

National Agromet Advisory Service Bulletin

Friday 08th August 2014

(For the period 08th to 12th August 2014)



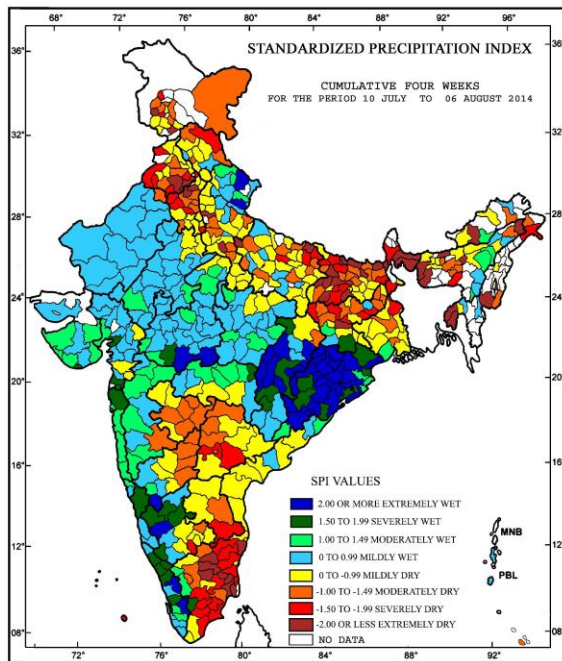
Issued by

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



Standardised Precipitation Index
Four Weekly
for the Period 10th July to 6th August 2014

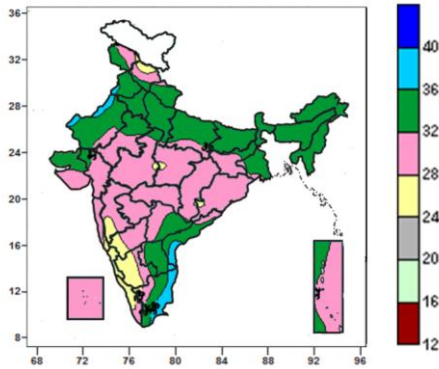
MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE



- Extremely/severely wet conditions experienced in many districts of Odisha, Chattisgarh, few places in Karnataka and Kerala; Nanital and Chamoli districts of Uttarakhand West Singhum districts of Jharkhand; Betul, Khargone, Burhanpur and Khandwa districts of Madhya Pradesh; Anand, Valsad districts of Gujarat; Mumbai city, Thane district in Konkan; Gondia in Vidarbha, Thani in Tamil Nadu.
- Extremely/ moderately/ severely dry conditions experienced in many districts in Jharkhand, Bihar, Uttar Pradesh, Punjab, Haryana, Jammu & Kashmir Arunachal Pradesh, and Tamil Nadu; few places in Andhra Pradesh, Karnataka and Marathwada; Kamrup, Dibrugarh, Nalbari, Kamrup Metro in Assam; East Khasi Hills, Ri-Bhoi in Meghalaya; Chandel in Manipur; Darjeeling, Malda, Burdwan, Murshidabad, Kolkata in West Bengal; Bilaspur, Chamba, Kinnaur, Lahul & Spiti in Himachal Pradesh and Jashpur in Chhattisgarh.
- Rest of the country experienced mild wet/dry conditions.

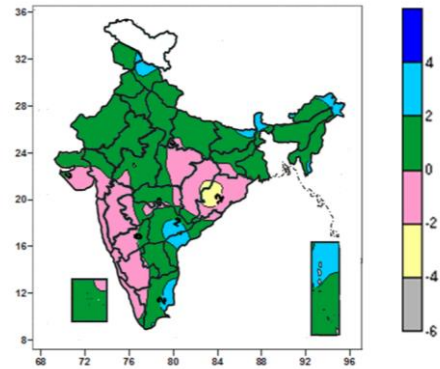
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 06.08.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 06.08.2014



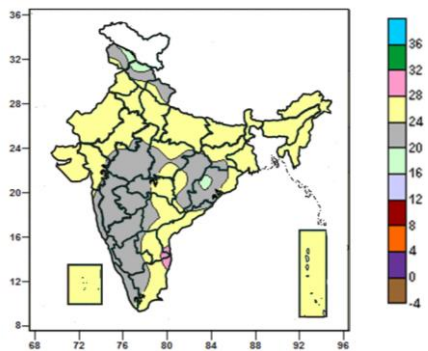
- 36 to 40°C over some parts of Punjab, West Rajasthan, Coastal Andhra Pradesh and Coastal Tamil Nadu.
- 32 to 36°C over many parts of Uttarakhand, Punjab, Haryana, Delhi, Uttar Pradesh, West Rajasthan, Bihar, West Bengal & Sikkim, North East India, Andhra Pradesh, Kutch, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Rajasthan, Jharkhand, Gujarat, Tamil Nadu and Andaman & Nicobar Islands.
- 28 to 32°C over many parts of East Rajasthan, Jharkhand, Odisha, Central India, Gujarat, Maharashtra, North Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, West Rajasthan, Andhra Pradesh, South Interior Karnataka, Kerala and Tamil Nadu.
- 24 to 28°C over many parts of Coastal & South Interior Karnataka, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Central India, Odisha, Goa, Madhya Maharashtra and North Interior Karnataka.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 06.08.2014



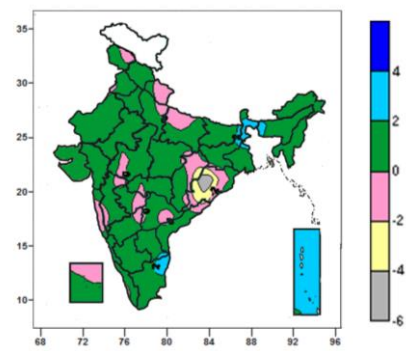
- 2 to 4°C over many parts of Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Sub-Himalayan West Bengal, Arunachal Pradesh, Telangana, Coastal Andhra Pradesh, Tamil Nadu and Andaman & Nicobar Islands.
- -2 to 2°C over entire country except many parts of Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Sub-Himalayan West Bengal, Arunachal Pradesh, Odisha, Chhattisgarh, Telangana, Coastal Andhra Pradesh, Tamil Nadu and Andaman & Nicobar Islands.
- -4 to -2°C over some parts of Odisha and Chhattisgarh.

Actual Mean Minimum Temperature (°C) in India for the week ending 06.08.2014



- 28 to 32°C over some parts of Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu.
- 24 to 28°C over many parts of Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, Jharkhand, West Bengal & Sikkim, North East India, Rajasthan, Gujarat, Andhra Pradesh, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Odisha, Central India, Vidarbha, Konkan South Interior Karnataka and Kerala.

Mean Minimum Temperature (°C) Anomaly in India for the week ending 06.08.2014



- 2 to 4°C over many parts of Lakshadweep Islands some parts of Tamil Nadu, Rayalaseema.
- 0 to 2°C over entire country except many parts of Uttarakhand, Konkan & Goa some parts of Jammu & Kashmir, Punjab, Uttar Pradesh, Central India, Odisha, Coastal Andhra Pradesh, Telangana, Vidarbha, Madhya Maharashtra, Marathwada and North Interior Karnataka.
- -2 to 0°C over many parts of Uttarakhand, Konkan & Goa some parts of Jammu & Kashmir, Punjab, Uttar

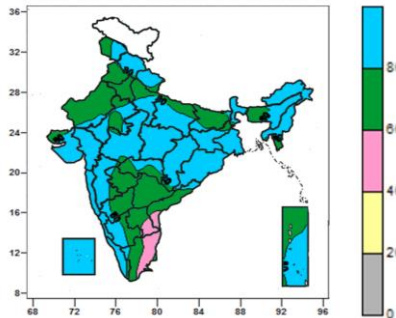
- 20 to 24⁰C over many parts of Jammu & Kashmir, Uttarakhand, Central India, Odisha, Maharashtra, Karnataka, Kerala, some parts of Himachal Pradesh, East Rajasthan, Jharkhand, Gujarat region, Andhra Pradesh and Tamil Nadu.
- 16 to 20⁰C over some parts of Jammu & Kashmir, Himachal Pradesh, West Rajasthan, Chhattisgarh, Odisha.

Pradesh, Central India, Odisha, Coastal Andhra Pradesh, Telangana, Vidarbha, Madhya Maharashtra, Marathwada and North Interior Karnataka.

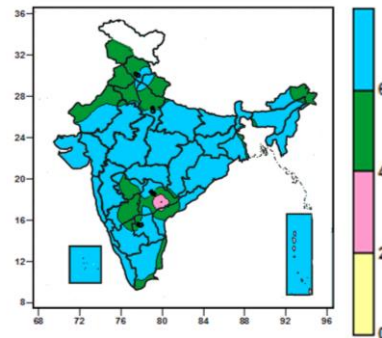
- -6 to -2⁰C over many parts of Odisha, some parts of Chhattisgarh.

Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 06.08.2014

Relative Humidity (%) over India for the week ending 06.08.2014



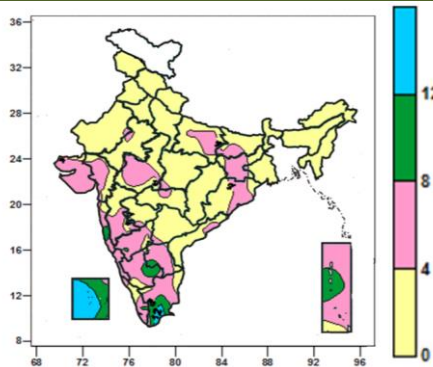
Cloud amount (okta) over India for the week ending 06.08.2014



- 80 to 100% over entire country except many parts of Punjab, Haryana, Delhi, West Rajasthan, Bihar, Marathwada, Vidarbha, Andhra Pradesh, North Interior Karnataka, some parts of Jammu & Kashmir, Uttarakhand, Uttar Pradesh, Jharkhand, Assam & Meghalaya, Tripura, Kutch, Madhya Maharashtra, Tamil Nadu, Kerala and South Interior Karnataka.
- 60 to 80% over many parts of Punjab, Haryana, Delhi, West Rajasthan, Bihar, Marathwada, Vidarbha, Andhra Pradesh, North Interior Karnataka, some parts of Jammu & Kashmir, Uttarakhand, Uttar Pradesh, Jharkhand, Assam & Meghalaya, Tripura, Kutch, Madhya Maharashtra, Tamil Nadu, Kerala and South Interior Karnataka.
- 40 to 60% over some parts of Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu.

- 6 to 8 okta over entire country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, East Uttar Pradesh, Marathwada, Telangana, North Interior Karnataka, some parts of West Rajasthan, Arunachal Pradesh, Coastal Andhra Pradesh, Tamil Nadu and South Interior Karnataka.
- 4 to 6 okta over many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Delhi, East Uttar Pradesh, Marathwada, Telangana, North Interior Karnataka, some parts of West Rajasthan, Arunachal Pradesh, Coastal Andhra Pradesh, Tamil Nadu and South Interior Karnataka.
- 2 to 4 okta over some parts of Telangana.

Wind speed (knots) over India for the week ending 06.08.2014



- 12 to 16 knots over many parts of Lakshadweep Islands, some parts of Tamil Nadu.
- 8 to 12 knots some parts of Konkan, South Interior Karnataka, Rayalaseema, Tamil Nadu, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- 0 to 8 knots over entire country except many parts of Lakshadweep Islands, some parts of Konkan, South Interior Karnataka, Rayalaseema, Tamil Nadu, Kerala and Andaman & Nicobar Islands.

Monsoon Watch

- Yesterday, the southwest monsoon was vigorous over East Madhya Pradesh and active over Andaman & Nicobar Islands, Arunachal Pradesh, East Rajasthan, west Madhya Pradesh, Vidarbha, Chhattisgarh, coastal Karnataka, south interior Karnataka and Kerala.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 11th August , 2014)

- Rain/thundershowers would occur at most places over Andaman & Nicobar Islands during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over Uttarakhand, Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura, Odisha, Sub-Himalayan West Bengal & Sikkim during the period.
- Rain/thundershowers would occur at a few places over Gangetic West Bengal, Bihar and Jharkhand during next 24 hours; over East Uttar Pradesh during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at a few places over Jammu, Kashmir, Punjab, Haryana, Delhi and West Uttar Pradesh during the period.
- Rain/thundershowers would occur at many places over West Rajasthan, West Madhya Pradesh and Gujarat State during next 24 hours and over East Rajasthan during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at a few places over East Madhya Pradesh, Tamil Nadu & Pudducherry during next 24 hours and decrease thereafter.
- Rain/thundershowers would occur at most places over Coastal Karnataka, Konkan & Goa during the period.
- Rain/thundershowers would occur at most places over Kerala during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over South Interior Karnataka and Lakshadweep; at a few places over Madhya Maharashtra and Rayalaseema; at isolated places over Marathwada, Vidarbha, Telangana and North Interior Karnataka during the period.
- Rain/thundershowers would occur at isolated places over Chhattisgarh and Coastal Andhra Pradesh during next 24 hours and at a few places thereafter.

