water for Samba rice transplanting with long duration varieties. Dry seeding with seed drill can also be taken up. By using release of water, sow daincha or sunhemp seeds in time and incorporate before flowering (35-40 days) stage. Provide support to banana plants and sugarcane. Undertake land preparation for sowing of irrigated maize crop. Considering the favorable soil moisture, land preparation and sowing may be initiated for irrigated winter Cambodia cotton. Prevailing current weather is suitable for planting/Sowing of Cluster bean. About 10 kg of seeds is required for a hectare. Treat the seeds with Rhizobium @ 600 g/ha using rice gruel as binder. Dry the treated seeds in shade for 15 – 30 minutes before sowing. Take up planting operations, especially vegetable crops like chilies, brinjal, gourd, banana and perennial crops.
- Occurrence of stem borer and rice hispa is being noticed in the kuruvai paddy. To control this pest, spray Chlorophyriphos @ 500 ml/200 litre of water for one acre. To control the incidence of sucking pest in the vegetable crops, spray neem seed kernal extract 5%. Prevailing weather is conducting for leaf spot disease in turmeric. Spray Copper Oxy Chloride-500g or Mancozeb-400g in 200 litres water per acre. Due to the prevailing weather conditions, there are chances for increase in the severity of infection of rice stem borer and leaf folder. Spray Chlorantrailiprole 0.3 ml/litre or Flubendiamide 0.1ml/litre for their management. To control stem borer incidence in maize, spot application of Cartop 4 kg along with 4 kg of sand/acre or foliar spray of Clorpyriphos @ 2ml with 1ml sticking agent per liter of water can be followed.Undertake plant protection measures on a non rainy day.

▪ **Karnataka:**

- In Coastal Karnataka, complete transplanting of rice. Undertake intercultural operations in 25-35 days old maize and cotton crops after current spells of rain.
- In South Interior Karnataka, continue intercultural operations in green gram, groundnut, sesame, maize and red gram crop after current spells of rain. Undertake thinning operation for better availability of scarce soil moisture to the reduced population of crop plants. Complete transplanting of rice and ragi. Adopt crop rotation with rai, maize in vegetable crop fields. Due to cloudy weather, there is chance of flower drop in cotton; spray Planofix @ 1.0 ml in 4.5 liters of water. Apply Zinc Sulphate @ 8kg /acre to overcome Zinc deficiency in rice growing fields. Undertake plant protection measures after current spells of rain.
- In Southern Transition Zone, for management of intermittent dry spells during cropping period:
 - Thin out excess number of plants and maintain standard plant population.
 - Repeated intercultivation operation and weeding is recommended.
 - Spray 1 or 2% of 19:19:19 or DAP as a foliar spray.
 - Provide lifesaving irrigation from farm ponds.
 - Undertake sowing of short duration pulses, if crop loss is more.
- In North Interior Karnataka, undertake sowing of soybean, green gram, black gram and Jowar crops under sufficient moisture condition. Continue nipping/trimming operation in pigeon pea (40-45 days old crop). Continue intercultural operations in pigeon pea, soybean and maize crops to conserve soil moisture. Apply irrigation in sugarcane as per requirement..Spare some land exclusively for fodder crops or give preference for grain cum fodder crops.
- In North Interior Karnataka, to manage sucking pests in cotton, pigeon pea, groundnut, spray Imidachlopid @ 0.3 ml or Thiomethoxam 0.25 g dissolved in one liter of water in clear weather.
- In North Interior Karnataka, undertake fresh plantation of fruit trees, teak, neem, tamarind, acacia or other trees which are useful to prepare the agricultural implements on the bunds, uncultivated and marginal lands.
- **Animal Husbandry**
- In Kerala, there are chances of contagious disease in cattle during monsoon season. Take vaccination from nearby veterinary clinics.
- In Tamil Nadu, to control ticks, spray Butox (2ml butox per liter of water) to avoid spread of haemoprotozoan infection in cattle. Avoid grazing of animals near ponds and lakes to avoid fluke infestation. Sheep and goat

should be dewormed by using suitable anti-helminthic by consulting with local veterinary doctor. Dry fodder and feed ingredients used for the preparation of concentrate mixture should be stored in a damp proof area to avoid aflatoxin development. Coconut leaves or paddy straws may be spread over the roof of the animal shed and spray water to avoid heat stress to the animals. Goat rearing farmers are advised to prevent goat from mortality, as a prevention against Haemorrhagic Septicemia, Goats has to be vaccinated once in a year before onset of rainy season, if not done so far contact near by veterinarian and vaccinate your goats.

