



National Agromet Advisory Service Bulletin

Friday 31st August 2018

(For the period 31st August to 5th September 2018)



Issued by

India Meteorological Department

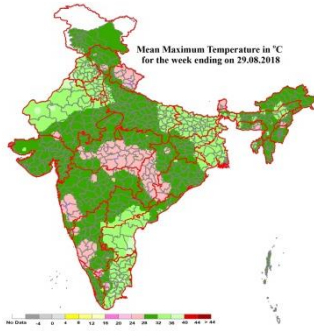
Weblink For

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

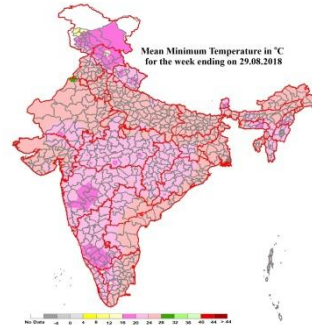
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Spatial distribution of weather parameters for the week ending on 29.08.2018

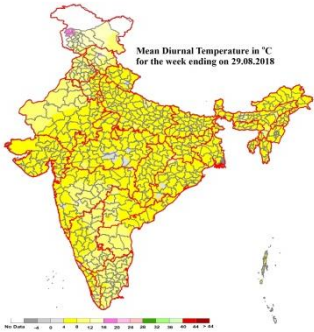
Mean Maximum Temperature (°C) for the week ending on 29.08.2018



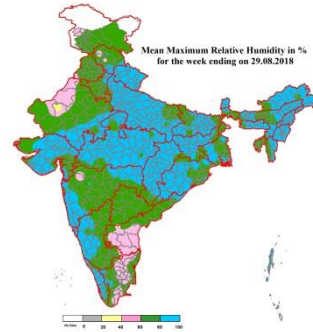
Mean Minimum Temperature (°C) for the week ending on 29.08.2018



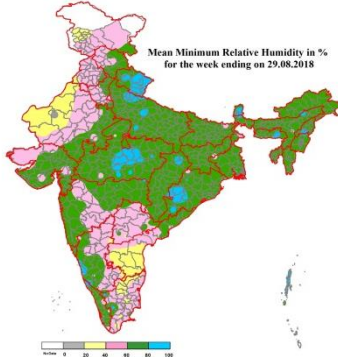
Mean Diurnal Temperature Variation (°C) for the week ending on 29.08.2018



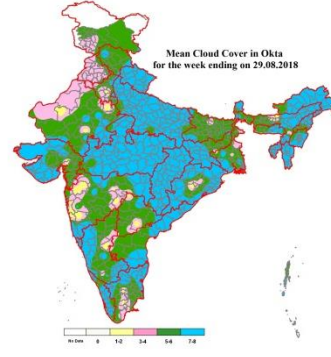
Mean Maximum Relative Humidity (%) for the week ending on 29.08.2018



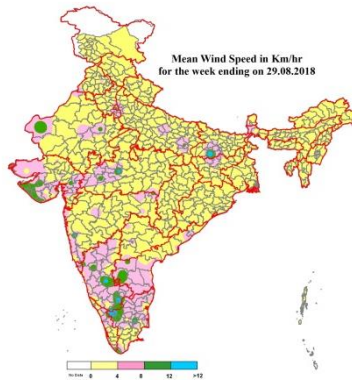
Mean Minimum Relative Humidity (%) for the week ending on 29.08.2018



Mean Cloud Cover (okta) for the week ending on 29.08.2018

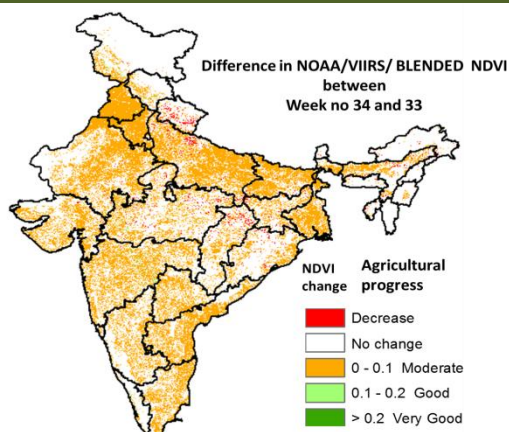
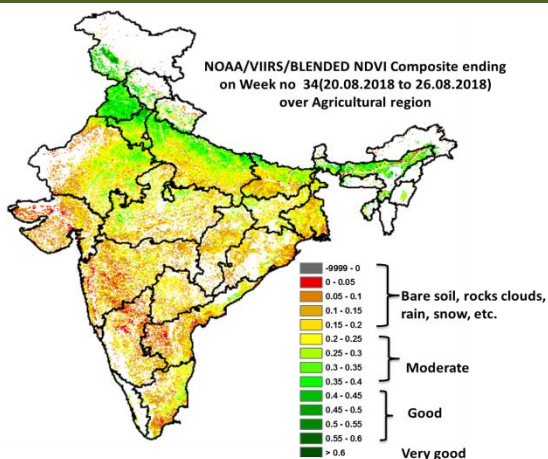


Mean Wind Speed (km/hr) for the week ending on 29.08.2018



NOAA/VIIRS/BLENDED NDVI composite for the week ending on 26th August 2018 over Agricultural regions of India

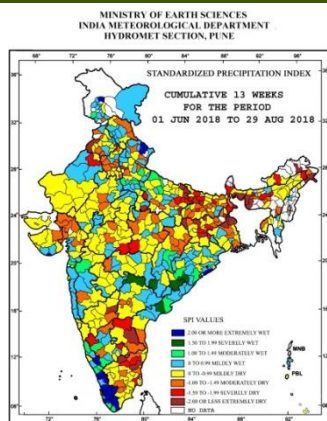
Difference in NOAA/VIIRS/BLENDED NDVI between 19th August and 26th August 2018



- Agriculture vigour is good to very good over few places in Uttarakhand and adjoining Uttar Pradesh and Haryana and in isolated parts of Punjab, Himachal Pradesh and Jammu & Kashmir, it is moderate over most parts of North Eastern states and remaining parts of Punjab; many parts of Sub-Himalayan West Bengal, Northern part of Bihar, West Madhya Pradesh, East Rajasthan, Himachal Pradesh, remaining parts of Uttar Pradesh, Haryana and Jammu & Kashmir; few parts of Jharkhand, Northern part of Chhattisgarh, Odisha, Gangetic West Bengal and East Madhya Pradesh and isolated parts of Tamilnadu, South Bihar. 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 parts of Jammu & Kashmir, Himachal Pradesh East Madhya Pradesh and Marathwada region.

**Standardised Precipitation Index
Cumulative 13 weeks for the period 1st June to 29th August 2018**

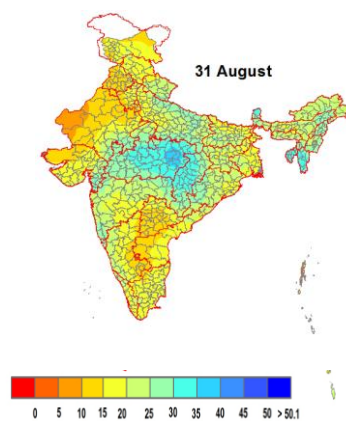


- Extremely/severely wet conditions experienced in few districts of Kerala; Koraput, Puri, Rayagada districts of Odisha; Bandipore district of Jammu & Kashmir, Chamoli district of Uttarakhand; Diu district of Saurashtra, Kutch & Diu; Bijapur district of Chhattisgarh; West Godavari district of Andhra Pradesh; Adilabad district of Telangana; Theni, Tirunelveli districts of Tamil Nadu & Puducherry; Kodagu district of Karnataka.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh; Assam; West Bengal; Jharkhand; West Garo Hills district of Meghalaya; East Champaran, Muzaffarpur, Saharsa, Saran, Siwan, Vaishali, Arwal districts of Bihar; Azamgarh, Ballia, Chandauli, Deoria, Kanpur Dehat, Kushi Nagar, Mau, Maharajganj, Ghaziabad, Mahoba districts of Uttar Pradesh; Panchkula district of Haryana; Ferozepur district of Punjab; Hanumangarh district of Rajasthan; Betul, Chhindwara district of Madhya Pradesh; Cuddapah, Kurnool districts of Andhra Pradesh; Dharmapuri, Thanjavur, Tiruvannamalai, Viluppuram, Krishnagiri