Weather Warning during next 3 days

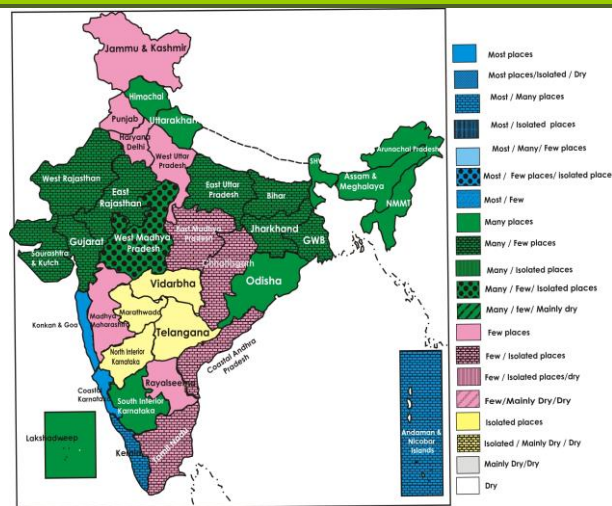
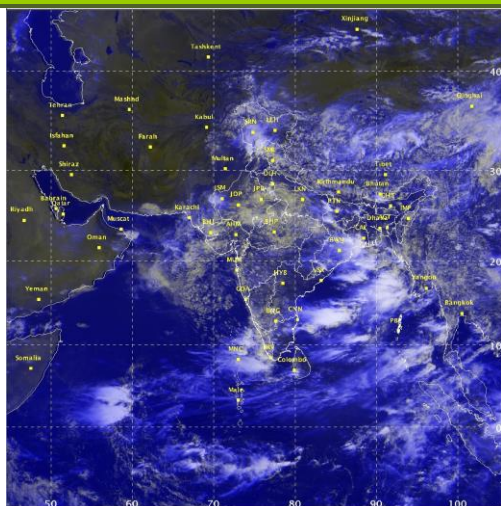
- **08 August (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Coastal Karnataka. Heavy rainfall would occur at isolated places over West Rajasthan, East Rajasthan, West Madhya Pradesh, Gujarat Region, South Interior Karnataka, Kerala and Andaman & Nicobar Islands.
- **09 August (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Andaman & Nicobar Islands. Heavy rainfall would occur at isolated places over Himachal Pradesh, Uttarakhand, Bihar, Odisha, Konkan & Goa, Coastal Karnataka, South Interior Karnataka and Kerala.
- **10 August (Day 3):** Heavy rainfall would occur at isolated places over Himachal Pradesh, Uttarakhand, Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Konkan & Goa, Coastal Karnataka and South Interior Karnataka.

Weather Outlook for subsequent 4 days from 11th August 2014 to 15th August 2014

- Rain/thundershowers would occur at most places along west coast and at many places over east India and northeastern states.
- Rain/thundershowers would occur at a few places over central India.
- Rain/thundershowers would occur at a few places over interior peninsular India and plains of northwest India.
- Increase in rainfall activity along foothills of Himalayas.

Satellite image dated, 08.08.2014, 0600 UTC

Weather Forecast Map (Valid upto 0830 hours of 11th August, 2014)



Salient Advisories

- In North Interior Karnataka, continue sowing of contingency crops like medium duration varieties of finger millet (Indaf- 5, PR-202, GPU-28, HR-911, GPU-48, GPU-26 and ML-365); maize (Ganga, Deccan, Vijaya composite and Composite NAC); sunflower (KBSH-41, KBSH-42 and KBSH-44) and pigeonpea (BRG-2 - for vegetable purpose).
- In Scarce Rainfall Zone of Rayalaseema, continue sowing of red gram and intercropping of *korra* + redgram @ 5:1 in the rainfed tracts in Kurnool district. In Anantapur district, instead of groundnut, undertake sowing of red gram, jowar, bajra, *korra*, cowpea, sunflower, green gram and field bean as contingency plan. To avoid moisture stress in early sown groundnut, spray 2% urea at 25-30 DAS.
- In South and Middle Gujarat region, complete sowing of contingency crops like soybean (cv. GS-1,GS-2, JS-335), short duration varieties of sunflower (cv. Modern and EC-68414 and Guj-1) and sesame (cv. Guj. Tal 1,2, 10), blackgram (cv. T-9, Guj. Udid-1), green gram (cv. GM-4, K-851, Meha), cowpea (cv. Guj. Cowpea 1,2,4, Pusa Falguni). Also complete sowing of grain sorghum (cv. GJ-35, 36 and 37) and fodder sorghum (cv. S-1049, C-10-2, Gundari, GFS 4,5).
- In North Gujarat Region, complete sowing of contingency crops like sesame (varieties like Guj.Tal-1,2,10), sunflower (Modern, EC 68414 and bajra (GHB- 538,732).
- In Saurashtra region, complete sowing of contingent crops like black gram (T-9, Guj. Udid-1), green gram (GM-4, K-851, Meha), pigeon pea (cv. BDN-2, ICPL-87, GT-100, GT-101, Vaishali), sesame (cv. Purva-1) and cotton (G. cot-13, 21, 23, V-797). For fodder purpose take sorghum cv. CSH-6 and CFS-4.
- In West Rajasthan, continue sowing of black gram, green gram, cluster bean and sesame. Short duration improved varieties of cluster bean RGC-936, moth (RMO-40 and RMO-225), sesame (RT-46, RT-125) may be preferred. Intercropping of groundnut cv. JL-24, Pratap mungphali-2 with sesame at 6:2 row ratio is suggested, utilizing the realised and expected rainfall.

Detailed Zonewise Agromet Advisories

SOUTH INDIA [TN, AP, KERALA, KARNATAKA]



Trasplanting of Rice



Sugarcane



Okra



Soybean

- **Realised Rainfall:** Rainfall occurred in all districts of Coastal Karnataka; Belgaum, Dharwad and Haveri districts of North Interior Karnataka; Chikmagalur, Davangere, Hassan, Kodagu, Mysore and Shimoga districts of South Interior Karnataka; all districts of Kerala; Srikakulam district of Andhra Pradesh; Adilabad, Khammam and Nizamabad districts of Telangana; Chennai, Coimbatore, Nilgiris and Theni districts of Tamil Nadu. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Coastal Karnataka and at many places over South Interior Karnataka and Lakshadweep during the period. Rain/thundershowers would occur at most places over Kerala during next 48 hours and at many places thereafter. Rain/thundershowers would occur at a few places over Rayalaseema during the period. Rain/thundershowers would occur at isolated places over Telangana and North Interior Karnataka during the period. Rain/thundershowers would occur at a few places over Tamil Nadu & Pudducherry during next 24 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Coastal Andhra Pradesh during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Coastal Karnataka on 8th August. Heavy rainfall would occur at isolated places over South Interior Karnataka during the period; over Kerala on 8th and 9th August and over Coastal Karnataka on 9th and 10th August.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over interior peninsular India.
- **Advisories:**
 - **Karnataka:**
 - As rain/thundershowers would occur at most places over Coastal Karnataka and many places over South Interior Karnataka along with heavy to very heavy rainfall at isolated places over Coastal Karnataka on 8th and isolated heavy spells on 9th & 10th August, heavy rainfall at isolated places over South Interior Karnataka during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
 - Continue sowing of ragi, desi cotton, cowpea, soybean and horse gram in the Southern Dry Zone of Karnataka utilising the realised and expected rainfall.
 - Continue transplanting of lowland and upland rice and undertake planting of black pepper utilizing the realized and expected rainfall in the Hill Zone of Karnataka. For nursery sowing, select medium duration rice varieties like Amrut and Prasanna.
 - Continue transplanting of rice and vegetables in the Southern Transition Zone of Karnataka.
 - Undertake sowing of short duration varieties of ragi and sunflower after proper seed treatment, in the Central Dry Zone of Karnataka.
 - Continue sowing of fodder crops like sorghum, maize (African tall), cowpea and short-duration bajra in the North East Dry and North East Transition Zone of Karnataka.
 - In North Interior Karnataka, continue sowing of contingency crops like medium duration varieties of finger millet (Indaf- 5, PR-202, GPU-28, HR-911, GPU-48, GPU-26 and ML-365); maize (Ganga, Deccan, Vijaya composite and Composite NAC); sunflower (KBSH-41, KBSH-42 and KBSH-44) and pigeonpea (BRG-2 - for vegetable purpose).
 - **Kerala:**
 - As rain/thundershowers would occur at most/many places during the period along with heavy rainfall at isolated places on 8th and 9th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
 - Continue cultivation of monsoon vegetables in the Northern Zone of Kerala.
 - High humid and moist conditions are congenial for sheath blight disease in rice, mahali disease in coconut and leaf eating caterpillar in vegetables in the Central Zone of Kerala. Apply Propiconazole 25 EC @ 500 ml per 1 ha to manage sheath blight, 1% Bordeaux mixture to manage mahali disease and use tobacco decoction to manage leaf eating caterpillar after current spells of rain.
 - Present cloudy weather with high humidity condition is congenial for the incidences of black bug, stem borer and leaf roller attack on rice crop in the Problem Area Zone of Kerala. Monitor the crop and spray Asataf @ 2 g/litre at the basal part of the plant after after current spells of rain after draining the field.
 - High humidity and moist conditions are congenial for the incidence of rice bug in rice and pseudostem weevil in coconut in the Southern Zone of Kerala. Apply Sevin @ 600 g in 200 litre of water / acre to manage rice bug and drench the leaf axils with Chlorpyrifos @ 4 g/litre to manage pseudostem weevil after current spells of rain.
 - **Andhra Pradesh:**
 - In Krishna Godavari Zone of Andhra Pradesh, continue nursery sowing of rice, cotton and pulses and direct seeding of chillies.
 - In the Southern Telangana Zone of Andhra Pradesh, complete sowing of rainfed crops like cotton, maize, groundnut, pulses, castor etc. at the earliest. Continue nursery sowing and transplanting of tomato, brinjal and chilli and direct sowing of cucurbits, beans and bhendi utilizing the realized and expected rainfall.
 - In Scarce Rainfall Zone of Rayalaseema, continue sowing of red gram and intercropping of *korra* + redgram @ 5:1 in the rainfed tracts in Kurnool district. In Anantapur district, instead of groundnut, undertake sowing of alternate crops like red gram, jowar ,bajra, *korra*, cowpea, sunflower, green gram and field bean as contingency plan. To

avoid moisture stress in groundnut, spray 2% urea at 25-30 DAS.

- Incidence of sugarcane mosaic virus was found in all varieties of sugarcane (March planted crop) on a large scale and likely to spread in the North Coastal Zone of Andhra Pradesh. Spray Monocrotophos @ 1.6 ml/l or Acephate @ 1.5 g/l and apply Urea @ 25 kg + MOP @ 25 kg per acre for the control of virus transmitting vector on a non rainy day.
- **Tamil Nadu:**
- Continue land preparation and nursery sowing of *samba* rice in Nagapattinam, Thanjavur and Trichy districts in the Cauvery Delta Zone of Tamil Nadu with irrigation.
- Since prevailing wind speed is high, five months old banana and sugarcane may be propped against lodging in the Western Zone and Southern Zone of Tamil Nadu.
- Continue land preparation for sowing of irrigated cotton, snake gourd, bitter gourd and other cucurbits, irrigated maize in the Western Zone of Tamil Nadu.
- Undertake sowing of irrigated maize in the South Zone of Tamil Nadu.
- Leaf mite incidence was noticed in *kuruvai* rice in tillering stage in the Cauvery Delta Zone of Tamil Nadu and is likely to increase. Spray Dicofol @ 500 ml/ acre.or wettable sulphur @ 600 g/ acre to manage the incidence on a non rainy day.
- Partly cloudy sky and moderate humidity is congenial for the incidence of pod borer in green gram in the South Zone of Tamil Nadu. Monitor the crop and spray Indoxacarb 15.8 % SC @ 333 ml/ ha (If ETL > 10% damaged plants) to manage pod borer on a non rainy day.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- Prevailing weather conditions are congenial for Anthrax and Enterotoxaemia in livestock in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the diseases.