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

Realised Rainfall: Rainfall occurred in East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpare, Tawang, Upper Subansari and West Kameng districts of Arunachal Pradesh, all districts of Assam except Dhemaji, Kamrup (Rural) and N. C. Hills, all districts of Meghalaya, all districts of Mizoram, Imphal East, Senapati and Thoubal districts of Manipur, Dimapur, Kohima, Mon, Paren and Wokha districts of Nagaland and all districts of Tripura except North Tripura during the week. Weather remained mainly dry over rest of the region.

• **Advisories:**

- As rain/thundershowers likely at most/many places over Nagaland, Manipur, Mizoram & Tripura during the period, over Assam & Meghalaya and Arunachal Pradesh from 10th to 13th, along with heavy to very heavy/heavy rain at isolated places over Nagaland, Manipur, Mizoram & Tripura on 10th, 13th and 14th, heavy rain at isolated places over Assam & Meghalaya on 10th, 11th and 14th, over Arunachal Pradesh on 10th and 11th August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Arunachal Pradesh:**

- Continue transplanting of rice in the main fields. The uprooted seedlings should be washed and then the root portion is to be dipped in 0.02% solution of Chlorpyrifos (1 ml/litre of water) along with 1% urea (10g/litre of water) for 3 hours to protect the seedlings from stem borer, gall midge and hoppers. Carry out harvesting of Jhum rice on clear sunny days. Provide staking to cucumber, pumpkin and gourds. Harvest mature fruits in time. Harvest mature crops of maize, black gram and green gram immediately on a clear day. Undertake nursery preparation for early cauliflower and cabbage crops in a raised bed preferably in shaded area.
- Spray 0.01 % of Imidacloprid 17SL on a clear day for cob borer in maize. Install yellow stem borer specific traps and hang dead frog against gundhi bug in rice fields.

▪ **Assam:**

- Complete the transplanting of late Sali rice variety seedlings such as Manohar Sali, Biraj, Andrewasali in the main field. Prior to transplanting, it is advised to wash the uprooted seedlings and dip the root portion in 0.02% solution of Chlorpyrifos 20 EC (1 ml/lit of water) along with 1% urea (10g/lit of water) for 3 hours as protective measure against stem borer, gall midge and hoppers.
- In flood affected areas, where the rice crop was totally damaged, farmers can go for raising rice nurseries by selecting short duration photo-insensitive varieties like Luit, Kopilee and Dishang. The tender seedlings of these varieties can be transplanted in the main field up to 1st week of September.
- Undertake sowing of finger millet varieties like INR 1008, TANU-9 or other local varieties in sandy loam soil. Complete the sowing of sesamum in the first fortnight of August. Sowing of early varieties of Cauliflower like Early Kunwari, Pusa Katki and Pusa Deepali can be started in nurseries under polyhouse condition. Harvest the jute crop at the small pod stage to get optimum yield and good quality of fibre. Plants are to be cut close to the ground. If jute is succeeded by rice, harvest the jute crop to facilitate timely ploughing for rice crop. Collect seeds of high yielding varieties of Greengram like Pratap, SGC 16, SGC 20, IPM- 02-3, T-44, Kopergaon, K-851, ML-56, ML-131 etc for sowing in the month of August and Black gram varieties like PU- 31, KU 301, SBC 40, SBC 47, T-9,T-27, Pant U-19, T-122, etc., for sowing mid-August to mid-September. Postpone sowing if there is heavy rainfall. Select disease free cuttings of betelvine and treat them with Bordeaux mixture 0.5% and Streptocycline 500 ppm for half an hour prior to planting.
- Present weather is conducive for BPH in Sali paddy at tillering stage. To control, use mechanical methods and avoid spraying of pesticides. Carry out roguing and burning of diseased arhar plants to prevent wilt disease. To control sap sucking insects (aphids/mealy bug/scales) in Khasi mandarin plants, spray Malathion 0.1%

▪ **Meghalaya:**

- Prepare nursery bed for sowing of cole crops. Sow the seeds of broccoli (varieties Pushpa, Aiswarya, Fiesta, Lucky, etc.); cabbage (H-139) & cauliflower (local) in the nursery at 5 cm spacing between the line under the protected structures. Use 25-30 days old Sali/Kharif rice seedling for transplanting. Transplant 2-3 seedlings per hill. After transplanting maintain a thin layer of stagnating water in the field. Keep 5cm of standing water in the field. Keep the field free of weeds. Undertake sowing of chilli, brinjal, French bean and cow pea. Maintain proper drainage in ginger, turmeric, maize and cucurbit fields.

▪ **Manipur:**

- Maintain 5-8cm water level in the kharif rice field. Carry out weeding at tillering stage after the rains. Carry out weeding and earthing up and provide drainage in black gram, rice bean, soybean and groundnut crops.

