



National Agromet Advisory Service Bulletin



Friday 29th July 2016

(For the period 29th July to 2nd August 2016)



Issued by

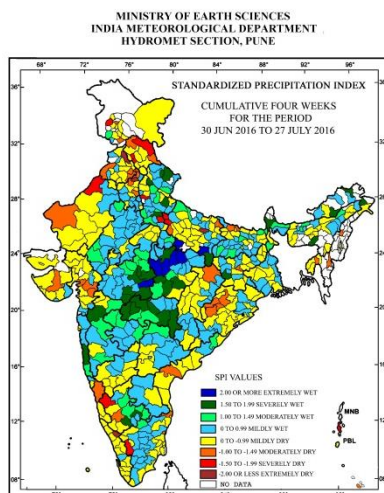
*National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.*

Weblink For

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

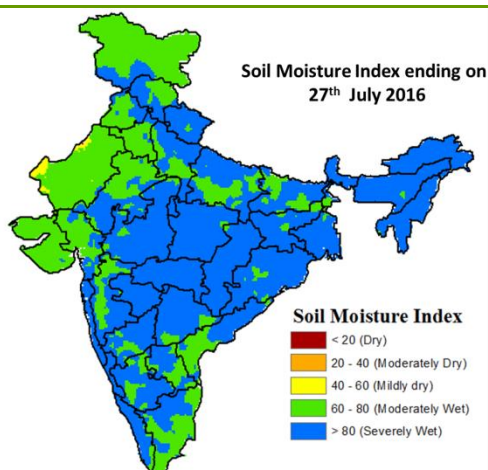
State Composite AAS Bulletin: <http://www.imdagrimet.gov.in/node/3544>

Standardised Precipitation Index Four Weekly for the Period 30th June to 27th July 2016



- Extremely/severely wet conditions experienced in few districts of Arunachal Pradesh; Uttarakhand; Madhya Pradesh; East Khasi Hills district of Meghalaya; Darjeeling district of West Bengal; Gumla district of Jharkhand; Banda, Mirzapur, Sonbhadra, Bareilly, Etah districts of Uttar Pradesh; Ratnagiri district of Konkan & Goa; Nashik, Akola, Amraoti, Buldhana, Chandrapur, Wardha, Gadchiroli districts of Maharashtra; Bangalore Rural, Mandya districts of Karnataka.
- Extremely/Severely dry conditions experienced in few districts of Himachal Pradesh; Ambedkar Nagar, Farrukhabad, Kannauj, Ghaziabad, Mainpuri districts of Uttar Pradesh; Kurukshetra district of Haryana; Hoshiarpur district of Punjab; Baramula district of Jammu & Kashmir; Sri Ganganagar district of Rajasthan; Coimbatore district of Tamil Nadu; Shimoga district of Karnataka; Wynad district of Kerala.
- Moderately dry conditions experienced in Aizwal district of Mizoram; Dhalai district of Tripura; Bolangir, Bargarh, Sambalpur, Sonapur districts of Odisha; Ramgarh district of Jharkhand; East Champaran, Sitamarhi districts of Bihar; Kanpur Dehat, Kushi Nagar districts of Uttar Pradesh; Ambala, Sonapat, Kaithal, Panchkula, Chandigarh districts of Haryana; Ferozepur, Patiala, Fatehgarh Sahib districts of Punjab; Chamba, Kinnaur districts of Himachal Pradesh; Udhampur, Srinagar districts of Jammu & Kashmir; Jaisalmer district of Rajasthan; Baroda, Anand, Narmada districts of Gujarat Region; Rajkot district of Saurashtra & Kutch; Surguja district of Chhattisgarh; Guntur district of Andhra Pradesh; Tiruvallur, Puducherry districts of Tamil Nadu & Puducherry; Uttar Kannada, Hassan districts of Karnataka.
- Rest of the country experienced moderately wet/ mildly dry/mildly wet conditions.

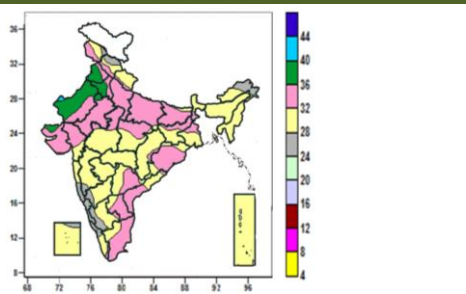
Soil Moisture Index for the week ending on 27th July 2016



- Soil Moisture Index indicates moderately wet condition in many parts of Jammu & Kashmir, Gujarat, Rajasthan, Haryana, Punjab, Tamil Nadu, some parts of Interior Karnataka, Rayalaseema, Madhya Maharashtra, Coastal Andhra Pradesh, Uttar Pradesh, Himachal Pradesh, Bihar and mild dry condition in isolated pockets of West Rajasthan. Rest of the country shows severely wet condition.

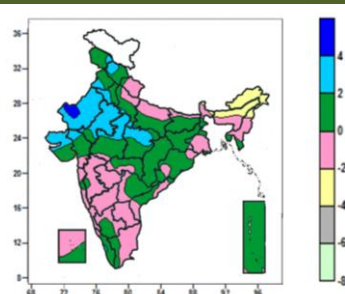
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 27.07.2016

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 27.07.2016



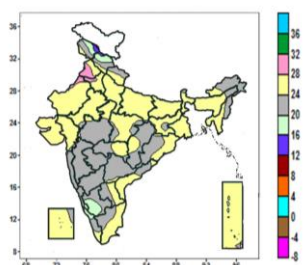
- Mean maximum temperature was between 40 to 44 $^{\circ}\text{C}$ over isolated pockets of West Rajasthan.
- Mean maximum temperature was between 36 to 40 $^{\circ}\text{C}$ over many parts of West Rajasthan, Punjab, Haryana, some parts of Kutch, isolated pockets of East Rajasthan.
- Mean maximum temperature was between 28 to 36 $^{\circ}\text{C}$ over rest of the country except Coastal Karnataka, some parts of Himachal Pradesh, Arunachal Pradesh, Konkan & Goa, Interior Karnataka, Kerala and isolated pockets of Jammu & Kashmir, Madhya Maharashtra, Lakshadweep, where it was between 24 to 28 $^{\circ}\text{C}$.

Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 27.07.2016



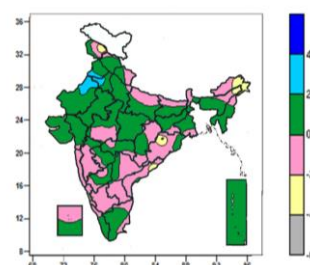
- Mean maximum temperature was above normal by 4 to 6 $^{\circ}\text{C}$ over some parts of West Rajasthan.
- Mean maximum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over Kutch, many parts of Rajasthan, some parts of Himachal Pradesh, Punjab, Haryana Madhya Pradesh, Saurashtra, Gujarat region and isolated pockets of Jammu & Kashmir, Uttar Pradesh, Kerala.
- It was normal to near normal over rest of the country except Arunachal Pradesh, many parts of Assam, Nagaland and isolated pockets of Sub-Himalayan West Bengal & Sikkim where it was below normal by 2 to 4 $^{\circ}\text{C}$.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 27.07.2016



- Mean minimum temperature was between 12 to 16 $^{\circ}\text{C}$ over isolated pockets of Jammu & Kashmir and Himachal Pradesh.
- Mean minimum temperature was between 16 to 20 $^{\circ}\text{C}$ over some parts of Jammu & Kashmir, Himachal Pradesh, South Interior Karnataka, Kerala and isolated pocket of Coastal Karnataka.
- Mean minimum temperature was between 20 to 28 $^{\circ}\text{C}$ over rest of the country except many parts of Punjab and isolated pockets of West Rajasthan, Haryana where it was between 28 to 32 $^{\circ}\text{C}$.

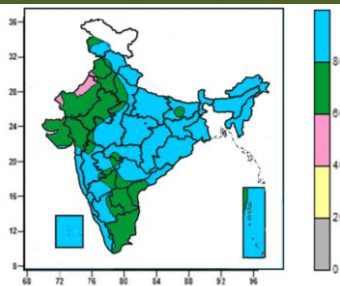
Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 27.07.2016



- Mean minimum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over some parts of West Rajasthan, Punjab, Haryana.
- Mean minimum temperature was normal to near normal over rest of the country except some parts of Jammu & Kashmir, Arunachal Pradesh, Assam, Odisha and isolated pockets of Coastal Andhra Pradesh where it was below normal by 2 to 4 $^{\circ}\text{C}$.

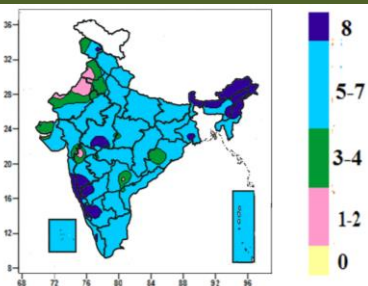
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 27.07.2016

Relative Humidity (%) over India for the week ending 27.07.2016



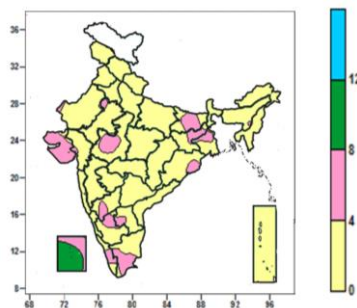
- Mean Relative Humidity was above 80% over Uttarakhand, Jharkhand, West Bengal, North East India, Odisha, Chhattisgarh, East Madhya Pradesh, Konkan & Goa, Coastal Karnataka, Lakshadweep, many parts of Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Bihar, West Madhya Pradesh, Vidarbha, Marathwada, Madhya Maharashtra, Telangana, Interior Karnataka, Kerala, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh and isolated pockets of Rajasthan, Saurashtra, Gujarat region and Tamil Nadu.
- Mean Relative humidity was between 60 to 80% over rest of the country except some parts of West Rajasthan, isolated pockets of Punjab and Haryana, where it was between 40 to 60%.

Cloud amount (okta) over India for the week ending 27.07.2016



- Sky remained overcast (8 okta) over Sikkim, Arunachal Pradesh, Nagaland, many parts of Assam & Meghalaya, Manipur, Sub-Himalayan West Bengal, Konkan & Goa, Coastal Karnataka, some parts of West Madhya Pradesh, Madhya Maharashtra, Interior Karnataka, isolated pockets of Jammu & Kashmir, Gangetic West Bengal and Kerala.
- Sky remained generally cloudy (5-7okta) over rest of the country except many parts of Punjab, West Rajasthan, Haryana & Delhi, Kutch, some parts of Jammu & Kashmir, Madhya Maharashtra, Telangana, isolated pockets of Saurashtra, Gujarat Region, Marathwada, Vidarbha, Madhya Pradesh, Coastal Andhra Pradesh, where it was partly cloudy/mainly clear (3-4/1-2 okta).

Wind speed (knots) over India for the week ending 27.07.2016



- Mean wind speed was between 8 to 12 knots over many parts of Lakshadweep.
- Mean wind speed was between 0 to 4 knots over rest of the country except many parts of Saurashtra & Kutch, some parts of Bihar, Jharkhand, Gangetic West Bengal, West Madhya Pradesh, Odisha, Interior Karnataka, Rayalaseema, Tamil Nadu, Kerala, Lakshadweep and isolated pockets of Assam, Rajasthan and Gujarat Region where it was between 4 to 8 knots.

Monsoon Watch

- Yesterday, southwest monsoon was vigorous over Jammu & Kashmir and active over East Rajasthan, West Madhya Pradesh, Marathwada and Vidarbha.

Weather Forecast for next 5 days valid upto 0830 hours of 3rd August 2016

- Meteorological sub-division wise detailed 5 day rainfall forecast is given below.

5 Day Rainfall Forecast (MID DAY) 29th July 2016

Met Sub-divisions	29 July	30 July	31 July	01 Aug	02 Aug
1. Andaman & Nicobar Islands	WS	WS	WS	WS	FWS
2. Arunachal Pradesh	FWS	FWS	FWS	SCT	SCT
3. Assam & Meghalaya	WS	WS	FWS	SCT	SCT
4. N.M.M. & T.	FWS	FWS	FWS	SCT	SCT
5. S.H. West Bengal & Sikkim	FWS	FWS	FWS	FWS	SCT
6. Gangetic West Bengal	SCT	FWS	FWS	FWS	SCT
7. Odisha	SCT	FWS	FWS	WS	WS
8. Jharkhand	SCT	FWS	FWS	FWS	SCT
9. Bihar	FWS	WS	WS	FWS	SCT
10. East Uttar Pradesh	FWS	FWS	WS	WS	FWS
11. West Uttar Pradesh	WS	WS	WS	FWS	FWS
12. Uttarakhand	WS	WS	WS	WS	WS
13. Haryana, Chd & Delhi	WS	FWS	WS	WS	FWS
14. Punjab	SCT	SCT	WS	FWS	SCT
15. Himachal Pradesh	WS	FWS	WS	FWS	FWS
16. Jammu & Kashmir	SCT	SCT	FWS	FWS	SCT
17. West Rajasthan	SCT	SCT	SCT	ISOL	ISOL
18. East Rajasthan	FWS	FWS	FWS	FWS	FWS
19. West Madhya Pradesh	SCT	SCT	SCT	FWS	FWS
20. East Madhya Pradesh	SCT	SCT	SCT	FWS	FWS
21. Gujarat Region	FWS	FWS	FWS	SCT	FWS
22. Saurashtra & Kutch	FWS	SCT	SCT	SCT	SCT
23. Konkan & Goa	WS	WS	WS	WS	WS
24. Madhya Maharashtra	SCT	SCT	SCT	SCT	FWS
25. Marathwada	SCT	SCT	SCT	SCT	FWS
26. Vidarbha	SCT	SCT	SCT	SCT	FWS
27. Chhattisgarh	SCT	SCT	FWS	FWS	FWS
28. Coastal Andhra Pradesh	SCT	SCT	SCT	FWS	FWS
29. Telangana	SCT	FWS	SCT	SCT	FWS
30. Rayalaseema	FWS	SCT	ISOL	ISOL	ISOL
31. Tamil Nadu & Puducherry	FWS	SCT	ISOL	ISOL	ISOL
32. Coastal Karnataka	WS	WS	FWS	FWS	FWS
33. North Interior Karnataka	FWS	SCT	SCT	SCT	SCT
34. South Interior Karnataka	FWS	SCT	SCT	SCT	SCT
35. Kerala	FWS	FWS	SCT	SCT	FWS
36. Lakshadweep	SCT	SCT	ISOL	ISOL	SCT

% Station Reporting Rainfall

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

Weather Warning during next 5 days

- 29 July (Day 1):** Heavy to very heavy rain very likely at isolated places over north Konkan & Goa; heavy rain at isolated places over Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, West Uttar Pradesh, East Rajasthan, northwest Madhya Pradesh, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat region, Rayalaseema, Coastal Karnataka, South Interior Karnataka and Tamilnadu.
- 30 July (Day 2):** Heavy rain very likely at isolated places over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland

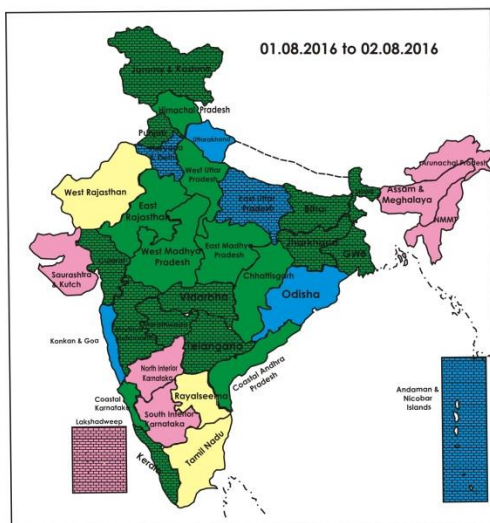
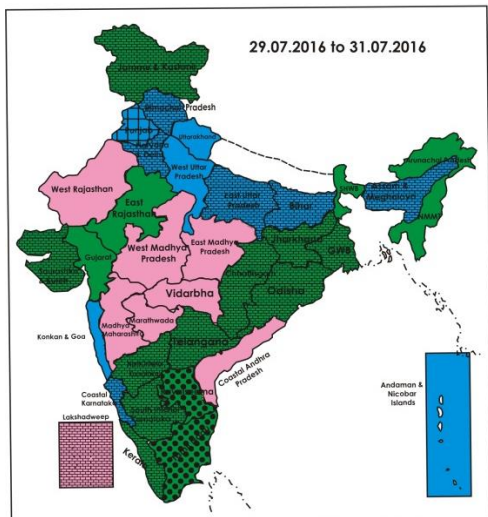
Manipur, Mizoram & Tripura and Konkan & Goa.

- **31 July (Day 3):** Heavy rain very likely at isolated places over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya and Konkan & Goa.
- **01 August (Day 4):** Heavy rain very likely at isolated places over Himachal Pradesh, Uttarakhand, Haryana, Chandigarh & Delhi, Chhattisgarh, Odisha, Andaman & Nicobar Islands, Konkan & Goa and north Coastal Andhra Pradesh.
- **02 August (Day 5):** Heavy to very heavy rain very likely at isolated places over Odisha; heavy at isolated places over Uttarakhand, Vidarbha, Chhattisgarh, Odisha, Andaman & Nicobar Islands, Konkan & Goa and north Coastal Andhra Pradesh.