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



Trasplanting of Rice



Okra



Jute



Green Gram

- **Realised Rainfall:** Rainfall occurred in East Siang, Lohit, Lower Dibang Valley, Papumpara, Tirap, Upper Siang and West Siang districts of Arunachal Pradesh; Barpeta, Cachar, Chirang, Dhimaji, Dibrugarh, Golpara, Golaghat, Hailakandi, Kamrup (Rural), Kamrup (Metro), Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Sibsagar and Tinsukia districts of Assam; East Garo Hills, East Khasi Hills, Ribhoi and South Garo Hills districts of Meghalaya; Aizwal, Saiha and Serchhip districts of Mizoram; Chandel, Imphal East and Imphal West districts of Manipur; Dimapur, Kohima and Phek districts of Nagaland; Dhalai and North Tripura districts of Tripura. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram and Tripura during the period.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/thundershowers would occur at many places over northeastern states.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - As rain/thundershowers would occur at many places over Assam, Meghalaya and Arunachal Pradesh during the period, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.
 - In Assam, continue transplanting of *sali* rice. The proper age of seedling for transplanting is 21days for short duration varieties, 30-35 days for medium duration varieties. Replanting of dead hills or gap filling with seedlings of similar age should be done within 7-10 days of transplanting.
 - In flood affected areas of Lower Bramhaputra Valley Zone of Assam, the following contingency measures may be adopted for *sali* rice:
 - Raising of community nursery for late planting with old seedlings of the varieties like Profulla and Gitesh (If more than 50% damaged).
 - Nursery raising of the photo insensitive short duration variety like Luit for replanting (in case of total damage)

- Wet seeding of sprouted seeds (@75-80 kg/ha) of short to medium duration varieties like Disang, Luit, (100 days) Kapili and Kalong (120 days)
 - 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 partially affected fields, drain out excess water and apply 1/2rd N + 50% K₂O as top dressing during the tillering stage.
- In Central Brahmaputra Valley Zone of Assam, continue transplanting of medium duration (130-135 days) *sali* rice. Continue sowing of arhar and sesame.
 - In Meghalaya, complete transplanting of *sali* rice and sowing of pigeon pea. In high upland fields, continue planting of tuber crops like sweet potato, colocassia, tapioca, etc.
 - In Arunachal Pradesh, complete transplanting of *Kharif* rice utilising realised and expected rainfall.
 - In North Bank Plain Zone of Assam, there is chance of continuing attack of fruit fly, red pumpkin beetle and epilechna beetle in summer gourds; spray Malathion 50 EC @ 1 ml per litre after current spells of rain.
 - Present weather of alternate dry and wet condition may favour occurrence of rotting of leaves and stems of beetle vine and quick wilt in black pepper in Central Brahmaputra Valley Zone of Assam. Prophylactic application of Bordeaux mixture in clear weather may prevent the spread/ outbreak of the disease.
 - Due to prevailing humid weather conditions, there is chance of attack of aphids on black gram in Arunachal Pradesh. Spray Methyl Demeton 25 EC or Dimethoate @ 500 ml /500 litres of water per ha after current spells of rain. Also there is chance of collar rot/wilting/damping off in green gram. Spray Carbandazim @1g per litre of water or Endofil M45 @ 2.5g per litre of water after current spells of rain.
- **Nagaland, Manipur, Mizoram and Tripura:**
 - As rain/thundershowers would occur at many places over Nagaland, Manipur, Mizoram and Tripura during the period, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.
 - In Mizoram, undertake main field preparation and transplanting of rice utilizing the realized and expected rainfall. Drain out excess water from cucurbits fields.
 - Complete transplanting of main *kharif* rice, continue nursery raising of cole crops in Manipur.
 - In Mild Tropical Plain Zone of Tripura, complete transplanting of *aman* rice and continue sowing of vegetables.
 - In Tripura, due to cloudy and humid weather there is chance of Panama wilt disease in banana. Drench with Bavistin @ 1g per liter of water and Trichodermaviride and *Pseudomonas flourosence* may be incorporated in the soil after current spells of rain. Also there are chances of attack of yellow stem borer in *aman* rice. To manage the attack, spray Validamycin 3 L @ 2.5 ml or Hexaconazole 5 EC @ 2.0 ml per litre of water after current spells of rain.
 - In Nagaland, cloudy weather is conducive for attack of thrips in chilli, spray 3% and 5% neem oil for control after current spells of rain.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Nagaland, high humidity is favourable for occurrence of coccidiodial disease in poultry, provide anti-coccidial drugs.
 - In Meghalaya, due to prevailing high relative humidity & warm temperature, there is chance for growth of molds (especially *Aspergillus* spp.) in animal feeds. So always keep animal feeds in dry and clean place and avoid direct contact with ground/soil.
- **Fisheries**
 - In flood affected areas of Lower Brahmaputra Valley Zone of Assam, protect the fish ponds by putting nylon net or bamboo net around the ponds. Due to heavy rainfalls & muddy water influx from the surrounding areas, the ponds may result reduction of dissolved oxygen. Stirring the water with a bamboo pole will help in increasing the oxygen and protect the fishes from suffocation.

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



Sugarcane



Jute



Onion



Trasplanting of Rice

- **Realised Rainfall:** Rainfall occurred in Aurangabad, Darbhanga, East Champaran, Gaya, Gopalganj, Jamui,

Kishanganj, Muzaffarpur, Rohtas, Samastipur, Saran, Sheikhpura, Siwan, Saupal, Vaishali and West Champaran districts of Bihar; all districts of Jharkhand except Godda, Koderma and Pakur; all districts of Odisha; all districts of Gangetic West Bengal; all districts of Sub-Himalayan West Bengal & Sikkim except Cooch Behar, Malda, North Dinajpur and South Dinajpur; all districts of Andaman & Nicobar Islands except Nicobar. Mainly dry weather prevailed over remaining parts of the region.

- **Weather Forecast:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim and Odisha during the period. Rain/thundershowers would occur at a few places over Gangetic West Bengal, Bihar and Jharkhand during next 24 hours and at many places thereafter. Rain/thundershowers would occur at most places over Andaman & Nicobar Islands during next 48 hours and at many places thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Andaman & Nicobar Islands on 9th August. Heavy rainfall would occur over Andaman & Nicobar Islands on 8th August; over Bihar and Odisha on 9th and 10th August and over Sub-Himalayan West Bengal & Sikkim on 10th August.
- **Weather Outlook:** Rain/thundershowers would occur at many places over east India.
- **Advisories:**
 - **West Bengal:**
 - As rain/thundershowers would occur at many places over Gangetic West Bengal on 9th & 10th and over Sub-Himalayan West Bengal and Sikkim during the period along with heavy rainfall at isolated places on 10th August, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in crop fields to avoid water stagnation in Sub-Himalayan West Bengal and Sikkim.
 - In Sub Himalayan West Bengal, continue transplanting of *aman* rice utilizing the realised and expected rainfall.
 - Continue transplanting of *aman* rice in New Alluvial and Laterite and Red Soil Zone of West Bengal utilizing the realised and expected rainfall. In Bankura and Purulia districts, follow dry nursery/adopt dry seeding or drum seeding of paddy.
 - In New Alluvial Zone of West Bengal, due to cloudy weather and humid conditions fungal and bacterial diseases are prevalent in maize and likely to continue. For fungal attack, spray Mancozeb @ 2.5g per litre of water and in case of bacterial rot, spray Streptomycin @ 0.1g per litre of water after current spells of rain.
 - In Terai Zone, due to humid and wet weather there is chance of *Phytophthora* in betel vine and there is possibility of fruit and branch rotting in pointed gourd. To manage *Phytophthora*, spray Mancozeb 64% + Metalaxyl 8% @ 1.5 g/litre of water and to prevent fruit and branch rotting, spray Metalaxyl 8% + Mancozeb 64% @ 1.5 g per litre of water after current spells of rain.
 - **Andaman & Nicobar Islands:**
 - In North and Middle Andaman & Nicobar Islands, provide support to the fruit bearing banana plants to protect from high winds.
 - **Odisha:**
 - As rain/thundershowers would occur at many places over Odisha during the period, along with heavy rainfall at isolated places on 9th and postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
 - Due to heavy rains during last week there was flood in low lying areas of North Eastern Coastal Plain Zone of Odisha. Rice crops were completely submerged for three to five days. In the flood affected areas, the following contingent measures may be taken up after the flood water recedes;
 - In direct seeded rice, if the entire crop is damaged, wet seeding with sprouted seeds should be done by taking 120-130 days duration varieties.
 - Apply 50% N & K₂O and full dose of P₂O₅ at the time of sowing and rest dose at tillering stage.
 - If loss in seedlings is less than 50%, go for distribution of clonal tillers with application of 50 % N and 50 % K₂O.
 - In transplanted rice, in case of silt deposit, go for water spray in nursery areas.
 - Avoid application of urea and go for spraying of 1% K₂SO₄.
 - Go for clonal propagation if the loss in plant stand is less than 50%.
 - In Western Undulating Zone of Odisha, continue transplanting of rice with 3 week aged seedlings. Continue sowing of maize, arhar and cotton in upland areas taking the advantage of the realised and expected rainfall.
 - In East and South Eastern Coastal Plain Zone of Odisha, continue transplanting of *kharif* rice and beushening in 21 days old direct sown rice in low land areas. Also continue sowing of green gram, black gram and soybean in upland areas. Drain out excess water from jute fields.
 - In North Central Plateau Zone of Odisha, complete the sowing of green gram and black gram in fallow uplands. Grow high yielding varieties such as for green gram- K-851, PDM-54, PDM-11, OUM-11-5, black gram- T9, Pant-U-11, Pant-U-19 or Pant-U-30.
 - In Western Undulating Zone of Odisha, the humid weather is conducive for swarming caterpillar development in rice. Monitor the crop. Clean the bunds of rice fields and apply Methyl chloropyrifos 1.5% dust @ 12 kg/acre on the bunds as preventive measures after current spells of rain. Keep 20 nos. bird perches per acre.
- In East and South Eastern Coastal Plain Zone of Odisha, there is chance of sucking insects like leaf hopper in cotton

due to cloudy and humid weather. Monitor the crops and in case of severe attack, spray Methyle demiton @ 2 ml/litre of water after current spells of rain.

▪ **Bihar:**

- As rain/thundershowers would occur at many places over Bihar on 9th & 10th, along with heavy rainfall at isolated places on 9th and 10th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
- In Bihar, in upland areas, continue sowing of urad (cv. Navin) and arhar up to middle of August. Direct seeding of short duration paddy varieties (Shabhagi, Riccharya, Turanta, Prabhat, NDR-97, Pusa 834) may be taken up in medium lands up to 15th August. If transplantings are delayed in low lands, farmers may use 45 days old seedlings of medium duration paddy varieties (Sita, Rajshree, Subhasini, Rajendra Kasturi, Rajendra Bhagwati) and 40-50 days old seedling of long duration paddy varieties (Swarna Sub-1, Rajendra Manasuri, Sambha Sub- 1 (BPT 5204), Kasturi, Vaidahi, Sudha, Rajshree) up to 15th August.
- In North East Alluvial Plain Zone of Bihar, continue planting of mango, litchi, guava and papaya. In transplanted rice crop do top dressing of 1/3rd urea (44 kg/ha) after 1st hand weeding at 25-30 days after transplanting and apply remaining 1/3rd urea (44 kg/ha) after 2nd hand weeding at 40-45 days after transplanting. Continue transplanting of chilli, brinjal and cauliflower in raised bed. Undertake sowing of short duration varieties of maize, urad, moong if rice transplanting cannot be done due to limited irrigation facilities.
- In South Bihar Alluvial Zone, complete transplanting of short duration and scented rice variety which is 20-22 days old. Apply Butachlor @ 3 lit/ha with 700-800 lit of water after 2-3 days of transplanting to control weed in rice crop. Apply nitrogenous fertilizer in early transplanted medium and long duration rice varieties. Also complete transplanting of *kharif* onion and sowing of *kharif* brinjal, chilli, early tomato, mid season cauliflower. Continue planting of Mango, Litchi, Guava and Papaya.

▪ **Jharkhand:**

- As rain/thundershowers would occur at many places over Jharkhand on 9th & 10th along with heavy rainfall at isolated places on 9th and 10th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
- In South Eastern Plateau Zone of Jharkhand, in upland areas, undertake sowing of low water requiring crops viz. maize, pigeon pea, niger, lobia, rice bean, urad, moong, guar, sesame, linseed, safflower and castor upto 2nd week of August.
- In Western Plateau Zone of Jharkhand, complete transplanting of rice in low and medium land areas and complete transplanting of finger millet. Continue transplanting of tomato, cauliflower, cabbage, brinjal and chilli. In low lands.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, til and groundnut and planting of mango, guava and litchi. Continue sowing of horse gram and sweet potato.
- In South Eastern Plateau Zone of Jharkhand, weather is conducive for the attack of fruit and shoot borer in brinjal and okra and fruit fly in cucurbitaceous vegetables; spray Malathion @ 2 ml per litre of water for fruit and shoot borer and arrange Bait trap for control of fruit fly after current spells of rain.
- Cloudy weather and high humidity during last week favours the occurrence and spreading of Brown spot disease in direct seeded upland rice in South Eastern Plateau Zone of Jharkhand; spray Bavistin @ 1 g or Beam (Tricyclazole) @ 6 g per 10 liter of water by mixing Teepol @ 0.5 ml per liter of water current spells of rain.
- Suitable varieties are given in Annexure II.

• **Animal Husbandry**

- Provide dry and clean shelter to dairy animals in Old Alluvial Zone of West Bengal. Clean and hygienic water should be provided to dairy animals. De-worming and FMD-HS-BQ vaccination should be done to protect the livestock animals.

• **Poultry**

- In Nicobar Islands, South, North and Middle Andaman, newly hatched chicks should be provided warm condition with electric bulbs under enclosed dry area with sufficient feeding and watering facility.
- Because of high humidity, there are chance of occurrence of fungal diseases in poultry birds in South Eastern Plateau Zone of Jharkhand. Lime should be mixed thoroughly in poultry litter. RD vaccine should be given immediately to the chicks which are 7 days old. To prevent coxidirosis disease, spray antibiotic solution in the poultry house.