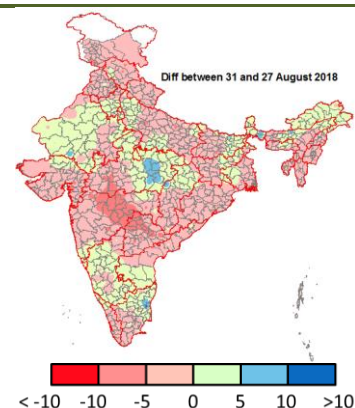
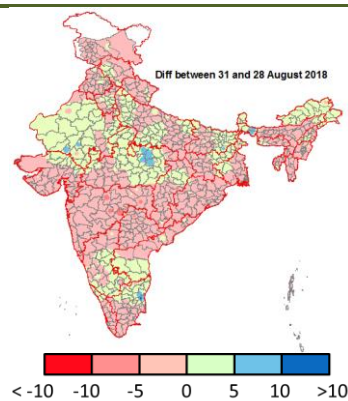
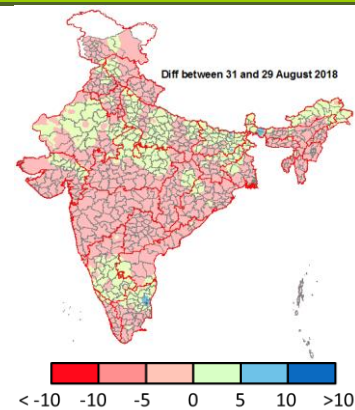
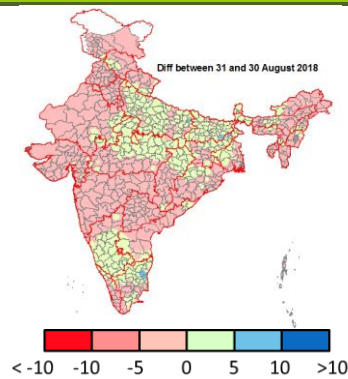
districts of Tamil Nadu & Puducherry; Yadgir, Shimoga, Chickballapur districts of Karnataka; Lakshadweep districts of Lakshadweep.

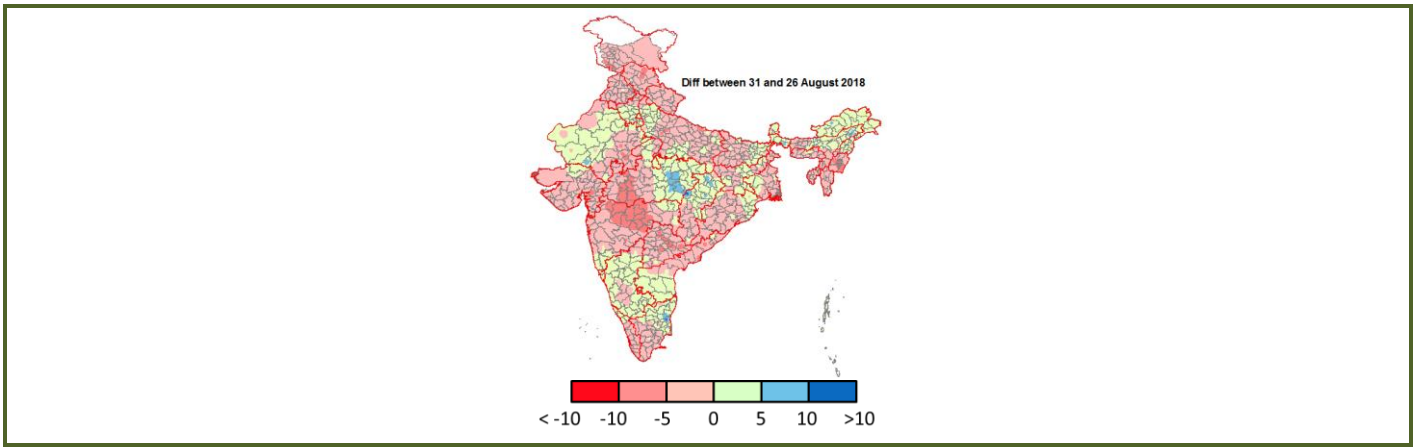
- Moderately dry conditions experienced in few districts of West Bengal; Bihar; Uttarakhand; Gujarat Region; Chhattisgarh; Lohit district of Arunachal Pradesh; Cachar, Goalpara, Hailakandi, Kamrup Metro districts of Assam; Ri-Bhoi district of Meghalaya; West Tripura district of Tripura; Deoghar, Dhanbad, Godda, Palamu, Jamtara districts of Jharkhand; Fatehpur, Jaunpur, Kaushambi, Bulandshahar, Rampur districts of Uttar Pradesh; Amritsar, Bhatinda, Kapurthala, Mansa districts of Punjab; Kinnaur, Lahaul & Spiti districts of Himachal Pradesh; Udhampur, district of Jammu & Kashmir; Bundi, Tonk districts of Rajasthan; Dewas, Rajgarh, Chhatarpur, Dindori, Sagar, Satna, Anuppur districts of Madhya Pradesh; Surendranagar district of Saurashtra, Kutch & Diu; Satara, Buldhana districts of Maharashtra; Nellore, Chittoor districts of Andhra Pradesh; Rangareddy district of Telangana; Cuddalore, Dindigul, Madurai, Nagapattinam, Namakkal, Vellore districts of Tamil Nadu & Puducherry; Raichur, Bellary, Hassan districts of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/mildly wet conditions.

Daily Soil Moisture (mm) for 31st August 2018 (ending at 0830 IST) for 60 cm depth