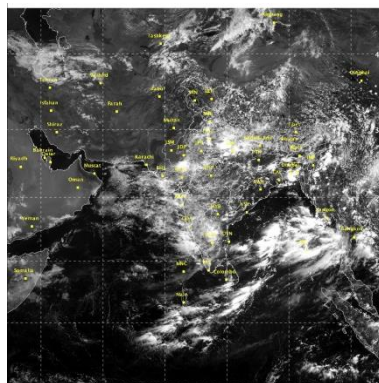
Weather Outlook for subsequent 2 days from 3rd to 5th August 2016

- Rain at most places very likely along west coast and at many places very likely over Central & northwest, east India and Andaman & Nicobar Islands.
- Rain at a few places over west and northeast India and at isolated places over remaining parts of the country.

Weather Forecast Map (valid upto 0830 hours of 3rd August, 2016)



- Most places
- Most/Few places/Dry
- Most/ Few places
- Most / Many places
- Most/Many / Isolated places
- Most / Isolated places
- Most / Many/ Few places
- Most / Few / Isolated places
- Most/Many places/ Dry
- Most / Isolated places/ Dry
- Many places
- Many / Few places
- Many / Isolated places
- Many / Few / Isolated places
- Many / Few places/ Dry
- Many / Isolated places/Dry
- Many places/ Dry
- Few places
- Few / Isolated places
- Few/ Isolated places/Dry
- Few places/Dry
- Isolated places
- Isolated places/ Dry
- Dry



Salient Advisories

- In **Assam**, due to heavy rain for the past few days flooding is reported in some districts. Farmers are advised the following contingency measures in flood affected areas:
 - In Jorhat, Golahat, Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Nagaon, Kokrajhar and Nalbari districts of Assam, continue transplanting of rice after receding of flood water. Farmers of flood affected areas are advised to collect the submerge tolerance rice variety like Swarna Sub 1. Drain out excess water from already sown sesame fields.
 - In Dhemaji, Darrang, Lakhimpur and Sonitpur and districts of North Blank Plain Zone of Assam, complete transplanting of long duration *Sali* rice (varieties like Ranjit, Mahsuri etc.) in the main fields within July. If flood water does not recede up to end of July, direct sowing of very short duration varieties like Luit, Kapilee, Kolong and Disang (90 to 100 days duration) up to 8-10 September in case of flood up to August. Farmers are advised the following contingency measures in case of flood:
 - If there is total damage of seedlings of Sali rice in the main fields, farmers are advised to sowing seeds for replanting with medium to short duration varieties like - Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc. in nursery bed within 1st week of August. Initiative should be taken for raising community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
 - Also wet seeding with sprouted seeds @ 75-80 kg/ha of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days). Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged).
 - Direct seeding with the photo insensitive short duration variety like Luit. Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
- Due to continuous widespread rainfall with heavy to very heavy rain at isolated places from last few days, there is flood situation in **Siliguri** area of **Darjeeling**, some areas of **Jalpaiguri and Cooch Behar districts of Sub-Himalayan West Bengal**. Due to water logging vegetables, transplanted rice fields and rice nursery is likely to get damage. Farmers are advised to drain out excess water from rice nursery, transplanted rice fields and vegetables. They are also advised to undertake, gap filling in crop affected areas after receding of flood water. If nursery is available, undertake re-transplanting of rice seedling in more affected area or undertake direct sowing of rice by selecting short duration rice varieties.
- In **Uttarakhand**, due to heavy rainfall in the last few days, farmers are advised to drain out excess water in pigeon pea, maize, paddy, sugarcane, fodder and vegetable fields in Dehradun, Pauri and Haridwar districts. In flooded and water logged areas, transplanting of rice with improved varieties like Jalpriya, Jallahri, Madhukar and Chalia-49 may be done. Avoid stagnation of water in pulse crops.
- In **Kutch**, due to subdued rainfall activity, as normal crops could not be sown, undertake sowing of castor

(GAUCH-2, GCH-5, GCH-6, and GCH-7) utilising the expected rainfall. Continue sowing of castor, pigeon pea, groundnut (short duration var.) in Amreli, Rajkot, Surendranagar and Jamnagar districts of **North Saurashtra Zone** with expected rainfall. Complete sowing of maize, pigeon pea and bajra in Surat, Narmada, Tapi and Bharuch districts with realised and expected rainfall.

- Normal agricultural activities is continued in rest part of the country utilising the realised and expected rainfall.

Detailed Zonewise Agromet Advisories

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



Banana



Rice



Sugarcane



Red gram

- **Realised Rainfall:** Rainfall occurred in all the districts of Kerala, all districts of Coastal Karnataka, all districts of North Interior Karnataka except Belagavi, Bagalkote, Dharwad and Gadag, all the districts of South Interior Karnataka except Ballari, Chamarajnagar, Hassan and Mysuru, all the districts of Coastal Andhra Pradesh except Guntur, Krishna, Nellore and Prakasam, in all districts of Rayalaseema and Telangana, in Dharmapuri, Erode, Karur, Krishnagiri, Madurai, Namakkal, Nigiris, Salem, Sivaganga, Thiruvannamalai, Trichy, Vellore and Villupuram districts of Tamil Nadu. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Coastal Karnataka during the period, over Kerala on 29th, 30th & 1st, over North & South Interior Karnataka, Rayalaseema and Tamil Nadu on 29th, over Telangana on 30th July & 2nd August and over Coastal Andhra Pradesh on 1st & 2nd August, farmers are advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Undertake rain water harvesting.
 - As heavy rain is very likely at isolated places over Coastal Karnataka, South Interior Karnataka, Rayalaseema and Tamil Nadu on 29th July and over north Coastal Andhra Pradesh on 1st & 2nd August, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Kerala:**
 - In Kerala, complete sowing of rice (Uma, Jyothy, Vyttila-6 varieties) in Alappuzha and Kottayam districts and ensure proper drainage in areas where sowing has already been completed.
 - Continue crown cleaning, phytosanitation, provision for proper drainage and regulation of shade to prevent mid-whorl yellowing in coconut and continue tapping of rubber in Thiruvananthapuram district.
 - In Kasaragod, Kannur, Malappuram and Kozhikode districts, ensure complete field sanitation in banana and black pepper fields and continue planting of banana cultivars like Poovan, Palayankodan, Robusta etc.
 - In Alappuzha and Kottayam districts, prevailing weather conditions (humid conditions) are congenial for incidence of sigatoka leaf spot in bananas. Spray Bordeaux mixture @ 1% or Azoxystrobin or Tebuconazole or Difenconazole @ 0.1% soon after the appearance of the initial symptoms of the disease and cut and burn affected leaves after current spells of rain.
 - In Kannur, Kasaragod, Malappuram and Kozhikode districts, persisting high soil moisture and relative humidity may cause the spread of collar rot and web blight diseases in cowpea (early growth stage). To control, remove severely infected plants, drench and spray Mancozeb® @ 2g/litre of water in and around the infected plants.
 - In Palakkad, Ernakulam and Thrissur districts, prevailing weather conditions are congenial for incidence of hairy caterpillars in vegetables. To control, destroy the caterpillars and spray Fame @ 2ml/10 litres of water after current spells of rain.
 - In Thiruvananthapuram district, prevailing weather condition (high humidity) is congenial for incidence of mosaic disease in chillies. To control mosaic disease, spray Kiriyath- garlic emulsion @ 100ml/litre of water mixed with 6 g Bar soap, 30 g Garlic paste on the lower surface of leaves after current spells of rain.
 - **Karnataka:**
 - Undertake transplanting of ragi, continue transplanting of rice in Chikkmagaluru, Hassan, Shivamogga districts of Southern Transition Zone. Continue intercultural operations in already sown maize, groundnut and red gram fields.
 - Continue transplanting of rice in Uttar Kannada district.
 - Continue transplanting of rice, complete sowing of pigeon pea, complete sowing of fodder sorghum, fodder maize, fodder bajra, fodder cowpea as and when rain occurs in Bidar district of North East Transition Zone.

- Carry out intercultural operations in soybean, green gram, black gram, sorghum, maize, cotton and groundnut crops in Dharwad, Belagavi and Haveri districts of North Transition Zone. Continue transplanting of rice in Ballari, Kalaburgi, Koppal, Raichur and Yadgir district of North East Dry Zone.
- Complete sowing of medium to short duration crops like ragi, maize, groundnut, cowpea and green gram in Bengaluru Rural, Bengaluru Urban, Ramnagara, Chickaballapura and Kolar districts of Eastern Dry Zone with realised rainfall. Carry out intercultural operations in already sown crops to conserve soil moisture. Undertake earthing up operation, wherever the long and medium duration crops like red gram, castor and maize have been sown and thinning for better availability of soil moisture to the reduced population of crop plants.
- Complete sowing of sunflower, continue sowing of short duration varieties of finger millet (Indaf-5, Indaf-9, and GPU-28.MR-01,MR-06 & ML-365) in Chitradurga, Davengere and Tumakuru districts of Central Dry Zone with realised rainfall.
- Complete sowing of groundnut, bajra and red gram in Vijayapura, Bagalkote and Gadag districts of North Dry Zone. Take up repeated intercultural operations in pre-sown crops in Bagalkote and Gadag districts to conserve soil moisture. Prepare ridges and furrows and compartment bunds in the lands reserved for *rabi* sowing.
- Sucking pests thrips were noticed in cotton in almost all talukas of North East Dry Zone; spray Imidachloprid 0.3 ml/litre or Acetamprid @ 0.2 g/litre of water for control. Also sucking pests leaf eating caterpillars have been noticed in soybean; to control, spray the crop with Monocrotophos @ 1 ml dissolved in 1 litre of water in clear weather.
- Sucking pests are noticed in green gram and black gram in North Transition Zone; for control, spray Thiyamithaxam 25WG @ 0.3 g or Dimethoate @ 1.7 ml per litre of water. For control of stem fly in soybean spray Thiyamithaxam 25WG @ 0.3 g per litre of water on a non rainy day.
- **Andhra Pradesh:**
 - In Srikakulam, Vizianagaram and Vishakapatnam districts and continue nursery sowing and direct sowing of rice, planting of rainfed sugarcane and sowing of groundnut and pulses. Undertake pre-emergence spraying of Pretilachlor with safener @ 400 ml/acre within three days of sowing to control weed problem in direct sown rice.
 - In East Godavari district, continue transplanting of ragi and rice. In West Godavari, Krishna, Prakasam, Guntur and Krishna districts, continue nursery sowing of rice, sowing of millets, maize, red gram, black gram, green gram and cotton.
 - In Rayalaseema, undertake thinning operation and inter cultivation/hand weeding in July first week sown crop red gram, bajra and castor crops and continue sowing of rainfed groundnut and castor in Anantapur district.
 - In Chittoor district, undertake sowing of red gram (L.R.G-30, L.R.G-41, T.R.G-22 varieties) and go for either monocropping (@ 4-5 kilo seed/acre) or intercropping with red gram + groundnut in 7:1 ration or 11:1 ratio.
 - In Chittoor district, prevailing weather condition (partially cloudy and humid) is congenial for incidence of wilt in tomato. To control, spray Mancozeb @ 3g/litre of water a non rainy day.
 - In Anantapur and Kurnool districts, thrips incidence was noticed in June/July sown groundnut crop. To control, spray Dimethoate @ 400 ml or Methyl-o-demeton @ 400 ml or Thiomethaxam @ 40g or Imidachloprid @ 60 ml or Thiochloprid 50ml per 200 litres of water on a non rainy day.
- **Telangana:**
 - In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), continue transplanting of tomato and brinjal, nursery preparation for sowing of Telangana Sona rice and nursery sowing of rice (medium and short duration varieties).
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), continue nursery preparation for sowing of Telangana Sona rice, sowing of short duration maize varieties under rainfed conditions and nursery sowing of short duration varieties of rice, sowing of maize, cotton, groundnut, green gram and red gram. To prevent seed borne diseases, treat the seeds with fungicides before sowing and drench vegetable nursery bed with Copper-Oxy-Chloride @ 3 g/litre of water.
 - In Mahabubnagar, Nalgonda, Medak, Rangareddy, Khammam and Warangal districts (South Telangana Zone), prevailing weather conditions are congenial for the incidence of seedling blight disease in castor. If noticed, soil drench with Copper-Oxy-Chloride @ 3g per litre of water around the root zone of plant after current spells of rain.
 - In Karimnagar, Nizamabad and Khammam districts (North Telangana Zone), stemfly incidence was noticed in soybean. To control, spray Monocrotophos @ 1.6 ml/litre or Acephate @ 1.0 g/litre of water after current spells of rain.
- **Tamil Nadu:**
 - In Coimbatore, Tiruppur, Erode districts, due to heavy rainfall and cloud cover, avoid soil application of fertilizers in rice and continue sowing of gourd vegetables with adequate drainage. Considering the rain and wind speed, propping may be done in banana of above 5 months old.
 - In Ariyalur, Nagapattinam, Perambalur, Thanjavur, Thiruvarur and Trichy districts, continue harvesting of black gram in clear weather and in view of the expected heavy rainfall, postpone top dressing of fertilizer in *kuruvai* rice fields.
 - In Nilgiris district, continue planting of tea seedlings.
 - In Kanyakumari district, undertake planting of pineapple, banana, cinnamon and ginger and continue staking in banana with bamboo poles to protect them from strong wind and continue grafting and cutting of horticultural crops.

- In Coimbatore, Tiruppur and Erode districts, provide adequate drainage in turmeric to prevent rhizome disease.
- In Tuticorin, Virudhunagar and Tothukudi districts, cloudy weather and moderate humidity expected in the coming days is congenial for mite incidence in brinjal and tomato and thrips incidence on rice nursery. To control mite incidence, spray Dicofol @ 2.5 ml/litre or Wetable sulphur @ 2 g/litre or Ethion @ 50% EC 1 ml/litre or Dimethoate @ 30% EC 2 ml/ litre of water. To control thrips, spray Phosphamidan 40 SL@ 50 ml or Monocrotophos 36 SL @ 40 ml per 2 litres of water on a non rainy day.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In the Western Zone of Tamil Nadu, due to anticipated rain, avoid stagnation of water in and around cattle shed to prevent mosquito multiplication.
- In Southern Dry Zone of Karnataka, due to low temperature in morning and night hours, maintain the optimum room temperature in sericulture, poultry and dairy unit by providing electric bulb.
- Maintain proper ventilation for free circulation of air in the sheds, vaccinate the cow against the foot and mouth disease (FMD) and Black Quarter in Karnataka.

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



Banana



Rice



Groundnut



Jute

- **Realised Rainfall:** Rainfall occurred in Changlang, East Kameng, East Siang, Lohit, Lower Dibang Valley, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, Baksa, Barpeta, Bongaigaon, Cachar, Chirang, Dhubri, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Kamrup(Rural), Kamrup(Metro), Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, Nowgaon, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam, East Garo Hills, East Khasi Hills, Ri-Bhoi, West Garo Hills and West Khasi Hills districts of Meghalaya, Aizwal, Saiha and Serchip districts of Mizoram, Imphal East and Imphal West districts of Manipur; Dimapur, Kohima and Phek districts of Nagaland and all districts of Tripura. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Assam & Meghalaya and at many places over Arunachal Pradesh, Nagaland, Manipur, Mizoram and Tripura from 29th to 31st July, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy rain likely at isolated places over Assam & Meghalaya on 29th to 31st, over Arunachal Pradesh on 30th and over Nagaland, Manipur, Mizoram and Tripura on 29th & 30th July, provide adequate drainage in standing crop fields to avoid water stagnation.
 - **Assam, Meghalaya & Arunachal Pradesh:**
 - In Jorhat, Golahat, Barpeta, Bongaigaon, Chirang, Dhubri, Goalpara, Kamrup(Rural), Nagaon, Kokrajhar and Nalbari districts of Assam, continue transplanting of *Sali* rice after receding of flood water. Farmers of flood affected areas are advised to collect the submerge tolerance rice variety like Swarna Sub 1. Continue sowing of sesame . To control lodging in sugarcane use bamboo or 4 to 5 stem of sugarcane plant can be tie together with their leaf to control lodging during this season. Drain out excess water from standing crop fields.
 - In Dibrugarh, Sivsagar and Tinsukia districts of Upper Bramhaputra Valley Zone, continue transplanting of Sali rice. Avoid transplanting of *Sali* rice seedlings in medium lowland or lowland areas due to current flood and probability of getting rainfall in the coming 3 days.
 - In Nagaon and Marigaon districts of Central Bramhaputra Valley Zone of Assam, continue land preparation for sowing of green gram and black gram and continue sowing of arhar and sesame after receding of flood water at optimum soil moisture conditions.
 - In Karimganj, Hailakandi and Cachar districts of Barak valley Zone of Assam, continue transplanting of Sali rice and banana sucker.
 - In Karbi Anglong and NC Hills districts of Hill Zone of Assam, continue sowing of arhar, sesame and nursery sowing of early cauliflower. Continue transplanting of *Sali* rice. Proper drainage system should be maintained in orchards, vegetable, ginger and turmeric fields to avoid yellowing of plants. To avoid damping off of seedlings of cauliflower, the seed beds should be drenched with 0.01% Captan or 4% Formalin solution before sowing. Seed treatment with Captaf or Brassicol @ 3g/kg of seed should be done.
 - In Dhemaji, Darrang, Lakhimpur and Sonitpur districts of North Blank Plain Zone of Assam, complete

transplanting of long duration *Sali* rice (varieties like Ranjit, Mahsuri etc.) in the main fields within July. If flood water does not recede up to end of July, direct sowing of very short duration varieties like Luit, Kapilee, Kolong and Disang (90 to 100 days duration) up to 8-10 September in case of flood up to August. Farmers are advised the following contingency measures in case of flood:

- If there is total damage of seedlings of *Sali* rice in the main fields, farmers are advised to sowing seeds for replanting with medium to short duration varieties like - Monohar *Sali*, Salpona, Prasadbhog, Gobin bhog etc. in nursery bed within 1st week of August. Initiative should be taken for raising community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
 - Also wet seeding with sprouted seeds @ 75-80 kg/ha of short to medium duration varieties like Disang, Luit, (100 days) Kapili, Kalong (120 days). Late and staggered planting with the old seedlings (50-60 days old seedlings) of the varieties like Profulla and Gitesh (If the field is heavily damaged).
 - Direct seeding with the photo insensitive short duration variety like Luit. Adoption of submergence tolerance varieties like Jalashree and Jalkuwari for repeat flood prone areas.
- In East Garo Hills, East Khasi Hills, Jaintia Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya, continue transplanting of *Sali/kharif* rice. Undertake replanting of dead hills or gap filling with seedlings of similar age within 7-10 days of transplanting. Undertake harvesting of matured cobs of maize.
 - In Anjaw, Changlang, Dibang Valley, East Kameng, East Siang, Kurung Kumey, Lohit, Lower Dibang Valley, Lower Subansari, Papumpara, Tawang, Tirap, Upper Siang, Upper Subansari, West Kameng and West Siang districts of Arunachal Pradesh, complete transplanting of Wetland rice and sowing of vegetables.
 - In Arunachal Pradesh, spray Triazophos 40 EC@4ml/litre water with sticker (@1ml/litre) against stem borer/ thrips in Wetland rice at transplanting stage after current spells of rain.
 - In Hill Zone of Assam, to control sap sucking insects (aphids/mealy bug/scales) in khasi Mandarin, spray Malathion (0.1%) after current spells of rain.
 - In Upper Brahmaputra Valley Zone of Assam, present weather is favourable for caseworm infestation in *Sali* rice. Drain out water from the rice field to control the pest. If it is difficult to drain out the water, it is recommended to apply fresh cowdung in the field.
 - In North Blank Plain Zone of Assam, to control red rot disease of sugarcane, water stagnation in the field should be avoided and roughing of the affected plants should be practiced.
 - In Barak valley Zone of Assam, due to high relative humidity, there is chance of Panama disease or Panama wilt in banana. Drench with Bavistin 1gm per litre of water. Drenching may continue at 15 days interval. Also spray Bavistin @ 0.1% to control the Powdery mildew attack in the Bitter gourd, Ashgourd and bottle gourd.
 - In Meghalaya, spray Malathion 5% dust @ 6.25kg/ha against Rice Gundhi bug and Chloropyriphos @ 0.02% or Monocrotophos @ 0.04% against stem borer in *Jhum* rice at booting/flowering stage. Also spray Phosphamidon 100 EC @ 0.5 ml/litre of water against aphid/leaf miner in groundnut at vegetative stage and for management of pests like hairy caterpillar, semilooper, leaf roller and flea beetle in soyabean, spray Dichlorvos 100 EC @ 0.5 ml/litre or Chlorpyriphos 20 EC @ 1 ml/litre. Undertake plant protection measures after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Dimapur, Kephire, Kohima, Longleng, Mokokchung, Mon, Paren, Phek, Tuensang, Wokha and Zunheboto districts of Nagaland, continue transplanting of TRC/WRC rice. Continue sowing of soybean. Avoid water logging in ginger fields to prevent rhizome rot.
 - In Bishnupur, Chandel, Churachandpur, Imphal East, Imphal West, Senapati, Tamenglong, Thoubal and Ukhrul districts of Manipur, continue transplanting of main *kharif* rice, sowing of soybean and nursery raising of early cauliflower. Maintain water level of 5-8 cm about 7 days after transplanting of rice. For replanting in the flood affected fields, prepare rice nurseries in raised beds with RC- Maniphou 7.
 - In Aizwal, Champhai, Chhimtuipui, Kolasib, Lawngtlai, Lunglei, Mamit, Saiha and Serchhip districts of Mizoram, complete transplanting of *kharif* rice and continue planting of khasi mandarin/acid lime. Undertake harvesting of pre-*kharif* maize.
 - In Dhalai, North Tripura, South Tripura and West Tripura districts of Tripura, continue transplanting of *Aman* rice. Continue sowing of *kharif* vegetables like ladies finger, cucurbits.
 - In Manipur, to prevent thrips and leaf folder in rice, spray Lambdacyhothrin 5% EC @ 15 ml/15 litres of water after current spells of rain.
 - In Mizoram, weather is conducive for attack of rice yellow stem borer in pre-*kharif* rice. Apply insecticide like Imidacloprid @ 0.5 ml or Phosolone @ 1.5 ml or Dimethoate 2 ml/litre of water. Apply insecticide like Imidacloprid 0.5 ml or Phosolone 1.5 ml or Acephate 1.0 g or Dimethoate 2 ml/litre of water against aphid and bug in *kharif* pulses like green gram, black gram and rajma. Undertake plant protection measures after current spells of rain.
 - In Tripura, due to cloudy and humid weather, there is chance of infestation of Panama disease or Panama wilt in banana. Drench with Bavistin 1gm per litre of water. Trichodermaviride and Pseudomonas fluorescence may be incorporated in the soil. Also cloudy and humid weather is conducive for the attack of leaf curl disease in *kharif* vegetables. To manage the attack, apply Imidachloprid @ 2ml per litre of water.Undertake plant protection measures after current spells of rain.
 - Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In Lower Brahmaputra Valley Zone of Assam, due to heavy rain in last week, many places are flood affected, so farmers are advice to keep their live-stock in upland areas and feed the animal with non-submergence grasses or tree leaves.
- In Barak valley Zone of Assam and Tripura, prevailing humid weather condition may lead to gastrointestinal parasites infection to the poultry. Keep good sanitary conditions in poultry sheds. If birds are infected, they should be immediately separated from rest of the flock.

❖ **Fishery**

- In Barak valley Zone of Assam, fish farmers are advised to supply the fish feed to fish pond for better growth and development of the fishes regularly. Locally available fish feed like rice bran and mustard cake in ration of 1: 1 can be given @ 2% of the body weight with mineral mixture which prevent the fishes from various diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Maize



Groundnut



Rice



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa, Marathwada and Vidarbha, all districts of Madhya Maharashtra except Dhule, Nandurbar, Pune and Satara, in Dahod, Dangs, Mahisagar, Navsari, Panchmahal, Sabarkantha, Surat and Valsad districts of Gujarat Region. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most places over Konkan & Goa during the period, many places over Gujarat Region from 29th to 31st & 2nd, over Saurashtra & Kutch on 29th July, over Madhya Maharashtra, Marathwada and Vidarbha on 2nd August, postpone irrigation, inter-cultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy to very heavy rain very likely at isolated places north Konkan & Goa on 29th, heavy rain very likely at isolated places over Konkan & Goa on 30th July to 2nd, Gujarat region on 29th July and over Vidarbha on 2nd August, provide adequate drainage in standing crop fields.
 - **Maharashtra:**
 - In Konkan, maintain 3-5 cm water level in early transplanted rice fields. Complete transplanting of 28-30 days old finger millet seedlings. Undertake bunding of rice fields and removal of weeds on the bunds. Apply 2nd dose of Nitrogen 40 kg/ha to rice crop after one month of transplanting on a non rainy day.
 - In Madhya Maharashtra, maintain 2-3 cm water level in already transplanted rice fields. Complete transplanting of 28-30 days old finger millet seedling in Pune and Ahmednagar districts. Continue planting of *adsali* sugarcane. Undertake hoeing and weeding to conserve soil moisture in earlier sown *kharif* crops.
 - In Marathwada, continue planting of *adsali* sugarcane. Undertake hoeing and two hand weeding in earlier sown crops like cotton, pigeon pea, green gram, black gram and cotton for effective weed control and moisture conservation.
 - In Vidarbha, maintain 2-3 cm water level in already transplanted rice fields. Continue inter-cultural operations like hand weeding and hoeing in early sown crops for control of weeds in Buldana, Akola, Washim, Amravati, Wardha and Yeotmal districts. In unsown areas, undertake intercropping of pigeon pea + soybean (1:2 / 2:4), sunflower + pigeonpea (2:1) or in soybean after every 6 or 9 rows one row of pigeonpea may be sown.
 - Due to high soil temperature and warm weather in Marathwada region, there is possibility of incidence of root rot disease in cotton; to control cotton drenching should be done by Carbendazim (37 %) + Mancozeb (33 %) @ 25 g per 10 litres of water.
 - Due to cloudy weather and high relative humidity in Madhya Maharashtra region, oily spot disease may occur on pomegranate; for its control apply bromopol @ 50 g + capton @ 500g per 100 litres of water. Also remove diseased & unwanted twigs and fruits from the orchard and destroy it properly.
 - **Gujarat:**
 - Due to subdued rainfall activity in Kachchh district, as normal crops could not be sown, carry out sowing of castor (GAUCH-2, GCH-5, GCH-6, and GCH-7) utilising the expected rainfall. Undertake transplanting/sowing of vegetable crops viz. Chilli, brinjal, bhindi, cluster bean and cowpea in sufficient moisture condition.
 - Continue sowing of pigeon pea and castor in Porbandar and Junagadh districts of South Saurashtra Zone with receipt of sufficient rainfall. Undertake intercropping with castor, 30 days after sowing of soybean, to get more production.
 - Continue sowing of castor and pigeon in Amreli, Rajkot, Surendranagar and Jamnagar districts of North Saurashtra

Zone. Complete transplanting of tomato, chilli, brinjal and early cauliflower. After current spells of rain, carry out intercultural operations and mulching in pulses and pearl millet to remove weeds and to conserve soil moisture and thinning in pearl millet.

- Continue sowing of castor, pulses and sorghum (Banaskantha, Sabarkantha and Aravali districts), carry out transplanting of vegetable crops like chilli and brinjal, sowing of bhindi, cluster bean and cowpea, carry out gap filling in pulses and intercultural operations at vapsa condition in groundnut, cotton, sesame, maize, pearl millet, pulses and established fruit crops to conserve soil moisture in Banaskantha, Mehsana, Gandhinagar, Patan and Sabarkantha districts. Continue planting of fruit crops. Take short duration pulse crops as intercrops in new orchards.
- Undertake sowing of pearl millet, sesame, green gram, cluster bean and cowpea with receipt of sufficient rainfall in Bhavnagar and Ahmedabad districts.
- Carry out weeding, other intercultural operations in pulses. Complete sowing of green gram, black gram and complete transplanting of chilli and brinjal in Navasari, Dangs and Valsad districts of South Gujarat Heavy Rainfall Zone.
- Complete sowing of maize, pigeon pea and bajra in Surat, Narmada, Tapi and Bharuch districts with realised and expected rainfall. Postpone application of irrigation in earlier sown crops as rainfall is likely to occur.
- Carry out intercultural operations in cotton at vapsa condition; complete transplanting of rice, sowing pearl millet (GHB-744 moderate duration and GHB- 538, GHB-719 for early maturity) in Dahod, Panchmahals, Kheda, Vadodara and Anand districts with realised and expected rainfall. Take green gram, pigeon pea, guar as intercrop in pearl millet.
- Attack of thrips and jassids is observed in groundnut and cotton in South Saurashtra Zone; spray Phosphamidon @ 3 ml or Dimethoate @ 15 ml or Methyl-O-Demeton 15 ml in 10 litres of water in clear weather for control.
- Weather conditions are favourable for attack of sucking pests in cotton crop in South Gujarat Zone; for control, spray neem oil 50 ml/10 litres of water adding 10 g washing powder after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.
- ❖ **Animal Husbandry**
- In Konkan, keep animals inside the animal house during heavy rain.
- Keep animals inside the animal house and fodder in safe places during rain; keep the animal house clean in Gujarat.

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



Red gram



Okra



Maize



Rice

- **Realised Rainfall:** Rainfall occurred in Nicobar and South Andaman districts of Andaman & Nicobar Islands, all districts of Gangetic West Bengal, all districts of Sub-Himalayan West Bengal and East Sikkim, North Sikkim and South Sikkim districts of Sikkim, all districts of Bihar except Aurangabad, Banka, Bhagalpur, Jahanabad, Jamui, Lakhisarai, Monghyar, Muzaffarpur, Nawada, Patna, Sheikpura, Sheohar, Siwan and Vaishali, all districts of Jharkhand except Bokaro, Giridih, Godda, Koderma and Ramgarh, all districts of Odisha except Boudh and Malkangiri. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers likely at most/many places over Andaman & Nicobar Islands during the period, over Sub-Himalayan West Bengal & Sikkim and Bihar from 29th July to 1st August, over Gangetic West Bengal and Jharkhand from 30th to 1st and over Odisha from 30th July to 2nd August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy rain very likely at isolated places over Andaman & Nicobar Islands during the period and over Odisha on 1st & 2nd August, provide adequate drainage in standing crop fields.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, continue transplanting of rice. Complete sowing of groundnut, arhar, castor and cotton green gram, black gram and sesame in uplands. Undertake planting of mango.
 - In Koraput and Nawarangpur districts, continue sowing of maize and other non paddy crops in upland condition.
 - In Mayurbhanj and Keonjhar districts, complete sowing of groundnut, ragi, arhar, maize, green gram, black gram and sesame and planting ginger and turmeric in uplands areas. Continue planting of fruit trees and sowing of rainy season vegetables like Bhindi (Lady's finger), Bean, French bean, Tomato, Cauliflower, Cabbage etc.
 - Continue transplanting of medium duration rice varieties in medium land and medium late duration varieties in low

land in Naupara and Kalahandi districts. Continue transplanting kharif rice in Balasore, Bhadrak and Jajpur districts.

- In East and South Eastern Coastal Plain Zone, fruit and shoot borer has been found in brinjal. To control it install Pheromone traps and spray Sevin WP @ 4 g or Malathion @ 2 ml in 1 litre water alternatively. Also to control fruit fly in bitter gourd, spray Sevin WP @ 3 ml in 1 litre of water after current spells of rain.
- In Western Undulating Zone, there may be attack of early shoot borer in sugarcane crop at tillering stage. Spray Triazophos/Profenophos @ 2ml/litre of water after current spells of rain.
- In Kalahandi and Nuapara districts of Western Undulating Zone, sucking pests like aphids, jassids may infest the cotton crop at two to four week stage. At initial stage of infestation, spray neem oil 600ml/acre @ 3ml/litre of water.
- In East and South Eastern Coastal Plain Zone and Western Undulating Zone, white ant attack has been found on groundnut crop in low rain fall areas. Go for soil drenching with 2 ml Chloropyriphos in each litre water thoroughly.

▪ **West Bengal:**

- Due to continuous widespread rainfall with heavy to very heavy rain at isolated places from last few days, there is flood situation in Siliguri area of Darjeeling, some areas of Jalpaiguri and Cooch Behar districts of Sub-Himalayan West Bengal. Due to water logging vegetables, transplanted rice fields and rice nursery is likely to get damage. Farmers are advised to drain out excess water from rice nursery, transplanted rice fields and vegetables. They are also advised to undertake gap filling in crop affected areas after receding of flood water. If nursery is available, undertake re-transplanting of rice seedling in more affected area or undertake direct sowing of rice by selecting short duration rice varieties.
- In Darjeeling district of Hill Zone, drain out excess water from turmeric, ginger, cardamom and in Mandarin orange gardens. Avoid water stagnation in round chilli. Undertake transplanting of rice at optimum water level.
- In South Dinajpur and Malda districts of Old Alluvial Zone, continue transplanting of *Aman* rice in the main fields at optimum water level with skip row technique. Undertake transplanting for early cabbage, brocolli etc after current spells of heavy rain. Before transplanting the seedling should be treated with Bavistin or Carbendazim.
- In Purba Medinipur and South 24 Parganas of Coastal Saline Zone, continue transplanting of *Aman* rice.. Farmers are requested to keep some seedlings in seed bed in case of low land so that they can re-transplant the seedlings if there is damage due to flood. Undertake nursery sowing for tomato and brinjal
- In Burdwan, Hooghly, Howrah, Murshidabad, Nadia, North 24 Parganas of New Alluvial Zone, continue transplanting of rice. Maintain 5cm standing water in the rice field.
- In Bankura, Birbhum, Purulia, West Midnapore of Laterite and Red Soil Zone, complete transplanting of rice. Maintain the water depth at 2cm in the field of rice.
- In Coastal Saline Zone, there is chance of falsa disease in betel vine due to high humidity and damp weather, apply 0.5% Bordeaux mixture.
- In New Alluvial Zone due to cloudy weather and high humid condition, attack of leaf and collar rot are prevalent in betelvine. Spray Blitox 4 gram per litre of water. Also there is chance of fungal collar-rot in surankand/elephant foot yam. Keep the field weed-free and clean. Apply Carbendazim (1 gm) and Thiram (2 gm) together per litre of water. Undertake plant protection measures after current spells of rain.
- In Jalpaiguri, Cooch Behar and North Dinajpur of Terai Zone, apply Thiamethoxam @1g/3litre or Acetamiprid @1ml/litre of water against aphid, white fly, jassid, mosaic in legume vegetable after current spells of rain.