- Spray Lambda-cyhalothrin @ 15 ml/ pump for thrips and leaf folder in kharif rice. For rice stem borer, spray Chlorantraniliprol 23.5% @ 40 ml/ha. Spray Carbendazim @ 0.5g / litre of water to control Tikka disease in groundnut. Spray Dichlorvos 76 EC 0.05% @ 0.6ml/ litre of water against hairy caterpillars in black gram and rice bean crops after current spells of rain.
- **Mizoram:**
 - Transplant 2-3 seedlings of kharif rice in one place to avoid gap filling. Spacing should be 20 cm row to row and 15 cm plant to plant. Keep some seedlings in nursery or corner of the field for gap filling. Undertake raising seedlings of Khasi mandarin, acid lime, star fruit, plum and peach. Transplant seedlings in secondary bed or polythene bags at 4-6 leaves stage. Harvest mature cobs of Jhum maize. Maintain proper drainage in passion fruit, coffee, rubber and oil palm plantations and in maize, pulses and paddy fields. Undertake planting of ginger and turmeric crops after treating rhizomes with Thiram @ 4 g per kg seeds. Undertake planting of rubber at newly established place.
 - In large gardens of cucurbitous crops, apply Carbaryl 0.2 per cent or Malathion 0.15 per cent suspension containing sugar or jaggery at 10 g/litre of water at fortnightly intervals at flowering and fruit initiation against fruit fly/pumpkin beetle after current spells of rain.
- **Tripura:**
 - Carry out weeding in Aman rice field at tillering stage (three weeks after transplanting). For better pod formation in groundnut, apply two hand weedings along with earthing up at 20 and 40 days after sowing.
 - There may be attack of bacterial leaf blight (BLB) in Aman rice which may reduce the tillering and delay flowering. Manage the attack by spraying fresh cow dung extract 20% twice (starting from initial appearance of the disease and another at fortnightly interval). Cloudy and humid weather is conducive for the attack of leaf curl disease in summer brinjal, chilli, etc. To manage the attack, apply Imidachloprid @ 2ml per liter of water. For the attack of Gundhi Bug in Aus and Jhum rice, remove the weeds in the vicinity of paddy and collect bugs by hand netting. If infestation is more than THL, i.e. 16 bugs per 100 ear heads, apply Fipronil 1 ml per liter of water. Light trap at 200 to 300 mt interval may also be used to manage the attack.
- **Nagaland:**
 - Carry out earthing up in soybean, ginger and turmeric field. Carry out timely harvesting in cucurbits and okra.
 - Remove infested okra and brinjal fruits and shoots regularly and destroy them. Monitor TRC/WRC paddy against brown spots.
- **Animal Husbandry**
 - Keep the poultry house well ventilated during the day time. Change litter periodically and provide fresh and clean drinking water. Select improved variety like Kamrupa, Vanraja, Rainbow rooster etc. for backyard poultry rearing. These improved species can lay more number of eggs within a short period of time. Vaccinate poultry birds against Coccidiosis, Ranikhet and Gamboro diseases.
 - De-worm pigs/piglets, goat and sheep. Vaccinate pigs against FMD & swine fever and cattle/sheep/goat against FMD, Hemorrhagic Septicaemia, Black Quarter, etc.
 - Avoid feeding the livestock with rotten grasses after flood. Instead, feed the animals with concentrate and green grasses along with vitamins and mineral supplements. Give Dairy animals a balanced feed so that their milk production capacity is enhanced. Carry out periodic cleaning of cowsheds along with the feeding pans during the rainy season to prevent fungal and bacterial infections.
- **Fishery**

Keep fish feed free from fungus. Sundry the feed for few days prior to feeding. Store fish feed in cool and dry place to avoid fungal growth that releases aflatoxin which could lead to mortality of fish. Monitor fish regularly to observe any sign of diseases and if disease is observed, consult expert immediately. Application of lime and potassium permanganate @50kg/ha and 1.5mg/litre respectively in the pond helps in avoiding fish mortality.

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

- **Realised Rainfall:** Rainfall occurred in North and Middle Andaman and South Andaman districts of Andaman and Nicobar Islands, all districts of Bihar, all districts of Jharkhand except Bokaro, Chatra and Khunti, all districts of Odisha, all districts of Sub-Himalayan West Bengal & Sikkim except Cooch Behar and South Dinajpur, in all districts of Gangetic West Bengal during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Sub-Himalayan West Bengal & Sikkim, most/many places over Odisha, Bihar and Andaman & Nicobar islands during the period, over Jharkhand from 11th to 14th and over Gangetic West Bengal from 12th to 14th August, along with heavy/very heavy rain very likely at isolated places over Sub-Himalayan West Bengal & Sikkim from 10th to 12th, over Odisha from 11th to 14th, heavy rain very likely at isolated places over Jharkhand on 11th and 12th, over Bihar on 11th & 12th and over Gangetic West Bengal from 12th to 14th August, avoid intercultural operation and application of plant protection

measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.

