

National Agromet Advisory Service Bulletin

Friday 22nd August 2014

(For the period 22nd to 26th August 2014)

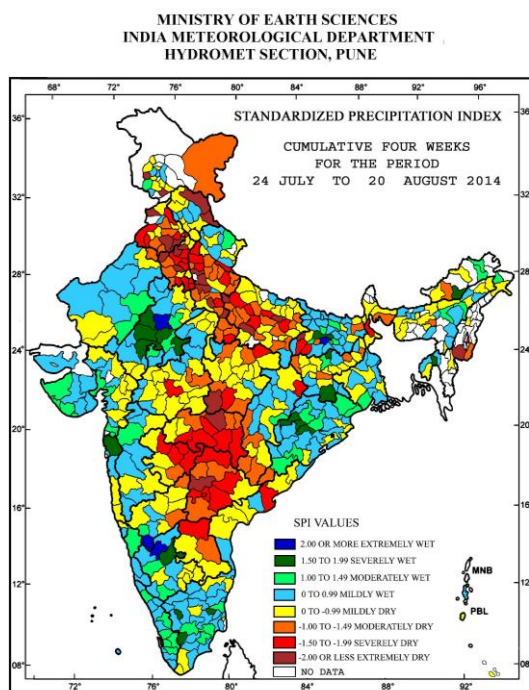


Issued by

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



**Standardised Precipitation Index
Four Weekly
for the Period 24th July to 20th August 2014**

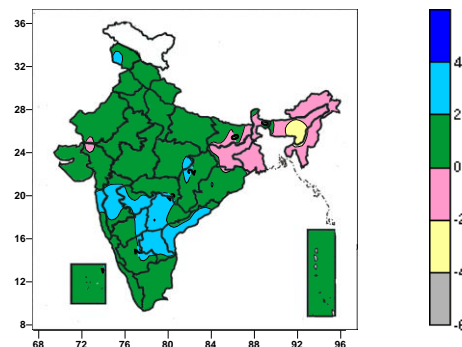
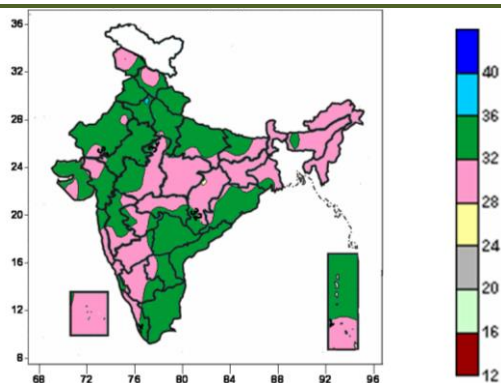


- Extremely/severely wet conditions experienced in Ajmer, Bhilwara, Chittorgarh, Bundi, Tonk, Baran districts of Rajasthan; Patna and Nalanda districts of Bihar; Koderma and West Singhbhum districts of Jharkhand; Papumpara district of Arunachal Pradesh; Dhalai district of Tripura; Bargarh, Boughgarh and Sonepur districts of Odisha; Thane district of Maharashtra; Haveri, Davangere and Chitradurga district of Karnataka; Tiruppur, Theni and Perambalur districts of Tamil Nadu.
- Extremely/ moderately/ severely dry conditions experienced in most of the districts in Punjab, Haryana, Uttar Pradesh, Telangana; many districts in Maharashtra; few districts in Madhya Pradesh, Bihar; Jammu and Udhampur districts of Jammu & Kashmir; Kinnaur and Lahaul & Spiti districts of Himachal Pradesh; North Dinajpur and Coochbehar districts of West Bengal, East Kameng district of Arunachal Pradesh; Goalpara district of Assam; Churachandpur and Chandel districts of Manipur; Jashpur, Kanker, Rajnandgaon, Bijapur and Dantewada districts of Chhattisgarh; Malkangiri district of Odisha; Ranchi, Deoghar, Pakur, Garhwa districts of Jharkhand; Raichur and Bidar districts of Karnataka.
- Rest of the country experienced moderately, mild wet/dry conditions.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 20.08.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 20.08.2014

Mean Maximum Temperature (°C) Anomaly in India for the week ending 20.08.2014

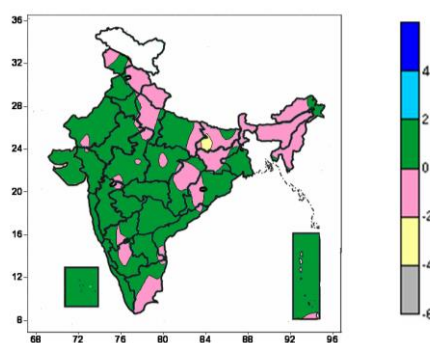
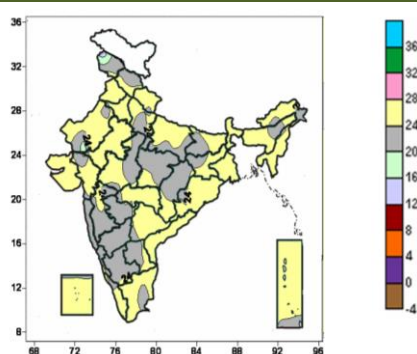


- 32 to 36°C over many parts of Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Odisha, Andhra Pradesh, Madhya Maharashtra, Tamil Nadu, Lakshadweep Islands some parts of Jammu & Kashmir, Himachal Pradesh, Gangetic West Bengal, Assam, West Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan, Marathwada, Karnataka, Kerala and Andaman & Nicobar Islands.
- 28 to 32°C over entire country except many parts of Uttarakhand, Punjab, Haryana, Delhi, Rajasthan, Gujarat, Uttar Pradesh, Bihar, Odisha, Andhra Pradesh, Madhya Maharashtra, Tamil Nadu, Lakshadweep Islands some parts of Jammu & Kashmir, Himachal Pradesh, Gangetic West Bengal, Assam, West Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan, Marathwada, Karnataka, Kerala and Andaman & Nicobar Islands.

- 2 to 4°C over many parts of Madhya Maharashtra, Marathwada, Andhra Pradesh, some parts of Jammu & Kashmir, East Madhya Pradesh, Chhattisgarh, Konkan and Interior Karnataka.
- 0 to 2°C over entire country except many parts of Jharkhand, West Bengal, North East India, Madhya Maharashtra, Marathwada, Andhra Pradesh, some parts of Jammu & Kashmir, East Madhya Pradesh, Chhattisgarh, Konkan, Interior Karnataka, West Rajasthan, Gujarat region and Bihar.
- -4 to 0°C over many Parts of Jharkhand, West Bengal, North East India, some parts of West Rajasthan, Gujarat region and Bihar.

Actual Mean Minimum Temperature (°C) in India for the week ending 20.08.2014

Mean Minimum Temperature (°C) Anomaly in India for the week ending 20.08.2014



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

- 0 to 2°C over entire country except many parts of Uttarakhand, East Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, North Interior Karnataka, some parts of Jammu & Kashmir, West Rajasthan, West Uttar Pradesh, Arunachal Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Vidarbha, Marathwada and Coastal & South Interior Karnataka.
- -2 to 0°C over many parts of Uttarakhand, East Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, North Interior Karnataka, some parts of Jammu & Kashmir, West Rajasthan, West

Odisha, Rajasthan, Gujarat, West Madhya Pradesh, Vidarbha, Coastal Andhra Pradesh, Telangana, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, East Madhya Pradesh, Chhattisgarh, Rayalaseema, Madhya Maharashtra and South Interior Karnataka

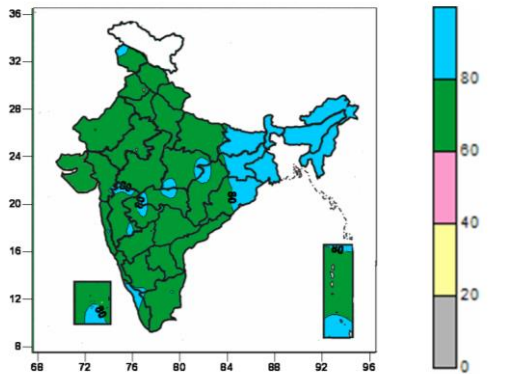
- 16 to 20°C over some parts of Jammu & Kashmir and West Rajasthan.