▪ **Andaman and Nicobar Islands:**

- In Andaman and Nicobar, undertake nursery preparation for long duration rice variety (C-14-8).
- In Andaman and Nicobar, spray Profenophos 50 EC @ 1 litre per hectare or Indoxiacarb ISEC @ 120 ml per hectare for control of leaf folder in rice main field after current spells of rain.

▪ **Bihar:**

- In South Bihar Alluvial Zone, continue transplanting of rice with 20-25 days old seedlings. Complete sowing of cucurbits, pigeon pea and maize. Continue planting of the mango, litchi and guava plants in already prepared pits.
- In Araria, Katihar, Khagaria, Kishanganj, Madhepura, Purnea, Saharsa and Supaul districts in North East Alluvial Zone, continue transplanting of 20-25 days old paddy seedling in prepared fields with spacing of 20 x 15 (R x P) cm. Prepare drainage channel to remove excess water from the field of *kharif* maize, pulses, jute and oilseed. Continue planting of horticulture crops like mango, litchi, guava and papaya.
- In Begusarai, Darbhanga, East Champaran, Gopalganj, Samastipur, West Champaran districts of North West Alluvial Plain Zone, continue transplanting of rice in medium and low land area, planting of mango and banana and sowing of arhar and Yam bean. Undertake land preparation for transplanting of kharif onion, nursery sowing of chilli and sowing of radish.
- In North East Alluvial Zone, in the present weather situation, attack of shoot borer may be enhanced in sugarcane. Spray Fipronil 0.3% GR @ 33 Kg/ha or spray Fipronil 5 SC @ 2ml/litre of water to control borer. To control brinjal fruit & shoot borer in brinjal or tomato fruit borer in tomato, apply Emamectin Benzoate @ 1g/3litres of water or Indoxacarb 14.5 EC @ 1 ml/litre of water or Novaluran 10 EC @ 1ml/litre of water. Undertake plant protection measures after current spells of rain.
- In South Bihar Alluvial Zone, use of bait trap (mixing jaggary with Malathion 10 % and putting at different corners of the field) against fruit fly in cucurbitaceous crops. Spraying of Phosmite @ 1.5 - 2 ml per litre of water is advised

to control mite and spraying of Dimethoate 30 EC @ 2 ml/litre of water is advised against jassid in cucurbitaceous crops.

▪ **Jharkhand:**

- In Saraikela, East & West Singhbhum districts in South Eastern Plateau Zone of Jharkhand, complete transplanting of rice. Continue sowing of direct seeded upland rice, maize, groundnut and pigeon pea.
- In South Eastern Plateau Zone, complete sowing of urad/moong. Intermittent rain/drizzle and high humidity favours the occurrence of disease and pests on urd bean/moong bean. Farmers are advised regular monitoring of field for disease and pest infestation.
- In Western Plateau Zone, continue transplanting of rice, complete sowing of groundnut, arhar, black gram, maize and sowing of rainy season vegetables like Bhindi, Bean, French bean etc. Make channels in the field of different vegetables and other crops to keep the field well drained. Complete direct sowing of rice, sowing of maize, arhar, urd and groundnut etc. in uplands using recommended varieties and methods.
- In Central and North Eastern parts of Jharkhand, continue transplanting of rice and complete sowing arhar, groundnut, marua, maize and plantation of new trees. Repair the broken bunds of the field to conserve rain water and incorporate, daincha or sunhemp in soil for green manuring in the standing crop.
- In South Eastern Plateau Zone, in cucurbitaceous crops, if attack of red pumpkin beetle is found, spraying of Diclorvos 76 EC (DDVP) @ 1 ml/litre of water is advised after current spells of rain.
- In South Eastern Plateau Zone, presently weather is conducive for the occurrence of pests like hairy caterpillar on groundnut crop. So, in early stage of caterpillar, apply Dichlorvos @ 0.5 ml per litre of water after current spells of rain. For control of adult caterpillar, provide bamboo perch in the fields for predatory birds.
- Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, there may be attack of foot and mouth disease in Cattle due to rainy weather. Wash the wound with Potassium per Manganate solution.
- In North East Alluvial Zone of Bihar, provide vaccination against Anthrax, Black Quarter and Galghontu disease to animals.
- In Old Alluvial Zone of West Bengal, carry out deworming in cattle and poultry.
- In Andaman and Nicobar Islands, carry out deworming in all the livestock followed by mineral mixture supplement @ 1% of the feed.

CENTRAL INDIA [M.P., CHHATTISGARH]



Maize



Rice



Okra



Red gram

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh, all districts of West Madhya Pradesh except Bhind, Sheopur and Ujjain, all districts of Chhattisgarh except Dantewada and Koriya.
- **Advisories:**
 - As rain/thundershowers likely at many places over Madhya Pradesh on 1st & 2nd August and over Chhattisgarh from 31st July to 2nd August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy rain very likely at isolated places over northwest Madhya Pradesh on 29th and over Chhattisgarh on 1st & 2nd August, provide adequate drainage in standing crop fields.
- **Madhya Pradesh:**
 - In East Madhya Pradesh, continue transplanting of rice. Drain out excess water from already sown maize and soybean crop fields. Continue transplanting of vegetables.
 - In Indore and Ujjain districts, continue transplanting of vegetables. Undertake intercultural operations in soybean and maize after current spells of rain.
 - In Morena and Gwalior districts, continue transplanting of vegetables. Undertake intercultural operations in red gram and bajra after current spells of rain.
 - In Hoshangabad and Narsinghpur districts, drain out excess water from soybean and red gram fields. Undertake intercultural operations in soybean, red gram and vegetable fields after current spells of rain.
 - In Chhatarpur, Tikamgarh and Datia districts, complete sowing of soybean and maize. Continue transplanting of rice.
 - In Jhabua, Alirajpur and Dhar districts, complete transplanting of rice. Continue transplanting of vegetables. Provide adequate drainage in crop fields. Undertake intercultural operations in soybean, black gram and maize after

current spells of rain.

- In Vindhya Plateau Zone, due to cloudy weather there are chances of attack of sucking pests in brinjal, tomato and chilli, spray Thiamethoxam @ 0.35 g/litre of water after current spells of rain.
- In Bundelkhand Zone, due to humid weather there are chances of attack of semi lopper in soybean crop, spray Triazophos 40 E.C. @ 1.5 ml/litre of water after current spells of rain.

▪ **Chhattisgarh:**

- In North Chhattisgarh, complete transplanting of rice. Continue planting of orchard crops like Papaya, Guava, Mango, Litchi and Pomegranate. Continue nursery sowing of brinjal, early tomato, chilli and onion in upland areas.
- In Central Chhattisgarh, complete sowing of red gram, sesame, soybean and maize. Continue nursery preparation for vegetables. Complete transplanting of rice. Undertake intercultural operations in rice, sugarcane and vegetables after current spells of rain. Undertake planting of orchard crops like papaya, mango, guava etc.
- In South Chhattisgarh, continue transplanting of rice. Complete sowing of soybean, groundnut and sesame. Continue nursery preparation for planting of orchards of papaya and custard apple. Undertake intercultural operations in standing crops after current spells of rain.
- In South Chhattisgarh, due to humid weather there are chances of attack of sucking pests in vegetables like tomato, brinjal, cabbage etc. spray Dimethoate 40 EC @ 1.5ml/litre of water after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.

❖ **Animal Husbandry**

- In Madhya Pradesh, vaccinate cattle for control of FMD and HS disease.
- In Chhattisgarh, farmers are advised to carry out vaccination of their animals against Black Quarter, HS and Anthrax disease.

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



Groundnut



Maize



Rice



Okra

- **Realised Rainfall:** Rainfall occurred in Jammu, Kathua, Kulgam, Rajouri, Reasi, Samba and Udhampur districts of Jammu & Kashmir, all districts of Himachal Pradesh except Kinnaur, Kullu and Lahaul & Spiti, all districts of Uttarakhand, Amritsar, Gurudaspur, Kapurthala, Ludhiana, Moga, Ropar, Mohali and Tarn Taran districts of Punjab, in Ambala, Chandigarh, Panchkula, Panipat and Yamunanagar districts of Haryana, in North East Delhi district of Delhi, Azamgarh, Bhairai, Ballia, Balrampur, Banda, Barabanki, Basti, Chandauli, Faizabad, Gazipur, Gonda, Gorakhpur, Hardoi, Kheri, Lucknow, Maharajganj, Sant Ravidas Nagar, Shrawasti, Sidharthnagar, Sitapur, Sonbhadra, Sultanpur, Unnao and Varanasi districts of East Uttar Pradesh, Auriya, Badaun, Bhagpat, Bareilly, Bijnour, Hamirpur, Jalaun, Jhansi, Jotiba Phulenagar, Lalitpur, Mahamayanagar, Mahoba, Meerut, Moradabad, Pilibhit, Rampur, Saharanpur and Shahjhanpur districts of West Uttar Pradesh, Banswara, Baran, Bhilwara, Chittorgarh, Dausa, Dungarpur, Jhalawar, Kota, Pratapgarh, Rajsamand, Sirohi, Tonk and Udaipur districts of East Rajasthan. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain is very likely at most/many places over Uttarakhand, Himachal Pradesh, Haryana, Chandigarh & Delhi, Uttar Pradesh and East Rajasthan during the period, over Jammu and Kashmir on 31st July & 1st August and over Punjab on 31st July & 1st August, it is advised to postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops.
 - As heavy rain very likely at isolated places over Uttarakhand during the period, over Himachal Pradesh from 29th to 1st, over west Uttar Pradesh and East Rajasthan on 29th to 31st July and over Haryana, Chandigarh & Delhi on 1st August, provide adequate drainage in standing crop fields to avoid water stagnation.
- **Jammu & Kashmir:**
 - In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, strengthen and raise the height of field bunds of already transplanted paddy to retain optimum water level. Drain out excess water from the maize, mash, fodder and vegetable fields.
 - In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, undertake weeding and hoeing in paddy and maize crops after 15 days of transplanting and sowing respectively. Drain out excess water in the maize field. Raise the height of field bunds in transplanted paddy field to retain optimum water level.
 - In Srinagar, Badgam, Kupwara and Baramulla districts of Valley Temperate Zone, apply first dose of Nitrogen @ 3.35kg Urea per kanal after 15-18 days of transplanting of paddy. Open drainage channels to avoid water stagnation

in maize, pulses and saffron fields.

- In Leh district of Cold Arid Zone, continue harvesting of turnips, knolkhol, lettuce, kale, Chinese cabbage, broccoli, summer squash and radish in clear weather. Farmers are advised to apply third top dressing with Nitrogenous fertilizers in tomatoes in green houses. Proper irrigation should be applied at regular intervals of time.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, weather is congenial for attack of stem borer and blast on paddy crop. To control stem borer, apply Carbofuran 3G @ 20kg/ha in standing water and do not drain or irrigate the field for 72 hrs of application. To control blast, spray Tricyclazole (beam) @ 0.06% after current spells of rain.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, there may be chances of early & late blight and leaf curl on tomato, jassid and white fly attack on brinjal and attack of Jassid on okra crop as these crops are in fruiting stage in the region. Monitor the crops and take plant protection measures if incidence is noticed.

▪ **Uttarakhand:**

- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, due to heavy rainfall in the last week, farmers are advised to drain out excess water in pigeon pea, maize, paddy, sugarcane, fodder and vegetable fields by making drain channels. In flooded and water logged areas, transplanting of rice with improved varieties like Jalpriya, Jallahri, Madhukar and Chalia-49 may be done. Avoid stagnation of water in pulse crops.
- In Udhampur district of Bhabar and Tarai Zone, undertake sowing of urd and moong short duration variety of maize and transplanting of chilli on the ridge after current spells of heavy rain. Avoid water stagnation in the fields.
- In Nainital district of Bhabar and Tarai Zone, undertake thinning in maize and soybean crop after weeding and hoeing for removing the weed from field. Weeding and hoeing should be done in the paddy field and 1.25 Kg/nali Urea should be given as top dressing in the Chetki/ Jethi variety of Paddy after current spells of heavy rain. Drain out excess water from tomato, capsicum and brinjal fields followed by hoeing in the mid hills. Continue transplanting of cabbage and knoll-khol and sowing of radish and turnip in hilly regions after current spells of heavy rain.
- In Tehri Garhwal, Chamoli, Champawat, Pithoragarh, Rudrapur and Uttarkashi districts of Hill Zone, drain out excess water in the crop fields. Do the weeding and hoeing to control the weed growth. Complete transplanting of irrigated paddy. Undertake sowing of French bean, okra and radish in empty fields after current spells of heavy rain. Undertake plantation of new fruit plants in orchards.
- In Nainital district of Bhabar and Tarai Zone, due to prevailing weather, if Parnjalak insects appears in Amaranth crop, spray the solution of Methyl-O- Demeton or Dimethoate @ 1ml/litre of water after current spells of rain.
- In Udhampur district of Bhabar and Tarai Zone, if the occurrence of Black Hispa insect or white spot is observed in the leaf of paddy, spray 50 EC Triazophos @ 750ml/hectare in the field. Keeping in view the prevailing weather in the region, there is chances of occurrence of sap sucking insects like white fly, aphids, thrips are very high in chilli crops. To protect the crops from these insects, spray Copper-Oxi-Chloride @ 0.25% in the interval of 15 days. Undertake plant protection methods after current spells of rain

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, complete transplanting of paddy. Continue sowing of *kharif* pulses mung, mash, soybean, cowpeas and kulthi. In mid hill areas, complete transplanting of tomato, brinjal, chilli and capsicum. Continue sowing of cucurbits such as cucumber, bitter gourd, bottle gourd and summer squash, ageti okra, French bean and radish. Continue planting of ginger, turmeric.
- In Mid Hills Sub-Humid Zone of Himachal Pradesh, in Bilaspur, Solan, Shimla and Sirmaur districts, complete sowing of bhindi, cucurbits, French bean, moong and mash and nursery raising and transplanting of tomato, chilli, capsicum and brinjal. Continue sowing of fodder crops like maize, cowpea and soybean.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, undertake sowing of oat. Continue nursery sowing of vegetables.
- In Una, Hamirpur, Kangra and Chamba districts, of Sub-Montane and Low Hills Sub-Tropical Zone, prevailing weather is conducive for attack of blast and brown spot in paddy, for control, spray Carbendazim @ 2g per litre of water after current spells of rain.
- In Kullu and Mandi districts, weather is conducive for attack of alternaria leaf spot in apple, for control spray Hexaconazole (Contaf) in 200 litres of water after current spells of rain.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, weather is conducive for attack of mite and jassids in okra, chilli and cucurbitaceous, for control spray Phosmite @ 1.5 to 2 ml per litre of water for control mite and spray Dimethoate 30 EC @ 2 ml per litre of water for control of jassids after current spells of rain.
- In High Hills Temperate Dry Zone of Himachal Pradesh, in Kinnaur and Lahaul & Spiti, present weather is conducive for attack of leaf spot in cauliflower, tomato and cabbage, for control spray Indofil M45 @ 0.25 % or Blitox50 @ 0.30 % and repeat if necessary at 10-15 days interval after current spells of rain.