Sugarcane

Trasplanting of Rice

Okra

Green Gram

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh; all districts of West Madhya Pradesh except Barwani, Burhanpur, Dewas and Harda; all districts of Chhattisgarh. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over West Madhya Pradesh during next 24 hours and decrease thereafter. Rain/thundershowers would occur at a few places over East Madhya Pradesh during next 24 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Chhattisgarh during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over West Madhya Pradesh on 8th August.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over central India.
- **Advisories:**
 - **Madhya Pradesh:**
 - As rain/thundershowers would occur at many places over West Madhya Pradesh along with heavy rainfall at isolated places on 8th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to remove excess water.
 - Complete transplanting of rice and vegetables in east Madhya Pradesh.
 - In West Madhya Pradesh, complete sowing of early maturing varieties of maize (JVM 421, JM 12), red gram (UPAS 120, Pusa 9, TJT 501), sunflower (Modern, sesame variety TKG-8) and black gram (T 9, JU 86).
 - Due to cloudy and humid weather, there are chances of attack of aphids and jassids on vegetables in West Madhya Pradesh; spray Thiamethoxam @ 0.35 g per litre after current spells of rain.
 - Due to cloudy weather, there is possibility of attack of red pumpkin beetle and fruit fly in cucurbit crops in Bundelkhand Zone of Madhya Pradesh; spray Trizophas 40 E.C. @ 2.0 ml per litre of water on a non rainy day
 - Due to cloudy and humid weather there are chances of attack of sucking pest in cotton in Jhabua Hill Zone of Madhya Pradesh, spray Thiomithaxam @ 0.35 g per litre of water after current spells of rain.
 - **Chhattisgarh:**
 - In Chhattisgarh Plain Zone, complete sowing of maize, moong and urad. Maintain 5 cm water in the transplanted rice fields.
 - Complete transplanting of rice and continue planting of horticultural crops like papaya, mango, guava etc. in North Hill Zone of Chhattisgarh.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Madhya Pradesh, supplement cattle feeds with vitamins and energy food material along with calcium content to dairy animals. Vaccinate the milch cattle against H.F. and B.Q disease. Provide four to five hours of bulb light in Poultry Farms.
 - In Chhattisgarh, create smoke in cattle sheds to protect from mosquitoes.

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



Trasplanting of Rice

Sugarcane

Bottle Gourd

Onion

- **Realised Rainfall:** Rainfall occurred in Jammu, Reasai and Samba districts of Jammu & Kashmir; Bilaspur, Chamba, Hamirpur, Kangra, Mandi and Una districts of Himachal Pradesh; all districts of Uttarakhand except Almora and Champawat; Gurdaspur, Kapurthala and Ropar districts of Punjab; Ambala, Jhajar and Yamunanagar districts of Haryana; East Delhi and North East Delhi districts of Delhi; all districts of East Uttar Pradesh except Ballia, Barabanki,

Basti, Farrukhabad, Gorakhpur, Hardoi, Kushi nagar, Maharajganj and Sant Ravidas Nagar; all districts of West Uttar Pradesh except Aligarh, Auraiya, Bareilly, Bulandsahar, Firozabad, Gautam Buddha Nagar, Ghaziabad, Jotiba Phule Nagar, Mainpuri, Meerut, Pilibhit, Rampur and Shahjahanpur; all districts of East Rajasthan; Jaisalmer, Jalore, Nagaur and Pali districts of West Rajasthan. Mainly dry weather prevailed over remaining parts of the region.

- **Weather Forecast:** Rain/thundershowers would occur at many places over Uttarakhand and Himachal Pradesh during the period. Rain/thundershowers would occur at many places over East Rajasthan during next 48 hours and over West Rajasthan during next 24 hours and decrease thereafter. Rain/thundershowers would occur at a few places over Jammu & Kashmir, Haryana and Delhi, West Uttar Pradesh and Punjab during the period. Rain/thundershowers would occur at a few places over East Uttar Pradesh during next 48 hours and at many places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Rajasthan on 8th August and over Himachal Pradesh and Uttarakhand on 9th and 10th August.
- **Weather Outlook:** Rain/Thundershowers would occur at a few places over plains of northwest India.

- **Advisories:**

As rain/thundershowers would occur at many places in Uttarakhand, Himachal Pradesh during the period and over East Rajasthan on 8th and 9th and over East Uttar Pradesh on 10th August, along with heavy rainfall at isolated places over Rajasthan on 8th, heavy rainfall at isolated places over Himachal Pradesh, Uttarakhand on 8th & 9th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in crop fields to remove excess water.

- **Jammu & Kashmir:**

- In Valley Temperate Zone of Jammu & Kashmir, continue transplanting of cole crops and apply second top dose of nitrogen @ 3.25 kg urea per kanal in rice after 38-42 days of transplanting and complete second top dose of nitrogen @ 3.25 kg urea per kanal in maize.
- Under prevailing humid weather condition there are chances of scab infestation in apple in Valley Temperate Zone of Jammu & Kashmir. Spray Captan (70 %) + Hexaconazole (5%) 75 WP @ 0.05% or Bitertanol 25 WP @ 0.05% or Difenaconazole 25 EC @ 0.03% or Flusilazole 40 EC @ 0.02% on a non rainy day.
- Under prevailing humid weather condition, there are chances of incidence of YVMV in ladies finger in Sub-tropical Zone of Jammu & Kashmir. Spray cypermethrin @ 0.75 ml per litre of water. For the management of okra jassids, spray Rogor Dimethoate @ 2ml per litre of water. For control of fruit/shoot borer in brinjal, spray thiomethoxam @ 0.3ml per litre of water, on a non rainy day.
- Due to humid condition there are chances of aphid attack on vegetables, in Cold Arid Zone of Jammu & Kashmir. To control, apply Chloropyriphos 20EC @ 2 ml/litre of water, on a non rainy day

- **Himachal Pradesh:**

- Continue nursery sowing of cauliflower and transplanting of cabbage in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh, utilizing realized and expected rainfall.
- Under prevailing humid weather condition and low night temperature (<26⁰C) there are chances of incidence of blast disease in rice. For control, spray Bavistin @ 0.01or Beam 75 WP 0.06% at 10-15 days interval in Sub-Montane & Low Hills Sub-Tropical Zone and Bilaspur district of Himachal Pradesh, after current spells of rain. Also, there are chances of attack of rice hispa in rice. For management, clear the grasses from bunds or spray Cypermethrin 10EC @ 1ml per litre or Chloropyriphos 20 EC @ 2.5ml per litre of water after current spells of rain.
- In view of humid weather condition, there are chances of attack of fruit and stem borer attack in brinjal and ladies finger in Mid Hills Sub-Humid Zone of Himachal Pradesh. Spraying of neem based insecticides @ 2ml per litre or Lambda-cyhelathrin @ 1ml per litre of water along with sticker prior to flowering in brinjal and Cyhelathrin (Ripcard 10 EC) @ 5ml per litre in ladies finger is advised after current spells of rain.
- Due to prevailing humid weather conditions, there are chances of scab infestation in apple in High Hill Temperate Dry Zone of Himachal Pradesh. Spray Bavistin @ 0.5g or Boron @ 1g per litre of water, after current spells of rain.
- Under prevailing humid weather condition, there are chances of attack of Anar butter fly in anar in Mild Hills Sub-Humid Zone of Himachal Pradesh. Spray Cypermethrin 10EC @ 80ml per 200 litres of water after current spells of rain. Mix sticker (100 ml Sandovit or 40g Selwet) to the spray emulsion to avoid washing off during rainy season.

- **Uttarakhand:**

- In Sub Humid Sub Tropic Zone of Uttarakhand, to control weeds, apply Butachlor @ 3 liter or Anilophos @ 1 litre with 700-800 litre of water 7 DAT as post emergent herbicides after current spells of rain.
- In Sub Humid Sub Tropic Zone of Uttarakhand, due to low temperature and high humidity there is chances of leaf hopper in vegetables, to control apply Dichlorvas @ 1ml/liter of water after current spells of rain.
- Due to high humidity (above 80%), there are chances of late blight in potato in Hill Zone of Uttarakhand. Spray of Carbendazim or Diathem M-45 @ 2g per litre of water dissolved with sticker after current spells of rain.

- **Punjab, Haryana and Delhi:**

- In Western Zone of Punjab, undertake nursery sowing of tomato and transplanting of brinjal. Utilising the realised and expected rainfall.

- In Undulating Plain Zone of Punjab, there are chances of fungal diseases in vegetables due to cloudy weather. Spray Infofil M 45 @ 390 g per acre in 100-200 litres of water on a non rainy day.
- Due to cloudy weather, there are chances of occurrence of sucking pests viz. white fly and Jassids in cotton in Western Zone of Punjab. Monitor the crops and spray the Oberon @ 200ml/acre for white fly and Ulala 80g/acre for the management of Jassids.
- As rain/thundershowers would occur at many places in Haryana and Delhi on 7th & 8th August, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- In Eastern Zone of Haryana, complete sowing of guar, bajra and pulses with realised and expected rainfall.
- In Western Zone of Haryana, complete sowing of guar, bajra, pulses, fodder crops such as jowar mixed with cowpea to increase the nutritive value for continuous supply of green fodder.
- In Delhi, continue sowing of pigeon pea, bajra, cluster bean, spinach, amaranths, okra, cucurbits sweet corn and baby corn during the week with realised and expected rainfall.
- **Uttar Pradesh:**
- In Central Plain Zone of Uttar Pradesh, complete transplanting of short duration varieties (Saket-4, Ratna, Givind, Narendra-97, Narendra-80) of rice, continue planting of fruit crops like mango, guava, litchi, amla, lemon, banana, papaya, etc. utilizing the realised and expected rainfall. Undertake second top dressing in maize at silking stage after current spells of rain.
- Undertake sowing of sesame (T-4, 12, 18, 23, Shekhar, Pragati, Tarun) and planting of mango, lemon, guava, litchi and amla in Eastern Plain Zone of Uttar Pradesh utilizing the realised and expected rainfall.
- Undertake nursery sowing/transplanting of cauliflower, tomato, cabbage and chilli , sowing of groundnut and soybean in Central Plain Zone of Uttar Pradesh utilizing the realised and expected rainfall.
- Under prevailing humid weather condition, there are chances of attack of stem borer and shoot fly in maize in Central Plain Zone of Uttar Pradesh. Spray Dimethioate 30 EC @ 1litre or Quinolphos 25 EC 1.5 litre in 700-800 litre of water per hectare after current spells of rain.
- Under prevailing humid weather condition, there are chances of attack of mite in rice in Central Plain Zone of Uttar Pradesh. Spray Phoret G @ 10 kg per ha or Monocrotophos 36 EC @ 1.5 litre per ha, after current spells of rain.
- Under prevailing humid weather condition, there are chances of incidence of yellow mosaic in soybean in Central Plain Zone of Uttar Pradesh. Spray Dimetiote 30 EC @ 1 litre in 100 litres of water, after current spells of rain.
- **Rajasthan:**
- In Semi-Arid Eastern Plain Zone of Rajasthan, continue planting of fruit crops like mango, pomegranate and aonla and transplanting of papaya seedlings.
- Continue transplanting of tomato, brinjal, chilli and cabbage in Arid Western Plain Zone of Rajasthan utilizing the realised and expected rainfall.
- In West Rajasthan, continue sowing of black gram, geen gram, cluster bean and sesame. Short duration improved varieties of cluster bean RGC-936, moth (RMO-40 and RMO-225), sesame (RT-46, RT-125) may be preferred. Intercropping of Groundnut cv. JL-24, Pratap mungphali-2 with sesame at 6:2 row ratio is suggested, utilizing the realised and expected rainfall.
- Prevailing weather conditions may increase the chances of white grub infestation in groundnut in Arid Western Plain Zone of Rajasthan. For control, use pheromone traps and light traps. Also, there is chances of attack of sucking pests like jassids and thrips in early sown cluster bean. Spray of Imidachloprid 17.8 SL @ 300 ml/ha after current spells of rain.
- Due to warm and humid weather condition, there are chances of white fly in cotton in Sub-Humid Souther Plain and Aravali Hill zone of Rajasthan. To control spray Methyl Dimeton 25 EC @1 litre of water/ha, after current spells of rain.
- **Floriculture**
- Due to prevailing humid weather condition there are chances of attack of blue beetle in balsam, zenia, cleome and rose in Mid-Hills Sub-Humid Zone and Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control, spray Cypermethrin @ 20 ml in 10 litres of water. In poly houses attack of thrips and mites is also expected. For control spray Rogor @ 20 ml in 10 litres of water for thrips and for beetle spray Diclofol @ 20 ml in 10 litres of water after current spells of rain.
- **Horticulture**
- Due to prevailing humid weather condition, there are chances of attack of citrus canker in horticultural crops like peach, pear, plum, almonds, apricot and apple in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. Spray Malathion @ 10 ml or Metasystox @ 10 ml per 10 litres after current spells of rain. Keep the basins of the plants free from weeds and arrange for drainage.
- Under prevailing hot and humid weather condition, there are chances of attack of fruit fly in guava in Central Plain Zone of Punjab. Spray Fenvulrate @ 2.5 ml per litre of water after current spells of rain and repeat at weekly interval. Fix fruit fly traps in orchards at the rate of 16 traps per acre.
- **Animal Husbandry:**

- Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control spray Butox @ 2.0 ml per litres of water. Clean the cowshed with phenyl and keep the animal sheds dry and clean.
- Keep cattle indoors during heavy rainfall periods in Uttarakhand, Uttar Pradesh and East Rajasthan.
- Under prevailing rainy weather condition, animals may be attacked by parasites like ticks, flies, mosquitoes etc. in Uttar Pradesh. Spray Butox @ 2.0 ml per litres of water on the animals body and in the surrounding areas.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Trasplanting of Rice