Uttar Pradesh, Arunachal Pradesh, East Madhya Pradesh, Chhattisgarh, Odisha, Coastal Andhra Pradesh, Vidarbha, Marathwada and Coastal & South Interior Karnataka.

- -6 to -2°C over many parts of Odisha, some parts of Chhattisgarh.

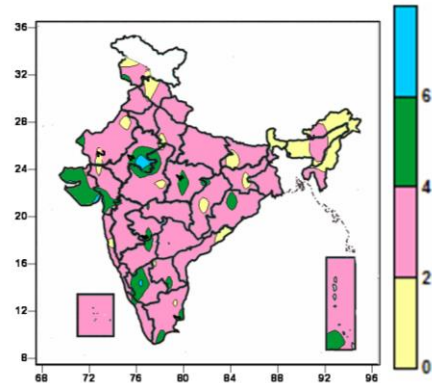
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 20.08.2014

Relative Humidity (%) over India for the week ending 20.08.2014



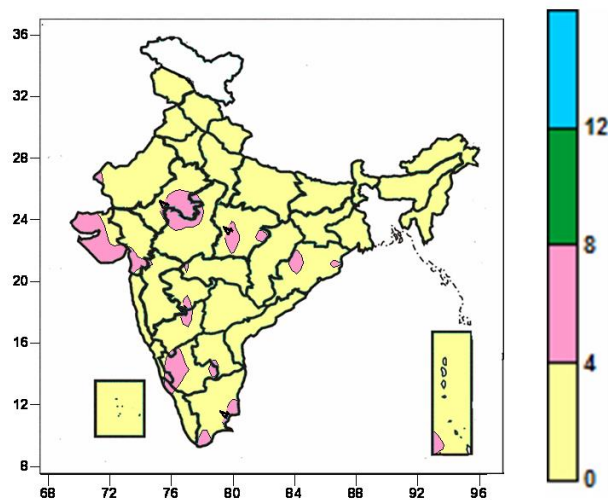
- 80 to 100% over many parts of East India(except Odisha), North East India, some parts of Jammu & Kashmir, Central India, Odisha, Madhya Maharashtra, Marathwada, South Interior Karnataka, Kerala, Lakshadweep and Andaman & Nicobar Islands.
- 60 to 80% over entire country except many parts of East India (except Odisha), North East India, some parts of Jammu & Kashmir, Central India, Odisha, Madhya Maharashtra, Marathwada, South Interior Karnataka, Kerala, Lakshadweep and Andaman & Nicobar Islands.

Cloud amount (okta) over India for the week ending 20.08.2014



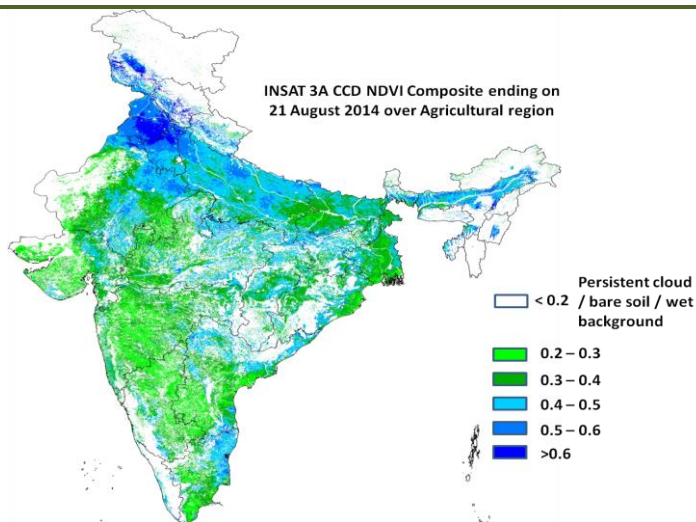
- 4 to 8 okta over many parts of Saurashtra & Kutch, some parts of some parts of Rajasthan, Madhya Pradesh, Odisha, Gujarat region, Marathwada, Karnataka, Rayalaseema, Tamil Nadu and Andaman & Nicobar Islands.
- 0 to 4 okta over entire country many parts of Saurashtra & Kutch, some parts of some parts of Rajasthan, Madhya Pradesh, Odisha, Gujarat region, Marathwada, Karnataka, Rayalaseema, Tamil Nadu and Andaman & Nicobar Islands.

Wind speed (knots) over India for the week ending 20.08.2014



- 8 to 12 knots over many parts of Saurashtra & Kutch, some parts of Rajasthan, Central India, Odisha, Gujarat region, Marathwada, Vidarbha, Karnataka, Rayalaseema, Tamil Nadu and Andaman & Nicobar Islands.
- 0 to 8 knots over entire country except many parts of Saurashtra & Kutch, some parts of Rajasthan, Central India, Odisha, Gujarat region, Marathwada, Vidarbha, Karnataka, Rayalaseema, Tamil Nadu and Andaman & Nicobar Islands.

INSAT 3A CCD NDVI COMPOSITE OVER AGRICULTURAL REGION ending on 21st August 2014



Source: SAC, Ahmedabad

- Agricultural vigour is good over Punjab, Haryana, western and other parts of UP, eastern Rajasthan, central Gujarat and MP as NDVI varied between 0.4 to 0.5 upto 21st August 2014. The NDVI remained within the range of 0.3 to 0.4 over rest of India.

Monsoon Watch

- The southwest monsoon was active over South Interior Karnataka.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 25th August, 2014)

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

Weather Warning during next 3 days

- **22 August (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Coastal & South Interior Karnataka, Kerala and Lakshadweep. Heavy rainfall would occur at isolated places over South Madhya Maharashtra, Marathwada, North Interior Karnataka and interior Tamilnadu.
- **23 August (Day 2):** Heavy to very heavy rainfall would occur at a few places over Coastal Karnataka and Kerala. Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya. Heavy rainfall would occur at isolated places over South Interior Karnataka, interior Tamilnadu and Lakshadweep.
- **24 August (Day 3):** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya. Heavy rainfall would occur at isolated places over Konkan & Goa and Coastal Karnataka.

Weather Outlook for subsequent 4 days from 25th August 2014 to 29th August 2014

- Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim,

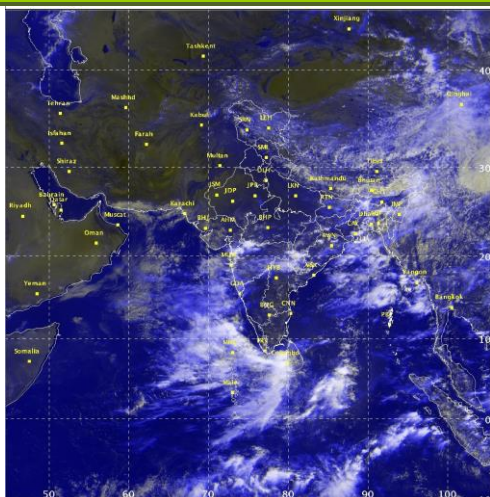
over West Madhya Pradesh, Gujarat region and Rayalaseema during next 24 hours and at a few places thereafter.

- Mainly dry weather would prevail over East Rajasthan, Saurashtra and Kutch during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Mainly dry weather would prevail over West Uttar Pradesh, Haryana, Delhi, Punjab and West Rajasthan during the period.

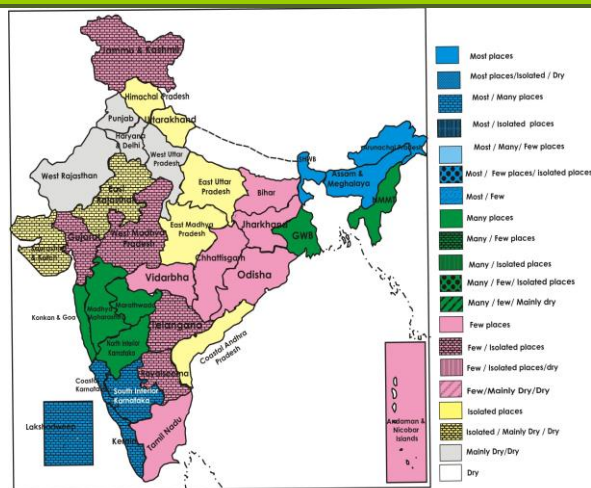
northeastern states and along west coast.