▪ **Rajasthan:**

- In East Rajasthan, Bhilwara, Chitorgarh, Rajsamand, Sirohi, Udaipur districts of Sub Humid Southern Plain and Aravali Hill Zone, undertake sowing of short duration varieties of kharif crops along with intercropping like maize-urd (2:2), maize-moong/cowpea (1:1) or maize-cluster bean (2:2). Undertake sowing of maize for fodder. Continue

- nursery sowing of brinjal, tomato, rainy onion, cauliflower and chilli with realized and expected rainfall.
- In Alwar, Bharatpur, Dhaulpur, Karauli, Sawaimadhopur districts of Flood Prone Eastern Plain Zone, complete sowing of sorghum, pearl millet, guar, sesame, mung, urad, maize. For late sowing prefer early maturing varieties of green gram, moth bean and urd. Undertake sowing of dhaincha for green manuring. Undertake sowing of early maturing varieties of moong. Treat seed with Carbendazim @ 2g/kg followed by Rhizobium before sowing.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, complete sowing of pearl millet, sorghum, maize, green gram, cowpea, moth and khira, bottle gourd, ridge gourd, bitter gourd, cucumber & cluster bean. Continue nursery preparation of kharif onion.
 - In Jhalawar, Kota, Bundi, Baran of Southeastern Humid Plain Zone, continue transplanting of paddy. Continue sowing of soybean, maize, urad, mung.
 - In Arid Western Plain Zone, in Jaisalmer and Bikaner districts, continue sowing of bajra, mung, cluster bean and moth. In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, continue sowing of short duration bajra variety and moth, moong, sesame, groundnut and cucurbitaceous.
 - In Irrigated North Western Plain Zone, continue transplanting of rice. Continue sowing of guar, bajra, sesame, mung, moth, and castor in Hanumangarh district with realised rainfall.
 - In Irrigated North Western Plain Zone, Hanumangarh and Sriganganagar, prevailing weather condition is congenial for attack of termite, stem borer and root borer in Sugarcane. For control of termite, apply Chlorpyrifos 20 EC @ 4 litres or apply Emidacloprid 200 SL @ 500 ml. per hectare with irrigation; for control of stem borer and root borer spray dust Furadan 3% @ 6 kg. per bhiga or Foret 10% @ 4 Kg per bhiga after current spells of rain.
 - In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone, prevailing weather condition is congenial for attack of leaf spot in groundnut, for control spray Bavistin @ 0.5 g or Mencozeb @ 2 g per litre of water after current spells of rain.
 - In Arid Western Plain Zone, in Barmer, Churu, Jalore, Jodhpur, Pali districts, prevailing weather condition is congenial for attack of termite in groundnut, for control apply Chlorpyrifos 20 EC @ 4 litres per hectare along with irrigation after current spells of rain.
 - In Dungarpur and Banswara districts of Southern Humid Plain Zone, prevailing weather condition is congenial for attack of stem fly/Semiloopers/girdle beetle in soybean for control spray Triazophos 40 EC or Profenophos 50 EC @ 1.25 litres per hectare or Dimethoate 30 EC @ 1 litre per hectare after current spells of rain.
- **Punjab, Haryana and Delhi:**
- In Punjab, in Fazilka, Ferozepur and Faridkot districts, complete the transplanting of short duration varieties of rice and sowing of cotton. Continue sowing of okra, maize and planting of sugarcane. Continue transplanting of chilli and cucurbits on the ridges. Complete the sowing of moong.
 - In Moga, Bhatinda, Barnala, Mutsar, Sangrur and Mansa districts, continue transplanting of chilli, tomato, bell pepper. Continue sowing of cucurbits, round gourd, sponge gourd, okra, and cluster bean. Complete sowing of cotton, transplanting of paddy and undertake sowing of fodder crops. Drain out the excess water from the cotton fields.
 - In Central Plain Zone of Punjab, complete the transplanting of basmati varieties and undertake sowing of fodder crops.
 - In Gurdaspur district of Punjab, complete transplanting of rice and continue sowing of maize. Drain out excess water from field of maize.
 - In Ajitgarh, Rupnagar and SBS Nagar, continue sowing of maize, mash, okra, cucurbits, cowpea, sesame and nursery raising of early varieties of cauliflower, brinjal and tomato.
 - In Western Zone of Haryana, continue transplanting of rice, sowing of arhar, green gram and black gram. Complete the sowing of guar/bajra and sowing of leafy vegetables, bottle gourd, cucumber, ridge gourd summer radish. Undertake intercultural / hoeing operations in cotton crops for conserving the moisture and removing the weeds on a non rainy day. Undertake planting the fruits crops.
 - In Eastern Zone of Haryana, continue transplanting of rice and continue sowing of fodder crops such as guar, maize and bajra.
 - In Western Semi-Arid Zone of Delhi, continue field preparation for sowing of maize, pigeon pea, onion and continue sowing of cotton, green gram and black gram. Continue nursery sowing of rice, sowing of okra, French bean, cluster bean, baby corn and fodder crops such as sorghum, bajra, cluster bean and maize. Undertake transplanting of early cauliflower, tomato, chilli and brinjal and sowing of cucurbits, bottle gourd, bitter gourd, pumpkin, ridge gourd and cucumber. Undertake sowing of soybean and bajra. Conserve rain water in the rice field.
 - In Western Plain Zone of Punjab, there is chance of top borer in the sugarcane fields, apply 10 kg Ferterra 0.4 GR or 12 kg carbofuran encapsulated 3G or Phorate encapsulated 10G at the base of the shoots on a non rainy day .
 - In Western Semi-Arid Zone of Delhi, monitor the cucurbitaceous crops against attack of fruit fly, use 'Methyl Eugenol trap, if symptoms seen, spray Rogor @ 2 ml + 10 g sugar or jaggary/litre water at 50 litres/ha after current spells of rain.
- **Uttar Pradesh:**
- In Central Plain Zone of East Uttar Pradesh, complete transplanting of early maturing varieties of paddy. Complete sowing of bajra, continue sowing of maize, arhar, jowar, urad, mung, moth, soybean, sesame, groundnut, kharif sunflower. Continue sowing of lobia, jowar, maize, bajra, guar, and multicutting M.P. Chari for green fodder. Undertake sowing of bhindi, lobia and cucurbitaceous and transplanting of nursery of early maturing varieties

of brinjal, chilli, cauliflower. Continue sowing of spinach, lobia, louki, torai and tinda.

- In Eastern Plain Zone of East Uttar Pradesh, continue transplanting of paddy. Continue direct sowing of short duration variety of rice. Continue sowing of arhar, jowar, bajra, urad, mung, maize.
- In North Eastern Plain Zone of East Uttar Pradesh, Complete transplanting of paddy and continue sowing of kharif maize, pigeon pea, urad, mung, sesame, groundnut, jowar and cowpea.
- In Western Plain Zone of Uttar Pradesh, continue transplanting of paddy and sowing of pigeon pea, maize. Continue transplanting of tomato, chilli and sowing of bhindi, cucurbits and sowing of sunflower, urad, mung.
- In Bundelkhand Zone of West Uttar Pradesh, continue sowing of long duration varieties of groundnut, soybean, jowar, arhar, maize, urad, bajra, mung, sesame. Continue nursery sowing of early maturing varieties of tomato, cabbage, brinjal, chilli, cauli flower and transplanting of brinjal, chilli, tomato, cabbage, cauli flower. Complete sowing of jowar, maize, bajra, gwar, and chari for green fodder and dhaincha for manuring. Complete transplanting of paddy in irrigated areas.
- In Bundelkhand Zone of West Uttar Pradesh, due to prevailing weather condition, there may be chances of attack of yellow mosaic in urad, mung and groundnut, for control spray Monocrotophos @ 1.5 litres in one hectare after current spells of rain.
- In Central Plain Zone of East Uttar Pradesh due to prevailing weather condition, there may be chances of attack of leaf roller in standing crop of maize, for control spray Fenitrothion 50 EC @ 500 to 700 ml or Quinalphos 25 EC @ 2 litres in 700 to 800 litres of water per hectare after current spells of rain.
- In Central Plain Zone of East Uttar Pradesh, due to high humid weather condition, there may be chances of attack of stem borer in maize, for control, spray Dimethoate 30 EC @ 1 litre or Quinalphos 25 EC @ 1.5 litres in 700 to 800 litres of water per hectare after current spells of rain.
- Suitable varieties for sowing are given in Annexure II.

❖ **Horticulture:**

- In Central Plain Zone of East Uttar Pradesh and Bundelkhand Zone of West Uttar Pradesh undertake planting of new orchard of mango, guava, ber, lichi, aonla, lemon, ber, papaya.
- In Sub-Montane and Low Hills Sub-Tropical Zone, in Una, Hamirpur, Kangra and Chamba districts, undertake plantation of mango, litchi, guava, citrus, laquat and amla.
- In Una, Hamirpur, Kangra and Chamba districts of Himachal Pradesh, weather is conducive for citrus canker on citrus plants, for control spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres of water on a non rainy day.
- In Udham Singh Nagar district of Bhabar and Tarai Zone, undertake planting of mango and guava in the orchard.
- In Nainital district of Bhabar and Tarai Zone of Uttarakhand, fruit plants like mango, guava, lemon, papaya, litchi should be planted in this month.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, farmers are advised to undertake cultivation of new orchards of evergreen fruits and gap filling in old orchards.

❖ **Animal Husbandry**

- In Jaipur, Ajmer, Tonk and Dausa districts of Semi-Arid Eastern Plain Zone of Rajasthan, animals may be attacked by external & internal parasites. To control internal parasites give Albendazole or Fenbendazole under the guidance of Veterinary Doctor. To control attack of external parasites like ticks, flies, mosquitoes etc. spray Butox on animal surrounding & body.
- In sub tropical Zone of Jammu Kashmir, give 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 Nainital district of Bhabar and Tarai Zone of Uttarakhand, to save the poultry birds from Ranikhet disease, vaccination (R B 2) should be done when they attained the age of 6-8 weeks.
- In Dehradun, Pauri and Haridwar districts of Sub Humid Sub Tropic Zone, there is possibility of foot and mouth diseases and lagria in cow and buffaloes. Give vaccination to the animals against these diseases.

❖ **Apiculture:**

- In Himachal Pradesh, to control mites attack on honeybees, dust Sulphur on sealed brood in the colony and not on larvae. Also insert empty frame/combs for egg laying to the queen as the population starts builds up.
- In Jammu, Kathua, Samba and Reasi districts of Sub Tropical Zone, kill wasps with a wooden flap and dusting or spraying with insecticides. Keep colonies in stand to give protection against ants. Check ants by placing legs of bee hive stand in water in water pots.
- In Rajouri, Ramban, Poonch and Udhampur districts of Intermediate Zone, for the protection honey bee colonies from ants, farmers are advised to put the legs of apiary into water so that ants could not attack apiary.

Districtwise realised rainfall and % departure for past three weeks is given below in Annexure I

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	13.07.16		20.07.16		27.07.16	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	11.8	-89	131.0	27	199.0	83
Dibang Valley	**	**	**	**	**	**
East Kameng	16.5	-81	36.4	-51	72.8	-17
East Siang	52.7	-75	311.4	25	611.5	173
Kurung Kumey	**	**	**	**	**	**
Lohit	39.3	-71	195.5	20	318.4	86
Lower Dibang Valley	23.9	-44	516.6	727	903.3	1531
Lower Subansari	**	**	**	**	**	**
Papumpare	224.8	51	204.9	42	171.0	64
Tawang	102.0	-45	147.0	-16	111.2	-28
Tirap	32.8	-80	86.4	-60	189.4	-10
Upper Siang	110.4	-24	137.8	4	197.8	42
Upper Subansari	108.6	93	65.0	18	61.2	58
West Kameng	65.6	-65	145.3	-17	43.6	-72
West Siang	59.0	-52	80.4	-45	115.4	-24
Assam & Meghalaya						
Assam						
Baksa	87.5	-47	159.0	3	229.2	51
Barpeta	116.8	-29	117.3	-24	253.1	67
Bongaigaon	83.4	-54	165.0	4	262.6	60
Cachar	102.7	-9	136.0	7	77.9	-34
Chirang	165.0	-8	274.0	73	551.6	236
Darrang	**	**	**	**	**	**
Dhemaji	**	**	**	**	**	**
Dhubri	24.5	-83	126.5	15	132.0	-11
Dibrugarh	57.7	-54	74.8	-39	154.3	35
Goalpara	10.3	-91	104.0	4	183.3	73
Golaghat	115.5	60	52.6	-33	42.1	-39
Hailakandi	65.2	-29	51.2	-47	66.5	-33
Jorhat	102.7	13	143.6	50	49.6	-28
Kamrup(Rural)	71.9	-21	122.5	47	103.5	87
Kamrup(Metro)	71.2	-22	137.3	65	38.9	-30
Karbi Anglong	95.8	60	5.7	-87	48.6	-22
Karimganj	66.5	-57	103.1	-27	133.6	-4
Kokrajhar	40.5	-79	164.3	0	210.0	14
Lakhimpur	146.4	-3	291.5	130	162.3	36
Morigaon	23.2	-76	102.0	32	127.8	68
N.C.Hills	**	**	24.0	-58	29.6	-58
Nagaon	50.4	-39	58.5	-28	80.5	8
Nalbari	106.1	-1	116.7	11	230.6	157
Sonitpur	29.0	-68	64.0	-29	80.1	6

Sibsagar	65.1	-30	92.8	32	99.1	24
Tinsukia	76.9	-39	66.8	-43	212.9	74
Udalgiri	32.8	-63	73.6	-10	116.6	102
Meghalaya						
East Garo Hills	88.8	7	433.0	211	447.8	350
East Khasi Hills	155.1	-63	1000.4	203	921.7	199
Jaintia Hills	8.0	-98	24.0	-89	11.0	-97
Ribhoi	25.5	-75	72.7	-27	107.2	37
South Garo Hills	6.0	-95	8.0	-97	6.0	-95
West Garo Hills	38.4	-65	131.8	30	82.2	-27
West Khasi Hills	36.0	-87	277.0	141	109.0	-58
NMMT						
Mizoram						
Aizwal	73.7	-20	17.3	-84	90.2	-13
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	106.0	16	69.0	-28	47.0	-54
Serchhip	124.1	25	66.8	-34	96.5	-9
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	82.1	-9	59.5	-12	64.5	-14
Imphal west	118.3	94	121.5	142	105.0	94
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	49.2	-11	59.6	139	35.7	40
Kephire	**	**	**	**	**	**
Kohima	39.2	-54	63.0	-19	37.1	-58
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	32.0	-63	122.0	56	59.0	-33
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	25.0	-71	66.5	-8	44.6	-43
NorthTripura	130.5	26	27.5	-68	33.9	-63
SouthTripura	34.2	-72	181.9	57	46.4	-55
West Tripura	20.9	-78	155.1	79	36.9	-58
Himachal Pradesh						

Bilaspur	9.4	-86	27.2	-65	44.7	-45
Chamba	35.0	-67	47.5	-71	41.5	-74
Hamirpur	35.2	-47	52.7	-51	39.9	-59
Kangra	68.3	-45	103.5	-30	139.3	-9
Kinnaur	1.6	-89	15.7	-19	1.3	-93
Kullu	7.8	-81	42.6	-11	20.7	-56
Lahaul and Spiti	1.9	-94	1.9	-95	8.0	-82
Mandi	61.7	-24	55.3	-47	70.3	-37
Shimla	44.4	-11	54.3	-9	41.8	-29
Sirmaur	25.8	-78	140.8	16	84.3	-36
Solan	13.8	-84	39.9	-57	52.3	-41
Una	32.3	-65	23.6	-67	57.8	-21
Punjab						
Amritsar	18.5	-59	93.2	73	39.4	-26
Barnala	4.0	-86	5.0	-85	0.0	-100
Bhatinda	38.0	84	23.9	-17	0.0	-100
Faridkot	23.4	23	32.6	-8	8.6	-66
Fatehgarh Saheb	0.0	-100	22.7	-49	28.8	-36
Ferozpur	6.2	-82	22.0	-24	7.3	-77
Gurdaspur	36.2	-48	87.6	7	102.0	26
Hoshiarpur	14.3	-78	4.2	-94	18.4	-65
Jalandhar	3.6	-94	40.8	-8	13.0	-73
Kapurthala	74.5	100	42.7	3	65.7	46
Ludhiana	10.0	-82	27.0	-42	32.0	-21
Mansa	30.4	19	58.0	78	0.0	-100
Moga	45.6	44	0.0	-100	52.8	102
Muktesar	31.2	4	47.0	75	0.0	-100
Nawashahar	21.8	-77	37.2	-34	21.2	-65
Patiala	13.1	-81	12.2	-76	25.2	-51
Ropar	7.4	-90	38.7	-41	64.9	4
Sangrur	51.2	47	26.9	-30	24.3	-37
Mohali	0.0	-100	0.0	-100	124.0	144
TarnTaran	17.0	-36	12.5	-61	37.0	7
Haryana,Chd,Delhi						
Haryana						
Ambala	1.0	-99	26.7	-56	82.7	10
Bhiwani	6.1	-81	73.4	143	0.8	-98
Chandigarh	0.5	-99	22.4	-64	65.1	3
Faridabad	32.2	-30	125.7	124	9.0	-84
Fatehabad	11.0	-59	33.7	50	0.0	-100
Gurgaon	18.7	-54	84.6	63	14.4	-64
Hissar	2.9	-90	48.6	87	2.9	-92
Jhajar	22.1	-40	83.0	88	0.1	-99
Jind	12.2	-72	24.3	-31	4.5	-85
Katihah	6.4	-81	8.3	-74	14.0	-57
Karnal	7.5	-88	33.0	-34	4.0	-89
Kurukshetra	0.0	-100	3.7	-92	23.7	-42
Mahendragarh	9.4	-71	66.3	71	7.2	-84
Mewat	38.1	-10	79.0	85	23.5	-46

Palwal	12.0	-73	90.5	113	12.3	-70
Panchkkula	4.1	-95	8.1	-89	68.5	-15
Panipat	11.0	-81	13.8	-67	30.0	-23
Rewari	14.8	-56	131.6	200	3.4	-92
Rohtak	14.6	-63	47.4	-16	4.2	-91
Sirsa	0.0	-100	1.8	-93	0.0	-100
Sonepat	26.3	-52	36.7	-13	2.8	-94
Yamunanagar	1.2	-98	208.9	212	58.3	-30
Delhi						
Central Delhi	78.0	47	123.0	108	16.0	-72
East Delhi	**	**	4.0	-93	0.0	-100
New Delhi	4.4	-92	142.2	141	3.2	-94
North Delhi	63.8	20	113.2	92	14.3	-75
North East Delhi	3.0	-94	30.0	-49	59.0	4
North West Delhi	49.0	-8	11.0	-81	0.0	-100
South Delhi	30.8	-42	61.7	4	15.6	-73
South West Delhi	18.8	-65	103.3	75	4.6	-92
West Delhi	118.0	123	144.0	144	5.0	-91
Jammu & Kashmir						
Anantnag	4.9	-64	24.3	22	14.8	-37
Badgam	2.0	-76	13.8	-4	11.8	-41
Bandipore	**	**	**	**	**	**
Baramula	5.1	-66	7.0	-68	0.0	-100
Doda	30.0	18	29.4	-15	24.0	-25
Ganderbal	8.8	4	19.1	28	4.6	-74
Jammu	19.1	-72	105.0	46	190.5	101
Kargil	**	**	**	**	**	**
Kathua	26.2	-65	66.3	-17	148.5	21
Kistwar	**	**	**	**	**	**
Kulgam	1.7	-87	7.8	-61	41.6	76
Kupwara	0.0	-100	7.2	-47	22.2	-8
Ladakh(Leh)	0.0	-100	1.4	-53	0.9	-55
Poonch	**	**	**	**	**	**
Pulwama	0.4	-96	11.6	-42	10.8	-46
Rajouri	21.8	-63	65.8	19	63.2	-15
Ramban	11.9	-54	19.1	-45	14.7	-54
Reasi	9.4	-89	77.7	-38	158.4	8
Samba	18.9	-72	144.7	101	83.6	-12
Shopian	**	**	**	**	**	**
Srinagar	3.2	-62	1.9	-87	11.4	-35
Udhampur	2.2	-97	124.3	0	77.0	-48
East Madhya Pradesh						
Anuppur	57.3	-41	67.5	-28	68.8	-12
Balaghat	139.8	30	41.8	-66	78.8	-21
Chhatarpur	297.3	350	91.8	24	59.0	-22
Chindwara	239.5	245	22.2	-65	71.2	17
Damoh	472.6	546	75.2	-13	33.3	-59
Dindori	73.4	-29	76.7	-27	59.6	-29