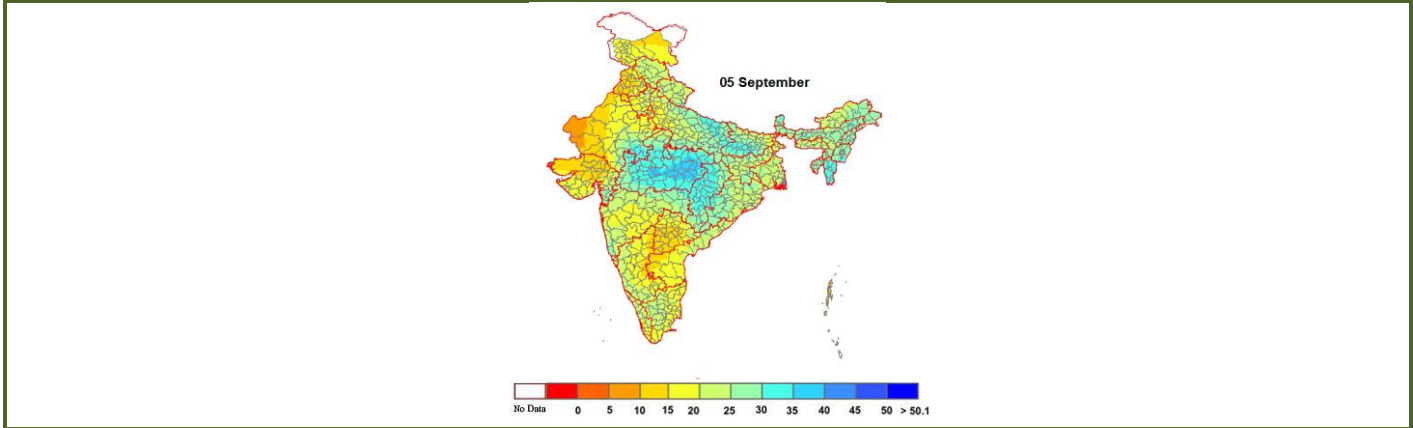
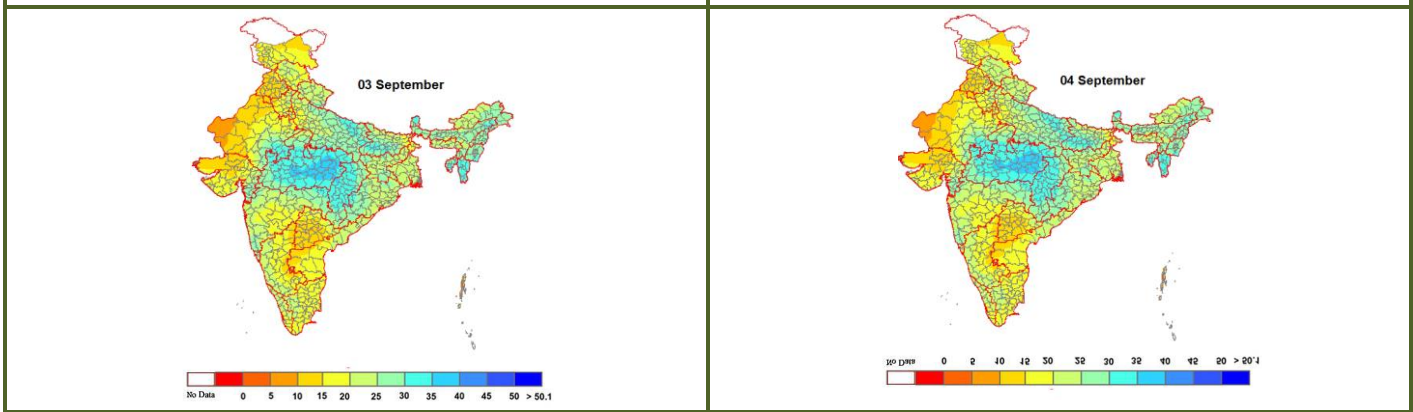
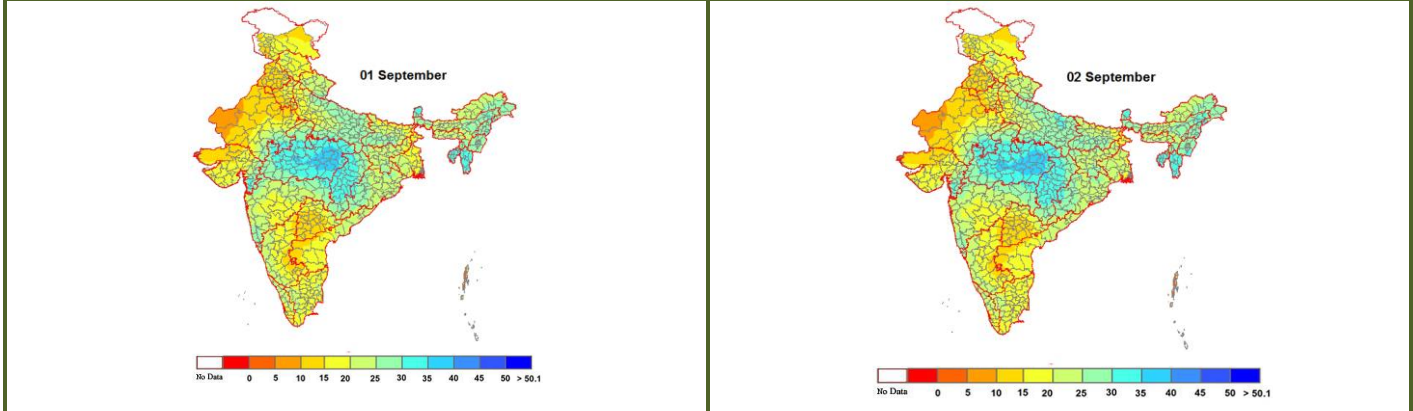


Difference of Soil Moisture (mm) for 60 cm depth





Forecasted Soil Moisture (mm) from 1st to 5th September 2018 (ending at 0830 IST) for 60 cm depth



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

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

5 Day Rainfall Forecast (Mid day) 31st August 2018

Met-Sub-Division	31-Aug Today	01Sep Sat	02Sep Sun	03Sep Mon	04Sep Tue
1. Andaman & Nicobar Islands	WS	FWS	FWS	FWS	FWS
2. Arunachal Pradesh	WS	WS	WS	FWS	FWS
3. Assam & Meghalaya	SCT	WS	WS	FWS	FWS
4. N. M. M. & T.	FWS	WS	WS	FWS	FWS
5. S.H. West Bengal & Sikkim	WS	FWS	FWS	FWS	FWS
6. Gangetic West Bengal	WS	WS	WS	WS	WS
7. Odisha	FWS	FWS	FWS	FWS	FWS
8. Jharkhand	WS	WS	WS	FWS	FWS
9. Bihar	FWS	FWS	WS	WS	WS
10. East Uttar Pradesh	FWS	WS	WS	FWS	FWS
11. West Uttar Pradesh	WS	WS	WS	WS	FWS
12. Uttarakhand	WS	WS	WS	WS	FWS
13. Haryana, Chd & Delhi	SCT	SCT	FWS	FWS	SCT
14. Punjab	ISOL	ISOL	ISOL	ISOL	ISOL
15. Himachal Pradesh	FWS	FWS	FWS	FWS	SCT
16. Jammu & Kashmir	ISOL	ISOL	SCT	SCT	SCT
17. West Rajsthan	ISOL	ISOL	ISOL	ISOL	DRY
18. East Rajasthan	SCT	FWS	FWS	FWS	SCT
19. West Madhya Pradesh	WS	WS	WS	FWS	FWS
20. East Madhya Pradesh	WS	WS	FWS	FWS	FWS
21. Gujarat Region	SCT	SCT	SCT	ISOL	ISOL
22. Saurashtra & Kutch	SCT	SCT	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	FWS	FWS	FWS
28. Coastal Andhra Pradesh	ISOL	ISOL	ISOL	ISOL	ISOL
29. Telangana	SCT	ISOL	ISOL	ISOL	ISOL
30. Rayalaseema	ISOL	ISOL	ISOL	ISOL	ISOL
31. Tamilnadu & Puducherry	SCT	ISOL	ISOL	ISOL	SCT
32. Coastal Karnataka	FWS	FWS	FWS	FWS	FWS
33. North Interior Karnataka	FWS	FWS	SCT	SCT	SCT
34. South Interior Karnataka	FWS	FWS	SCT	SCT	SCT
35. Kerala	FWS	FWS	SCT	SCT	SCT
36. Lakshadweep	FWS	SCT	SCT	SCT	SCT

% Station Reporting Rainfall

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

Weather Warning during next 5 days

- **31 August (Day 1):** Heavy to very heavy rain at isolated places very likely over West Uttar Pradesh and heavy rain at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, South Interior Karnataka and Tamilnadu & Puducherry.
- **01 September (Day 2):** Heavy to very heavy rain at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura and heavy rain at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Jharkhand, Gangetic West Bengal and Odisha.
- **02 September (Day 3):** Heavy to very heavy rain at isolated places very likely over Nagaland, Manipur, Mizoram & Tripura and heavy rain at isolated places over Uttarakhand, Haryana, Chandigarh & Delhi, Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya and Konkan & Goa.
- **03 September (Day 4):** Heavy rain at isolated places likely over Uttarakhand, Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Rajasthan, Bihar and Nagaland, Manipur, Mizoram & Tripura.
- **04 September (Day 5):** Heavy rain at isolated places likely over Uttarakhand, Bihar and Tamilnadu & Puducherry.

Weather Outlook for subsequent 2 days from 5th to 7th September 2018

- Fairly widespread to widespread rainfall activity with isolated heavy falls likely over northern plains, east and northeast India.
- Isolated to scattered rainfall likely over the rest of the country.