- Rain/thundershowers would occur at a few places over western Himalayan region, Maharashtra, east and adjoining central India.
- Subdued rainfall activity would continue over plains of northwest India and Gujarat.

Satellite image dated, 22.08.2014, 0600 UTC



Weather Forecast Map (Valid upto 0830 hours of 25th August 2014)



Salient Advisories

- As rainfall deficit is 61% so far in **Punjab** and also mainly dry weather would prevail for next three days the following advisories are suggested:
 - Sowing of short duration early maturing and drought tolerant varieties of crops including maize (PMH2) and moong (PAU 911, ML 818).
 - Moong variety ML13 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong PAU- 911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur districts.
 - Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for *rabi* crops.
 - De-tasselling in maize is advised to reduce transpiration losses.
 - Apply life-saving irrigation to standing crops.
- In **Haryana**, as mainly dry weather would prevail, apply irrigation in rice and sugarcane. Alternate wetting and drying in rice fields and irrigation is advised in alternate rows in sugarcane in case of shortage of water for irrigation.
- In **Delhi**, in view of persisting subdued rainfall activity, farmers are advised to apply irrigation to the standing crops.
- In **Marathwada region** in Maharashtra, as rain would occur at many places, in unsown areas undertake sowing of contingency crops like sesame, bajra and pigeon pea and continue planting of *adsali* sugarcane. Instead of sowing sole crops, adopt intercropping of bajra+ red gram (3:3) by selecting short duration and improved varieties. Undertake rainfall harvesting methods by making furrows in cotton, soybean and jowar fields.
- In view of scanty/deficit rainfall situation in **Telangana**, (scanty over Nizamabad, Rangareddy, Medak, Nalgonda districts and deficit over Hyderabad, Adilabad, Karimnagar, Warangal, Khammam, Mehabubnagar districts) following measures are suggested in standing crops.
 - Foliar spray of 2% KNO₃ or 2% urea solution to supplement nutrition during dry spells.

- Supplementary irrigation by using micro-irrigation (sprinklers).
 - Avoid top dressing of fertilizers until receipt of rains.
- In flood affected areas of Lower Brahmaputra 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 1/2 N + 50% K₂O as top dressing during the tillering stage.
- In Upper Brahmaputra Valley Zone of **Assam**, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. These varieties can be transplanted or sown within 1st week of September. Long duration cultivars like Monohar Sali, Andrew Sali and Gitesh can be transplanted with 60 days seedling, where as Prafulla can be transplanted with 90 days old seedlings. Therefore, farmers should be ready with this type of cultivars to cope up with flood situation.
- In East and South Eastern Coastal Plain Zone of **Odisha**, in case of complete failure of crops due to flood, undertake sowing of pre-*rabi* green gram, black gram, horse gram, sesame and castor in medium uplands.
- Drain out excess water from standing crops in **East Uttar Pradesh**.

Detailed Zonewise Agromet Advisories

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



Transplanting of Rice



Sugarcane



Okra



Soybean

- **Realised Rainfall:** Rainfall occurred in all districts of Coastal Karnataka; Bagalkote, Gadag and Koppal districts of North Interior Karnataka; all the districts of South Interior Karnataka except Bangalore Rural, Chamarajnagar and Ramanagara; Alapuzza, Idukki, Kollam, Kottayam and Pathanamthitta districts of Kerala; Guntur, Krishna, Srikakulam, Vizianagaram and Chittoor districts of Andhra Pradesh; all the districts of Tamil Nadu except Chennai, Kancheepuram, Kanyakumari, Karaikal, Namakkal, Ramanathapuram, Tirunelveli, Tiruvallur, Toothukudi and Vellore. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Coastal Karnataka, South Interior Karnataka and Kerala during next 48 hours and at many places thereafter. Rain/thundershowers would occur at many places over North Interior Karnataka; at a few places over Tamil Nadu & Puducherry and at isolated places over Coastal Andhra Pradesh during the period. Rain/thundershowers would occur at a few places over Telangana during next 24 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Rayalaseema during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Coastal & South Interior Karnataka, Kerala and Lakshadweep on 22nd August and at a few places over Coastal Karnataka and Kerala on 23rd August. Heavy rainfall would occur at isolated places over North Interior Karnataka on 22nd August; over South Interior Karnataka on 23rd August; over interior Tamil Nadu on 22nd and 23rd August and over Coastal Karnataka on 24th August. Heavy rainfall would occur at isolated places over Lakshadweep on 23rd August.
- **Weather Outlook:** Nil

• **Advisories:**

- As rain/thundershowers would occur at most/many places over Karnataka and Kerala during the period, along with heavy to very heavy rainfall at isolated places over Coastal Karnataka and Kerala on 22nd and 23rd August and heavy rainfall at isolated places over South Interior Karnataka on 22nd and 23rd 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.

▪ **Karnataka:**

- Undertake transplanting of tomato, chilli and brinjal in the Southern Dry Zone of Karnataka utilising the expected rainfall.
- Continue transplanting of rice in the Southern Transition Zone of Karnataka.
- Continue sowing of short duration varieties of ragi and sunflower after proper seed treatment, in the Central Dry Zone of Karnataka.
- Continue sowing of horse gram, sunflower and fodder crops utilising the realized rainfall in the North Dry Zone of Karnataka.
- In Eastern Dry Zone of Karnataka, undertake sowing of ragi and planting of coconut, sapota, guava and mango.
- Due to the prevailing humid weather, yellow vein mosaic disease in green gram and incidence of ash weevil and leaf eating caterpillar in soybean is noticed and likely to spread in North East Transition Zone and North East Dry Zone of Karnataka. Rough out affected plants and spray Imidachlorprid @ 0.3 ml per litre of water to manage Yellow vein mosaic disease and spray Chlopyriphos @2 ml or Monocrotophos @1ml per litre of water to manage ash weevil and leaf eating caterpillar after current spells of rain.
- Due to cloudy weather, sucking pest is noticed in one month old cotton and likely to continue in the Central Dry Zone of Karnataka, spray Dimethoate 30 EC @1.7 ml in one liter of water after current spells of rain for controlling sucking pests.

▪ **Kerala:**

- High humid condition is conducive for sheath blight on rice in the Central Zone of Kerala. Apply Propiconazole 25 EC @ 500 ml per ha after current spells of rain to manage the incidence.
- Present cloudy weather with high humidity condition is congenial for incidences of bacterial leaf blight & sheath blight on rice in the Problem Area Zone of Kerala. Monitor the crop and spray cow dung slurry 200g/litre of water after current spells of rain.
- High humidity are congenial for neck blast disease on rice in the Southern Zone of Kerala. Apply Carbendazim (Bavistin) 1gm/litre or Iprophenphos (Kitazin EC) 1ml/ litre after current spells of rain.

▪ **Telangana and Andhra Pradesh:**

- Continue transplanting of rice and ragi in the High Altitude Tribal Zone of Andhra Pradesh.
- In the Krishna Godavari Zone of Andhra Pradesh, continue sowing of maize, cotton, red gram and green gram.
- In view of scanty/deficit rainfall situation in Telangana, (scanty over Nizamabad, Rangareddy, Medak, Nalgonda districts and deficit over Hyderabad, Adilabad, Karimnagar, Warangal, Khammam, Mehbubnagar districts) following measures are suggested in standing crops.
 - Foliar spray of 2% KNO₃ or 2% urea solution to supplement nutrition during dry spells.
 - Supplementary irrigation by using micro-irrigation (sprinklers).
 - Avoid top dressing of fertilizers until receipt of rains.
- In the Southern Telangana Zone of Andhra Pradesh, complete sowing of cotton, maize, groundnut, pulses, castor etc. utilising the realised rainfall.
- In Scarce Rainfall Zone of Rayalaseema, continue sowing contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor and horse gram utilizing the realised rainfall.
- Due to partly cloudy and humid condition, helioverpa and leaf minor damage was noticed and likely to persist in groundnut in Anantpur district in the Scarce Rainfall Zone of Rayalaseema. Spray larvin@ 1.5 g/l to manage helioverpa and Chloropyriphos 2ml/lit + Dichlorovas 1ml/lit to manage leaf minor damage on a non rainy day.