Jabalpur	319.5	301	11.9	-84	88.6	13
Katni	238.1	205	51.8	-36	115.4	59
Mandla	383.6	285	71.6	-27	51.5	-48
Narsingpur	287.4	250	31.4	-60	105.8	37
Panna	127.2	68	84.5	-10	127.0	68
Rewa	82.8	36	45.4	-42	54.3	-19
Sagar	331.7	307	37.9	-53	86.6	13
Satna	455.0	677	91.3	27	49.3	-28
Seoni	241.4	179	37.3	-53	101.1	29
Shahdol	92.2	21	28.0	-66	102.0	53
Sidhi	18.0	-76	188.2	138	72.2	16
Singrauli	54.7	27	50.4	-27	91.2	48
Tikamgarh	137.0	108	31.3	-54	64.5	0
Umaria	100.1	35	46.2	-48	31.0	-54
West Madhya Pradesh						
Agar	169.4	35	5.2	-96	88.9	-33
Alirajpur	165.1	145	22.4	-59	32.7	-57
Asoknagar	215.8	277	15.5	-81	76.3	-13
Badwani	90.4	99	14.9	-69	30.6	-39
Betul	364.3	450	9.3	-85	66.0	-13
Bhind	29.0	-46	108.9	104	25.6	-55
Bhopal	357.9	372	43.3	-34	152.4	74
Burhanpur	182.5	308	24.0	-50	98.7	75
Datia	38.7	-31	24.5	-61	52.9	-18
Dewas	169.5	158	9.2	-87	52.7	-32
Dhar	114.2	95	17.9	-72	52.3	-24
Guna	275.6	276	17.3	-75	119.7	21
Gwalior	51.6	-21	67.4	6	59.4	-11
Harda	245.9	216	5.0	-94	73.4	-17
Hosangabad	732.1	657	26.4	-70	87.4	-5
Indore	192.1	242	14.5	-77	67.9	-4
Jhabua	99.0	78	15.5	-73	90.9	54
Khandwa	195.0	225	18.0	-69	85.3	29
Khargone	148.4	214	25.7	-51	46.1	-19
Mandsaur	177.6	231	17.6	-72	48.6	-35
Morena	56.4	17	94.5	63	32.4	-56
Neemuch	96.1	91	17.8	-71	50.8	-28
Raisen	362.6	338	31.1	-60	91.2	-5
Rajgarh	227.1	217	19.5	-67	47.4	-45
Ratlam	68.3	20	10.7	-84	66.3	-21
Sehore	382.8	365	31.6	-58	114.3	28
Shajapur	239.0	287	30.0	-49	98.3	17
Sheopur Kalani	26.3	-62	96.0	52	5.0	-94
Shivpuri	153.8	150	59.9	-7	68.7	-9
Ujjain	210.6	256	5.0	-91	21.4	-72
Vidisha	292.2	266	22.4	-71	68.6	-24
Chhattisgarh						
Bastar	188.0	166	66.1	-16	33.0	-64

Bijapur	311.9	230	48.9	-51	61.3	-50
Bilaspur	39.5	-49	100.1	15	62.5	-15
Dantewara	124.8	36	29.4	-75	29.8	-74
Dhamtari	89.6	16	77.8	-12	32.4	-55
Durg	86.3	27	49.0	-34	51.0	-25
Janjgir	32.3	-66	173.5	101	95.1	16
Jashpurnagar	31.3	-64	131.5	28	78.2	-13
Kanker	201.6	140	23.6	-71	109.0	33
Korba	35.7	-62	131.3	20	91.8	-8
Koriya	54.7	-42	130.0	35	25.3	-67
Kawardha	39.6	-40	**	**	**	**
Mahasumund	83.1	11	62.9	-9	142.9	92
Narayanpur	215.0	157	26.3	-72	84.3	-19
Raigarh	25.3	-71	138.2	57	75.8	3
Raipur	49.2	-38	50.3	-38	98.0	47
Rajnandgaon	89.6	17	41.4	-45	60.3	-25
Surguja	24.4	-74	114.3	9	63.3	-30
East Uttar Pradesh						
Allahabad	5.9	-91	58.7	-16	16.7	-66
Ambedkar Nagar	12.0	-83	44.0	-50	4.0	-94
Azamgarh	13.2	-82	240.9	142	34.4	-49
Bahraich	30.4	-61	217.2	120	97.1	26
Ballia	25.6	-67	168.6	116	31.4	-45
Balrampur	0.9	-99	172.3	46	74.6	-16
Banda	78.3	32	190.8	191	43.4	-14
Barabanki	21.1	-73	81.0	-5	76.0	6
Basti	10.3	-85	124.4	37	44.3	-47
Chandauli	33.0	-54	76.0	-12	39.0	-41
Deoria	13.0	-81	238.0	177	18.5	-74
Faizabad	3.6	-96	102.9	7	121.7	57
Farrukhabad	11.0	-83	26.2	-60	23.7	-57
Fatehpur	21.8	-70	41.4	-28	21.5	-58
Gazipur	20.8	-68	144.8	114	103.5	71
Gonda	7.2	-90	102.5	4	112.4	32
Gorakhpur	8.1	-90	182.7	76	67.7	-14
Hardoi	68.9	3	89.4	26	53.8	4
Jaunpur	7.1	-90	79.7	-6	13.8	-75
Kannauj	5.6	-90	20.7	-69	12.4	-77
Kanpur City	36.0	-31	65.2	20	8.7	-84
Kanpur Dehat	33.0	-39	41.6	-33	0.4	-99
Kaushambi	0.0	-100	34.7	-45	5.2	-89
Kheri	50.4	-37	135.4	103	129.2	77
Kushi nagar	1.5	-98	87.5	-11	11.0	-85
Lucknow	18.9	-74	82.5	35	37.7	-31
Maharajganj	11.0	-88	196.8	79	56.0	-39
Mau	16.0	-78	209.5	124	12.0	-85
Mirzapur	14.2	-79	286.9	261	17.5	-66
Pratapgarh	20.7	-68	83.8	17	10.3	-83
RaiBareilly	5.7	-92	46.3	-17	11.9	-76

Sahuji Maharajnagar	33.0	-48	84.5	36	9.5	-83
Sant Kabirnagar	0.0	-100	218.0	112	28.7	-62
Sant Ravidas Nagar	10.0	-86	101.0	17	37.0	-44
Shrawasti	29.3	-63	201.3	104	101.8	32
Sidharthnagar	5.7	-93	86.8	-7	71.8	-13
Sitapur	19.3	-73	88.3	25	40.7	-35
Sonbhadra	31.4	-52	120.3	66	90.6	48
Sultanpur	8.0	-90	74.5	4	47.9	-26
Unnao	42.4	-35	55.6	-20	35.5	-29
Varanasi	41.4	-45	113.7	26	42.2	-26
West Uttar Pradesh						
Agra	104.6	91	166.5	212	19.9	-67
Aligarh	33.4	-39	179.5	235	14.5	-73
Auraiya	27.5	-54	62.2	11	63.6	9
Badaun	55.0	-22	139.6	166	45.0	-18
Baghpat	12.6	-77	45.2	-14	54.9	28
Bareilly	39.6	-45	157.6	119	200.4	195
Bijnor	11.5	-86	208.3	169	153.1	59
Bulandsahar	37.3	-33	80.3	48	20.1	-62
Etah	84.3	45	212.4	346	20.1	-58
Etawah	14.7	-73	216.7	303	12.7	-78
Firozabad	29.4	-48	176.3	206	0.0	-100
GBNagar	12.0	-74	30.0	-38	0.0	-100
Ghaziabad	2.6	-95	23.5	-57	6.2	-88
Hamirpur	68.2	18	120.3	102	53.7	-19
Jalaun	25.6	-56	66.0	16	89.7	53
Jhansi	49.7	-27	34.4	-43	62.4	-5
Jotiba Phule Nagar	31.5	-57	92.0	50	111.5	61
Kanshiramnagar	31.0	-47	233.0	343	14.0	-76
Lalitpur	268.0	315	39.5	-43	58.0	-37
Mahamaya Nagar	40.0	-27	158.0	191	65.5	19
Mahoba	71.0	29	60.0	7	67.6	10
Mainpuri	1.5	-97	91.6	85	0.0	-100
Mathura	51.3	15	268.4	426	0.0	-100
Meerut	7.2	-90	99.2	65	38.8	-40
Moradabad	81.2	9	71.8	15	153.6	128
Muzaffarnagar	5.0	-94	101.7	79	18.0	-71
Pilibhit	24.9	-68	94.1	25	55.6	-31
Rampur	59.3	-26	54.9	-30	128.7	67
Saharanpur	7.0	-91	134.3	122	32.3	-44
Shahjahanpur	5.6	-92	133.7	82	61.8	-2
Uttarakhand						
Almora	16.0	-78	210.4	190	35.9	-54
Bageshwar	76.3	5	168.3	132	137.0	75
Chamoli	61.7	7	172.9	148	60.8	-23
Champawat	56.9	-54	97.2	-11	192.5	64
Dehradun	29.7	-80	199.9	14	118.2	-33
Garhwal Pauri	22.8	-80	110.3	9	166.3	51

Garhwal Tehri	6.8	-91	130.5	32	164.1	88
Haridwar	25.4	-71	332.3	410	125.6	69
Nainital	75.7	-40	290.2	132	70.2	-41
Pithorgarh	77.0	-32	178.5	46	109.6	-21
Rudraprayag	36.1	-68	247.0	86	194.8	26
Udham Sing Nagar	32.4	-68	66.4	-29	129.3	45
Uttarkashi	67.3	-21	136.0	35	113.3	23
Bihar						
Araria	34.4	-65	298.4	163	250.5	146
Arwal	66.3	-13	134.7	143	27.3	-50
Aurangabad	13.8	-83	185.8	148	31.8	-48
Banka	56.0	-15	79.6	22	25.6	-52
Begusarai	16.6	-81	109.4	79	48.9	9
Bhabua	25.4	-70	169.4	112	76.3	14
Bhagalpur	67.1	-10	59.8	-4	22.3	-64
Bhojpur	25.4	-72	112.6	37	40.7	-40
Buxar	21.4	-74	87.0	31	81.4	38
Darbhanga	36.6	-48	181.0	171	59.6	0
East Champaran	12.2	-85	124.4	46	31.7	-63
Gaya	32.6	-58	187.6	153	36.4	-42
Gopalganj	0.9	-99	156.7	125	57.0	-9
Jahanabad	34.7	-54	107.8	64	20.3	-60
Jamui	46.6	-35	52.7	-30	12.6	-80
Kathihar	25.1	-71	102.7	21	40.8	-42
Khagadia	36.1	-62	64.2	-5	36.8	-33
Kishanganj	44.6	-70	281.4	105	327.7	149
Lakhisarai	75.3	0	71.1	5	17.9	-71
Madhepura	24.1	-76	105.1	15	85.1	19
Madhubani	13.0	-85	126.7	44	40.9	-49
Monghyar	**	**	**	**	20.0	-68
Muzaffarpur	32.2	-59	124.2	49	21.4	-65
Nalanda	62.3	-15	150.9	114	44.0	-21
Nawada	41.4	-47	69.3	-5	19.6	-60
Patna	40.5	-51	134.5	54	19.3	-65
Purnea	46.1	-62	132.7	20	71.9	-14
Rohtas	29.8	-61	188.5	179	94.7	68
Saharsha	2.6	-98	165.0	67	32.8	-68
Samstipur	82.4	3	161.8	94	96.3	55
Saran	11.2	-88	112.9	49	48.3	-24
Sheikpura	41.7	-46	61.2	-19	0.0	-100
Sheohar	24.6	-67	135.8	47	4.2	-96
Sitamarhi	2.9	-96	109.8	19	30.6	-67
Siwan	5.6	-93	156.4	96	22.6	-69
Supaul	21.7	-76	127.4	46	105.1	31
Vaishali	42.5	-56	140.0	54	25.1	-68
West Champaran	33.8	-66	157.2	54	127.7	14
Jharkhand						
Bokaro	37.0	-46	57.1	-27	27.9	-61
Chatra	3.7	-96	45.5	-44	47.3	-31

Deoghar	58.8	-19	72.3	9	34.8	-50
Dhanbad	50.2	-31	40.1	-51	41.3	-42
Dumka	41.1	-47	95.1	15	51.0	-27
East Singbhum	25.9	-62	130.4	77	104.1	82
Garhwa	29.0	-48	105.0	49	33.0	-54
Giridih	32.1	-60	77.6	-6	21.5	-71
Godda	68.7	-17	44.7	-27	23.1	-66
Gumla	82.9	2	126.1	56	72.3	-15
Hazaribagh	51.3	-27	83.5	10	47.6	-34
Jamtara	31.4	-64	109.9	35	122.3	72
Khunti	41.5	-49	115.0	31	35.7	-57
Koderna	44.9	-32	73.3	10	16.8	-70
Latehar	10.3	-85	138.9	62	52.3	-35
Lohardagga	21.9	-70	97.3	35	57.7	-13
Pakur	47.2	-53	75.4	-13	59.1	-28
Palamau	10.3	-85	131.5	68	41.4	-43
Ramgarh	49.2	-34	49.6	-41	18.6	-75
Ranchi	16.3	-82	90.0	11	30.5	-59
Sahebganj	66.0	-37	26.4	-64	117.8	24
Saraikela	51.4	-27	66.1	-7	57.5	-25
Simdega	45.4	-55	100.5	-8	70.5	-39
West Singbhum	53.7	-25	23.8	-66	34.6	-47
East Rajasthan						
Ajmer	41.9	27	39.3	-27	20.7	-54
Alwar	53.4	23	120.4	129	21.3	-63
Banswara	153.6	130	29.4	-53	65.1	-10
Baran	173.9	212	78.2	10	66.8	-33
Bharatpur	46.5	4	189.9	288	12.5	-76
Bhilwara	76.1	79	47.1	-9	50.7	-13
Bundi	61.8	20	124.2	108	27.1	-67
Chittorgarh	166.3	215	44.8	-20	71.5	8
Dausa	78.2	55	174.8	129	30.2	-52
Dholpur	54.0	12	177.3	225	24.2	-57
Dungarpur	144.0	152	19.9	-60	39.4	-24
Jaipur	23.7	-41	80.4	17	20.2	-65
Jhalawar	185.5	234	18.7	-69	68.5	-20
Jhunjhunu	19.1	-44	108.8	135	8.0	-80
Karauli	58.9	33	208.8	227	29.3	-59
Kota	95.0	90	43.9	-27	35.2	-63
Pratapgarh	149.6	120	16.6	-72	75.2	9
Rajsamand	74.9	100	60.9	35	43.4	2
Sawai Madhopur	66.9	50	186.9	150	18.7	-76
Sikar	11.7	-64	39.5	-24	11.0	-76
Sirohi	65.5	8	35.9	-57	30.0	-61
Tonk	32.3	-21	141.5	113	30.3	-53
Udaipur	89.9	91	34.8	-28	81.0	72
West Rajasthan						
Barmer	0.9	-94	0.2	-99	13.0	-30
Bikaner	15.9	-9	23.0	-9	5.3	-77