Sugarcane

Okra

Soybean

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa; all districts of Madhya Maharashtra except Ahmednagar, Dhule, Jalgaon and Sholapur; all districts of Vidarbha except Amraoti, Wardha and Washim; all districts of Gujarat State. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Konkan & Goa during the period. Rain/thundershowers would occur at many places over Gujarat State during next 24 hours and decrease thereafter. Rain/thundershowers would occur at a few places over Madhya Maharashtra during the period. Rain/thundershowers would occur at isolated places over Marathwada and Vidarbha during the period.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Gujarat Region on 8th August and over Konkan & Goa on 9th and 10th August.
- **Weather Outlook:** Rain/thundershowers would occur at most places along west coast.
- **Advisories:**
 - **Maharashtra:**
 - As rain would occur at most places over Konkan & Goa during the period along with heavy rainfall at isolated places on 9th & 10th August, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in standing crop fields to remove excess water.
 - In Konkan, drain out excess water from rice, finger millet and vegetable fields and postpone fertilizer application. Maintain water level upto 5 cm in main rice field.
 - In Madhya Maharashtra, undertake intercultural operations in cotton, vegetables, bajra and papaya fields. Due to high soil moisture there is chance of foot rot in papaya, apply 1 % Bordeaux mixture near the trunk on a non rainy day.
 - In Marathwada, continue sowing of contingency *kharif* crops like red gram (BSMR-736, BSMR-853) and hybrid jowar (Parbhani Shweta, CSH-14,16 or PKV 09). Adopt intercropping systems like cotton + pigeon pea (6:1), bajra + pigeon pea (3:3), etc. for minimizing risk.
 - In Vidarbha, complete transplanting of rice in eastern Vidarbha, maintain 2-3 cm water level in early transplanted rice. In the areas where sowing was delayed due to deficit rainfall continue sowing of alternative crops like sunflower (TAS 82, PKV SF-9, PKVSH-27, KBSH 1 and KBSH 44), pearl millet (PKV Raj, Shradha and Saburi) sesame (AKT-64 and JLT-7), castor (AKC-1, GCH-4,5,6, DCH-117,32), and pearl millet + pigeonpea (2:1 or 4:2), sunflower + pigeonpea (2:1), sesame + pigeonpea (4:1) intercropping systems is suggested.
 - Prevailing cloudy weather in Marathwada region is favourable for the attack of sap sucking pest in cotton; spray Acephate 75 % @ 20 g per 10 liters of water.
 - **Gujarat:**
 - Rain/thundershowers would occur at most places over Gujarat Region, along with heavy rainfall at isolated places on 8th August, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in crop fields to remove excess water.
 - In South and Middle Gujarat region, complete sowing of contingency crops like soybean (cv. GS-1,GS-2, JS-335), short duration varieties of Sunflower (cv. Modern and EC-68414 and Guj-1) and Sesame (cv. Guj. Tal 1,2, 10), blackgram (cv. T-9, Guj. Udid-1), green gram (cv. GM-4, K-851, Meha), cowpea (cv. Guj. Cowpea 1,2,4, Pusa Falguni). Also complete sowing of grain sorghum (cv. GJ-35, 36 and 37) and fodder sorghum (cv. S-1049, C-10-2, Gundari, GFS 4,5).
 - In North Gujarat Region, complete sowing of contingency crops like sesame (varieties like Guj.Tal-1,2,10), sunflower (Modern, EC 68414 and bajra (GHB- 538,732).
 - In Saurashtra region, complete sowing of contingent crops like black gram (T-9, Guj. Udid-1), green gram (GM-4,

K-851, Meha), pigeon pea (cv. BDN-2, ICPL-87, GT-100, GT-101, Vaishali), sesame (cv. Purva-1) and cotton (G. cot-13, 21, 23, V-797). For fodder purpose take sorghum cv. CSH-6 and CFS-4.

- Carryout sowing of sowing of cluster bean (GC-2), continue planting of different horticultural crops in Bhal and Coastal Zone of Gujarat. Continue nursery preparation for vegetable crops like brinjal, tomato and chilli in South Saurashtra Zone and transplanting of these vegetables in Bhal and Coastal Zone of Gujarat, North Gujarat Zone and in North Saurashtra Zone.
- Carry out sowing of certified hybrid varieties of castor crop (GAUCH-2, GCH-5,6 and GCH-7) in Bhal and Coastal Zone of Gujarat, North Gujarat Zone, North West Zone and South Gujarat Heavy Rainfall Zone.
- Due to increased temperature and high humidity forecast there are chances of root rot in chilli in Navsari and Dangs districts; drench the crop with 1% Trichoderma viride to manage root rot disease. Also there are chances of stem rot in groundnut in Valsad district; drench the crop with Bavistin @ 10g in 10 lit. of water after current spells of rain.
- Low temperature, high cloud cover and humidity are conducive for the incidence of *Sigatoka* leaf spot in banana in South Gujarat Zone; if incidence is noticed, spray Carbendazim @ 1 gm / 1 liter of water after current spells of rain.
- Due to high humidity conditions, there is a chance of heavy attack of *Helicoverpa Armigera* sp. in soybean in South Saurashtra Zone. Spray Dichlorvos 0.05 (5ml) or Fenitrothion 0.05 (10 ml) or Fozelon 0.07 (20 ml) in 10 liter of water at 15 days interval after current spells of rain and use Feromen trap for control of this pest. Due to cloudy weather condition, there is chance of incidence of collar rot in groundnut; apply Tricoderma at 6 kg/ha for control on a non rainy day.
- **Animal Husbandry**
- In Gujarat, clean animal byres and spray neon insecticide 1 to 1.5 ml per litre of water for control of ecto parasites in animal house. Spray phenyl in the animal sheds to avoid flies, mosquitoes. Make arrangement for artificial light to birds to maintain egg production. Keep fodder in safe place to avoid spoilage due to rainfall.

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

Annexure I
Week by week Rainfall Distribution

Sub-Divisions	23.07.14		30.07.14		06.08.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	76.0	-28	43.3	-54	29.3	-48
Dibang Valley	**	**	**	**	**	**
East Kameng	20.1	-76	1.4	-98	5.1	-90
East Siang	127.2	-39	41.2	-82	187.0	4
Kurung Kumey	**	**	**	**	**	**
Lohit	91.5	-50	62.4	-59	59.6	-35
Lower Dibang Valley	130.3	133	83.8	43	154.4	423
Lower Subansari	**	**	**	**	**	**
Papumpara	173.8	17	217.5	114	98.5	-12
Tawang	142.0	1	119.0	-22	24.0	-81
Tirap	45.6	-77	25.4	-87	42.2	-58
Upper Siang	68.6	-49	105.8	-23	32.6	-59
Upper Subansari	79.6	95	43.8	26	10.4	-56
West Kameng	207.8	48	26.4	-83	12.6	-90
West Siang	204.5	64	25.0	-82	48.0	-9
Assam&Meghalaya						
Assam						
Baksa	26.4	-84	24.2	-83	6.5	-93
Barpeta	100.2	-38	67.1	-53	47.6	-51
Bongaigaon	155.0	-9	29.6	-79	19.8	-77
Cachar	60.4	-53	190.5	61	121.0	20

Chirang	185.9	9	65.4	-54	141.9	64
Darrang	8.0	-88	21.0	-66	6.0	-91
Dhemaji	39.0	-66	21.0	-83	113.0	23
Dhubri	53.7	-53	19.2	-87	24.8	-73
Dibrugarh	35.8	-71	58.4	-48	106.3	14
Goalpara	63.4	-38	9.3	-92	54.2	-16
Golghat	64.7	-14	198.7	209	57.0	24
Hailakandi	110.1	9	172.3	59	63.4	-27
Jorhat	102.2	20	133.7	70	17.2	-78
Kamrup(Rural)	6.2	-92	38.1	-38	69.7	32
Kamrup(Metro)	12.3	-84	12.1	-80	61.2	16
Karbi Anglong	69.6	41	121.8	83	49.9	-6
Karimganj	56.7	-57	158.8	18	163.3	74
Kokrajhar	155.9	-18	19.2	-87	56.5	-64
Lakhimpur	146.7	28	79.4	-37	136.9	49
Morigaon	16.8	-75	27.2	-69	39.2	-46
N.C.Hills	41.9	-21	111.4	71	46.3	50
Nowgong	22.9	-70	70.3	-3	24.1	-62
Nalbari	54.5	-40	25.2	-74	18.3	-77
Sonitpur	74.4	-5	111.9	38	16.4	-74
Sibsagar	100.5	42	172.1	118	35.5	-54
Tinsukia	37.8	-67	27.6	-77	87.7	17
Udalgiri	138.0	103	7.8	-87	7.8	-88
Meghalaya						
East Garo Hills	52.4	-51	14.7	-88	40.3	-63
East Khasi Hills	116.9	-63	52.4	-82	106.9	-59
Jaintia Hills	**	**	**	**	**	**
Ribhoi	4.1	-96	21.2	-78	50.6	-39
South Garo Hills	117.0	13	28.0	-75	70.0	-29
West Garo Hills	44.8	-57	25.2	-77	19.4	-80
West Khasi Hills	**	**	**	**	**	**
NMMT						
Mizoram						
Aizwal	23.9	-75	158.2	52	33.3	-68
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	76.0	-17	28.0	-75	30.0	-66
Serchhip	31.8	-68	63.3	-49	45.5	-48
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	80.0	-26	22.0	-83	42.0	-62
Churachandpur	12.0	-86	3.0	-97	22.0	-70
Imphal east	32.0	-53	3.5	-95	57.5	19
Imphal west	163.9	208	138.9	185	75.4	61
Senapati	1.0	-99	**	**	**	**
Tamenglong	**	**	**	**	**	**

Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	37.4	64	134.2	186	55.5	22
Kephire	**	**	**	**	**	**
Kohima	117.0	42	108.3	20	46.6	-39
Longleng	**	**	**	**	**	**
Mokokchung	6.0	-94	**	**	**	**
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	107	30	22	-76	55	-28
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	20.0	-76	124.7	65	32.9	-62
North tripura	27.2	-70	164.7	88	53.3	-25
South tripura	28.9	-74	61.0	-33	12.0	-88
West tripura	16.5	-82	49.5	-41	23.2	-69
Himachal Pradesh						
Bilaspur	54.1	-26	37.3	-56	65.9	-23
Chamba	31.9	-80	49.7	-68	36.7	-71
Hamirpur	68.8	-31	89.7	-15	39.4	-56
Kangra	51.3	-65	127.4	-20	85.4	-49
Kinnaur	23.4	14	2.1	-88	3.3	-79
Kullu	45.2	-17	61.8	42	22.5	-50
Lahaul and Spiti	9.9	-75	3.0	-93	0.0	-100
Mandi	87.3	-16	139.2	19	54.5	-49
Shimla	109.3	77	102.7	89	23.0	-55
Sirmaur	154.5	23	48.4	-62	29.9	-75
Solan	137.9	39	36.5	-55	20.8	-76
Una	103.5	31	41.9	-41	63.6	-21
Punjab						
Amritsar	23.0	-56	17.4	-69	11.2	-79
Barnala	5.9	-79	1.0	-97	6.6	-79
Bhatinda	17.9	-42	28.4	19	2.3	-94
Faridkot	2.0	-94	77.5	312	0.0	-100
Fatehgarh Saheb	25.3	-34	15.7	-70	5.7	-88
Ferozpur	3.9	-88	15.2	-46	4.9	-87
Gurdaspur	38.7	-54	56.3	-31	38.7	-55
Hoshiarpur	38.3	-43	54.5	-11	25.2	-66
Jalandhar	17.5	-66	34.7	-20	12.4	-75
Kapurthala	18.4	-59	43.8	22	68.6	84
Ludhiana	22.7	-50	35.4	-19	18.3	-59
Mansa	0.0	-100	9.6	-62	4.0	-89
Moga	44.0	91	40.7	33	1.5	-96
Muktesar	8.8	-74	1.0	-95	0.0	-100
Nawashahar	80.6	30	78.8	20	15.0	-80
Patiala	32.2	-32	2.7	-94	7.2	-88

Ropar	34.3	-49	21.5	-71	37.7	-52
Sangrur	11.5	-66	8.3	-78	17.6	-57
Mohali	87.8	71	18.3	-69	5.5	-92
TarnTaran	17.1	-52	11.3	-68	4.7	-86
Haryana,Chd,Delhi						
Haryana						
Ambala	102.8	46	20.8	-70	56.5	-23
Bhiwani	20.0	-35	14.8	-54	16.7	-44
Chandigarh	74.8	41	13.1	-81	16.7	-79
Faridabad	115.8	152	17.8	-63	12.3	-81
Fatehabad	4.5	-81	1.2	-95	4.3	-85
Gurgaon	55.6	35	9.0	-76	9.8	-79
Hissar	7.5	-76	12.2	-60	11.7	-59
Jhajar	54.0	52	4.3	-88	34.4	-20
Jind	18.5	-38	7.7	-69	12.7	-69
Katihai	16.3	-49	3.0	-90	3.0	-91
Karnal	29.3	-15	8.7	-78	15.0	-65
Kurukshetra	32.0	-36	3.1	-92	4.7	-90
Mahendragarh	26.7	-36	12.5	-65	24.1	-31
Mewat	75.2	85	5.9	-84	28.9	-39
Palwal	24.3	-37	19.0	-49	17.5	-58
Panchkkula	79.7	1	5.8	-93	22.2	-76
Panipat	21.1	-44	3.4	-90	14.0	-70
Rewari	37.2	-18	15.2	-54	29.8	-44
Rohtak	12.0	-76	11.8	-72	10.0	-78
Sirsa	0.4	-99	9.5	-57	5.8	-67
Sonepat	33.9	-28	10.4	-78	22.8	-59
Yamunanagar	131.6	64	81.0	6	63.8	-20
Delhi						
Central Delhi	88.0	56	3.0	-94	19.0	-74
East Delhi	36.0	-36	12.0	-78	65.0	-13
New Delhi	60.1	6	2.7	-95	28.5	-62
North Delhi	31.3	-45	18.6	-65	14.3	-81
North East Delhi	45.0	-20	40.0	-25	46.0	-38
North West Delhi	19.7	-65	1.0	-98	17.7	-76
South Delhi	66.7	18	61.0	14	15.9	-79
South West Delhi	84.8	50	52.8	-1	21.4	-71
West Delhi	56.0	-1	1.0	-98	0.0	-100
Jammu & Kashmir						
Anantnag	14.6	-30	10.3	-54	12.4	-39
Badgam	10.6	-7	2.9	-86	3.8	-72
Bandipore	**	**	**	**	**	**
Baramula	6.6	-67	11.0	-42	3.4	-86
Doda	12.2	-67	20.5	-33	8.4	-72
Ganderbal	13.2	-2	18.1	15	2.6	-86
Jammu	39.7	-50	72.5	-24	85.5	-11
Kargil	**	**	**	**	**	**
Kathua	38.2	-62	43.4	-61	12.8	-89
Kistwar	**	**	**	**	**	**