▪ **Tamil Nadu:**

- Continue land preparation and sowing of *samba* rice in the Cauvery Delta Zone of Tamil Nadu.
- Undertake sowing of fodder sorghum or cowpea in rainfed lands in the Western Zone of Tamil Nadu.
- Undertake cultivation of castor with intercropping of black gram and green gram (VBN 5, 6) utilizing the realized rainfall in the North Western Zone.
- Since prevailing humidity with cloudiness and drizzling is congenial for blast and in rice, monitor the crop and go for second top dressing of nitrogen, if there are no incidences in the Western Zone of Tamil Nadu. Otherwise limit or postpone nitrogen application.

• **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]



Transplanting of Rice

Okra

Jute

Green Gram

- **Realised Rainfall:** Rainfall occurred in all districts of Arunachal Pradesh except Anjaw, Dibang Valley, Kurung Kumey and Lower Subansari; all districts of Assam; all districts of Meghalaya except West Khasi Hills; Aizwal, Saiha and Serchhip districts of Mizoram; Chandel, Imphal East and Imphal West districts of Manipur; Dimapur, Kohima and Phek districts of Nagaland and all districts of Tripura. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Arunachal Pradesh and Assam & Meghalaya during the period. Rain/thundershowers would occur at many places over Nagaland, Manipur, Mizoram & Tripura during the period.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Arunachal Pradesh, Assam & Meghalaya during the period.
- **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, along with heavy to very heavy rainfall at isolated places 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.
 - In Central Bramhaputra Valley Zone of Assam, continue transplanting of *sali* rice. Continue sowing of green gram, black gram, sesame and nursery sowing of cole crops after current spells of heavy rain.
 - 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 1/2 N + 50% K₂O as top dressing during the tillering stage.
 - In Upper Bramhaputra Valley Zone of Assam, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. These varieties can be transplanted or sown within 1st week of September. Long duration cultivars like Monohar Sali, Andrew Sali and Gitesh can be transplanted with 60 days seedling, where as Prafulla can be transplanted with 90 days old seedlings. Therefore, farmers should be ready with this type of cultivars to cope up with flood situation. Gap filling in the main field should be done with same age of seedling. At 20 and 40 days after transplanting.
 - In Hill zone of Assam, replanting of dead hills or gap filling with seedlings of *sali* rice of similar age should be done within 7-10 days of transplanting.
 - In Meghalaya, maintain water level of 2-5 cm in transplanted *sali* rice. 1st top dressing of 1/4th Urea (44Kg/ha) should be done after 1st hand weeding at 25-30 DAT. In high upland fields, continue planting of tuber crops like sweet potato, colocassia, tapioca, etc. after current spells of heavy rain.
 - Cloudy and humid weather is favourable for attack of leaf folder and rice hispa in *sali* rice at tillering stage in North Bank Plain Zone and Central Bramhaputra Valley of Assam. Monitor the crop and when there is one damaged leaf per hill due to attack of leaf folder or appearance of one adult hispa per hill is observed, spray Chloropyriphos 20EC or Monocrotophos 40EC @ 1.5ml per litre of water after current spells of rain.
 - Due to cloudy and humid weather, there is chance of attack of rice hispa in *sali* rice at tillering stage in Hill Zone of Assam, spray with Quinolphos @ 10 ml /5 litre of water. Also in cloudy weather, there is chance of attack of stem borer in maize, spray Fenitrotheon @ 1litre in 200-250 litre of water per ha. Apply the chemicals after current spells

of rain.

- Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in early transplanted rice in Arunachal Pradesh. Dust with Malathion 5D @ 20 kg/ha after current spells of rain. Repeat after one week. Also in the present weather, there is chance of collar rot/wilting in green gram. Spray Carbandazim @ 1g per litre of water or Endofil M45 @ 2.5g per litre of water after current spells of rain.
- In Meghalaya, due to cloudy weather & high humidity, there is chance of incidence of blast in direct seeded *ahu* rice. Spray Mencozeb @ 2g/litre or Carbendazim @ 1g/litre after the 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 and application of fertilizers and plant protection measures in standing crops.
- In Mizoram, drain out excess water from cucurbit and pineapple fields.
- In Nagaland, provide good drainage in ginger fields to avoid rhizome rot.
- In Mild Tropical Plain Zone of Tripura, provide adequate drainage in groundnut at pod filling stage particularly in low and medium lands and where there is a chance of water stagnation due to rain.
- In Mild Tropical Plain Zone of Tripura, there is chance of attack of yellow stem borer in *aman* rice due to cloudy weather. To manage the attack, spray Cartap Hydrochloride @ 1g/litre or Chloropyrifos @ 2.5 ml/litre of water. Also, in the present weather, there may be attack of fruit borer in Brinjal. To manage the attack, apply Imidachloprid @ 2ml per litre of water. Apply the chemicals after current spells of rain.
- **Animal Husbandry**
- In Assam, cattle should not be fed with water submerged rotten grass and give anti-worm drugs.
- In Arunachal Pradesh, provide artificial heating through lighting of electric bulb during night time to protect the poultry birds (day old to 25 days old) from low temperature. Pig shed/stay should keep dry and avoid dampness during rainy days.
- In Nagaland, high humidity is favourable for occurrence of coccidial disease in poultry, provide anti-coccidial drugs. Avoid stagnant water in and around the pig sty and maintain proper hygienic condition.
- In Meghalaya, due to prevailing high relative humidity & warm temperature, there is chance for growth of moulds (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

Transplanting of Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Bihar except Bhabua, Buxar and Rohtas; all districts of Jharkhand except Garhwa and Sahibganj; in Balasore, Bolangir, Boudhgarh, Cuttak, Deogarh, Gajapati, Ganjam, Jajpur, Jharsuguda, Kalahandi, Kandhamal, Khurda, Koraput, Mayurbhanj, Nawapara, Nawarangpur, Nayagarh, Rayagada, Sambalpur, Sonapur and Sundergarh districts of Odisha; all districts of Andaman & Nicobar Islands; all districts of Gangetic West Bengal; all districts of Sub-Himalayan West Bengal & Sikkim except North Dinajpur. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Sub-Himalayan West Bengal & Sikkim and at many places over Gangetic West Bengal during the period. Rain/thundershowers would occur at a few places over Odisha, Jharkhand, Bihar and Andaman & Nicobar Islands during the period.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Sub-Himalayan West Bengal & Sikkim during the period.
- **Weather Outlook:** Rain/thundershowers would occur at many places over Sub-Himalayan West Bengal & Sikkim. Rain/thundershowers would occur at a few places over east India.

- **Advisories:**

- **West Bengal:**

- As rain/thundershowers would occur at most places over Sub-Himalayan West Bengal & Sikkim and at many places over Gangetic West Bengal during the period along with heavy to very heavy rainfall at isolated places over Sub-Himalayan West Bengal & Sikkim, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in crop fields in Sub-Himalayan West Bengal & Sikkim to avoid water stagnation.
- In Coastal Saline Zone and in Laterite and Red Soil Zone of West Bengal, complete transplanting of *aman* rice (for SRI method, use 1 plant per hill). Also prepare main field by making ridge for transplanting of tomato.
- In Old Alluvial Zone, avoid water stagnation in turmeric and ginger, to prevent rhizome rot
- Due to cloudy and humid weather conditions fungal and bacterial diseases are prevalent in maize in New Alluvial Zone of West Bengal and likely to continue. For fungal attack, spray Mancozeb @ 2.5g per litre of water and in case of bacterial rot, spray Streptocycline @ 0.1g per litre of water after current spells of rain.