▪ **Odisha:**

- Continue transplanting of rice. Apply pre-emergence weedicide Bensulfuron methyl+Pretilachlor@10kg/ha or Pyrazosulfuron Ethyl @20g a.i./ha at 3 to 4 days after transplanting.
- In North Central Plateau Zone, go for bushening of direct sown paddy in medium and low land if past 21 days stage. Apply 35 kg Urea per acre at bushening followed by weeding and gap filling. Drain out the excess water at the time of fertilizer application and pond it again after one day. Continue sowing of arhar, green gram, black gram and cowpea.
- Undertake planting of lemon, banana, papaya and mango.
- Wrapping and propping should be done in 4-5 months old in medium and late duration varieties of sugarcane. To control early shoot borer, spray Chloropyriphos or Quinalphos @ 400 ml/ac in 200 litres of water after current spells of rain.

▪ **Bihar:**

- Continue transplanting of rice. Weed management is advised in the rice field within 3 to 7 days of transplanting by spraying a solution of Butachlor@3.0 liters or Pritlachlor@1.5liters or Pendimethaline@3.0 liters in 500-600 liters of water applicable for one hectare.
- With heavy rainfall at many places, waterlogging in the fields has taken place. Under such condition, farmers are advised to drain out excess water from standing crops such as pigeon pea, sunflower, maize, turmeric, yam etc. and vegetables nurseries. Farmers are also suggested for lifting the creepers above the ground on a stand made of bamboo.
- Continue transplanting of onion, early cauliflower, tomato, chilli and brinjal on raised bed of the field. Seed should be treated with Captan @ 2 g/kg of seed. Farmers are advised to apply 10-15 tonnes of cow dung and also apply 60 kg N, 50 kg Phosphorus and 40 kg potassium per hectare before final preparation of beds.
- Present weather is suitable for planting of new saplings of fruit plants such as mango, litchi, jackfruit, guava, custard apple, lemon etc. Farmers are advised to procure healthy saplings from authorized nurseries. Before planting, application of 40-50 kg FYM per plant is advised.
- Present weather condition is congenial for cut worm attack in maize fields, apply Chlorpyriphos @ 2ml per litre of water or Furadon 4-5 granules per whorl of the maize plants if noticed after current spells of rain.

▪ **Jharkhand:**

- In fallow uplands, farmers may sow Arhar (with short duration variety like UPAS-120) and Kulthi or Niger. Arrange the seed and fertilizer of these crops and sow the seed as and when soil attains the optimum moisture. Improved variety of Kulthi are V.L.G.-19 or Birsa kulthi-1 and of Niger are Birsa niger-1, Birsa niger-2, Birsa niger-3, Pooja-1.
- Complete transplanting of rice. If the seedlings are too old and has attained vigorous growth, before transplanting prune the upper part and transplant 4-5 seedlings at shallow depth.
- The weather is favourable for the attack of blast disease in rice. As and when symptoms appear, immediately, spray Beam @ 2 g per litre of water after current spells of rain. The spraying of Beam also protects the crop against other fungal disease.

▪ **West Bengal:**

- In the Sub-Himalayan West Bengal, maintain 3 to 5 cm water level in rice fields and drain out excess water. Provide proper drainage facility in soybean, ginger and turmeric fields. Carry out weeding in large cardamom field. Harvest mature cobs of Maize and mature fruits of round chilli. Keep the Jute plants bundle submerged in fresh & flowing water with concrete or stone stack for good quality fiber. Undertake sowing of black gram in uplands after seed treatment with Rhizobium.
- In Gangetic West Bengal, complete the transplanting of Aman wet seeded paddy as early as possible. In view of higher amount of rainfall forecast, farmers are advised to transplant paddy seedling at the earliest in prepared fields with a spacing of 20 cm (row-row) x 10 cm (plant-plant). Standing water in the field should be 2.5 cm. One packet of Blue Green Algae (BGA) per acre should be used for increasing nitrogen in the paddy field before transplanting. Carry out land preparation for and sowing of yellow mosaic resistant varieties of kharif bhindi. Undertake transplanting of chilli, brinjal and early cauliflower in raised beds. Carry out harvesting of jute. Make arrangements for proper air circulation in the betel garden. Proper drainage should be maintained in chilli, brinjal and okra fields. Immediate drain out excess water through the furrow within the seedbed made over the ridge in tomato, chilli and brinjal plants. Remove the water from the base of papaya and guava plants as soon as possible otherwise fruits became blackish.
- In Sub-Himalayan West Bengal, for the management of cucurbitaceous fruit fly population, use pheromone traps along. For management of brinjal fruit & shoot borer, spray Coragen 18.5% E.C @ 0.5 ml/litre of water after clipping off all the infested twigs, flowers, buds, fruits etc.. To control of chilli leaf curl, spray Imidachloropid @ 0.2ml/liter of water at evening hours after current spells of rain. For the management of rice stem borer and gall midge apply Chlorantraniliprole 0.4% GR@ 4 kg/acre up to 10DAT of rice. For