Kulgam	4.0	-81	17.9	-20	15.1	-26
Kupwara	12.2	-21	0.0	-100	0.4	-98
Ladakh(Leh)	1.5	-57	0.0	-100	0.0	-100
Poonch	12.4	-87	0.0	-100	10.3	-88
Pulwama	4.1	-75	3.9	-78	20.3	7
Rajouri	27.5	-63	11.5	-82	1.0	-99
Ramban	9.6	-74	4.9	-84	11.1	-63
Reasi	88.9	-30	45.3	-70	47.8	-71
Samba	35.9	-55	26.6	-72	55.0	-43
Shopian	6.0	-63	0.0	-100	0.0	-100
Srinagar	11.2	-17	4.7	-70	2.9	-84
Udhampur	28.4	-78	7.4	-95	28.3	-83
East Madhya Pradesh						
Anuppur	138.5	68	27.3	-67	263.3	189
Balaghat	245.4	115	52.5	-53	123.4	26
Chhatarpur	101.8	29	32.0	-58	147.2	50
Chindwara	193.1	205	36.4	-39	65.6	-13
Damoh	100.7	19	17.5	-79	235.0	87
Dindori	134.1	47	25.8	-70	245.4	150
Jabalpur	158.4	100	52.0	-36	190.0	66
Katni	176.6	123	22.8	-71	276.0	138
Mandla	194.9	105	45.0	-55	199.7	88
Narsingpur	194.4	143	24.8	-70	169.0	72
Panna	91.4	-2	35.2	-56	140.5	49
Rewa	128.3	79	5.6	-93	123.1	56
Sagar	134.9	62	43.5	-42	172.9	45
Satna	118.5	60	37.5	-53	89.2	3
Seoni	222.5	191	39.6	-53	106.6	29
Shahdol	64.0	-13	28.0	-56	240.0	169
Sidhi	95.0	49	23.2	-72	354.4	408
Singrauli	90.0	86	95.0	25	81.4	13
Tikamgarh	173.5	129	17.0	-73	284.5	278
Umaria	55.6	-34	7.4	-90	300.4	207
West Madhya Pradesh						
Alirajpur	80.5	16	206.1	203	108.1	58
Asoknagar	109.8	16	40.8	-42	191.3	138
Barwani	68.9	44	145.2	216	7.7	-85
Betul	335.0	417	151.2	102	42.6	-48
Bhind	37.3	-35	30.6	-43	98.8	87
Bhopal	178.5	140	91.2	3	66.2	-29
Burhanpur	300.0	520	160.9	160	12.5	-82
Datia	113.9	71	32.8	-44	113.4	60
Dewas	80.2	20	104.5	23	25.3	-72
Dhar	77.7	28	135.7	89	45.8	-39
Guna	134.8	44	73.2	-10	197.5	120
Gwalior	83.7	25	6.9	-89	227.6	247
Harda	88.2	12	200.2	126	22.8	-76
Hosangabad	150.8	68	133.2	34	103.6	-17
Indore	88.0	52	140.1	87	91.1	29

Jhabua	36.5	-40	163.9	177	58.3	-13
Khandwa	239.3	301	159.0	123	34.7	-54
Khargone	112.4	116	165.5	183	35.5	-48
Mandsaur	114.1	87	69.9	-16	102.4	29
Morena	35.3	-47	37.0	-44	136.3	104
Neemuch	49.8	-12	111.3	32	68.7	5
Raisen	181.6	99	33.1	-64	130.3	25
Rajgarh	226.1	219	54.6	-30	123.2	33
Ratlam	78.3	24	110.5	24	41.6	-53
Sehore	144.0	76	126.4	34	62.6	-41
Shajapur	107.9	65	60.5	-31	77.7	-21
Sheopur	97.5	50	48.5	-28	107.0	87
Shivpuri	126.6	61	96.8	48	199.8	180
Ujjain	90.8	65	93.6	15	41.7	-49
Vidisha	126.4	41	57.1	-35	165.3	62
Chhattisgarh						
Bastar	195.7	128	87.1	3	158.8	79
Bijapur	260.8	135	68.2	-47	40.2	-67
Bilaspur	125.8	54	28.9	-64	266.7	246
Dantewara	154.7	39	93.8	5	60.3	-39
Dhamtari	388.6	370	38.0	-55	239.8	190
Durg	278.3	285	33.6	-52	176.5	129
Janjgir	127.0	48	113.5	30	93.2	-2
Jashpurnagar	72.4	-27	29.7	-71	131.2	45
Kanker	393.8	333	53.9	-48	164.1	37
Korba	142.5	63	123.1	42	313.1	187
Koriya	135.7	62	42.4	-49	287.7	221
Kawardha	125.8	103	36.9	-48	245.6	285
Mahasumund	372.3	404	33.7	-57	335.9	261
Narayanpur	245.5	122	101.0	9	196.8	89
Raigarh	160.9	88	83.7	10	262.6	194
Raipur	232.7	201	53.2	-31	147.8	95
Rajandgaon	255.9	226	45.8	-49	102.3	23
Surguja	90.2	-2	24.4	-73	172.3	89
East Uttar Pradesh						
Allahabad	101.9	67	28.1	-56	102.4	75
Ambedkar Nagar	152.0	76	0.0	-100	31.3	-57
Azamgarh	89.3	-3	17.1	-73	53.7	-22
Bahraich	79.2	-14	54.8	-30	50.5	-25
Ballia	70.1	-5	34.3	-43	29.1	-53
Balrampur	44.8	-56	28.2	-69	36.7	-43
Banda	46.9	-17	44.7	-31	92.3	34
Barabanki	68.2	-11	55.1	-22	21.6	-67
Basti	112.9	20	30.5	-57	19.7	-73
Chandauli	56.0	-22	19.2	-71	34.2	-39
Deoria	33.0	-58	26.5	-61	55.5	-14
Faizabad	43.5	-53	22.5	-68	37.3	-54
Farrukhabad	42.7	-14	16.5	-72	0.7	-99
Fatehpur	83.7	60	15.6	-72	35.9	-47

Gazipur	73.2	15	11.8	-80	40.7	-46
Gonda	83.9	-8	18.2	-75	66.3	-24
Gorakhpur	25.0	-75	52.1	-39	23.7	-75
Hardoi	42.2	-30	43.8	-28	21.1	-60
Jaunpur	78.2	6	5.6	-91	35.2	-30
Kannauj	66.2	33	28.5	-54	62.5	4
Kanpur City	86.8	51	36.1	-39	49.5	-12
Kanpur Dehat	58.7	-9	25.8	-61	44.4	-24
Kaushambi	70.6	36	12.5	-78	79.3	61
Kheri	77.2	16	26.7	-61	92.0	29
Kushi nagar	7.5	-91	6.5	-92	6.5	-92
Lucknow	180.1	213	13.0	-79	35.9	-41
Maharajganj	19.5	-82	29.5	-69	6.5	-92
Mau	49.5	-47	38.0	-50	31.0	-52
Mirzapur	162.5	134	1.7	-97	35.1	-48
Pratapgarh	156.3	122	13.0	-80	81.3	45
RaiBareilly	111.7	99	18.1	-68	33.1	-39
Sahuji Maharajnagar	56.5	-19	43.3	-20	133.8	116
Sant Kabirnagar	42.0	-56	34.0	-55	57.0	-24
Sant Ravidas Nagar	238.0	231	0.0	-100	0.0	-100
Shrawasti	111.6	21	122.4	57	116.6	74
Sidharthnagar	39.5	-58	48.4	-43	63.1	-6
Sitapur	75.7	16	46.5	-32	37.5	-25
Sonbhadra	57.9	-11	58.1	-5	65.6	-7
Sultanpur	86.5	21	28.4	-55	43.7	-24
Unnao	108.5	75	6.4	-89	76.6	16
Varanasi	219.6	185	6.2	-90	39.7	-35
West Uttar Pradesh						
Agra	40.9	-30	10.4	-81	93.9	47
Aligarh	76.5	60	7.4	-87	23.4	-64
Auraiya	60.3	17	31.5	-45	27.5	-54
Badaun	56.0	11	46.6	-34	73.6	11
Baghpat	54.9	41	9.3	-80	43.8	-18
Bareilly	121.8	100	31.9	-60	17.6	-76
Bijnor	262.2	224	67.3	-31	36.5	-57
Bulandsahar	60.4	20	7.4	-87	22.8	-63
Etah	52.0	15	39.4	-16	38.8	-24
Etawah	44.6	-18	8.3	-86	31.1	-56
Firozabad	21.1	-63	10.7	-74	19.3	-66
GBNagar	15.5	-65	0.0	-100	8.0	-87
Ghaziabad	25.1	-47	2.8	-95	16.6	-74
Hamirpur	65.8	0	26.3	-60	82.8	24
Jalaun	20.6	-67	74.8	27	53.8	-16
Jhansi	90.7	47	15.3	-77	82.3	22
Jotiba Phule Nagar	106.5	106	118.5	66	10.0	-85
Kanshiramnagar	57.5	14	83.0	50	112.0	93
Lalitpur	159.0	88	7.0	-91	196.5	148
Mahamaya Nagar	47.0	4	49.5	-9	57.0	1
Mahoba	64.4	5	5.4	-91	54.2	-27

Mainpuri	31.4	-34	45.6	-11	18.8	-63
Mathura	32.3	-36	35.5	-26	39.6	-28
Meerut	82.0	37	23.7	-64	24.0	-65
Moradabad	211.9	244	24.3	-69	30.2	-61
Muzaffarnagar	104.7	107	8.4	-87	46.6	-27
Pilibhit	102.2	48	24.9	-72	18.2	-78
Rampur	94.6	42	36.8	-61	18.7	-76
Saharanpur	76.0	43	22.3	-65	49.7	-31
Shahjahanpur	71.2	10	62.8	-13	25.9	-62
Uttarakhand						
Almora	249.4	274	76.0	-3	14.2	-80
Bageshwar	254.9	282	141.3	80	65.8	-5
Chamoli	116.5	54	124.5	82	111.3	31
Champawat	397.5	272	72.5	-32	27.0	-72
Dehradun	132.4	-26	90.5	-46	119.2	-35
Garhwal Pauri	135.3	36	104.7	-10	68.5	-44
Garhwal Tehri	148.7	69	73.0	-23	36.4	-66
Haridwar	193.0	203	21.7	-76	97.3	4
Nainital	486.7	327	139.2	15	82.5	-30
Pithoragarh	218.6	71	103.4	-29	83.6	-39
Rudrapur	152.0	6	116.4	-26	106.3	-32
Udham Singh Nagar	226.6	198	16.7	-84	41.0	-50
Uttarkashi	120.0	21	126.7	39	115.5	17
Bihar						
Araria	63.6	-42	12.6	-87	27.5	-69
Arwal	25.5	-48	10.2	-82	14.7	-69
Aurangabad	79.1	18	6.9	-90	32.3	-39
Banka	105.0	88	70.2	30	17.4	-72
Begusarai	66.7	36	29.6	-53	25.5	-64
Bhabua	110.2	55	6.3	-91	23.0	-67
Bhagalpur	56.8	0	100.4	70	14.3	-80
Bhojpur	6.0	-92	0.0	-100	9.4	-86
Buxar	11.2	-83	1.0	-98	1.4	-97
Darbhanga	19.9	-65	47.1	-36	41.2	-36
East Champaran	43.6	-53	37.4	-56	52.3	-18
Gaya	64.7	1	7.4	-89	44.2	-32
Gopalganj	6.4	-90	12.8	-81	90.3	46
Jahanabad	95.9	112	30.9	-42	24.2	-63
Jamui	66.2	8	69.9	15	37.4	-38
Kathihar	43.8	-36	77.9	8	3.3	-96
Khagadia	75.9	38	76.8	30	16.4	-79
Kishanganj	59.6	-57	27.2	-76	35.4	-65
Lakhisarai	50.0	-7	43.0	-37	29.0	-60
Madhepura	14.1	-81	118.2	60	11.0	-85
Madhubani	15.8	-81	35.0	-59	25.5	-60
Monghyar	90.1	67	36.9	-46	16.8	-77
Muzaffarpur	14.4	-81	42.1	-41	41.2	-38
Nalanda	54.1	-5	22.4	-67	13.6	-76
Nawada	21.8	-66	15.3	-73	20.2	-69