- **Odisha:**

- Due to heavy rains during past weeks, there was flood in some districts of East, South Eastern and North Eastern Coastal Plain Zone of Odisha. In the flood affected low land areas, the following contingent measures may be taken up;
 - 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 East and South Eastern Coastal Plain Zone of Odisha, in case of complete failure of crops due to flood in medium uplands, undertake sowing of pre-rabi green gram, black gram, horse gram, sesame and castor.
- In Western Undulating Zone of Odisha, in flood affected areas, undertake transplanting with 21 days old seedling. Apply FYM 2t/acre, Azosporillum and PSB @ 2kg each/acre, DAP 25kg/acre, MOP 20kg MOP/acre for short duration variety. Apply FYM 2t/acre, Azosporillum and PSB @ 2kg each/acre, DAP 35kg/acre, MOP 25kg MOP/acre for medium and long duration variety.
- In Western Undulating Zone of Odisha, waterlogged conditions with high humidity (75-80%) favours buildup of scale insect, whitefly and Pyrilla in sugarcane. Spray Imidacloprid @ 1ml/4lit water on a non rainy day.
- In East and South Eastern Coastal Plain Zone and North Central Plateau Zone of Odisha, prevailing temperature may favour egg laying of stem borer in rice. To attract the borer butterflies, place 4 Pheromone Traps/acre, collect the adults and destroy them by burying them under soil or by burning and spray Prophenophos @ 2 ml per litre water on a non rainy day.

- **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of radish, pointed guard. Continue sowing of yam bean, pigeon pea, sunflower, maize and vegetable crops in the upland areas. Continue planting of onion.
- In North East Alluvial Plain Zone of Bihar, 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 on a non-rainy day at 40-45 days after transplanting.
- In South Bihar Alluvial Zone, apply algae in transplanted rice @ 10 kg/ha. Maintain 2-3cm water in the fields. Continue planting of Mango, Litchi, Guava and Papaya.

- **Jharkhand:**

- In South Eastern Plateau Zone of Jharkhand, continue planting of custard apple, banana, papaya and guava. In fallow upland, continue sowing of pulses like horse gram, moong, urad, niger, safflower and short duration maize.
- In Western Plateau Zone of Jharkhand, in upland areas, continue sowing of kulthi and niger by selecting improved varieties. In rice crop, apply urea after 20-25 days of transplanting. Prepare field for sowing of early potato and pea.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, til and groundnut. Continue sowing of horse gram and sweet potato. Undertake sowing of tomato, cabbage and cauliflower in raised seed bed.
- In South Eastern Plateau Zone of Jharkhand, due to high humidity and extended leaf wetness, there are chances of Blast in rice crop, spray Tricyclazole @ 6 g per litre of water on a non rainy day. Also due to cloudy weather and intermittent rain, there are chances of leaf blight in pulse crop, spray Indofil M 45 @ 2 g per litre of water a non rainy day.

- **Animal Husbandry**

- Keep cattle indoors during very heavy rainfall periods in Sub-Himalayan West Bengal.
- In North Eastern Coastal Zone of Odisha in flood affected areas, after receding of flood,
 - animal sheds should be disinfected with 2% Formaldehyde or 4% Caustic soda.
 - Provide clean drinking water to animals to prevent water borne diseases which are common after flood.
 - Animals should not be fed with water submerged rotten grasses.

- Domestic animals like cattle, goats, pigs etc. which are not vaccinated should be vaccinated immediately against Hind Quarter, Black Quarter and Foot and Mouth disease.
- **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.
- **Fishery**
- In Old Alluvial Zone West Bengal, due to incursion of muddy water, there may be lack of oxygen in water in fish ponds. Apply Potassium per magnate @250-500g/bigha/meter in pond water.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Transplanting of Rice



Okra



Green Gram

- **Realised Rainfall:** Rainfall occurred in Bastar, Bijapur, Dantewada, Jashpur, Korba, Mahasmund, Raigarh, Raipur and Surguja districts of Chhattisgarh. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Chhattisgarh and at isolated places over East Madhya Pradesh during the period. Rain/thundershowers would occur at isolated places over West Madhya Pradesh during next 24 hours and at a few places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over central India.
- **Advisories:**
 - **Madhya Pradesh:**
 - As mainly dry weather would prevail, undertake weed control and intercultural operations in soybean, urad and moong in Jhabua Hill Zone of Madhya Pradesh. Spray Emizatapar @ 750 ml per hectare with 600-700 litre of water.
 - As mainly dry weather would prevail, continue intercultural operations and weed control in rice in Bundelkhand Zone and in soybean, moong and urad in Grid Zone of Madhya Pradesh and apply nitrogen fertilizer.
 - Due to 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 on a non rainy day.
 - Due to cloudy weather, there are chances of incidence of leaf spot in urad crop in Jhabua and Gird Zone of Madhya Pradesh, spray Mancozeb @ 2.5 g per litre of water on a non rainy day.
 - Due to humid weather, there is possibility of attack of gradle beetle in soybean in Bundelkhand Zone of Madhya Pradesh, spray Trizophos 40 E.C. @ 2.0 ml per litre of water on a non rainy day.
 - **Chhattisgarh:**
 - In Chhattisgarh Plain Zone, maintain 5 cm water level in the transplanted rice fields. Undertake intercultural operations and weed control in soybean on a non-rainy day. Spray Parsut or Targasupar 300 ml/acre for control of weeds.
 - Continue planting of horticultural crops like papaya, mango, guava etc. in North Hill Zone of Chhattisgarh.
 - Undertake intercultural operations and of weed control of weeds in rice, maize, arhar, urad and soybean in North Hill Zone of Chhattisgarh on a non rainy day.
 - In Bastar Plateau Zone of Chhattisgarh, due to cloudy weather, there are chances of swarming caterpillar in rice, spray DDVP @ 1ml per litre of water on a non rainy day.
 - Due to humid weather, there are chances of attack of Tobacco caterpillar in soybean, black gram and pigeon pea in Plain Zone of Chhattisgarh, spray Quinalphos 25 E.C. @ 1.25 litre per hectare on a non rainy day.
- **Animal Husbandry**
- In Chhattisgarh, create smoke around cattle sheds to protect from mosquitoes.

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



Transplanting of Rice

Sugarcane

Bottle Gourd

Onion

- **Realised rainfall:** Rainfall occurred all the districts of Jammu & Kashmir except Ladakh(Leh) and Poonch; all districts of Himachal Pradesh except Kinnaur and Lahul & Spiti; all districts of Uttarakhand; Gurdaspur and Ropar districts of Punjab; Panchakkula district of Haryana; Bahraich, Balia, Balrampur, Basti, Chandauli, Deoria, Gonda, Gorakhpur, Kheri and Kushinagar districts of east Uttar Pradesh; Bareilly, Bijnor, Moradabad, Pilibhit, Rampur, Maharajganj, Mau, Sant Kabir nagar, Shrawasti nagar, Siddharth nagar and Sonbhadra districts of west Uttar Pradesh. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over East Uttar Pradesh, Uttarakhand and Himachal Pradesh during the period. Rain/thundershowers would occur at a few places over Jammu & Kashmir during next 48 hours and at isolated places thereafter. Mainly dry weather would prevail over East Rajasthan during next 48 hours and Rain/thundershowers would occur at isolated places thereafter. Mainly dry weather would prevail over West Uttar Pradesh, Haryana, Delhi, Punjab and West Rajasthan during the period.
- **Weather Warning:** Nil
- **Weather Outlook:** Rain/thundershowers would occur at a few places over western Himalayan region. Subdued rainfall activity would continue over plains of northwest India.
- **Advisories:**
 - **Jammu & Kashmir:**
 - In Intermediate Zone of Jammu & Kashmir, undertake nursery sowing of cabbage (Golden Acre, Pride of India and Pusa Mukta) and cauliflower (Giant Snow Ball and Pusa Synthetic) utilizing the realised rainfall.
 - In Sub Tropical Zone of Jammu & Kashmir, drain out excess water from the maize fields and apply 2nd dose of nitrogen as top dressing in rice just before panicle initiation stage (55 – 65 DAT).
 - Due to humid condition, there are chances of attack of blister beetle in maize in Sub Tropical Zone of Jammu & Kashmir. For control, spray Carbaryl @ 0.1 % on a non rainy day.
 - Due to prevailing humid weather conditions, there are chances of hairy caterpillars in pulses in Intermediate Zone of Jammu & Kashmir. Collect and destroy young gregarious caterpillars.
 - **Himachal Pradesh:**
 - Continue nursery sowing of Chinese cabbage and direct sowing of radish, carrot and lettuce in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh, utilizing the realized rainfall. Apply second dose of urea @ 40-50 kg per hectare to tomato, brinjal, capsicum, chilli and cucurbits.
 - Under prevailing humid weather condition, there are chances of attack of stem borer in maize in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. For control put pinch of Thimath granules in affected plants.
 - Under prevailing humid weather condition, there are chances of attack red pumpkin beetle and fruit fly in cucurbits in Sub-Montane & Low Hills Sub-Tropical Zone of Himachal Pradesh. Spray Malathion 50 EC @ 1ml per litre of water. Also install pheromone trap @25 per hectare.
 - Under prevailing humid weather condition, there are chances of incidence of attack of rice blast in rice in Sub-Montane & Low Hills Sub-Tropical Zone and in Bilaspur district of Mid-Hills Sub-Humid Zone of Himachal Pradesh. Spray Bavistin 0.01 or beam 75 WP 0.06% in 10-15 days interval. 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 Chloropyrifos 20 EC @ 2.5ml and for control of rice leaf folder, spray Chloropyrifos 20 EC @ 2.5ml per litre of water.
 - **Uttarakhand:**
 - In Sub humid Sub Tropical Zone of Uttarakhand, drain out excess water from rice and maintain 5 cm water level.
 - Drain out excess water from standing crop fields in Bhabar and Tarai Zone. Complete sowing of urad.
 - 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.
 - Due to high humid condition, there are chances of incidence of leaf folder in rice in Bhabar and Tarai Zone of Uttarakhand. Monitor the crop, if the damage is > 5 % spray Diamathoate 30 EC @ 400 ml dissolved in 400 litres of water per acre.