Salient Advisories

- As rain/thundershowers likely at most/many places over **Nagaland, Manipur, Mizoram & Tripura** and **Arunachal Pradesh** during the period, over **Assam & Meghalaya** from 1st to 4th September along with heavy to very heavy rain at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya on 1st, over Nagaland, Manipur, Mizoram & Tripura on 1st and 2nd, heavy rain at isolated places very likely over Nagaland, Manipur, Mizoram & Tripura on 31st August and 3rd September, over Assam & Meghalaya on 2nd, over Arunachal Pradesh on 31st August and 2nd September, avoid irrigation, 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. Avoid stagnation of water in groundnut and maize fields.
- As rain/thundershowers likely at most/many places over **Uttarakhand** and **Uttar Pradesh** during the period, at many places over **Himachal Pradesh** from 31st August to 3rd September, over **East Rajasthan** from 1st to 3rd September, over **Haryana, Chandigarh & Delhi** on 2nd and 3rd September, along with heavy to very heavy rain at isolated places very likely over West Uttar Pradesh on 31st August, heavy rain at isolated places over Uttarakhand during the period, over East Rajasthan from 31st August to 3rd September, over East Uttar Pradesh on 31st August, over Uttar Pradesh on 1st and 2nd September, over Haryana, Chandigarh & Delhi on 2nd and 3rd September and over West Uttar Pradesh on 3rd September, avoid irrigation, 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.
- In view of the rain/thundershowers likely at most places over **Gangetic West Bengal**, most /many places over **Sub-Himalayan West Bengal & Sikkim, Odisha, Bihar, Jharkhand** and **Andaman & Nicobar** islands during the period along with heavy rain very likely at isolated places over Jharkhand and Gangetic West Bengal from 31st August to 2nd September, over Odisha on 31st August and 1st September, over Bihar from 2nd to 4th and over Sub-Himalayan West Bengal & Sikkim on 2nd September, avoid irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in maize, groundnut ginger, turmeric and vegetable fields.
- In flood affected areas of Upper Brahmaputra Valley Zone of **Assam**, farmers may transplant aged seedlings of rice like Swarna Sub-1, Monoharsali, Andreusali, Prasadbhog etc. at a closer spacing with more number of seedlings per hill (6-7 seedlings/hill). Apply recommended dose of urea, SSP and MOP fertilizer along with sufficient organic manure. Continue transplanting of 60-70 days old seedlings of Gitesh and Prafulla in the main fields. Complete the planting of Assam lemon seedlings in the main field within first fortnight of September. To drain out excess water from the field, it is advised to provide surface drains at regular intervals.
- In Kottayam district of **Kerala**, in areas where rice seedlings are of appropriate age, go for transplanting of rice after draining out excess water. For medium duration varieties, adopt spacing of 20 x 10 cm and for short duration, 15 x 10 cm. Leave wider row of 30 cm after every 3 m to facilitate spraying and other cultural operations. Tapping in rubber can be resumed. Repair damaged rain guards on the tapping panels.
- In **Royalaseema**, farmers are advised to continue sowing of contingency crops like red gram, castor, cowpea, korra, bajra and horse gram instead of rainfed groundnut as there will be yield reduction in late sown crop. In **North Interior Karnataka**, complete sowing of red gram (late sown -August month) crop with 25% higher

seed rate under sufficient moisture condition.

- In **Marathwada**, to control leaf eating caterpillar in soybean, spray Chlorantraniliprole 18.5 % @ 60 ml per acre or Indoxarab 15.8 % @ 140 ml per acre. To control Anthracnose in soybean, spray Tebuconazole 90 % WP + Sulfur 65 % WG @ 25 g per 10 liter of water.

Detailed Agromet Advisories

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

- **Realised Rainfall:** Rainfall occurred in Kannur, Idukki, Kasaragod, Kottayam, Kozhikode and Wayanad districts of Kerala, all districts of Coastal Karnataka, Belgavi district of North Interior Karnataka, Chikamangaluru, Kodagu and Shivamogga districts of South Interior Karnataka, Srikakulam, Visakhapattanam, Vizianagaram and West Godavari districts of Coastal Andhra Pradesh, Adilabad, B. Kothagudem and J. Bhupalpally districts of Telangana and in Ariyalur, Kanchipuram, Nagapattinam, Sivaganga and Tiruvarur districts of Tamil Nadu and Puducherry during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at many places over Coastal Karnataka during the period, over Interior Karnataka and Kerala on 31st August and 1st September, along with heavy rain at isolated places likely over South Interior Karnataka on 31st August and over Tamilnadu & Puducherry on 31st August and 4th September, avoid intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - **Kerala:**
 - In Kottayam district, in areas where rice seedlings are of appropriate age, go for transplanting of rice after draining out excess water. For medium duration varieties, adopt spacing of 20 x 10 cm and for short duration, 15 x 10 cm. Leave wider row of 30 cm after every 3 m to facilitate spraying and other cultural operations. Tapping in rubber can be resumed. Repair damaged rain guards. Take care of tapping panels. Continue harvesting Nendran and undertake planting of new Nendran banana (pit size 50x50x50 cms at a spacing of 2x2 m).
 - Watch the pseudostem of banana for the attack of pseudostem weevil. Spray Clorpyrifos 2ml /litre of water in four months old plants. Do not use any insecticide after bunching. Spray the solution of Lamdacyhalothrin insecticide 3ml + Copper Oxychloride fungicide 5g dissolved in 5 litres of water for mosquito bug – blight disease complex in Cashew plants at flushing stage. To control rice bug in paddy, spray Malathion @ 2 ml per litre of water either before 9 am or after 3 pm to avoid adverse effect on pollination. For controlling fruit fly erect fruit fly traps. Spraying Beauveria bassiana 10% WP, (200g/10 litre/cent) is also found to be effective. Undertake plant protection methods after current spells of rain.
 - **Andhra Pradesh:**
 - In Coastal Andhra Pradesh, in case of transplanting of aged seedlings of rice, transplant 44 hills/sq. meter to reduce the yield losses to some extent. Apply recommended doses of fertilizers to crops like paddy, BT cotton, red gram, black gram, green gram and bajra. Carry out earthing up after 120 days age of sugarcane crop. To prevent lodging, provide TT propping to sugarcane crop by leaving top eight leaves.
 - In Rayalaseema, take up sowing of contingency crops like red gram, castor, cowpea, kora, bajra and horse gram instead of rain-fed groundnut as there will be yield reduction in late sown crop. As iron deficiency was observed in rice in few parts, spray Ferrous Sulphate @ 5gm/litre of water 2 times at 7 days interval.
 - In Coastal Andhra Pradesh Spray Emamectin benzoate @ 4g/ 10 litres of water for Fall army worm on maize at vegetative to tasseling stage. Spray Hexaconazole @ 2 ml or Propiconazole @ 1 ml per litre of water for sheath blight in paddy. As there is forecast for dry weather, early shoot borer incidence may occur in rain fed sugarcane crop. To control, spray Monocrotophos @ 1.6 ml or Acephate @ 1.5 g/litre of water.
 - In Rayalaseema, present weather conditions are favourable for sucking pests in groundnut. Spray Monocrotophos @1.6 ml or Imidacloprid 0.3ml or Dimethoate @ 2 ml per litre of water for control of sucking pests in groundnut. The present weather conditions are favourable for leaf mite in paddy. To control, spray Prophenophos @ 2 ml per litre of water. The present weather conditions are favourable for fall army worm and grain pod borer in maize. To control spray Thiomethoxam @ 2.5 ml. + Lamda Cyhalothrin @ 10 ml/10 litres of water @ 200 L per acre. To control sucking pests in blackgram and greengram, spray Monocrotophos @ 1.6 ml or Dimethoate @ 2 ml per litre of water.
 - **Telangana:**
 - Continue transplanting of paddy seedlings and Chillies.
 - Prevailing weather conditions are congenial for the incidence of hispa and stem borer in rice. To control hispa, spray Quinalphos or Prophenophos @ 2 ml or Chlorpyrifos @ 2.5 ml per litre of water. For stem borer, apply Cartap Hydrochloride 4G @ 8kg per acre. The incidence of Stem Fly and Stem Girdler is noticed in Soybean. To control, spray Dimethoate @ 2 ml per liter or Quinalphos @ 2 ml + Neem seed kernel extract (NSKE) @ 5

ml per liter or Chlorantriliprole @ 0.3 ml per liter of water. 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. Undertake plant protection measures on a non-rainy day.

- The incidence of Castor Semilooper is noticed in crop sown during 2nd fortnight of June in Jogulamba_Gadwal, Wanaparthi and Mahabubnagar Districts. Monitor the spread of the pest. Arrange bird perches @ 8-10 per acre. To control early instar larvae spray Neem oil @ 5 ml or BT @ 1 g per litre of water. Under severe incidence of pests, spray Acephate @ 1.5 g or Thiodicarb @ 1.5g per litre of water. The incidence of cut worm is noticed in paddy in Nalgonda, Khammam and Nizamabad districts. To control, spray Chlorantriliprole @ 0.3 ml per liter of water.