Churu	18.0	-40	53.0	68	10.5	-71
Hanumangarh	5.7	-76	20.7	-13	2.1	-92
Jaisalmer	2.1	-83	2.9	-83	8.0	-44
Jalore	9.1	-65	7.1	-84	18.6	-45
Jodhpur	11.6	-48	1.9	-94	8.3	-69
Nagaur	31.0	4	7.3	-85	11.0	-71
Pali	16.7	-45	13.6	-73	23.8	-44
Sri Ganganagar	2.1	-86	3.6	-83	0.7	-97
Gujarat Region						
Ahmedabad	29.4	-41	48.0	-19	6.4	-86
Anand	25.4	-61	40.0	-38	4.2	-93
Banaskantha	46.0	-14	17.8	-66	23.9	-46
Baroda	55.5	-30	18.1	-77	13.0	-82
Broach	16.7	-74	61.0	-3	12.6	-79
DNH	299.7	55	219.4	10	103.3	-44
Dahod	97.5	48	22.2	-66	36.9	-44
Daman	64.5	-67	165.6	-17	93.4	-49
Dangs	449.0	169	125.1	-22	37.6	-81
Gandhinagar	65.9	-1	51.2	-31	5.3	-90
Kheda	73.7	11	49.6	-30	8.3	-87
Mehsana	76.6	20	27.1	-58	7.5	-83
Narmada	70.2	-31	56.5	-40	12.6	-85
Navsari	70.0	-58	133.0	-21	69.8	-57
Panchmahal	133.0	68	34.7	-54	52.7	-28
Patan	68.7	61	25.1	-59	22.3	-39
Sabarkantha	100.1	37	31.5	-54	30.8	-44
Surat	24.6	-80	59.6	-46	45.8	-56
Tapi	66.1	-47	59.0	-52	27.0	-80
Valsad	201.8	21	160.0	-23	99.0	-44
S K & Diu region						
Amreli	3.9	-89	15.2	-73	10.6	-71
Bhavnagar	3.0	-91	18.2	-61	20.7	-42
Diu	28.3	-55	32.1	-54	2.2	-95
Jamnagar	10.6	-64	39.8	-48	6.2	-84
Junagarh	25.3	-56	100.9	-3	5.8	-92
Kutch	6.1	-73	27.5	-44	0.8	-98
Porbandar	11.6	-80	95.2	42	1.9	-96
Rajkot	14.3	-61	16.2	-77	1.5	-97
Surendranagar	17.5	-46	11.1	-75	10.3	-73
Maharashtra						
Konkan & Goa						
Mumbai City	38.4	-76	192.4	13	73.2	-45
Mumbai Suburban	51.4	-68	176.0	-18	118.2	-29
North Goa	156.1	-37	224.4	-19	252.8	-9
Raigad	211.7	-15	308.8	8	176.6	-30
Ratnagiri	314.5	25	321.7	15	313.5	16
Sindhudurg	249.4	14	233.4	-7	329.8	21
South Goa	65.8	-68	236.8	-6	293.1	17

Thane	178.6	-21	251.6	8	105.4	-47
Madhya Maharashtra						
Ahmednagar	52.4	134	5.7	-76	50.1	118
Dhule	77.1	78	6.9	-80	11.0	-73
Jalgaon	132.7	212	32.5	-24	38.0	-13
Kolhapur	405.7	142	61.5	-63	61.2	-63
Nandurbar	114.2	54	28.7	-60	18.6	-73
Nasik	258.4	240	55.4	-23	32.6	-54
Pune	145.1	90	40.3	-43	16.8	-74
Sangli	134.7	249	14.4	-61	33.2	7
Satara	176.3	197	26.7	-57	22.0	-59
Solapur	14.7	-28	3.6	-85	92.9	267
Marathwada						
Aurangabad	111.8	283	8.3	-77	39.5	1
Beed	24.2	-8	17.4	-43	80.0	127
Hingoli	120.3	145	9.3	-82	95.8	68
Jalna	115.0	236	3.2	-91	108.2	158
Latur	33.8	-16	10.7	-74	106.0	71
Nanded	170.8	242	15.0	-69	98.2	48
Osmanabad	29.8	-1	16.3	-49	87.6	122
Parbhani	108.3	165	12.3	-69	82.6	42
Vidarbha						
Akola	200.6	331	18.5	-68	86.1	52
Amraoti	195.8	235	27.4	-55	121.4	108
Bhandara	181.3	119	37.7	-58	58.5	-27
Buldhana	159.3	303	12.7	-71	106.3	135
Chandrapur	328.2	277	27.1	-66	101.8	19
Gadchiroli	401.8	299	46.6	-54	81.7	-23
Gondia	170.8	81	59.9	-40	50.7	-44
Nagpur	108.9	40	49.2	-32	107.4	68
Wardha	197.0	199	29.0	-53	93.7	50
Washim	128.2	124	23.7	-58	120.9	113
Yeotmal	190.0	205	33.1	-46	79.5	29
Odisha						
Angul	26.3	-66	95.2	21	64.6	-12
Balasore	16.0	-68	51.0	-32	99.2	49
Bargarh	38.8	-50	58.8	-28	60.0	-30
Bhadrak	29.3	-49	48.1	-33	70.0	15
Bolangir	64.8	-25	50.8	-50	37.4	-53
Boudh	34.5	-56	63.5	-16	17.4	-73
Cuttack	85.8	21	83.9	15	83.4	-1
Deogarh	19.2	-78	89.1	-9	86.2	2
Dhenkanal	45.2	-31	141.1	73	99.0	22
Gajapati	41.3	-16	36.6	-36	53.6	-17
Ganjam	21.1	-52	56.5	8	40.6	-24
Jagatsingpur	74.1	25	39.5	-39	76.6	-3
Jajpur	38.7	-34	73.4	1	77.2	24
Jharsuguda	25.2	-74	55.9	-46	76.6	-2
Kalahandi	128.3	55	98.5	7	49.6	-35

Kandhamal	28.7	-64	37.7	-50	55.9	-12
Kendrapara	54.4	7	33.3	-49	47.2	-24
Keonjhar	19.9	-64	44.0	-38	103.9	47
Khurda	50.7	-18	46.3	-43	73.5	-3
Koraput	79.2	1	31.7	-59	101.5	4
Malkangiri	40.4	-54	87.0	-15	27.0	-76
Mayurbhanj	19.9	-72	54.7	-36	98.0	20
Nawapara	60.2	-28	72.6	-6	68.5	-8
Nawarangpur	141.8	76	39.5	-60	122.8	25
Nayagarh	56.0	-1	74.0	-11	65.2	-14
Puri	18.9	-66	42.3	-24	92.5	52
Rayagada	93.5	48	31.4	-59	80.1	1
Sambalpur	23.7	-73	69.3	-29	84.6	0
Sonepur	40.6	-38	59.9	-33	31.6	-58
Sundargarh	39.8	-55	112.8	31	55.2	-32
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	7.2	-88	22.9	-66	53.6	-29
North & Middle Andaman	130.4	34	23.0	-77	29.8	-72
South Andaman	155.7	67	61.1	-40	41.5	-56
GWB						
Bankura	79.4	21	40.5	-41	87.6	25
Birbhum	70.9	-12	96.3	39	71.8	6
Burdwan	60.7	-9	60.1	-14	48.3	-26
East Midnapore	39.9	-34	24.3	-55	140.5	109
Hooghly	43.4	-38	43.5	-37	67.5	-5
Howrah	10.7	-85	18.6	-77	114.7	65
Kolkata	66.9	-10	24.7	-69	132.7	70
Murshidabad	53.5	-33	74.4	12	43.9	-45
Nadia	67.1	-4	77.6	42	76.4	12
24 Pargana (N)	88.0	19	49.2	-28	128.2	75
Purulia	41.0	-43	42.1	-42	66.3	30
24 Pargana (S)	75.0	-28	119.8	33	123.8	16
West Midnapore	24.3	-64	73.8	-1	120.7	64
SHWB & Sikkim						
Cooch Behar	78.4	-66	213.6	13	421.2	142
Darjeeling	110.4	-34	277.1	48	529.2	226
East Sikkim	90.7	-24	181.9	89	165.1	36
Jalpaiguri	76.1	-66	307.0	47	614.9	211
Malda	31.4	-58	88.8	28	54.0	-33
North Dinajpur	6.8	-94	76.4	11	41.5	-55
North Sikkim	54.7	-35	132.3	22	159.1	41
South Dinajpur	25.6	-70	74.4	-7	31.5	-67
South Sikkim	74.7	-37	198.1	106	165.4	37
West Sikkim	8.0	-90	0.0	-100	**	**
Karnataka						
Coastal Karnataka						
Dakshina Kannada	247.2	-5	132.5	-51	182.5	-69

Udupi	188.3	-34	153.0	-53	178.0	-47
Uttara Kannada	86.1	-62	89.8	-65	151.8	-37
NI Karnataka						
Bagalkote	33.1	80	16.5	1	23.0	26
Belagavi	141.4	173	11.8	-75	29.8	-31
Bidar	26.5	-22	21.0	-54	99.8	87
Dharwad	37.8	-1	7.8	-78	26.4	-13
Gadag	15.7	-11	4.1	-74	20.3	20
Haveri	10.2	-76	3.7	-91	44.3	33
Kalaburgi	15.6	-42	31.4	-11	137.6	253
Koppal	6.7	-56	10.4	-40	31.3	37
Raichur	4.9	-77	21.0	-16	49.6	64
Vijayapura	18.3	-6	10.1	-48	50.5	108
Yadgir	13.0	-54	28.2	-20	76.4	70
SI Karnataka						
Ballari	4.9	-69	0.0	-100	24.0	12
Bangalore Rural	8.8	-48	29.7	31	134.2	422
Bangalore Urban	7.1	-63	24.0	9	70.9	203
Chamarajanagar	1.3	-92	17.5	24	27.4	53
Chikaballapur	8.4	-57	54.6	179	83.2	243
Chikkamagaluru	118.9	-22	35.3	-75	34.8	-75
Chitradurga	10.2	-20	1.6	-87	41.2	184
Davangere	12.0	-44	3.4	-87	51.8	109
Hassan	47.8	-1	3.3	-93	18.7	-57
Kodagu	196.6	-3	48.9	-73	66.4	-65
Kolar	5.2	-70	13.2	-19	84.3	307
Mandya	15.9	39	20.5	83	47.5	252
Mysuru	18.0	-19	16.9	-3	24.9	14
Ramanagara	6.5	-66	36.0	85	42.5	82
Shivamogga	104.1	-26	51.0	-64	88.0	-31
Tumakuru	7.4	-54	22.7	47	58.9	208
Kerala						
Alappuzha	129.8	0	75.2	-34	68.9	-37
Kannur	235.7	-8	100.8	-54	62.1	-73
Ernakulam	232.4	47	141.3	-1	121.6	-20
Idukki	248.7	43	76.8	-51	93.7	-46
Kasaragod	183.4	-30	178.9	-26	85.8	-67
Kollam	123.7	32	26.9	-66	62.9	-28
Kottayam	189.0	27	66.3	-48	74.3	-38
Kozhikode	199.9	-13	131.3	-35	90.2	-58
Malappuram	146.6	-25	79.9	-50	45.9	-73
Palakkad	126.3	-11	68.1	-43	51.8	-61
Pathanamthitta	162.8	28	49.3	-58	63.7	-42
Thiruvananthapuram	64.4	23	2.1	-96	34.1	-28
Thrissur	164.2	-10	75.4	-54	85.8	-50
Wyand	137.6	-48	29.5	-86	49.8	-79
Tamil Nadu						
Ariyalur	0.0	-100	16.2	8	28.5	13
Chennai	23.1	20	20.9	-22	5.4	-80

Coimbatore	30.1	153	11.4	40	19.0	56
Cuddalore	8.1	-48	12.7	-23	24.5	4
Dharmapuri	0.5	-97	51.1	181	63.7	169
Dindigul	3.1	-77	46.2	298	19.0	11
Erode	0.3	-97	11.5	34	38.5	237
Kanchipuram	11.6	-41	39.7	41	7.0	-77
Kanyakumari	32.4	22	0.0	-100	13.2	-36
Karikal	0.0	-100	8.7	20	1.0	-96
Karur	0.0	-100	16.0	95	39.3	309
Krishnagiri	1.9	-91	35.7	117	80.6	307
Madurai	0.0	-100	28.6	67	56.6	235
Nagapattinam	3.8	-70	7.4	-40	9.9	-45
Namakkal	3.4	-79	21.3	50	76.2	268
Nilgiris	51.6	-13	46.0	-12	42.1	-29
Perambalur	0.0	-100	16.0	32	15.3	-4
Puducherry	2.4	-82	1.4	-91	16.1	-45
Pudukottai	7.3	-67	6.2	-69	24.8	21
Ramanathapuram	2.7	-41	6.1	-30	10.2	5
Salem	2.8	-88	21.8	-3	64.6	146
Sivaganga	0.0	-100	43.2	154	46.1	114
Thanjavur	7.2	-60	24.3	85	20.0	0
Theni	16.0	101	13.5	98	24.8	167
Tirunelveli	9.6	0	0.6	-93	5.8	-31
Tirupur	0.5	-94	6.2	35	9.0	27
Tiruvallur	8.7	-57	17.4	-36	11.0	-59
Tiruvannamalai	1.1	-95	27.3	9	45.6	74
Tiruvarur	5.5	-64	4.5	-62	15.6	-26
Toothukudi	0.0	-100	0.6	-87	1.8	-55
Trichy	0.0	-100	44.4	236	37.8	162
Vellore	5.1	-76	45.6	90	60.3	93
Villupuram	5.6	-58	28.0	39	72.5	205
Virudhunagar	0.2	-98	17.6	83	23.8	123
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	27.0	-36	35.3	-22	75.9	50
Guntur	4.9	-82	37.0	17	7.4	-81
Krishna	10.2	-76	45.8	6	24.7	-57
Nellore	9.8	-46	17.9	-13	19.2	-27
Prakasam	5.7	-66	19.6	-15	11.2	-59
Sirkakulam	22.3	-44	42.9	-2	55.3	15
Visakhapatnam	15.2	-56	12.1	-70	82.1	79
Vizianagram	24.0	-33	37.5	-4	75.5	68
West Godavari	17.4	-66	43.9	-12	82.4	31
Royalaseema						
Anantapur	3.6	-76	9.5	-36	39.2	124
Chittoor	3.1	-85	38.1	56	38.4	35
Cuddapah	4.1	-77	23.9	-7	42.8	47
Kurnool	9.5	-61	13.6	-45	60.6	94

Telangana						
Adilabad	197.9	199	17.4	-74	117.7	47
Hyderabad	15.7	-50	36.6	-6	68.4	31
Karimnagar	126.4	139	13.7	-74	102.5	60
Khammam	37.9	-33	91.7	54	44.5	-39
Mehabubnagar	20.6	-34	286.9	686	53.6	26
Medak	29.1	-36	674.0	1235	58.5	-4
Nalgonda	7.0	-74	464.6	1149	67.5	57
Nizamabad	91.4	58	115.2	104	83.6	10
Rangareddy	24.8	-35	148.1	249	54.8	8
Warangal	55.3	2	200.7	253	117.0	63

Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Annexure II

Assam

Sali rice: Ranjit, Bahadur, Satyaranjan, Basundhara, Kushal, Mahsuri, Bhogali, Rangilee, Ketekijoha.

Satyaranjan and Basundhara (in double cropping areas having crop duration of 130-135 days).

Jalashree, Jalkunwari, Plawan (for flood affected areas).

Ranjit, Gitesh, Bahadur, Kushal, Piolee (long duration).

Satyaranjan, Bosundhora, T.T.B.-404, Mulagabharu, Kanaklata, Joymoti, IR-36, IR-64 etc and Disang, Luit, Kapilee, Dikhow (medium duration).

Capsularis jute: JRC 321 and UPC 94.

Olitorious jute: Navin (JRO 524), Basudev(JRO 7835), Baisakhtissa(JRO 632), Bahagi (sel-2) and Tarun.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti.

Ridge gourd: Pusa Nashdar or other local varieties like AAU-1, AAU-2, AAU-3 etc.

Sponge gourd: Pusa Chikni or other local varieties.

Banana: Dwarf Cavendish, Jahaji (Dwarf Cultivar), Cheni Champa, Malbhog, Chenichampa, Malbhog , Barjahaji (Medium Tall cultivars).

Papaya: Washington, Haflong, Rasi, KorgHoney Dew, Co-1, Co-2, Pusa Delicious, Pusa Majesty.

Guava: Alahabad Safeda, Lucknow-49, Chittidar, Seedless.

Fodder crops : Hybrid Napier, Setaria and Guinea.

Meghalaya

Sali/ kharif rice: Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1- 411 & local varieties like Mendri, Manipuri.

Groundnut: ICGS 76, JL 24.

Soybean: JS 335, Bragg, Ankur, Pusa Soubean-1, Local JS 2.

Nagaland

Low land rice: CAU R1, CAU R3, RCM-9 and RCM-11 (Short to medium duration), Gitesh (short duration variety).

Tripura

Groundnut: TAG 24, TG 37A, ICGS 76.

Maize : DMH- 849, 117, HQPM 1, BQPM 9.

West Bengal

Coconut: Eastcoastal, Hazari

Banana : Mortoman, Chapa, Kathali, Singapuri,

Mustard: Varuna, Sita and Bhagirathi.

Jute : Chaitali, Basudev, Naveen, Sonali, Sobujsona, Shyamali etc.

Aman rice: Medium duration MTU-7029, MTU1001, Pratiksha, and for long duration CR1017, CR1018, Cr1019, Sabita.

Paddy : IET-4094, 2233, Ratna, Bikash, Kitish, Sasya-shree, IR-42, Swarna, Mashuri, IET-8002.

Odisha

Maize: Navjot, Shakti, Decan-107, Decan-109,
Hybrid: Megan-G, Megan, MM-1107, Highshell, Prabal, Proagro 4643, Bio9681, Pinnacle, DMH-7705,
Rice: Early: Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra
Medium: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek
Late: Barsadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini, Kanchana, Mahanadi, Jagabandhu
Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G
Cotton: Suraj, Supriya, B.S.-30, B.S.-279, Surabhi, Sujata
Hybrid: Bunny, Diana, Bhaskra, Namaskara, Tulasi, Sigma, Chiruta, Takat
Mango: Grow Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika,
Ratna, Ramkella, Rummani, Sindhu, Alphanso and Keshar, etc.