- **Punjab, Haryana and Delhi:**
 - As rainfall deficit is 61% so far in Punjab and also mainly dry weather would prevail for next three days the following advisories are suggested:
 - Sowing of short duration early maturing and drought tolerant varieties of crops including maize (PMH2) and moong (PAU 911, ML 818).
 - Moong variety ML13 can be sown in rainfed areas in Gurdaspur, Hoshiarpur and Ropar. Moong PAU-911 variety has been recommended for the whole state except Bathinda, Mansa, Faridkot, Muktsar and Ferozepur districts.
 - Adopt moisture conservation practices like hoeing, weeding, mulching in crops like sugarcane, maize, cotton to reduce the evapotranspiration losses and to conserve moisture for *rabi* crops.
 - De-tasselling in maize is advised to reduce transpiration losses.
 - Apply life-saving irrigation to standing crops.
 - In Western Plain Zone of Punjab, undertake field preparation for sowing of short duration hybrid maize (PMH 2) during second fortnight of August.
 - In Undulating Plain Zone of Punjab, undertake nursery sowing of mid-season cauliflower, desi varieties of radish, carrot and turnip.
 - 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.
 - In Haryana, as mainly dry weather would prevail, apply irrigation in rice and sugarcane. Alternate wetting and drying in rice fields and irrigation is advised in alternate rows in sugarcane in case of shortage of water for irrigation.
 - In Western Zone of Haryana, complete sowing of fodder crops such as jowar mixed with cowpea to increase the nutritive value for continuous supply of green fodder.
 - In Delhi, in view of persisting subdued rainfall activity, farmers are advised to apply irrigation to the standing crops.
- **Uttar Pradesh:**
 - Drain out excess water from standing crops in North Eastern Plain Zone of Uttar Pradesh.
 - Undertake nursery sowing of cauliflower, cabbage, tomato and chilli in Central Plain Zone and in Eastern Plain Zone and complete sowing of short duration varieties of bajra (ICMV-155, WCC-75, ICTP-8203, Raj-171, Pusa-322,23, ICMH-451) in Ballia and Deoria districts of Uttar Pradesh utilizing the realized rainfall.
 - Undertake sowing of arhar (Bahar, Narendra Arhar 1,2, Azad, Pusa-9, Malveey-Vikas, Chamtkar, PDA-11) and moong (var. Pant-1, Narendra-1, PDM-54, Samrat and Asha) in Barabanki, Faizabad and Ambedkarnagar districts of Eastern Plain Zone of Uttar Pradesh utilizing the realized rainfall.
 - Under prevailing humid weather condition there are chances of attack of red beetle in vegetables in Bundelkhand Zone of Uttar Pradesh. Spray Nimbisidin @ 2 litre or Monocrotophos @ 1 litre per 800 litres of water.
 - Under prevailing humid weather condition there are chances of attack of stem borer in maize in Eastern Plain Zone of Uttar Pradesh. Apply Linden 6% @ 20 kg or Carbofuron granules 3% , 20kg or Linden+Carbaryl (4:4 G) 25 kg per hectare.
 - Under prevailing humid weather condition, there are chances of incidence of blast disease in rice in Western Plain Zone of Uttar Pradesh. For control, spray Beem @ 120 g per 200 litres of water.
- **Rajasthan:**
 - Undertake nursery sowing of cauliflower (Pusa hybrid-2, Improved Japanese, Pusa Shubhra and Pusa Himjyoti) in Flood Prone Eastern Plain Zone of Rajasthan.
 - In Semi-Arid Eastern Plain Zone of Rajasthan, complete sowing of radish and nursery sowing of mid-season cauliflower.
 - Due to dry weather condition, there are chances of incidence of army worm in bajra in Arid Western Plain Zone of Rajasthan. To control spray Quinalphos 1.5 % powder @ 25kg/ha.
 - Due to warm and cloudy weather conditions, there is chance of leaf spot disease on groundnut in Semi-Arid Eastern Plain Zone of Rajasthan. To control spray Bavistin @ 0.5 gm or Mancozeb @ 2 gm per litre water.
- **Horticulture**
 - 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 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 and also in Flood Prone Eastern Plain Zone of Rajasthan. For control spray Butox @ 2.0 ml per litre of water. Clean the cowshed with phenyl and keep the animal sheds dry and clean.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Transplanting of Rice

Sugarcane

Okra

Soybean

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa and Kolhapur district of Madhya Maharashtra; in Dangs, Navsari and Valsad districts of Gujarat region. Mainly dry weather prevailed in rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Konkan & Goa, Madhya Maharashtra and Marathwada and at a few places over Vidarbha during the period. Rain/thundershowers would occur at isolated places over Gujarat region during next 24 hours and at a few places thereafter. Mainly dry weather would prevail over Saurashtra and Kutch during next 48 hours and Rain/thundershowers would occur at isolated places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Madhya Maharashtra and Marathwada on 22nd August and over Konkan & Goa on 24th August.
- **Weather Outlook:** Rain/thundershowers would occur at many places along west coast. Rain/thundershowers would occur at a few places over Maharashtra. Subdued rainfall activity would continue over Gujarat.
- **Advisories:**
 - **Maharashtra:**
 - As rain/thundershowers would occur at many places over Konkan & Goa, Madhya Maharashtra and Marathwada during the period, along with isolated heavy rainfall over South Madhya Maharashtra and Marathwada on 22nd August, postpone irrigation, inter-cultural operations and application of fertilizers and plant protection measures in standing crops
 - In Konkan, maintain water level upto 5 cm in main rice field.
 - In Madhya Maharashtra, continue sowing of fodder crops like jowar (Ruchira, Phule Amruta, Phule Godhan) and maize (African tall, Karveer, Rajshree).
 - In Marathwada, as rain would occur at many places, in unsown areas undertake sowing of contingency crops like sesame, bajra and pigeon pea and continue planting of *adsali* sugarcane. Instead of sowing sole crops, adopt intercropping of Bara+ red gram (3:3), by selecting short duration and improved varieties. Undertake rainfall harvesting methods by making furrows in cotton, soybean and jowar fields.
 - In Vidarbha, in unsown/delayed sowing areas, sowing can be done with sole crop pigeon pea (AKT 8811, Vipula, PKV- Tara and BSMR-736 (with closer 45x20 spacing) in the districts of Amravati, Wradha, Washim etc. after receipt of adequate rain.
 - As alternative crops 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 can be included.
 - Maintain water level upto 2-3 cm in transplanted rice fields. Apply fertilizers and undertake inter-cultural operations in cotton, soybean, maize and jowar on a non rainy day.
 - Due to cloudy and humid weather, there may be attack of sap sucking pest in cotton in Marathwada, spray Acephate 75% @ 20g/ 10 litres water after current spells of rain.
 - Prevailing humid weather in Pune region is favourable for incidence of fungal disease in sunflower, tomato, chilli & cucumber. Sap sucking pests spreads the disease; spray Imidachloprid 200 SL @ 2 ml per 10 litres water after current spells of rain.
 - **Gujarat:**
 - In North Gujarat Region, complete sowing of sorghum (seed purpose - GJ-39, 40 or 41 and for fodder - Gundari, GFS-4) utilising available soil moisture. Apply 40 Kg N and 40 Kg P at the time of sowing of sorghum. Continue transplanting of fennel (40 days old) in main field. Complete sowing of hybrid varieties of castor (GAUCH-2, GCH-5, 6 and GCH-7) in South Gujarat Heavy Rainfall Zone and in North West Zone.
 - As mainly dry weather would prevail, continue inter-cultural operations and weeding in cotton, pulses and sesame in North Gujarat Zone, in cotton and sesame in North West Zone, in rice in South Gujarat Heavy Rainfall Zone and in cotton and castor in South Gujarat Zone to conserve soil moisture. Complete planting of new orchards.
 - Complete transplanting of brinjal, tomato and chilli in the main field in North Gujarat Zone and North Saurashtra Zone. Spray 2% urea solution in cotton in North and South Saurashtra Zone.
 - Cloudy weather and humid condition is favourable for incidence of sucking pests in vegetables in North Gujarat Zone and South Gujarat and South Gujarat Heavy Rainfall Zone; spray Imidacloprid or Thiomethoxam 4 ml / 10 lit