- **Tamil Nadu:**

- Continue land preparation for transplanting of Samba rice varieties like CR 1009 (Sub 1), ADT 50 and ADT 51. Dry seeding with seed drill can also be taken up. Treat seeds with pseudomonas fluorescence 10g/kg of seed before sowing. Complete the Combodia cotton sowing immediately. Continue land preparation for sowing of irrigated as well as rain-fed maize crop. By utilizing rainfall and conducive weather Tomato seedling may be transplanted in ridges and furrows. Apply irrigation to the planted fruit trees and other horticultural crops as rainfall is low.
- Undertake preparatory tillage for cultivation for dry lands by utilizing the recent rainfall as well as the expected rain in the coming days for raising crops as pre-monsoon sowing during the ensuing north east monsoon season. The rice farmers are advised to raise green manure crops like dhaincha using the recent rainfall by adopting the seed rate of 50 kg/ ha in order to improve the soil fertility and reduce the cost of fertilizer for succeeding Pishanam rice.
- Incidence of black bug is being noticed in the *kuruvai* paddy. To control this pest, spray Acephate @ 400 g per 200 litre of water for one acre. To control the incidence of sucking pest in the vegetable crops, spray neem seed kernel extract 5%. Due to present weather, thrips insect attack is observed in samba paddy nursery. Spray Monocrotophos @ 2ml per litre of water.

- **Karnataka:**

- In Coastal Karnataka, continue planting of arecanut and pepper. Continue intercultural operations in maize and cotton crops after current spells of rain. To avoid the Zinc deficiency in rice field, apply Zinc Sulphate @ 20 kg / ha.
- In South Interior Karnataka, complete transplanting of rice and ragi and continue sowing of short duration crops like cowpea (vegetable purpose), field bean, horse gram, Foxtail millet, Little millet, Kodo millet, ragi crops. Carry out mulching in red gram and maize crops by using the residues of weeds, Gliricidia and other green manure crops grown on the bunds, borders and along the drainage lines. 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. Adopt crop rotation with rai, maize in vegetable crop fields.
- In North Interior Karnataka, complete sowing of red gram (late sown -August month) crop with 25% higher seed rate under sufficient moisture condition. In shallow and red soils continue sowing of bajra, sunflower, Setaria (Navane), horsegram and in medium black to deep black soils, sowing of sunflower, cotton, fodder crops. Continue intercultural operations in pigeon pea, soybean and maize crops to conserve soil moisture. Prepare the ridges and furrows and compartment bunds in the lands reserved for *rabi* sowing so as to conserve moisture in the soil which will be helpful for the *rabi* crops.
- In North Interior Karnataka, wherever stem borer infestation is noticed in maize crop, for control, spray Chlorantriliprole @ 0.2 ml/litre of water after current spells of rain. Spray Acephate @ 1g/litre of water against thrips and aphids in chilli after current spells of rain.
- In South Interior Karnataka, most of the rice growing soil is deficit of Zinc; apply Zinc Sulphate @ 8kg /acre after current spells of rain; it can be applied separately without mixing with chemical fertilizers.

- **Animal Husbandry**

- In Karnataka, vaccinate the animals against the diseases like Foot & Mouth disease, Haemorrhagic Septicaemia and Black Quarter. Vaccinate (ET vaccine) sheep and goats against Enterotoxemia.
- In Kerala, there are chances of contagious disease in cattle during monsoon season. Avoid grazing in water logged areas. Take vaccination from nearby veterinary clinics. Keep hygienic conditions in sheds to prevent mastitis disease in cows. Consult veterinary doctor for medication.

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. To prevent cattle from Foot and mouth disease (FMD), contact your nearby veterinarian and vaccinate your cattle on 8th, 12th & 16th week old of its age and once in every 4 months.

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

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh except Changlang, Dibang Valley and East Kameng, all districts of Assam except Bongaigaon, Darrang, Dhemaji and Morigaon, all districts of Meghalaya except West Khasi Hills, all districts of Mizoram, Imphal East and Imphal West districts of Manipur, all districts of Nagaland and all districts of Tripura except West 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 and Arunachal Pradesh during the period, over Assam & Meghalaya from 1st to 4th September along with heavy to very heavy rain at isolated places very likely over Arunachal Pradesh, Assam & Meghalaya on 1st, over Nagaland, Manipur, Mizoram & Tripura on 1st and 2nd, heavy rain at isolated places very likely over Nagaland, Manipur, Mizoram & Tripura on 31st August and 3rd September, over Assam & Meghalaya on 2nd, over Arunachal Pradesh on 31st August and 2nd September, 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:**
 - Carry out weeding in rice fields and earthing up of exposed rhizomes in ginger field after current spells of rain. Undertake immediate sowing of certified seeds of crops like French bean, pumpkin and okra. Harvest mature cobs of maize and use stubs as fodder for livestock. In present weather conditions, harvesting of early maturing Jhum rice may be done only in clear weather/dry days.
 - Monitor rice crop against sheath blight. For control, spray Sheathmar @ 3 gram per litre of water. Strictly monitor gundhi bug in kharif rice. Manually collect and destroy adults and nymph at this stage of crop to manage pest population. If population level is high, apply Carbaryl or Malathion dust. Undertake plant protection methods after current spells of rain.
 - **Assam:**
 - Continue sowing black gram and green gram after current spells of heavy rain. Select improved varieties like T-9, T-27, Pant U 19, T-122, Saonia mah (SB121), KU 301 and USJD113 for black gram and T44, Kopergaon, K851, ML56, ML131, SG1 (Pratap), SGC16, SGC20, Sonai (SG21-5) etc for green gram. Carry out hoeing and weeding operations in all crop and vegetable fields. Weather is favorable for preparation of nursery bed for winter vegetables. Prepare nursery beds with application of cowdung @ 10 tones per ha of land and with minimum application of chemical fertilizer for winter vegetables after current spells of heavy rain. Select recommended varieties like Pusa Synthetic, Pusa Snowball, Improved Japanese, etc., for mid sowing of Cauliflower seeds. Well drained loam to clay loam soil is suitable for mid and late varieties. Undertake land preparation and sowing of radish.
 - In flood affected areas of Upper Brahmaputra Valley, farmers may transplant aged seedlings of rice like Swarna Sub-1, Monoharsali, Andreusali, Prasadbhog etc. at a closer spacing with more number of seedlings per hill (6-7 seedlings/hill). Apply recommended dose of urea, SSP and MOP fertilizer along with sufficient organic manure. Continue transplanting of 60-70 days old seedlings of Gitesh and Prafulla in the main fields. Complete the planting of Assam lemon seedlings in the main field within first fortnight of September. To drain out excess water from the field, it is advised to provide surface drains at regular intervals.
 - In rainy weather condition papaya plant get affected by mosaic and leaf curl diseases. For effective control of the diseases rouge out the affected plant or spray with Rogar @ 0.1%. In present weather conditions, constantly monitor for brown plant hopper (BPH) in paddy field. If insect population is above ETL, spray Imidacloprid 17.8 % SC@ 1ml / 3 litres or Fenobucarb 50 EC @ 1 ml/litre or Buprofezin 25 EC @ 2 ml/ litre of water. Undertake plant protection methods after current spells of rain.
 - **Meghalaya:**
 - Prepare nursery bed for sowing of cole crops after current spells of heavy rain. 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. Maintain 5 cm of standing water in rice field. Keep the field free of weeds. Continue sowing of French bean and cow pea. Maintain proper drainage in ginger, turmeric, maize and cucurbit fields. Harvest mature cobs of maize in mid and high altitude regions.
 - **Manipur:**
 - Carry out weeding and earthing up and provide drainage in black gram, rice bean, soybean and groundnut crops. After current spells of heavy rain, carry out land preparation for planting of early potato and also for production of seeds in foothills and upland areas with fertile and sandy loam soil. Complete the field preparation for sowing French bean for both dwarf and pole types Avoid water logged areas and too much wet soil and prefer raised beds.
 - In the rice field, spray Coragen 3-5 ml per 15 litres of water at early stage infestation of case worm, stem borer, gall midge, hoppers and thrips. Spray Carbendazim @ 0.5g / litre of water to control Tikka disease in groundnut. Spray Dichlorovos 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. Harvest all chilli and cucurbit crops and keep seeds for next season. 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. Maintain proper drainage in passion fruit, coffee, rubber and oil palm plantations and in maize, pulses and paddy fields. Carry out earthing up in ginger and turmeric crops. 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 at tillering stage. Harvest Aus rice in clear weather and keep it under shed. Carry out land preparation for sowing of black gram and green gram after current spells of heavy rain. Avoid stagnation of water in groundnut field. Reduce moisture stress in maize crop by proper plant populations, irrigation, drainage and weed control.