Patna	16.3	-76	3.4	-95	10.8	-81
Purnea	139.0	51	14.9	-81	6.5	-93
Rohtas	91.2	70	12.3	-82	39.8	-38
Saharsha	4.0	-96	24.0	-76	6.0	-93
Samstipur	47.4	-29	42.1	-40	47.6	-22
Saran	11.2	-82	3.1	-96	68.2	7
Sheikpura	53.0	14	75.6	32	34.7	-36
Sheohar	23.6	-71	16.2	-85	0.0	-100
Sitamarhi	9.3	-89	57.4	-46	6.0	-92
Siwan	51.5	-24	13.6	-83	81.7	31
Supaul	19.8	-76	52.7	-31	36.7	-36
Vaishali	32.6	-57	45.8	-50	77.7	28
West Champaran	110.3	21	63.9	-49	39.8	-44
Jharkhand						
Bokaro	96.4	17	29.4	-59	46.0	-45
Chatra	45.0	-44	31.1	-54	70.0	4
Deoghar	166.3	126	22.8	-63	71.4	15
Dhanbad	67.7	-16	19.6	-76	53.5	-35
Dumka	39.7	-48	57.4	-17	70.5	-5
East Singbhum	61.5	-13	46.7	-28	95.5	11
Garhwa	60.8	-16	7.3	-91	72.6	-10
Giridih	62.6	-30	46.8	-42	37.1	-47
Godda	48.9	-22	61.5	-1	23.1	-59
Gumla	164.3	95	77.3	-11	113.6	40
Hazaribagh	64.0	-21	31.9	-56	67.8	-4
Jamtara	44.1	-45	49.3	-33	38.3	-47
Khunti	164.5	101	2.0	-98	70.2	-19
Koderrna	72.2	2	37.3	-19	21.0	-67
Latehar	97.9	9	32.9	-63	57.2	-24
Lohardagga	87.4	3	27.9	-63	72.3	-20
Pakur	92.9	12	27.5	-64	28.6	-63
Palamau	106.7	38	5.3	-93	77.7	5
Ramgarh	23.2	-75	25.4	-65	39.4	-49
Ranchi	49.5	-46	35.9	-51	64.1	-25
Sahebganj	106.0	31	63.8	-21	45.6	-25
Saraikela	104.0	25	34.1	-54	98.4	13
Simdega	139.3	22	34.3	-68	152.4	61
West Singbhum	160.0	125	80.2	14	135.8	53
East Rajasthan						
Ajmer	46.1	-5	58.3	48	54.0	50
Alwar	28.7	-48	38.4	-18	56.2	4
Banswara	63.9	10	95.4	22	85.2	3
Baran	195.9	121	71.4	-3	160.3	114
Bharatpur	57.4	19	42.9	-6	84.2	47
Bhilwara	33.2	-39	101.1	100	45.3	-12
Bundi	56.2	-19	49.2	-28	158.7	168
Chittorgarh	55.9	-3	158.4	125	69.6	15
Dausa	60.6	-15	30.4	-42	119.8	124
Dholpur	51.0	-2	19.7	-62	181.3	193

Dungarpur	72.5	67	74.7	31	49.8	-16
Jaipur	64.8	-1	42.5	-11	68.9	49
Jhalawar	122.3	60	64.5	-14	152.2	77
Jhunjhunu	57.3	12	62.1	114	31.6	-17
Karauli	69.2	2	61.3	5	109.7	103
Kota	95.6	23	113.1	51	115.9	86
Pratapgarh	85.0	42	101.0	37	85.6	4
Rajsamand	34.6	-14	70.9	61	47.4	16
Sawai Madhopur	79.1	5	48.7	-25	184.0	222
Sikar	83.3	45	86.3	156	42.4	30
Sirohi	23.6	-69	198.5	114	58.2	-36
Tonk	69.4	6	89.1	72	120.3	140
Udaipur	79.2	75	126.7	152	46.5	-15
West Rajasthan						
Barmer	52.4	165	11.3	-47	26.2	12
Bikaner	14.3	-48	49.5	169	24.5	33
Churu	73.9	90	79.0	204	29.7	15
Hanumangarh	28.9	1	36.2	68	22.6	-1
Jaisalmer	8.8	-41	15.7	17	40.3	210
Jalore	56.5	75	37.4	-19	39.4	5
Jodhpur	33.4	17	40.9	56	19.1	-23
Nagaur	71.4	33	64.2	160	44.3	80
Pali	38.8	-12	86.7	99	33.0	-21
Sri Ganganagar	16.2	-32	50.4	219	4.3	-74
Gujarat Region						
Ahmedabad	81.8	68	229.5	380	63.4	32
Anand	135.6	107	311.4	357	97.1	56
Banaskantha	47.0	8	67.3	15	57.3	7
Baroda	85.4	7	166.3	110	66.3	-12
Broach	83.1	36	178.6	162	67.9	14
DNH	318.0	56	580.4	191	409.8	123
Dahod	51.1	-16	105.1	33	46.5	-42
Daman	235.0	15	439.0	120	394.4	115
Dangs	163.0	4	311.5	46	149.5	-13
Gandhinagar	64.6	-2	218.2	245	37.3	-46
Kheda	58.6	-5	207.0	180	73.1	10
Mehsana	75.4	46	145.2	173	93.7	56
Narmada	73.4	-13	168.8	71	71.3	-27
Navsari	147.2	-5	314.7	86	165.0	23
Panchmahal	78.3	23	158.6	83	67.3	-18
Patan	36.9	-14	68.3	36	81.6	82
Sabarkantha	148.6	144	105.0	43	79.5	11
Surat	101.9	-7	199.7	84	125.3	41
Tapi	114.8	2	213.2	34	109.6	-12
Valsad	244.7	44	546.3	221	327.0	114
S K & Diu region						
Amreli	50.5	9	59.7	51	67.1	117
Bhavnagar	59.2	49	114.3	170	40.0	28
Diu	154.9	142	35.8	-33	246.2	457

Jamnagar	70.0	23	65.3	67	154.5	450
Junagarh	78.5	-12	81.2	34	233.4	407
Kutch	18.7	-52	76.4	123	32.2	24
Porbandar	41.6	-49	86.6	99	164.3	383
Rajkot	57.5	5	75.9	52	56.9	55
Surendranagar	53.7	15	111.5	199	74.6	107
Maharashtra & Goa						
Konkan & Goa						
Mumbai City	83.4	-54	145.3	-9	199.2	38
Mumbai Suburban	135.4	-26	349.7	119	248.5	72
North Goa	272.5	-4	179.1	-34	340.3	49
Raigad	313.9	16	379.8	37	435.2	81
Ratnagiri	330.2	20	292.4	5	272.5	9
Sindhudurg	249.5	-4	174.1	-33	206.3	1
South Goa	183.0	-26	142.4	-39	292.4	47
Thane	245.1	17	519.7	154	430.3	119
Madhya Maharashtra						
Ahmednagar	12.5	-45	43.8	77	25.0	21
Dhule	71.5	87	121.2	210	18.4	-55
Jalgaon	83.4	96	99.4	108	25.4	-52
Kolhapur	280.7	61	192.9	25	221.0	58
Nandurbar	77.5	12	168.4	134	65.6	-7
Nasik	127.7	83	183.1	140	123.8	65
Pune	139.5	107	146.1	106	174.1	164
Sangli	74.9	109	64.4	95	58.0	83
Satara	130.1	114	94.5	68	123.8	130
Solapur	6.2	-72	12.2	-57	8.3	-66
Marathwada						
Aurangabad	35.2	0	41.1	-7	25.3	-31
Beed	6.7	-78	17.7	-55	12.0	-55
Hingoli	29.6	-43	21.2	-66	28.9	-52
Jalna	23.9	-34	20.4	-56	15.5	-58
Latur	7.9	-83	17.1	-75	17.5	-65
Nanded	16.5	-71	22.8	-66	28.9	-48
Usmanabad	3.9	-89	14.1	-69	19.4	-40
Parbhani	11.1	-76	14.5	-76	20.8	-57
Vidarbha						
Akola	154.8	153	55.3	14	30.0	-44
Amraoti	193.0	225	99.4	66	10.3	-85
Bhandara	295.8	277	59.5	-32	106.7	12
Buldhana	77.6	69	40.3	-10	73.2	34
Chandrapur	142.7	83	43.4	-50	55.5	-43
Gadchiroli	213.4	100	39.6	-63	111.8	0
Gondia	345.9	271	42.9	-55	151.4	55
Nagpur	225.9	229	39.2	-41	37.8	-50
Wardha	193.2	229	57.8	-10	8.6	-88
Washim	99.6	68	34.8	-29	25.3	-63
Yeotmal	101.3	60	43.1	-27	30.9	-52
Odisha						

Angul	205.6	131	75.2	16	323.8	331
Balasore	192.6	118	87.2	21	267.4	281
Bargarh	244.8	193	121.8	37	410.6	414
Bhadrak	137.0	104	41.5	-27	198.7	127
Bolangir	205.7	123	104.4	26	151.2	84
Boudh	178.0	123	124.3	79	393.0	389
Cuttack	202.8	159	94.2	9	194.8	149
Deogarh	175.0	76	80.4	-15	299.9	180
Dhenkanal	197.3	112	64.6	-10	231.2	177
Gajapati	115.4	61	65.3	4	75.2	60
Ganjam	161.8	206	60.5	4	97.9	100
Jagatsingpur	210.4	171	46.7	-39	130.7	29
Jajpur	173.5	145	31.5	-55	173.9	107
Jharsuguda	160.4	61	39.4	-49	326.6	225
Kalahandi	259.4	172	167.0	108	229.6	176
Kandhamal	270.3	239	64.7	-7	188.1	134
Kendrapara	192.0	212	32.7	-39	141.8	79
Keonjhar	250.9	238	43.9	-33	230.0	181
Khurda	162.1	98	47.9	-35	182.7	131
Koraput	95.0	1	278.3	209	150.4	61
Malkangiri	96.6	-27	115.8	12	118.2	20
Mayurbhanj	145.4	46	87.7	30	232.9	170
Nawapara	317.4	295	63.5	-9	232.9	246
Nawarangpur	290.1	123	102.7	14	187.6	148
Nayagarh	178.7	115	59.7	-17	198.4	187
Puri	191.4	229	92.0	25	152.2	125
Rayagada	244.6	164	90.6	14	154.1	188
Sambalpur	168.2	69	75.4	-20	503.8	370
Sonepur	261.5	192	160.4	87	396.2	262
Sundargarh	231.1	166	35.0	-58	242.8	172
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	4.3	-94	28.2	-60	18.8	-64
North & Middle Andaman	27.5	-73	170.0	54	77.9	-20
South Andaman	88.6	-14	115.5	17	45.7	-46
GWB						
Bankura	67.5	-1	43.4	-36	68.4	4
Birbhum	92.9	33	56.3	-10	56.6	-23
Burdwan	35.0	-53	62.1	3	48.7	-38
East Midnapore	95.7	44	35.2	-44	243.7	179
Hooghly	44.2	-43	51.7	-25	60.3	-18
Howrah	45.7	-48	43.1	-38	116.5	6
Kolkata	26.4	-69	32.2	-61	106.4	17
Murshidabad	16.2	-77	44.7	-34	32.3	-52
Nadia	52.3	-23	18.2	-65	70.7	20
24 Pargana (N)	71.1	-7	79.2	17	58.2	-31
Purulia	64.1	-8	64.6	12	59.5	-21
24 Pargana (S)	98.3	-9	59.7	-43	114.9	7

West Midnapore	32.4	-58	51.9	-39	63.4	-18
SHWB & Sikkim						
Cooch Behar	59.8	-66	51.3	-67	15.6	-91
Darjeeling	91.8	-51	110.4	-38	81.5	-45
East Sikkim	107.1	-7	103.3	-18	67.8	-41
Jalpaiguri	73.0	-66	58.9	-66	80.5	-48
Malda	42.9	-37	22.1	-70	14.6	-78
North Dinajpur	68.4	-6	45.3	-41	5.6	-89
North Sikkim	101.2	-9	115.4	1	86.0	-12
South Dinajpur	46.9	-36	38.1	-54	0.5	-99
South Sikkim	104.2	-9	98.7	-22	106.5	-7
West Sikkim	73.0	-35	54.0	-53	100.0	2
Karnataka						
Coastal Karnataka						
Dakshin Kannada	268.0	-9	211.0	-22	474.2	98
Udupi	356.1	5	170.9	-43	537.4	123
Uttar Kannada	278.1	3	248.0	16	492.2	151
N I Karnataka						
Bagalkote	12.1	-28	10.4	-51	8.8	-51
Belgaum	89.8	86	67.4	67	82.2	111
Bidar	5.8	-88	17.3	-66	12.0	-70
Bijapur	8.6	-54	13.8	-54	4.6	-78
Dharwad	51.9	57	51.8	70	61.5	106
Gadag	18.8	24	22.6	22	14.8	-22
Gulbarga	3.2	-92	25.1	-44	9.4	-74
Haveri	68.1	68	80.8	153	134.7	303
Koppal	5.9	-69	5.8	-77	4.2	-76
Raichur	3.4	-86	9.4	-73	4.8	-82
Yadgir	3.0	-92	23.8	-50	5.8	-83
S I Karnataka						
Bangalore Rural	1.7	-93	14.4	-42	8.9	-64
Bangalore Urban	4.0	-84	13.1	-44	7.1	-75
Bellary	14.0	-15	19.5	-19	19.4	-3
Chamarajnagar	3.4	-80	4.6	-70	14.1	-15
Chichballapur	6.5	-69	11.8	-51	10.4	-53
Chickmagalur	289.8	98	159.7	22	314.0	143
Chitradurga	20.9	61	31.4	104	24.7	69
Davangere	33.0	27	48.2	93	51.8	127
Hassan	79.0	72	44.6	6	71.0	86
Kodagu	307.6	61	193.6	10	299.6	87
Kolar	1.7	-91	11.3	-45	0.0	-99
Mandya	4.2	-66	5.4	-57	10.8	-15
Mysore	15.5	-26	21.5	13	30.1	74
Ramnagara	1.9	-92	9.1	-58	6.9	-71
Shimoga	370.9	147	261.5	120	543.9	337
Tumkur	3.1	-82	8.4	-54	8.7	-55
Kerala						
Alappuzha	79.7	-32	58.6	-41	246.3	180
Kannur	233.2	1	206.3	-1	472.7	185