water for control on a non rainy day.

- **Animal Husbandry**
- In Gujarat, spray phenyl in the animal sheds to avoid flies and mosquitoes.

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

Annexure I
Week by week Rainfall Distribution

Sub-Divisions	06.08.14		13.08.14		20.08.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	29.3	-48	87.5	34	162.3	69
Dibang Valley	**	**	**	**	**	**
East Kameng	5.1	-90	33.4	-49	71.4	45
East Siang	187.0	4	379.4	173	443.9	147
Kurung Kumey	**	**	**	**	**	**
Lohit	59.6	-35	208.2	136	207.1	90
Lower Dibang Valley	154.4	423	451.2	1483	329.6	710
Lower Subansari	**	**	**	**	**	**
Papumpara	98.5	-12	172.5	38	323.0	271
Tawang	24.0	-81	56.0	-63	113.0	-20
Tirap	42.2	-58	106.0	-3	152.4	37
Upper Siang	32.6	-59	144.6	61	199.6	80
Upper Subansari	10.4	-56	35.6	-20	104.8	117
West Kameng	12.6	-90	121.2	-19	74.6	-48
West Siang	48.0	-9	120.0	174	194.5	109
Assam&Meghalaya						
Assam						
Baksa	6.5	-93	38.2	-62	235.0	84
Barpeta	47.6	-51	68.7	-31	256.0	101
Bongaigaon	19.8	-77	94.2	9	304.0	185
Cachar	121.0	20	95.7	-22	78.5	-28
Chirang	141.9	64	200.6	133	324.2	204
Darrang	6.0	-91	70.0	10	56.0	-2
Dhemaji	113.0	23	93.0	-27	166.0	52
Dhubri	24.8	-73	51.0	-33	233.1	150
Dibrugarh	106.3	14	81.9	-11	95.2	-1
Goalpara	54.2	-16	30.5	-56	168.1	120
Golghat	57.0	24	52.7	-27	47.9	-16
Hailakandi	63.4	-27	17.4	-82	58.6	-45
Jorhat	17.2	-78	98.6	16	55.7	-27
Kamrup(Rural)	69.7	32	48.1	-8	62.4	-5
Kamrup(Metro)	61.2	16	14.7	-72	62.4	-5
Karbi Anglong	49.9	-6	21.2	-58	57.3	26
Karimganj	163.3	74	149.7	34	237.9	156
Kokrajhar	56.5	-64	184.7	8	332.7	164
Lakhimpur	136.9	49	109.3	-15	190.6	74
Morigaon	39.2	-46	162.2	110	172.0	179

N.C.Hills	46.3	50	70.4	29	77.1	86
Nowgong	24.1	-62	103.4	62	150.1	137
Nalbari	18.3	-77	39.5	-36	193.5	199
Sonitpur	16.4	-74	51.7	-35	86.5	-4
Sibsagar	35.5	-54	85.0	-3	63.3	-8
Tinsukia	87.7	17	109.5	15	107.1	8
Udalgiri	7.8	-88	49.3	-23	82.2	44
Meghalaya						
East Garo Hills	40.3	-63	223.4	258	280.3	212
East Khasi Hills	106.9	-59	344.7	86	853.4	242
Jaintia Hills	**	**	**	**	161.0	-4
Ribhoi	50.6	-39	35.3	-67	124.8	24
South Garo Hills	70.0	-29	73.0	0	172.0	96
West Garo Hills	19.4	-80	11.2	-85	229.8	161
West Khasi Hills	**	**	**	**	**	**
NMMT						
Mizoram						
Aizwal	33.3	-68	55.4	-48	46.3	-60
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	30.0	-66	123.0	53	92.0	3
Serchhip	45.5	-48	72.0	-24	64.6	-45
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	42.0	-62	16.0	-88	56.0	-50
Churachandpur	22.0	-70	0.0	-100	0.0	-100
Imphal east	57.5	19	6.5	-92	52.8	-16
Imphal west	75.4	61	213.3	190	32.5	-44
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	55.5	22	66.2	-25	40.4	-11
Kephire	**	**	**	**	**	**
Kohima	46.6	-39	73.5	-20	109.2	18
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	55	-28	25	-73	108	17
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	32.9	-62	49.2	-34	363.0	314

North tripura	53.3	-25	24.2	-74	114.3	22
South tripura	12.0	-88	99.4	27	177.6	82
West tripura	23.2	-69	56.8	-13	165.9	94
Himachal Pradesh						
Bilaspur	65.9	-23	62.7	-22	104.1	66
Chamba	36.7	-71	54.2	-63	36.0	-63
Hamirpur	39.4	-56	43.4	-57	289.4	222
Kangra	85.4	-49	123.4	-33	169.6	27
Kinnaur	3.3	-79	2.5	-89	3.0	-85
Kullu	22.5	-50	11.4	-74	71.7	92
Lahaul and Spiti	0.0	-100	0.5	-99	5.3	-83
Mandi	54.5	-49	80.9	-17	239.9	173
Shimla	23.0	-55	25.8	-47	53.1	29
Sirmaur	29.9	-75	132.3	5	92.1	-16
Solan	20.8	-76	42.6	-52	89.9	23
Una	63.6	-21	43.8	-47	217.0	193
Punjab						
Amritsar	11.2	-79	7.7	-86	1.8	-96
Barnala	6.6	-79	0.0	-100	0.0	-100
Bhatinda	2.3	-94	0.0	-100	0.0	-100
Faridkot	0.0	-100	13.0	-48	0.0	-100
Fatehgarh Saheb	5.7	-88	23.7	-51	0.0	-100
Ferozpur	4.9	-87	0.0	-100	0.0	-100
Gurdaspur	38.7	-55	85.1	-15	123.4	75
Hoshiarpur	25.2	-66	16.2	-77	11.5	-79
Jalandhar	12.4	-75	17.5	-67	0.0	-100
Kapurthala	68.6	84	48.0	29	0.2	-99
Ludhiana	18.3	-59	13.6	-72	0.0	-100
Mansa	4.0	-89	0.0	-100	0.0	-100
Moga	1.5	-96	3.5	-90	8.0	-77
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	15.0	-80	30.5	-49	3.3	-94
Patiala	7.2	-88	10.1	-81	0.0	-100
Ropar	37.7	-52	57.1	-6	41.6	-25
Sangrur	17.6	-57	6.9	-81	0.0	-100
Mohali	5.5	-92	62.5	21	8.5	-80
TarnTaran	4.7	-86	5.1	-80	0.7	-97
Haryana,Chd,Delhi						
Haryana						
Ambala	56.5	-23	81.0	-9	3.1	-96
Bhiwani	16.7	-44	1.7	-95	0.0	-100
Chandigarh	16.7	-79	15.9	-79	7.2	-89
Faridabad	12.3	-81	27.3	-41	0.0	-100
Fatehabad	4.3	-85	0.8	-96	0.2	-99
Gurgaon	9.8	-79	1.3	-97	0.0	-100
Hissar	11.7	-59	0.0	-100	0.0	-100
Jhajar	34.4	-20	13.8	-57	0.0	-100
Jind	12.7	-69	0.0	-100	0.0	-100
Katihah	3.0	-91	0.0	-100	0.0	-100