➤ There may be attack of Leaf Folder in Aman rice due to prevailing humid weather. The attack may be managed manually by flooding the field followed by dragging a roap across the field and draining out the water. The attack can also be managed by application of Cypermethrin+ Chloropyrophos 1ml per liter of water and application of urea in the field. There may be attack of White Gurb in groundnut. The attack may be controlled by soil application of 10% Phorate @ 10 kg/ha. Undertake plant protection methods after current spells of rain.

▪ **Nagaland:**

➤ Carry out earthing up in soybean, ginger and turmeric fields after current spells of heavy rain . Carry out timely harvesting in cucurbits and okra. Avoid injuries to cucurbit crops while harvesting and handling.

➤ Remove infested okra and brinjal fruits and shoots regularly and destroy them. Monitor TRC/WRC paddy against brown spots. Use mechanical methods such as smoking and hand picking of adults and nymphs to prevent gundhi bug attack in Jhum paddy at panicle initiation stage. Monitor TRC/WRC rice against brown spot at stem elongation stage.

• **Animal Husbandry**

➤ Keep the poultry house well ventilated during the day time. Change litter periodically and provide fresh and clean drinking water. Vaccinate poultry birds against Fowl pox, 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. To prevent mastitis in dairy cows, clean the floor of the dairy shed with suitable antiseptic solution. Wash and clean the udder of cows before and after milking.

• **Fishery**

➤ Give proper supplementary feeds along with rice bran, mustard oil cake, fish meal, minerals and vitamins; formulated feed etc. Splashing of water by hand or bamboo or by mechanical aerator is recommended to maintain optimum concentration of dissolved oxygen in the pond. To avoid insect infestation in nursery ponds, apply soap oil emulsion (mixture of cheap soap @ 2.5 kg and kerosene oil @ 13 litter per bigha of pond) and apply gently in nursery ponds.

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

• **Realised Rainfall:** Rainfall occurred in all districts of Andaman and Nicobar Islands except Nicobar, all districts of Bihar except Banka, Darbhanga, Jahanabad and Saharsa; in all districts of Jharkhand except Koderma and Pakur, in all districts of Odisha except Cuttack, Kendrapada and Nayagarh, in all districts of Gangetic West Bengal except Kolkata and in all districts of Sub-Himalayan West Bengal & Sikkim except Cooch Behar during the week. Weather remained mainly dry over rest of the region.

• **Advisories:**

➤ As rain/thundershowers likely at most places over Gangetic West Bengal, most /many places over Sub-Himalayan West Bengal & Sikkim, Odisha, Bihar, Jharkhand and Andaman & Nicobar islands during the period along with heavy rain very likely at isolated places over Jharkhand and Gangetic West Bengal from 31st August to 2nd September, over Odisha on 31st August and 1st September, over Bihar from 2nd to 4th and over Sub-Himalayan West Bengal & Sikkim on 2nd September, 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:**

➤ In Western Undulating Zone, top dress the transplanted rice with 50% of N (87kg urea /ha) at 21 days after

transplanting i.e. at active tillering stage. Before application of fertilizer drain out the excess water. Provide adequate drainage in the fields of pulses, maize and groundnut.

- Complete hoeing, weeding and earthing up in pigeon pea at six-seven week stage. Early sown maize crop is at 6 to 7 week stage. Apply 8 kg N/acre followed by earthing up. Continue nursery raising of tomato and brinjal and continue planting of lemon, banana, papaya and mango saplings after current spells of heavy rain.
- Ensure good drainage in the banana plantation. Due to the monsoon showers, there is chance of Sigatoka disease in banana. As a precaution, Spray *Pseudomonas* 20g/L. In case of severe attack, spray 1 g Bavistin by mixing it with gum in 1 liter of water on lower surface of the leaf.
- Prevailing weather is favourable for incidence of blast and leaf folder attack in transplanted rice. Apply Cartap hydrochloride 50 SP @ 1.25g/litre of water or Acephate 75 SP @ 1.5g/litre of water against leaf folder. In case of blast, apply Tricyclazole 75WP @ 0.6g/ litre of water or Isoprothiolane 40EC @ 1.5ml/ litre of water. Undertake plant protection methods after current spells of rain.

▪ **Bihar:**

- In view of the widespread rainfall with isolated heavy rainfall, provide adequate drainage in maize, groundnut and vegetable fields.
- In the upland areas, where rice could not be transplanted due to deficient rainfall, undertake land preparation for sowing of September Pigeon pea after current spells of heavy rainfall. Pusa-9 and Sarad varieties are recommended for sowing in North Bihar. Application of 20kg/ha Nitrogen, 45kg/ha Phosphorus, 20 kg/ha Potash and 20 kg Sulphur/ha is advised during land preparation. Seed should be treated with Thiram/Capton @ 2.5g/kg of seed. Intercultural operation is advised in July sown pigeon pea crop after current spells of rain.
- Planting of Rajendra parwal-1, Rajendra Parwal-2, FP-1, FP-3, Swarm rekha, Swarn alloki, IIVR-1, 2, 105 varieties of pointed guard is advised after current spells of heavy rain in North Bihar. Seed rate @ 2500 plants/hectare with planting distance of 2x2 meter are advised.
- Continue planting of new saplings of fruit plants such as mango, litchi, jackfruit, guava, custard apple, lemon etc. after current spells of heavy rain. Before planting, application of 40-50 kg FYM per plant is advised.
- Regular monitoring is advised for infestation of stem borer in rice crop at tillering stage. If infestation is observed, application of Cartap hydrochloride 4G(*Caldan*) @ 10kg/acre is advised to protect the crop.

▪ **Jharkhand:**

- Maintain optimum water level in transplanted rice. In fallow uplands, undertake sowing of Kulthi or Niger. 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 after current spells of heavy rain.
- Strengthen the bunds of the rice fields. Broadcast urea after 20-25 days of transplanting of rice. Undertake weeding before broadcasting. To control stem borer attack in rice, spray Monocrotophos 36 E.C. @ 1-2 ml per litre of water and mix Tipol in the solution or prepare the solution in soap water. In case of heavy infestation of the insect, apply granular insecticide like Carbofuran 3 G @ 12 kg per acre) or Forate 10 G (@ 4 kg per acre). However, at the time of broadcasting of granular insecticide, stagnant water in the field is essential. Undertake weeding in transplanted finger millet.

▪ **West Bengal:**

- In the Sub-Himalayan West Bengal, provide proper drainage facility in large cardamom, soybean, ginger and turmeric fields. Complete the retting of jute and extract the fiber from jute. After extraction, spread the fiber in sunlight for drying. Undertake sowing of black gram in uplands after seed treatment. Remove excess water from kharif vegetable fields to prevent rotting. Harvest mature fruits of round chilli.
- In Gangetic West Bengal, maintain proper water level in the Aman wet seeded paddy field. Keep the arrangement of weed free drainage channel. Weeding should be done at regular interval by hand weeding in the main field. Drain out excess water for avoiding damp condition inside the betel vine garden. Undertake sowing of sweet corn and baby corn on a raised bed. Complete the harvesting and retting of Jute as well as Mesta. Complete fiber extraction and spread in sunlight for drying. Complete the sowing of black gram after Seed treatment with Rhizobium after current spells of heavy rain.
- In Sub-Himalayan West Bengal, to control brown spot of rice, spray Hexaconazole @ 1ml/litre of water. For the management of cucurbitaceous fruit fly population, use pheromone traps. 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.
- In Gangetic West Bengal, drench the soil around brinjal, tomato and chilli seedlings with Diethane M-45@2.5g/litre of water for preventing wilting in sunny days. Apply systemic pesticide with sticker. For stem borer attack in Aman paddy, broadcast Cartap 4% granules or Carbofuran 3% G @ 10 kg/acre or Chlorpyrifos 20 EC @ 2 ml/ litre of water for effective control. If insect population of fruit borer, diamond back moth, etc. is above ETL in cabbage and cauliflower, spray Spinosad 1.0 ml/4 litres of water under clear sky conditions. Spray Dimethoate 30% EC@ 1ml/lit of water at clear weather condition to control sucking pests in chilli. In case of Falsa disease and burning symptom on leaf near ground level in betel vine, Pluck the affected leaf from field and apply 0.5% Bordeaux mixture

▪ **Andaman & Nicobar Islands:**

➤ Keep the bund of rice main field open at 10 cm height and keep the drainage clean to facilitate draining of water. Avoid intercultural operation in the vegetable field as moderate rainfall is expected.