monitoring of rice stem borer (Adult) infestation in paddy, install sex pheromone traps @ 1 no./ bigha.

- In Gangetic West Bengal, remove the shoot and fruit borer affected plant parts in brinjal field and spray Neem Seed Kernel Extract solution @ 50ml/litre of water. Collect and destroy the fruit borer affected bhindi fruits and spray Neem oil @30ml/litre of water at clear weather condition. Remove the infected fruits pointed gourd and spray Ridomil-MZ @ 2.5g /litre of water at clear weather condition.
- **Andaman & Nicobar Islands:**
- Make proper drainage for long duration paddy nursery and keep the bund open at 20 cm height in the already transplanted rice main field. Make ridges and transplant the healthy banana suckers. Protect the vegetable nursery bed by providing shelter and draining the excess water. Avoid application of manure to the vegetable field as moderate to heavy rainfall is expected.
- **Animal Husbandry**
- In West Bengal, protect animals from diseases caused due to excessive rainy conditions and de-worm them at this time. Keep the shade clean and dry. Vaccinate cattle against BQ and FMD. Vaccinate goat and sheep against Enterotoxemia. Vaccinate poultry birds against Ranikhet disease.
- In Andaman & Nicobar Islands, provide anti-helminthic treatment to livestock (cow) with the consultation of veterinary doctors. Keep the goat under dry clean shelter to avoid pneumonia or breathing problem.
- In Bihar, animals must be vaccinated for FMD, HS and BQ namely Trivac vaccine administered dose @ 2.5-3ml S/C per animal is recommended.
- **Fisheries**
- In West Bengal, apply lime@20kg per bigha in pond water. Apply Mustard oil cake and Rice bran (1:1) as fish feed @ 3-2% body weight of total stock of fish in the pond.
- In Odisha, purchase fish seeds from a reliable fish seed producer and stock 3000 nos. of advance fingerlings of more than 8cm size per one acre of water area. In case of three species combination, the stocking numbers should be for Catla-900, Rohu-1200 and Mrigal-900. In case of six species combination, the stocking numbers should be for Catla-800, Rohu-1200, Mrigal-500, Common carp-300, Grass carp-100 and Silver carp-100. In any situation, the average water depth of the pond should not be less than 5ft level.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

- **Realised Rainfall:** Rainfall occurred in all district of Konkan & Goa except Mumbai Suburban, in Kolhapur, Nashik and Pune districts of Madhya Maharashtra, Gadchiroli district of Vidarbha, Dangs, Valsad and Daman districts of Gujarat Region during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - As rain/thundershowers likely at most places over Konkan & Goa during the period, along with heavy rain at isolated places on 13th August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - As rough to very rough Sea conditions are likely to prevail over west central Arabian Sea on 10th and 11th, over Central Arabian Sea and along and off Maharashtra from 12th to 14th August. Fishermen are advised not to venture into sea over these areas.
 - In South Konkan, maintain water level of 5 cm by bunding rice field. If required, provide water from reservoir. Apply second dose of fertilizers to okra @ 720 g urea/Are area, to brinjal @ 1080 g urea/Are area and to chilli @ 810 g of urea/Are area after current spells of rain. In North Konkan, maintain water level of 3-5 cm by bunding rice field.
 - In Madhya Maharashtra, maintain water level 2 to 3 cm at the primary growth stage and 3 to 5 cm at the beginning of tillering stage in rice field. Apply light irrigation in green gram (flowering stage) or spray 2% urea as per requirement of crop. Due to moisture stress condition in cotton, spray 2% urea or 1% potassium nitrate as per requirement.
 - In Marathwada, apply protective irrigation to kharif standing crops like sugarcane, soybean, sorghum and pearl millet, vegetables, orchards like mrug bahar pomegranate and sapota as per requirement of crop and availability of water. Protective irrigation should be applied in soybean crop with the help of sprinkler irrigation system. Spray Potassium Nitrate @ 200 g per 10 litre of water in 30 days old soybean crop. Apply protective irrigation in citrus orchards. To control flower drop in citrus orchard, spray Borax @ 5 g per liter of water.
 - In West Vidarbha, undertake intercultural operations (weeding) in maize, jowar, red and black gram. In East Vidarbha, maintain 2-3 cm water level in rice fields. Undertake intercultural operation like weeding in pigeonpea.
 - In South Konkan, for control of blast in rice, spray Tricyclazole @ 10 g or Isoprothiolane @ 10 ml per 10 litre of water after current spells of rain.
 - In Marathwada, to control attack of girdle beetle and leaf eating caterpillar in soybean crop, spray