Ernakulam	148.1	1	114.9	-15	402.4	265
Idukki	214.5	33	177.6	-1	407.2	181
Kasaragod	101.3	-61	110.4	-51	470.7	144
Kollam	66.8	-21	37.6	-55	160.9	151
Kottayam	130.3	2	94.0	-14	349.5	243
Kozhikode	300.8	46	242.7	20	352.2	127
Malappuram	288.5	68	182.2	11	345.6	191
Palakkad	172.1	35	155.5	22	317.9	268
Pathanamthitta	85.5	-25	69.5	-34	270.3	210
Thiruvananthapuram	22.3	-55	20.0	-55	100.0	168
Thrissur	129.9	-21	117.9	-25	289.9	133
Wayanad	329.4	42	204.8	-13	339.9	90
Tamil Nadu						
Ariyalur	0.0	-100	0.0	-100	0.0	-100
Chennai	10.1	-49	11.8	-61	38.0	36
Coimbatore	61.9	544	51.7	335	105.7	1255
Cuddalore	0.0	-100	12.2	-45	3.3	-83
Dharmapuri	0.6	-97	0.9	-96	0.0	-100
Dindigul	0.7	-95	1.5	-89	2.9	-78
Erode	0.0	-100	0.5	-95	5.4	-40
Kanchipuram	1.6	-94	3.5	-87	5.4	-79
Kanyakumari	3.1	-87	2.0	-90	24.7	36
Karikal	0.0	-100	0.0	-100	1.4	-92
Karur	0.0	-100	0.0	-100	2.2	-56
Krishnagiri	1.1	-94	6.6	-67	1.4	-92
Madurai	0.0	-100	0.1	-99	2.9	-79
Nagapattinam	0.0	-100	9.1	-48	1.5	-89
Namakkal	0.0	-100	1.1	-94	2.5	-85
Nilgiris	83.6	46	68.5	22	112.4	142
Perambalur	0.0	-100	0.0	-100	0.0	-100
Puducherry	1.8	-93	31.8	1	0.3	-99
Pudukottai	2.7	-83	1.5	-92	17.0	18
Ramanathapuram	0.1	-99	0.1	-99	1.3	-77
Salem	4.1	-82	1.6	-93	7.8	-59
Sivaganga	0.0	-100	4.3	-80	9.2	-46
Thanjavur	0.0	-100	0.1	-99	1.3	-91
Theni	10.9	24	10.0	25	36.0	445
Tirunelveli	2.0	-77	1.9	-78	2.1	-68
Tirupur	0.0	-100	0.2	-96	2.1	-58
Tiruvallur	2.4	-90	5.6	-79	23.1	-7
Tiruvannamalai	0.0	-100	3.8	-84	1.3	-95
Tiruvarur	0.0	-100	0.0	-100	1.9	-86
Toothukudi	0.0	-100	0.0	-100	0.0	-100
Trichy	0.0	-100	0.0	-100	0.3	-97
Vellore	0.1	-99	2.1	-92	2.1	-91
Villupuram	1.8	-92	7.5	-72	0.1	-99
Virudhunagar	0.0	-100	0.0	-100	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						

East Godavari	18.3	-62	50.3	7	8.7	-78
Guntur	3.6	-90	74.9	101	1.0	-97
Krishna	3.7	-93	92.0	67	6.6	-85
Nellore	2.9	-87	17.4	-24	9.6	-50
Prakasam	3.2	-88	31.2	23	1.1	-94
Sirkakulam	68.6	49	57.1	31	42.4	-2
Visakhapatnam	27.8	-42	35.0	-17	27.3	-24
Vizianagram	67.2	44	25.1	-36	25.8	-32
West Godavari	6.1	-89	159.5	183	19.1	-60
Rayalaseema						
Anantapur	2.0	-87	6.8	-63	1.7	-88
Chittoor	0.6	-98	2.8	-88	6.2	-73
Cuddapah	1.1	-96	7.1	-74	1.1	-96
Kurnool	6.4	-74	20.4	-41	2.6	-91
Telangana						
Adilabad	41.3	-47	47.3	-40	31.1	-54
Hyderabad	11.5	-76	26.7	-44	9.5	-78
Karimnagar	27.4	-53	69.3	10	29.2	-46
Khammam	22.1	-68	110.5	50	35.1	-47
Mehabubnagar	3.8	-90	30.6	-33	7.7	-78
Medak	15.0	-73	30.5	-51	11.4	-79
Nalgonda	1.9	-96	29.4	-25	3.8	-88
Nizamabad	16.5	-76	62.8	-18	31.2	-55
Rangareddy	4.5	-90	20.9	-60	10.2	-72
Warangal	22.9	-66	69.9	7	21.8	-59

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 List of varieties

Andhra Pradesh:

Castor: PCH-111, PCH-222, Kranti, GCH-4, Haritha

Irrigated groundnut: Kadiri-6, Kadiri-9, Narayani and dharani

Red gram: black soils LRG-41, ICPL-85063 and for red soils PRG-158, PRG-100.

Tamil Nadu:

Kuruvai rice : ADT 36, ADT 43, ADT 45 and ADT 47

Samba rice : CR 1009/Savithri/Ponmani and ADT 50

Karnataka:

Redgram : TTB -7, BRG -01, BRG- 02, HYD -3C, BSMR 736, TS-3R

Medium to Long Duration Varieties of redgram: PT-221, GS-1, ICP-8863 (Maruti), ICPL-87119 (Asha) WRP-1, **Short Duration Varieties of redgram:** ICPL-87(Pragati), Selection-31(irrigated areas), GCS-11-39

Ragi: GPU- 28,MR -01, 02 and 06, KMR-301

Green gram : Selection – 4, BGS-9, China mung, Pusa bisaki

Black gram : TAU – 1, DU – 1

Soybean : JS – 335

Jowar : DSV – 2, CSV-15, DSV-3, and DSV-6

Maize: Hybrid – DMH-2 and Arjun

Groundnut:

Bunch type – GPBD-4, JL-24 and TMV-2

Spreading type – DSG-1 and JSP-39

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

Irrigated green gram: VBN 2, VBN 3 and CO (Gg) 7

Assam:

Sali rice: Ranjit, Bahadur, Vasundhara, Kushal, Piyoli, Moniram, Rangali, Bhogali, Ketkijah

Long duration varieties: Pankaj, Mashuri, Manohar Sali and other tall varieties.

Short duration varieties : Vivek Dhan 82

Groundnut : TG-1A, JL-24

Pigeon pea : T-21

Seasame : SP1181, GOURI, VINAYAK

Meghalaya:

Red gram : UPAS-120, ICPL 87 (short duration), WB 20, Pusa 9 & Sarita (long duration)

Odisha

Rice: Heera, ZHU-11-26, Pathara, Vandana, Khandagiri and Parijat

Ragi: Dibyasingh, Godavari, Subhra, Vairabi, Neelachala, Chilika

Maize: Navjot, Sakti-1, Decan-103, Ganga-5, Kargil

Groundnut: Smruti, TAG-26, TAG-24, ICGS-11, JL-24

Sesame: Kanak, Kalika, Uma, Usha, Tilotama, Nilima, Prachi

Greengram: K-851, PDM-11, PDM-54, OUM-11-5

Blackgram: T-9, Pant U-11, Pant U-19, Pant U-30

Cowpea: SEB-2, Pusa Barsati Niger: Deomali, Niger-1 and for Okra: Utkal Gourav.

West Bengal

Aman rice: BCC-17, BCC-33, BCC-02, BCC-01, BCC-09

Banana : Mortoman, Chapa, Kathali, Singapuri

Tomato: Avinash-2, 448

Bihar

Kharif Maize: Shaktiman 1, 2. Pusa agat sankar makka-3and ganga, hybrid: Shaktiman-1, Shaktiman-2, Pusa early hybrid maize-3, Ganga-11, and composite: Suawan and Devki.

Rice:short duration rice:Turanta, Prabhat, Richhariya, Saroj, Dhanlakshmi, Saketwork. Scented rice var. Sugandha, Kamini, Rajendra suwasini, Rajendra kasturi and Rajendra bhagwati

Kharif finger millet: GPU 45, 67, 28 and RAU 8

Pigeon Pea:arhar: Bahar, Pusa 9, Narendra Arhar 1

Urd: T-9, Pant U-19, Pant Urd 31, PDU-1

Jharkhand:

Rice: short duration: Birsa Dhan - 108, Birsa Vikas Dhan 109 & 110, Vandana etc.

Maize: short duration: Birsa maize-1, Birsa Vikas maize-2 etc

Pigeon Pea: Birsa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671

Groundnut: short duration: A.K.-12-24, Birsa Bol

Urd: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.

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

Soybean:Birsa soybean 1, Birsa safed soybean 2;

Madhya Pradesh

Rice: Short duration-JR-201, JRH -4, JRH-5, JRH -8

Medium- IR-36, IR-64, Pusa sugandha-5, MTU-1001, MTU-1010, MTU-81, Mahamaya

Late-Mahsuri, Safari-17, Syamla, Swarna

Maize: Short duration-JVM- 421, JM-12, JM-13, JM- 216, JS-20-29, JS-20-34.

Medium- Navjot, Arun, H-216, JM-13, Sartaj, Daccan 107

Late-Ganga-11, Prabhat, Trisulta, Daccan 103, Daccan 105

Soybean: Short duration-JS 95-60 (85 days), JS- 93-05(95 days), JS-97-52, JS-335,JS-20-29, JS-20-34

Medium-JS 335 (105 days), NRC 37(110 days)

Black gram: JU 86, JU- 3, T- 9

Jowar: Jawahar- 741, Jawahar -938, Jawahar- 1022

Arhar: Early: TJT-501, JKM-189,

Medium : ICPL-87-119, ICPL88039

Chhattisgarh

Rice - MTU 1010, Mahamaya, IR 36, IR 64

Maize - Pusa early, Navjot 3, Chandana 3

Ragi - JPU 28, JPU 45, JK 155

Uttar Pradesh

Urd: Uttara, Narendra urd-1, Pant Urd-30, Type-27,66, Shekhar-1,2,3, Azad-1,2,3, WBU-108

Moong: Pant-1,3,4, Samrat, Narendra Moong-1, Malaveey- Jyoti,-Janchetana, Janpriya, Jagruti, Jankalyani, Samrat,

Asha, Neha, Shweta, MH-215, IPM-23

Groundnut: TG-37A, Kaushal, Amber

Jowar: Bundela, CSV-13, 15,17; CSH-14, 16, 18, 23

Bajra: WCC-75, Raj-171, ICMB-155, Pusa-322, 23, ICMH-451

Maize: Azad Uttam, Shweta

Arhar: Upas-120, Narendra-1A, Bahar

Soybean:PK-472, JS-335, MAUS-47, NRC-37

Lobia: UPC-4200

Rice:Saket-4, Ratna, Givind, Narendra-97, Narendra-80

Jammu & Kashmir:

Mash : Pant U-19, Uttra, T-9)

Moong : ML-131,PDM-54,SML-668, PS-16.

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

Maharashtra

Kharif jowar:- Hybrid- CSH5, CSH 9, CSH13, CSH14, CSH16, CSH17, CSH18, CSH2, Improved- SPV 462, CSV 13, CSV15, CSV17, PKV 801 for Pune region and CSH14, CSH16, CSH25 for Marathwada.

Kharif bajra:- Hybrid variety Shraddha (RHRBH 8609), Saburi (RHRBH 8924), Phule Shanti (RHRBH 9808) and Improved variety – ICTP 8203, ICMV – 155 for Pune region and GHB558, Shraddha, Saburi, Pratibha for Marathwada.

Kharif groundnut – SD 11, Phule Pragati, Phule Vyas, Phule Unnati, TPG 41, TG 26.

Red Gram – ICPL 87, Vipula, BSMR-853, BSMR-736, AKT8811, Amol for Madhya Maharashtra, ICPL-87119 (Asha), C-11for Central Vidarbha and BSMR 736, BSMR 853, BDN 711 (for rain shadow area) for Marathwada.

Sunflower – EC-68414, SS-56 and Bhanu.

Soyabean – JS-335, Phule Kalyani (DS-228) for North Madhya Maharashtra, MAUS 71, JS-335 for Marathwada.

Kharif Rice – PKVHMT, PKV Khamang, PKV Makarand, PKV Ganesh, PKV Kisan, Sindewahi 2001, Sindewahi 1 for East Vidarbha.

Kharif Cotton: – Improved variety – AKA-5, AKA-7, AKA-8, American improved variety – AKH-081, PKV-Rajat, AKH-8828 and PKV DH-1 (hybrid) for Central Vidarbha Zone.

Green Gram: - Jalgaon 781, S8, Phule M2 for Western Maharashtra Scarcity Zone, BM-2002-1, BM 2003-2, AKM-4 and Green Gold for Marathwada.