• **Animal Husbandry**

➤ In West Bengal, protect animals from diseases caused due to 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.

➤ To prevent fungal attack in poultry shed, rearrange the litter with new one, apply lime on litter, avoid wet food and feed only dry food to birds. The thickness of litter should not be exceeded 1 and a 1/2 inch. Vaccinate poultry birds against Ranikhet disease.

➤ In Andaman & Nicobar Islands, provide anthelmintic treatment to animals (cow, buffalo and goat) with the consultation of local veterinary doctors. After anthelmintic treatment offer sprouted Bengal gram @100 gm/cattle and @ 25 gm/adult goat for three days. Contact local veterinary doctors for vaccination against foot and mouth disease to cow and buffalo.

➤ 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 fish culture pond. 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, it is right time to go for pisciculture. Collect fingerlings. After releasing the fingerlings in the ponds, keep a bag full of FYM or paddy husk. Depending upon the size of the ponds, apply 5-10 kg of limes to newly developed pisciculture. Maintain 6 ft water depth with pH 6.8-7.5, turbidity 20-30 cm and plankton growth of 2.5/50 liter water. Avoid overcrowding. The fishes should be fed daily with oil cake bran mixture at the rate of 2-3 % of their total biomass.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]

• **Realised Rainfall:** Rainfall occurred in all district of Konkan & Goa, all districts of Madhya Maharashtra except Ahmednagar, Dhule, Jalgaon and Solapur, all districts of Vidarbha except Akola, Amravati, Buldana, Chandrapur, Wardha, Washim and Yeotmal during the period. 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 31st August and 2nd September, 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.

➤ In Konkan, maintain water level of 5-10 cm in rice field. Apply third dose of Urea @ 435 g per R (100 m) area to rice (flowering stage) after current spells of rain. In North Konkan, undertake intercultural operation like weeding in nagli after current spells of rain.

➤ In Madhya Maharashtra, maintain 5-10 cm water level in rice fields. Undertake intercultural operation like weeding in pigeon pea, maize and bajra fields on a non-rainy day. Apply fertilizer dose of nitrogen @ 40 kg per hectare in 30 days old maize and @ 20 kg per hectare in 30 days old maize crops.

➤ In Marathwada, continue harvesting of timely sown and matured black/green gram. To control fruit drop in *mrig bahar* citrus orchard, spray Potassium Nitrate (13:00:45) @ 10 g per liter of water.

➤ In West Vidarbha, continue plucking of green pods of green gram. In cotton to control flower and square drop, spray Planofix 4.5 SL (NAA) @ 5 ml per 10 litres of water on a non rainy day. In East Vidarbha, maintain 3-5 cm water level in rice fields. Undertake intercultural operation like weeding in pigeon pea and foliar spray of 2% Urea (200 g Urea +10 litre water) in soybean (pod filling stage) for better productivity on a non rainy day.

➤ In Konkan, for control of blast disease in rice, spray Tricyclazole @ 10 g or Isoprothiolane @ 10 ml per 10 litres of water after current spells of rain.

➤ In Marathwada, to control leaf eating caterpillar in soybean, spray Chlorantraniliprole 18.5 % @ 60 ml per acre or Indoxarab 15.8 % @ 140 ml per acre. To control Anthracnose in soybean, spray Tebuconazole 90 % WP + Sulfur 65 % WG @ 25 g per 10 liter of water.

▪ **Gujarat:**

➤ In Middle Gujarat, continue sowing of castor and cluster bean crops. Continue transplanting of tomato, brinjal and chili crops and intercultural operations in pigeon pea and cotton crops.

➤ In South Gujarat, in ratoon banana crop apply first dose of Nitrogen at 45-50 days of sowing for higher benefits. Undertake sowing of cucurbits. Maintain optimum water level in rice field. Undertake transplanting of chilli and brinjal seedlings.

➤ In Saurashtra & Kutch, continue transplanting of brinjal, chilli and early cauliflower seedlings under sufficient moisture condition. Continue intercultural operations in pulses, cotton, pearl millet and vegetable crops to

conserve soil moisture.

- In South Gujarat, for effective control of semi-looper in castor spray neem oil 2% or 3% solution.
- In North Saurashtra, for monitoring of pink bollworm infestation in cotton crop install pheromone traps 6-8/ha in early sown crop; if infestation is found, pick and burry the infested flowers/bolls in soil; spray Profenofos 50 EC @20 ml or Cypermethrin @10 ml in 10 liters of water.
- In South Saurashtra, due to cloudy weather condition incidence of mite is observed in sesame crop, for control, spray Dicophol @ 20 ml or Ethion @20 ml in 10 litres of water.
- **Animal Husbandry**
 - In Gujarat, provide 30-35 g mineral mixture in daily diet of cattle. Spray Deltamethrin or Amitraz 2 ml/litre of water for the control of tick. Spray phenyl in the animal shed to avoid flies and mosquitoes. Keep animals indoors during rainfall. Keep fodder in safe place to avoid spoilage due to rainfall.

CENTRAL INDIA [M.P., CHHATTISGARH]

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh, Ashoknagar, Bhind, Datia, Guna, Gwalior, Harda, Hoshangabad, Jhabua, Mandasaur, Morena, Neemuch, Ratlam, Shahajpur, Shivpuri and Vidisha districts of West Madhya Pradesh, all districts of Chhattisgarh during the week. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Madhya Pradesh during the period, at many places over Chhattisgarh during the period, along with heavy rain at isolated places very likely over Madhya Pradesh on 31st August and 1st September, over West Madhya Pradesh on 2nd September and over Chhattisgarh on 31st August, avoid irrigation, 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, provide proper channels for drainage of excess rain water in the crop fields. Continue intercultural operations in green gram, black gram, red gram, soybean, maize and vegetables after current spells of rain. Continue transplanting of new saplings of orchards.
 - In East Madhya Pradesh, continue transplanting of brinjal, chilli and tomato. Continue weeding in rice, maize and vegetable crops and apply the recommended nitrogen fertilizer after current spells of rain. Continue planting of horticultural crops like papaya, mango, guava etc.
 - In Kymore Plateau and Satpura Hill Zone, continue intercultural operations in rice, soybean and red gram after current spells of rain. Undertake nursery preparation for early season *rabi* vegetables.
 - In Central Narmada Valley Zone, for control of attack of girdle beetle in soybean, spray Thiacloprid (21.7% w/w) @ 650 ml/ha or Traizophos 40 E.C. @ 1000 ml/ha after current spells of rain.
 - In Bundekhand Zone, there are chances of attack of aphids in urad and moong due to cloudy weather conditions. Spray Methyl Dematon 25 E.C. or Dimethoate 30 E.C. @ 2 ml/litre of water after current spells of rain.
 - **Chhattisgarh:**
 - Provide adequate drainage in vegetables, pulses and oilseed crops. Continue first top dressing with urea (25 kg/acre) in rice at tillering stage after current spells of rain. Continue intercultural operations in different *kharif* crops like maize, arhar, groundnut, soybean, urad, moong, vegetables etc. after current spells of rain. 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 crops 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. Continue planting of improved varieties of grafted cashew nut plant (Indira kaju-1, Vengurla-4, Vengurla-7, Vengurla-9 etc).
 - For control of attack of blast in rice crop, spray Tricyclazole @120 g per acre and the spray should be repeated after 10-12 days as per requirement after current spells of rain.
- **Animal Husbandry**
 - In Madhya Pradesh, cattle should be keep 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, Lahaul & Spiti, Shimla and Solan, in Barnala, Gurdaspur, Hoshiarour, Patiala and Ropar districts of Punjab, Ambala, Chandigarh, Gurgaon,

Jhajar, Karnal, Kurukshetra, Mewat, Palwal, Panipat, Rewari, Sonapat and Yamunanagar districts of Haryana, all districts of Delhi, Jammu, Kathua, Reasi, Samba and Udhampur districts of Jammu & Kashmir, all districts of East Uttar Pradesh, all districts of West Uttar Pradesh except G. B. Nagar, Ghaziabad and Mahamaya nagar, all districts of Uttarakhand, all districts of East Rajasthan except Ajmer, Jhalawar, Jhunjhunu, Karauli, Kota, Rajasmund, Sikar and Tonk during the week. Weather remained mainly dry over rest of the region.