Chlorantraniliprole 18.5 % @ 4 ml per 10 litre of water.

▪ **Gujarat:**

- In South Gujarat, undertake weeding and intercultural operations in transplanted rice as per need. Maintain 2-3 cm water level in transplanted rice field. For effective control of semi-looper, complete sowing of castor by 15th August. As rainfall is expected arrange for proper drainage in the nurseries of brinjal, tomato, chilli and early cauliflower. Undertake intercultural operations in pigeon pea, green gram, black gram, cowpea and castor crops.
 - In North Gujarat, continue sowing of castor and transplanting of fennel, tomato, brinjal, chilli and early cauliflower crops under sufficient moisture condition. Carry out intercultural operations in groundnut, pearl millet, maize, pulses and sesame crops.
 - In Middle Gujarat, continue sowing of castor and cluster bean crops. Continue transplanting of tomato, brinjal and chilli crops. Carry out intercultural operations in black gram and green gram. Undertake gap filling in pearl millet and groundnut. Apply irrigation in standing vegetable crops.
 - In Saurashtra & Kutch, apply irrigation in vegetable crops. Undertake sowing of castor, sorghum and cluster bean crops under sufficient moisture condition. Complete transplanting of brinjal, chilli and early cauliflower, sowing of cucurbits, bhindi, cluster bean, kidney bean and cowpea crops.
 - In North Gujarat, at the initiation of the root rot disease in cotton, drench with Copper Oxochloride (50% WP) 0.2 % solution @40g/10 litres of water around stem of the plants.
 - In Saurashtra & Kutch, due to deficiency of Fe in soil, chlorosis is observed in groundnut crop; to control, spray Ferrus Sulphate @ 100 gm with 10 gm Citric acid in 10 litres of water; for 1 ha prepare 500 litre solution.
- **Animal Husbandry**
- In Gujarat, keep animals indoors and keep fodder in safe place to avoid spoilage due to rainfall. Provide 30-35 gm mineral mixture in daily diet.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Balaghat, Chhatarpur, Chhidnara, Damoh, Sagar and Tikamgarh, in Gwalior and Sheopur Kalani districts of West Madhya Pradesh, all districts of Chhattisgarh except Bemetara, Durg and Kabirdham, during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Chhattisgarh during the period, at many places over East Madhya Pradesh during the period, over West Madhya Pradesh on 10th, along with heavy to very heavy rain at isolated places over Chhattisgarh on 11th, heavy rain at isolated places over East Madhya Pradesh on 10th, 12th and 13th, over Chhattisgarh on 11th and 13th August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
- **Madhya Pradesh:**
 - In West Madhya Pradesh, continue transplanting of brinjal, chilli, tomato, early cauliflower and *kharif* onion. Continue transplanting of rice. Continue intercultural operations in soybean and maize. Apply 1/3 dose of recommended nitrogen fertilizer in form of urea in maize. Undertake intercultural operations in green gram, black gram, red gram to conserve soil moisture. Apply irrigation in vegetables as per requirement.
 - In Malwa Plateau Zone, continue transplanting of new saplings of fruit plants. If germination of soybean and maize is poor gap filling should be done. In Central Narmada Valley Zone, where germination of normal crops is low, sowing of short duration crops, such as urad, moong, cowpea, kodo, kutki and ramtil etc. is recommended.
 - In East Madhya Pradesh, continue transplanting of brinjal, chilli and tomato. Continue transplanting of rice. Continue transplanting of onion. Continue weeding in rice and maize crops and apply the recommended nitrogen fertilizer after current spells of rain.
 - In Kymore Plateau and Satpura Hill Zone, undertake intercultural operations in rice, soybean and red gram after current spells of rain. Continue sowing of green gram and black gram.
 - In West Madhya Pradesh, to control stem rot disease in ginger and turmeric, spray Blitox 50 @ 2.5gm/litre solution on a non rainy day.
 - In East Madhya Pradesh, there is possibility of incidence of soybean diseases like leaf spot and anthracnose. For management spray pre mixed fungicide Tebuconazole + Sulphur @ 2 gm/litre or Thiophenate Methyl/Carbendazim @ 1 gm/ litre of water after current spells of rain.
- **Chhattisgarh:**
 - Continue intercultural operations in different *kharif* crops like rice, maize, arhar, groundnut, soybean, urad, moong, vegetables etc. after current spells of rain. Continue sowing of red gram, green gram and black gram in fallow field. Continue planting of banana, papaya, mango, guava etc. Continue nursery sowing of brinjal,