Bihar

Kharif onion: Agri Found Dark Red (ADR), N-53, Bhima super, Arka kalia.

Turmeric: Rajendra Sonia and Rajendra Sonali.

Ginger : Maran and Nadia.

Kharif Paddy: Seeta, Santosh, Saroj, Rajshri, Prabhat, Rajendra suvasni, Rajendra kasturi and Rajendra bhagwati.

Jute : JRO 8432, JRO 66, JRO 128 JRO 204 and JRO 66.

Bottle gourd: Pusa Naveen, Pusa Samridhi,

Bitter gourd: Pusa Vishes, Pusa-2 mosumi, Pumpkin- Pusa Visvash, Pusa Vikash,

Ridge gourd: Pusa Chikni,

Cucumber: Pusa Uday, Pusa Barkha

Jharkhand

Rice: Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111, Sahbhagi and Vandana, IR 36, 64, Lalat, Naveen, Sahbhagi, BR 10, Kanak, Rajendra Dhan 202, Sughanda, Birsa Vikash Sugandh Dhan 2, Birsa Vikash Dhan 203.

Maize: Suwan Composite 1 (100 days) and hybrid variety- HQPM 1 (100 days), Composite variety- Birsa Makka 1 (80-85 days) and hybrid variety- Kanchan (80-85 days), Birsa vikash Makka 2 (70-80 Days).

Red gram: Birsa Arhar (210 days), Bahar (240 Days) and ICPH 2671 (210 days).

Groundnut: AK 12-24, Birsa moongfali 1, 2, 3 and bold type – Birsa bold (BAU 13).

Urad: T 9, Pant U 19, 30, 35 and Birsa urd 1.

Moong: Pusa Vishal, S M L 668, K 885, P S 16 , Pant Moong 2 and P D M 11.

Jammu & Kashmir

Paddy (Sub Tropical Zone): Basmati370, Ranbir Basmati, China-1039, K-39, K-343, Giza-1.

Maize: Vivek-25, Vivek QOM-9 HM-5 and HQPM-1.

Uttarakhand

Sugarcane: Pant 84211, Co-238, Co-241, Co Pant 3220, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148, COS-96268 etc.

Okra (Bhabar and Tarai Zone): Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti

Paddy: Sharbati, Pusa 121, Pusa 1, Pusa 44, NDR 359.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Dwarfs variety of paddy: Narendra-118, Narendra-97, Pant Sankar Dhan-1 and Pant Sankar Dhan-10.

Pigeon pea: Pant Arhar-3, Pant Arhar-291, UPAS-120, Pusa-992.

Maize: Tarun, Navin, Kiran, Navjot, Pratap maize-1, Pusa sankul-3 & 4 Kg seed of chilly crop.

Soybean: P.S.-1042, P.S.-1241, P.S.-1347, P.S.-1225, P.S.-19.

Groundnut: TA-64, Chandras, Kaushal, Prakash, Ambar.

Okra: Uphar, Punjab Padmini, Punjab-1, Punjab-7, Arka, Anamika, Abhay, Parbhani Kranti.

Radish: Pusha Chetki.

Himachal Pradesh

Cauliflower: snowball and Giant snowball.

Radish: Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusakesar

Fenugreek : I.C. 74, kasoori.

Peas : Mater ageta-6 (early variety).

Cabbage: Pride of India, golden achor and hybrid

East Uttar Pradesh

Kharif Maize: ganga-11, sartaj, H.Q.P.M.-5, H.Q.P.M.-8, Pro-316, Bio-9681, Wai-1402 K, Prabhat, hybrid varieties G-1, 5 and selective varieties of Tarun, Navin, Kanchan, Sweta and Jaunpuri for early sowing.

Rice: Narendra-359, Malvia dhan-36, Narendra dhan-2026, Narendra dhan-2064, Narendra dhan-2065, Narendra dhan-3112, Sarju-52, Pant dhan-4, seeta, Jalamagna, jalanidhi, jalparia, chakia 59.

Hybrid varieties : Pro. Agro-6444(2001) Eraese, P.H.B.-71, Narendra sankar dhan-2,3, K.R.H.-2, P.R.H.-10, U.S.-312, R.H.-312, V.S.R.-202, R.H.-1531,

Scented varieties: Type-3, Pusa basmati-1, Malvia sugandh-105, Malvia sugandh-4-3, Narendra sugandh or Narendra usar dhan-1, Narendra usar dhan-2, C.L.R.-10, or Narendra usar dhan-2008

Turmeric: Kasturi, Paspu, Amlapuram, Madhukar, Sugna, Rajendra

Ginger -suprabha, suruchi, surbhi and Himgiri
Urad Bean: Pant U-19, Azad URD-1, KU 91-2, Shekhar-1, KU-301
Arahar: Bahar, Amar, Narendra Arahar-1,2, pusa-2001, pusa-991, pusa-992, paras manak, UPAS 120.
Moong: Type-27, 56

West Uttar Pradesh

Ladies finger: VRO-6, VRO-5.
Sugarcane: ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.
Barseem: V.L.1, V.L.10, maskavi, jai, K-8027, K-9565, Mandakini.
Onion: pusa red, pusa white.
Sugarcane: The mid and late maturing varieties of sugarcane: CO Pant 211, Co Sa 687 and Co Sa 8436.
The varieties recommended in areas with poor water drainage: B.O.54 and B.O.91.
Baby corn: M.H.-4.

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89, CO118, COJ85, COJ64.
Rice: Pusa-44, T.R-112 and T.R-113.
Onion: Punjab Naroya, Punjab White and PRO 6.
Radish: Punjab Pasand and Japanese white.
Turnip: L-1.
Carrot: Punjab Black Beauty, Punjab Carrot Red and PC-34.
Tomato: TH-1, Punjab Ratta, Punjab NR 7, Punjab Chhuhara, Punjab Upma, Castle Rock.
Rice: Hybrid varieties: K. R. H 2, PHB 71, Pant hybrid Dhan1, Narendra hybrid dhan 1, P R H 10
High yielding varieties: Pusa 44, Pant Dhan-4, Pant Dhan-10, Pusa-834, Pusa basmati-1, Pusa basmati-1509, Pusa improved basmati, Pusa sugandha-5, Pusa sugandha-4 (Pusa 1121), Ranvir basmati and Taravadi basmati.
Pigeon pea: Pusa 2001, Pusa 992, Paras, Manak.
Maize: PMH1, Parbhat, PMH2
Paddy : PR-124, PR-123, PR-121, PR-122, PR-114, PR 113, PR-126, PR-115.
Okra: Punjab-8 and Punjab-7

Delhi

Oat : J.H.O-822, O.L.-9, Pusa oat-5.
Barseem: Vardan, Buland Barseem-1, Masakavi, J.B-3;
Radish: Japani White, Hill queen, French Radish;
Spinach: PusaBharti.
Amaranths: PusalalChaulai, PusaKiran.
Ladyfinger: Pusa A-4.
Radish: Japani White, Hill queen, French Radish.
Spinach: All Green, PusaBharti;
Fenugreek: PusaKasuri;
Coriander: PantHaritama, Hybrids.
Turnip: Pusa Swati, Local Red variety.
Bottle Gourd- Pusa Naveen, PusaSamridhi
Bitter Gourd- PusaVisesh, Pusa-2 mosumi
Pumpkin- PusaVisvash, PusaVikash
Ridge Gourd- PusaChikni
Cucumber- PusaUday, PusaBarkha

East Rajasthan:

pearl millet: HHB 67, HHB 60, Raj 171, ICMH 356 and ICTP 8201(improved varieties)
Raj-171, ICTP-8203, RHB-173, RHB-177, RHB-121, HHB-67(improved varieties)
Sorghum: CSH-6, CSH-9, CSV-10, CSV-15.
TG37-A, DH-86, Pratap Mungfali-1.
Rice: P.R. 106, B.K.190, Mahisugandha(Basmati)
kharif onion: N-53 & Agrifound dark red
Maize: Aravali Makka-1, Pratap Makka-1, Pratap Makka-5, Pratap Hybrid Maize-1, Pratap Hybrid Maize-2 and bio-9637.
Hybrid varieties are-Mahi Dhawal, PEHM- 2, Pratap Hybrid Maize-1, Pratap Makka-3, Pratap Makka-5, Bio-9637, Bio-9681, Pratap HQPM-1, Pratap Hybrid Maize-3, Pratap Makka-9
Ageti-76, Bassi Selected, Mahi Kanchan
Greengram: RMG-62, RMG-268. RMG-492 & RMG-344, IPM-02-3.
Cowpea: FS-68, RC-19 and RC-101.
Moth: RMO-40, IPCMO-912, RMO-257, RMO-225, RMO-435 (Vikash) (improved varieties)

West Rajasthan

Green fodder: Jwar/Bajra mixed with guar. popular varieties for Jwar are Raj Chari-1, Raj Chari -2, MP Chari, SSG 59-3, MSFH-3, MSFH-4 and Hara Sona; for Bajra: Raj Bajra Chari-2, Co -8, AvikaBajra Chari-19 and Giant bajra; for Guar: RGC-986, Bundel guar-1, Bundel Guar-2 and Bundel Guar-3.
Pearl millet: R.H.B.-177, ICTP-8203, RHB-121, RHB-173, RHB-154, GHB-538, HHB-67(improved varieties)

Bhindi: Ark Anamika, varshauphar, Parbhanikranti, pusamakhmali.

Groundnut: HNG-123, HNG-69, ICHG-00440, HNG-10, TG-37 A, Girnar-2, R.G.-425, GG-20, TG-39.

Sorghum: Girnar-2, RG-425, HNG-10, GG-20, TG-37-A, TG-39.

Narma cotton:R.S.T.-9, R.S.-810, R.S.-2013, Bikanerinarma, R.S.875, MaruVikas(Raj. H.H.16)

BT Narma cotton:M.R.C.H.6304, M.R.C.H.6025, R.C.H.650, Bioseed-6588, Bioseed-6488, R.C.H.-314, J.K.C.H. 1947, M.R.C.-7017 (BG-II) or N.E.C.H.6.

Madhya Maharashtra

Soybean:Phule kalyani, Phule agrani (K D S 344), J S 335, M A C S 11188.

Sorghum:Hybrid varieties – C S H 5, C S H 9, C S H 13, C S H 14, C S H 16, C S H 21, C S H 25, Improved varieties – S P V 462, C S V 13, C S V 15, C S V 17, C S V 23.

Groundnut:Phule morana, Phule pragati, Phule vyas, Phule unnati, Phule R H R G 602.1.

Rice:Halava : Karjat 184, Ratnagiri 1, Karjat 4, Ratnagiri 711, Phule Radha.

Nimgarva : Jaya, Phule Maval, Phule samruddhi, Phule R G –N-6.

Garva : Ratnagiri 2, Karjat 2, Daranna, Suvarna.

Scented paddy : Basmati 370, Indrayani, Prabhavati, Sughandha.

Hybrid : Sahyadri 1, Sahyadri 2, Sahyadri 3, Sahyadri 4, Sahyadri 5, K R H 2.

Gujarat

Rice: NAUR-1, GNR-2 (Costal area), GNR-3 (N/V), GNR-4 (long duration), Jaya, Ghujari, GR-5, 7, 8, 9 (Oran) IR-28 and GAR-13).

Cotton: Bg-II GCH-8, 12 Jay Bt, Solar-66, 76, Sarju, Bg- II GCH-6, Mallika;hybrid cotton: G. cot. 6, 8, 10, Agritop-333, 777, 444, Jay, Beejdhan-2, Atom, Bhakti; Swapna.

Groundnut: GG-20 & 22, GUG-10, GG-2, 11, 13, TAG– 24, TAG-37 A, TPG-41, TLG-45; semi-spread - GG.20 or erect GG-2, GG.5, GG.7 and TG-26.

Greengram: GM-4, GM-4, K-851

Blackgram: T-9, GU-1.

Cowpea: Gujarat Cowpea-1,2,4, Pusa Falguni.

Pigeonpea: BDN-2, GT-100, GTH-1, Vaishali, GTH-1, BHSR-711 .

Sesame: GT-1, 2, GT-3, 10.

Pearl millet: GHB-528, GHB-577, GHB-316 GHB-183; late maturity - GBH-558, GBH-732 and for moderate maturity - GBH-744, GBH-905 and for early maturity - GHB-757, GHB-719, GHB- 538.

Bottle Gourd:Pusa Naveen, Pusa Samridhi.

Bitter Gourd:Pusa Visesh, Pusa-2 mosumi.

Pumpkin: Pusa Visvash, Pusa Vikash.

Ridge Gourd: Pusa Chikni.

Madhya Pradesh

Soybean: JS 335, JS 93-05, JS 95-60, JS 72-52, JS 90-41, JS 20-29.

Red gram: Jawahar -4, Ahsa (ICPL-87119), JKM-7,189,ICPL 88039, Pusa 2001,2002,992.

Rice: short duration (JR, 305, JR 201,Poornima,JD 201, JRH-5, JRH-8, Danteshwari).

medium duration (IR 64, IR 54,IR 36, Madhuri, Kranti, Mahamaya, Pusa Basmati).

Maize: JM-8, JM-12, JM-216,Vivek-17, Navjot, HQPM-1,5, HM-4,10,11.

Sesame: TKG-21, TKG-22, TKG-55, TKG-306, JTS-8, RT-46.

Groundnut:AK 12-24, TG 124,TG 26, Jyoti, JL 24, UF70-103, JGN -3, GG 2, Ganga Puri .

Chhattisgarh

Rice: Abaya, Mahamaya, Danteswari, Samleswari,Chandrasahini, Indira Sona (Hybrid), Karma, Mashuri, Jaldoobi.,Pusa Basmati-1,Madhuri, Indira Sughandith Dhan-1.

Soybean:J.S. 335, Indira soya-9, J.S. 80-21, J.S.93-05.

Sesame:T.K.G. -21, T.K.G-22, T.K.G-55, and T.K.G - 8.

Tomato: Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen,Laxmi 5005 & NS 815.

Brinjal:Punjab Shadabahar, K S 331, P H 5, P H 6 ,KS224 ,A R B H -543.

Karnataka

Rice: Jaya, Rasi, BPT-5204 (in North East Transition Zone), Intan, Abhilash and Hemavati (for low land); Amrut or Prasanna variety (for upland); BI.-33, KMP.-1, IET-8116, IR-30864, MTU-1010, 1001, Rashi, MAS-946-1, MAS-26..

Jowar:CHS-5, CSH-9, DSV – 2, Hybrids – CSH-14, CSH-16, CSH-18, CSH-30, CSV-4 and CSV-15, DSV-3, DSV-6 and SSV- 74.

Groundnut:Bunch type of varieties (JL-24 and TMV-2), JL-24, KCG-6, GPBD-4, GPBD-5, G-2-52, R-2001-3 (Ajay), DH-3-30, PRI-2, TMV-2, GPBD-4, Chinthamani-2.

Cotton: DHH-11, NCH-145, NHH-44, DHB-105, DHB-915, and Sahana.

Green gram: PS-16, PDM-84,178, Pusa Baisaki.

Black gram:TU-1, TAU-1, DU-1, DBGV-5.Karegav-3, T-9, LBG-625.

Red gram:TTB-7, BRG-1and 2, Hyd-3c, TS-3R, ICP-7035,BSMR 736, TS-3R.

Ragi: Indaf -9, ML-365, GPU-66, Indaf-5, GPU-28, MR-6, PR-202, HR-911, And KMR-301.

Maize: Hybrids – DMH-2, Arjun, GH-0727, Renuka (G-25) and Private hybrids, Ganga-11, Decon-101, Vijaya Composit, N.A.C-6002, N.A.C-6004, Nithyashree, N.A.H-1137.

Popcorn: Ambar.

Sesame: Navile-1, T-7.

Cowpea: TVX-944, KBC-1, C-152, KM-5, PKB-4.

Soybean:JS-335, DSB-1, DSB-21, JS 93-05.

Sugarcane:S-4, Chainamung & Pusabaisaki, & DGGV-2, CO-419, CO-7804, CO-62175, COC-671, B-37172.

Sunflower: Morden, KBSH-1, 41, 42 & 44.

Beans: HA-3 & 4.

Andhra Pradesh

Maize:DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855,DHM 111, DHM 117, DHM-119, KH 510, Bio 9637, KH 9541, MCH 2, Kohinoor, Prabhal and Bisco 855

Ragi:Bharati, Srichaitanya, Vaula

Rice: MTU 1010, MTU 1075, NLR 34449, Srikakulam Sannalu, Swarna, Vasundhara, Suraksha, Vijetha,Srikakulam sannalu, Pushyami, Sridruthi, Pushkala, Sri Satya

Groundnut: Kadiri-7Bold & Kadiri-8,Bold, Abhaya and Kadiri-9.

Redgram:LRG-41, PRG-158, PRG-176, Lakshmi, and Asha

Bajra:P.H.B-3, I.C.M.H-356, Dhanashakthi

Korra:Prasad,SIA-3085,Krishnadevaraya,Surya nandi, Narasimharaya, srilakshmi and SIA 3156 and **castor:**PCH-111, PCH-222, Haritha, Kiran

Groundnut:Kadiri-6, Kadiri-9, Narayani and Dharani.

Telangana

Cotton:American Cotton varieties,Desi Cotton varieties (G. arboreum. L and G. herbaceum. L, Intra- / Inter – specific Cotton hybrids,Bt. cotton.