• **Advisories:**

➤ As rain/thundershowers likely at most/many places over Uttarakhand and Uttar Pradesh during the period, at many places over Himachal Pradesh from 31st August to 3rd September, over East Rajasthan from 1st to 3rd September, over Haryana, Chandigarh & Delhi on 2nd and 3rd September, along with heavy to very heavy rain at isolated places very likely over West Uttar Pradesh on 31st August, heavy rain at isolated places over Uttarakhand during the period, over East Rajasthan from 31st August to 3rd September, over East Uttar Pradesh on 31st August, over Uttar Pradesh on 1st and 2nd September, over Haryana, Chandigarh & Delhi on 2nd and 3rd September and over West Uttar Pradesh on 3rd September, avoid irrigation, 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:**

➤ Maintain water level of 3-5cm in order to avoid stress in rice at flowering stage. Apply irrigation in maize and pulses. Undertake nursery raising/transplanting of cole crops and sowing carrot and radish. Undertake cultivation of Dhingri (*Pleurotus* spp.) mushroom. Continue intercultural operations in pulses and maize. Undertake weeding and hoeing in ginger and turmeric. Continue picking up of matured tomato, brinjal, capsicum, okra and broccoli.

➤ In Intermediate Zone there are chances of attack of blister beetle in maize crop. If observed, apply Carbofuron 3G @ 20 kg/ha (apply 3-4 granules/leaf whorls to control the blister beetle) on a non rainy day.

▪ **Uttarakhand:**

➤ Continue sowing of pea, radish, cabbage, broccoli and turnip after current spells of heavy rain. Provide proper drainage in *kharif* maize, pulses and vegetables fields. Continue picking up of matured cucurbits and vegetables like tomato, capsicum, chilli in clear weather. Continue harvesting of matured apple. Continue planting of orchards like mango, guava, lemon, papaya, litchi etc. Continue intercultural operations in maize and rice after current spells of rain.

➤ In Sub Humid Sub Tropic Zone, maintain water level of 2-3 cm in rice fields. Continue field preparation for vegetable pea and toria. Undertake transplanting of brinjal and chilli. Continue picking up of matured cucurbits in clear weather. Provide proper drainage in standing crop fields.

➤ To control leaf blight disease in maize crop, spray Mancozeb @ 2.5g/litre of water 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 fields. Undertake intercultural operations in peas, turnip, carrot, spinach in high hilly regions after current spells of rain. Continue intercultural operations in vegetables in polyhouse. In mid hill region continue nursery sowing of Chinese cabbage and direct sowing of raddish, carrot, broccoli and lettuce. In High Hill Temperate Dry Zone, undertake sowing of oats.

➤ In Mid Hills Sub-Humid Zone, undertake sowing of Arkel pea, spinach, methi and raising of nursery of cauliflower and cabbage.

➤ Weather is congenial for attack of blast and brown spot on rice. To control spray Carbendazim @ 2 g per litre of water after current spells of rain.

➤ To control white fly and sucking pest in vegetables spray Imidacloprid @ 1 ml/3litres of water.

▪ **Punjab, Haryana & Delhi:**

➤ In Punjab, in transplanted rice, apply second and third dose urea @ 37 kg per acre. Apply irrigation in rice and maize as per requirement. Continue sowing of *kharif* moong and mash. Continue weeding and hoeing in sugarcane, maize, pulses, vegetables and orchard crops. Continue nursery sowing of mid season cauliflower and planting of seedlings of onion. Continue planting of fruit plants such as citrus, litchi, mango, guava, loquat, ber, amla and papaya. 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. Continue weeding in rice. Continue intercultural operations in sugarcane, guar and bajra.

➤ In Delhi, continue weeding and hoeing in all crops and vegetables and apply remaining dose of nitrogen. Continue sowing of sarson saag (Pusa saag-1), radish (Versa kee rani, summer long, long chetaki), spinach (all green), coriander (pant Haritama, hybrids). Continue transplanting of chilli, brinjal, cabbage and cauliflower. Continue preparation of nurseries of cauliflower for mid season (Nov.-Dec.) and sowing of carrot on raised bed.

➤ In Punjab, for control of blast disease in rice, spray Amistar Top 325 SC @ 200ml/acre dissolved in 200 litres of water.

- In Haryana, for control of leafhopper infestation in cotton, spray 40 ml Imidacloprid (Confidor) 200 SL mixed with 120-150 litre water per acre, after current spells of rain.
- In Delhi, there are chances of attack of mite and jassid in ladyfinger, brinjal and chilli crops. To control mite, spray Phosmite @ 2 ml per litre of water and spray Dimethoate 30 EC @ 2 ml/litre of water against jassid after current spells of rain.
- **Uttar Pradesh:**
 - In East Uttar Pradesh, apply the second and last top dressing dosage of Nitrogen in rice and in sorghum with 50-60 kg Nitrogen per hectare (109-130kg Urea) preferably 30-35 days after sowing after current spells of heavy rain. Continue nursery sowing of cauliflower, cabbage, chilli and tomato, sowing of spinach, radish, carrot, turnip, beetroot, fenugreek, coriander, okra and cucurbits after current spells of heavy rain. Continue intercultural operations in moong, urad, red gram and soybean crops after current spells of rain. Continue planting of mango, ber, guava, lime etc. in new orchard. Undertake picking up of matured brinjal and bottle gourd.
 - In West Uttar Pradesh, continue hoeing & weeding in all crops and vegetables, broadcast second split dose of nitrogen for optimum growth after current spells of rain. Continue preparation of nurseries of cauliflower for mid season (Nov-Dec.). Continue picking up of matured cucurbits. In Western Palin Zone, undertake sowing of toria.
- **Rajasthan:**
 - In East Rajasthan, continue nursery raising of cauliflower and sowing of radish. Continue intercultural operations in cotton, moong, urad and thinning operation in pearl millet and sorghum, apply 40 kg N/ha through broadcasted urea before tasseling in maize after current spells of rain. Continue planting of fruit crops like mango, plum, pomegranate, aonla etc. Continue picking up of matured pods of cluster bean (guar). Continue transplanting papaya seedlings.
 - In West Rajasthan, apply irrigation and undertake earthing up in sugarcane. Continue nursery preparation for cauliflower, cabbage chili and brinjal. Continue planting new seedlings of kinnow in already prepared pits in the field.
 - In Semi Arid Eastern Plain Zone, due to continuous cloudy sky groundnut may be affected by leaf spot disease. In this disease brown to dark brown colour spots appear on leaves. Spray Bavistin @ 0.5 g or Mencozeb @ 2 g per litre of water after current spells of rain.
- **Animal Husbandry**
 - In Jammu & Kashmir, provide supplementary mineral mixture with 50 gm iodized salt regularly to the milking and pregnant animals. Give vaccination against BQ and HS. Ensure green fodder to the livestock.
 - In Himachal Pradesh, give mixture of hay & green fodder to cattle. Weather is conducive for ticks and mites attack on animals. For control spray Butox @ 2.0 ml per litres of water.
- **Apiculture:**
 - In Jammu & Kashmir, inspect weekly bee colonies and undertake raising of new frames by providing comb foundation sheets to healthy colonies. Raise new queen if needed.
 - 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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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.