early tomato, chilli and onion in upland areas. If the upland area is still fallow, farmers are advised to sow the crop like horsegram and Niger.

- In Bastar Plateau Zone, earthing up should be done in colocasia, amahaldi, turmeric and elephant foot yam for effective rhizome formation and weed management. Transplanting of finger millet should be done up to 15th August.
- **Animal Husbandry**
- In Madhya Pradesh, cattle should be kept in shade and provide clean and fresh water two times a day. Vaccinate the cattle for control of FMD and HS disease.
- In Chhattisgarh, carry out vaccination of animals against Black Quarter, Anthrax and other disease. Create smoke in cattle house to prevent them from mosquitoes.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Himachal Pradesh except Kinnaur and Lahaul & Spiti, in Gurdaspur, Hoshiarour, Jalandhar and Ropar districts of Punjab, Ambala, Chandigarh, Karnal, Kurukshetra and Yamunanagar districts of Haryana, South Delhi district of Delhi, Badgam, Doda, Jammu, Kathua, Kulgam, Pulwama, Rajouri, Ramban, Reasi, Samba, Srinagar and Udhampur districts of Jammu & Kashmir, all districts of East Uttar Pradesh except Ambedkar nagar and Gazipur, in Badaun, Bareilly, Bijnaur, Jalaun, Jhansi, Jhotiba Phule Nagar, Mainpuri, Moradabad, Muzzaffarnagar, Pilibhit, Saharanpur and Shahjahanpur districts of West Uttar Pradesh, all districts of Uttarakhand during the week. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Uttarakhand during the period, over Himachal Pradesh from 11th to 14th, at many places over Jammu & Kashmir from 12th to 14th, over Uttar Pradesh from 11th to 14th, over Haryana, Chandigarh & Delhi on 12th and 13th, along with heavy to very heavy rain/heavy rain at isolated places very likely over Uttarakhand from 10th to 13th, over Himachal Pradesh from 11th to 13th, heavy rain at isolated places over Haryana, Chandigarh & Delhi on 12th and 13th, over Jammu & Kashmir and Punjab on 12th, over Uttar Pradesh from 11th to 13th, over East Uttar Pradesh on 14th August, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Jammu & Kashmir:**
 - Undertake second hoeing/weeding in rice where the crop is at 35 days after transplanting and apply 2nd dose of nitrogenous fertilizer as top dressing after current spells of rain. Continue nursery raising of cole crops and land preparation for sowing carrot seed. Continue cultivation of *Calocybe indica* (Milky mushroom). Continue intercultural operations in pulses and maize after current spells of rain. Undertake picking up of matured tomato, brinjal, capsicum, okra and broccoli in clear weather. Continue planting of new orchards and gap filling. Provide adequate drainage facility in pulses and saffron fields.
 - Weather is congenial for attack of stem borer on paddy. If observed apply Carbofuron 3G @ 20 kg/ha in standing water and do not drain or irrigate the field for 72 hours after application.
 - Install yellow sticky traps @ 5 per kanal for the control of small insects like white fly, jassids, hoppers which are responsible for yellow mosaic virus (YMV) in okra.
 - **Uttarakhand:**
 - In unirrigated (rainfed) mid hilly regions, arrangement of the seeds of early variety of pea should be done for sowing in the mid of August. Provide proper drainage in *kharif* maize, pulses and vegetables fields. Undertake picking up of matured cucurbits and vegetables like tomato, capsicum, chilli in clear weather. Continue planting of orchards like mango, guava, lemon, papaya, litchi etc. Continue intercultural operations in maize and rice after current spells of rain.
 - **Himachal Pradesh:**
 - Make bunds for conserving rain water in the rice fields. Bund should be higher and wider so that more rain water can be conserved in the field. Continue intercultural operations in *kharif* pulses like mung, mash soybean, cowpea and kulthi and sowing of peas, turnip, carrot, spinach etc. in high hilly regions after current spells of rain. Continue transplanting of tomato brinjal, chilli and capsicum in polyhouse. Provide adequate drainage facility in pulse crop fields.
 - Weather is congenial for attack of blast and brown spot on paddy. To control spray Carbendazim @ 2 g per litre of water after current spells of rain.
 - Weather is conducive for stalk rot and stem borer in maize, to control stalk rot drench maize fields with bleaching powder @ 16 kg/ha a week before tasseling and to control stem borer put pinch of Thimate granules in affected plants after current spells of rain.
 - **Punjab, Haryana & Delhi:**
 - In Punjab, in transplanted rice, apply second and third dose urea @ 37 kg per acre. Continue transplanting of early cauliflower. Continue sowing of *kharif* moong and mash. Continue weeding and hoeing in sugarcane,

maize, pulses, vegetables and orchard crops. Continue sowing of radish in Western Plain Zone. In Western Zone, apply 4 sprays of 2 % Potassium Nitrate (13-0-45) solution in cotton at weekly intervals, starting at flower initiation.

- In Haryana, maintain 5-6 cm standing water upto maximum tillering stage in rice fields. Undertake weeding in rice. Continue intercultural operations in guar and bajra. Continue transplanting of vegetables. Continue intercultural operations in sugarcane in clear weather.
- In Delhi, continue sowing of green gram, black gram and transplanting of onion. Continue transplanting of chilli, brinjal and cauliflower. Continue sowing of baby corn and sweet corn. Undertake preparation of nurseries of cauliflower for mid season (Nov.-Dec.) and sowing of carrot on raised bed. Provide proper arrangement for drainage of water from pulses and vegetable fields.
- In Punjab, in case severe attack of thrips and jassids in cotton, spray the crop with Ulala 50 WG @ 80 g in 100 litres of water per acre. Parawilt in cotton plants can be checked by spraying Cobalt Chloride @ 10 mg/litre of water on the affected plants at the initial stage of wilting. Undertake plant protection measures on a non rainy day.
- In Haryana, for control of leafhopper infestation in cotton, spray Imidacloprid (Confidor) 200 SL @ 40 ml/120-150 litre of water per acre on a non rainy day.
- **Uttar Pradesh:**
 - In East Uttar Pradesh, continue transplanting of onion, cauliflower, brinjal, chilli and tomato and complete transplanting of rice. Continue intercultural operations in moong, urad, red gram, bajra, jowar and soybean crops after current spells of rain. Undertake planting of mango, ber, guava, lime etc. in new orchard.
 - In West Uttar Pradesh, continue transplanting of rice South Western Semi Arid Zone. Continue sowing of bajra, jowar, green gram and black gram. Continue transplanting of vegetables and sowing of cucurbits and okra.
- **Rajasthan:**
 - In East Rajasthan, continue intercultural operations in moong and urad and thinning operation in pearl millet and sorghum. Continue earthing up in cotton and maize. Continue planting of fruit crops like mango, plum, pomegranate, aonla etc. Undertake picking up of matured pods of cluster bean (guar). Undertake transplanting papaya seedlings.
 - In West Rajasthan, continue intercultural operations in cotton and groundnut. Apply irrigation in guar, sugarcane and rice as per requirement. Apply Nitrogen @ 20 kg per hectare in sesame and pearl millet crops. Start planting new seedlings of kinnow in already prepared pits in the field.
 - In Arid Western Plain Zone, continue sowing of cluster bean and moth bean instead of pearl millet as late sown crop.
 - In Arid Western Plain Zone, to control white fly in cotton, spray Triazophos 40 EC @ 2.5 ml per litre of water.
- **Animal Husbandry**
 - In Jammu & Kashmir, mineral mixture should be supplemented in diet. Give vaccination against FMD. Provide adequate amount of fresh cool and clean drinking water. Increase protein content in animal ration by 2%.
 - In Himachal Pradesh get the cattles vaccinate against the Foot and Mouth Disease (FMD) & Black Quarter and keep the animals shed dry, neat and clean. Got the cow dung test for the treatment of stomach bugs if any. Spray 5 ml Sypermethrin or Amitrar mixture (2 ml /1 litre of water) on the floor and walls of the cattle sheds.
 - In Uttarakhand possibility of occurrence of Langra fever in cattle, vaccinated them with consultation of veterinarian.
- **Apiculture:**
 - In Jammu & Kashmir, migrate bee colonies to safer areas having bee flora. Provide sugar feeding/artificial diet. Protect bee hive from wax moth and ants. Unite weak bee colonies. Protect colonies from rain.
 - In Himachal Pradesh examine colonies for barroa mites. Dust sulphur on sealed brood in the colony and not on larvae to control mites attack on honeybees. For protection of ants put the legs of apiary into water so that ants could not attack apiary.

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