Karnal	15.0	-65	13.1	-73	0.0	-100
Kurukshetra	4.7	-90	1.0	-98	0.0	-100
Mahendragarh	24.1	-31	16.7	-61	0.0	-100
Mewat	28.9	-39	9.8	-81	0.0	-100
Palwal	17.5	-58	9.5	-78	0.0	-100
Panchkkula	22.2	-76	52.9	-42	43.7	-43
Panipat	14.0	-70	20.7	-54	0.0	-100
Rewari	29.8	-44	4.0	-92	0.0	-100
Rohtak	10.0	-78	1.0	-98	0.0	-100
Sirsa	5.8	-67	0.0	-100	0.0	-100
Sonepat	22.8	-59	7.2	-84	0.0	-100
Yamunanagar	63.8	-20	23.7	-69	3.0	-96
Delhi						
Central Delhi	19.0	-74	27.0	-55	12.0	-79
East Delhi	65.0	-13	44.0	-27	0.0	-100
New Delhi	28.5	-62	89.0	47	0.0	-100
North Delhi	14.3	-81	27.2	-55	1.4	-98
North East Delhi	46.0	-38	2.0	-97	0.0	-100
North West Delhi	17.7	-76	17.7	-71	0.0	-100
South Delhi	15.9	-79	58.0	-4	0.0	-100
South West Delhi	21.4	-71	39.2	-35	0.0	-100
West Delhi	0.0	-100	8.0	-87	0.0	-100
Jammu & Kashmir						
Anantnag	12.4	-39	10.6	-48	78.8	525
Badgam	3.8	-72	0.0	-100	49.0	271
Bandipore	**	**	**	**	**	**
Baramula	3.4	-86	1.2	-95	47.0	196
Doda	8.4	-72	2.4	-90	47.5	93
Ganderbal	2.6	-86	3.2	-80	64.1	421
Jammu	85.5	-11	105.3	12	90.6	28
Kargil	**	**	**	**	**	**
Kathua	12.8	-89	110.8	7	204.8	127
Kistwar	**	**	**	**	**	**
Kulgam	15.1	-26	3.9	-81	81.7	548
Kupwara	0.4	-98	0.0	-100	34.9	203
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	10.3	-88	10.8	-86	0.7	-98
Pulwama	20.3	7	0.9	-96	60.7	346
Rajouri	1.0	-99	72.3	20	58.4	-21
Ramban	11.1	-63	8.5	-65	53.3	117
Reasi	47.8	-71	126.3	-8	130.5	52
Samba	55.0	-43	29.4	-69	143.9	103
Shopian	0.0	-100	6.0	-71	66.0	385
Srinagar	2.9	-84	0.0	-100	48.6	295
Udhampur	28.3	-83	15.7	-89	99.4	16
East Madhya Pradesh						
Anuppur	263.3	189	43.1	-53	6.8	-93
Balaghat	123.4	26	65.6	-39	11.3	-91
Chhatarpur	147.2	50	19.0	-80	2.6	-97

Chindwara	65.6	-13	6.0	-90	8.5	-87
Damoh	235.0	87	6.1	-93	20.1	-76
Dindori	245.4	150	143.2	45	13.2	-87
Jabalpur	190.0	66	22.8	-76	0.1	-99
Katni	276.0	138	6.1	-93	3.4	-96
Mandla	199.7	88	76.0	-31	11.0	-90
Narsingpur	169.0	72	32.0	-61	5.6	-95
Panna	140.5	49	135.3	32	11.4	-87
Rewa	123.1	56	23.5	-72	3.0	-96
Sagar	172.9	45	50.8	-48	1.3	-99
Satna	89.2	3	4.2	-95	27.5	-66
Seoni	106.6	29	17.2	-77	3.3	-96
Shahdol	240.0	169	7.0	-92	0.0	-100
Sidhi	354.4	408	37.8	-52	16.2	-80
Singrauli	81.4	13	85.1	45	0.0	-100
Tikamgarh	284.5	278	57.0	-34	0.0	-100
Umaria	300.4	207	20.1	-76	1.2	-99
West Madhya Pradesh						
Alirajpur	108.1	58	14.2	-74	27.2	-45
Asoknagar	191.3	138	98.8	42	1.3	-98
Barwani	7.7	-85	20.2	-55	2.9	-93
Betul	42.6	-48	7.6	-89	4.8	-93
Bhind	98.8	87	21.2	-72	0.0	-100
Bhopal	66.2	-29	32.2	-56	2.6	-97
Burhanpur	12.5	-82	1.7	-97	0.0	-100
Datia	113.4	60	36.5	-53	0.0	-100
Dewas	25.3	-72	6.0	-91	3.0	-96
Dhar	45.8	-39	4.5	-92	6.7	-88
Guna	197.5	120	177.7	130	8.2	-90
Gwalior	227.6	247	13.1	-84	0.0	-100
Harda	22.8	-76	4.5	-95	4.4	-96
Hosangabad	103.6	-17	30.8	-70	0.9	-99
Indore	91.1	29	4.6	-92	3.0	-95
Jhabua	58.3	-13	15.2	-73	16.4	-66
Khandwa	34.7	-54	4.3	-93	0.0	-100
Khargone	35.5	-48	5.0	-90	0.4	-99
Mandsaur	102.4	29	195.7	235	2.9	-96
Morena	136.3	104	25.5	-68	0.0	-100
Neemuch	68.7	5	272.9	387	0.8	-99
Raisen	130.3	25	59.2	-34	5.0	-95
Rajgarh	123.2	33	167.1	140	3.8	-95
Ratlam	41.6	-53	47.5	-19	8.5	-88
Sehore	62.6	-41	27.8	-64	3.6	-96
Shajapur	77.7	-21	83.0	32	6.5	-92
Sheopur	107.0	87	143.5	80	0.0	-100
Shivpuri	199.8	180	87.0	18	0.0	-100
Ujjain	41.7	-49	24.4	-53	3.5	-95
Vidisha	165.3	62	86.5	18	2.6	-97
Chhattisgarh						

Bastar	158.8	79	47.5	-47	47.2	-45
Bijapur	40.2	-67	76.3	-46	80.7	-11
Bilaspur	266.7	246	47.9	-43	10.0	-88
Dantewara	60.3	-39	30.9	-70	30.0	-58
Dhamtari	239.8	190	39.8	-43	8.8	-89
Durg	176.5	129	84.8	7	16.8	-77
Janjgir	93.2	-2	96.5	-12	14.1	-86
Jashpurnagar	131.2	45	35.7	-66	54.7	-42
Kanker	164.1	37	34.5	-62	2.5	-98
Korba	313.1	187	79.4	-29	39.0	-64
Koriya	287.7	221	92.9	-11	14.0	-86
Kawardha	245.6	285	41.0	-35	6.4	-91
Mahasumund	335.9	261	76.0	13	54.2	-42
Narayanpur	196.8	89	34.8	-68	4.0	-96
Raigarh	262.6	194	39.8	-55	39.9	-55
Raipur	147.8	95	54.3	-31	39.1	-53
Rajandgaon	102.3	23	30.4	-60	10.1	-86
Surguja	172.3	89	101.3	4	33.4	-60
East Uttar Pradesh						
Allahabad	102.4	75	40.7	-50	10.5	-82
Ambedkar Nagar	31.3	-57	32.0	-56	17.0	-73
Azamgarh	53.7	-22	22.6	-70	25.9	-55
Bahraich	50.5	-25	47.3	-32	114.7	74
Ballia	29.1	-53	28.1	-59	95.6	93
Balrampur	36.7	-43	50.9	-34	180.9	133
Banda	92.3	34	28.3	-69	27.2	-65
Barabanki	21.6	-67	36.2	-48	8.4	-88
Basti	19.7	-73	26.1	-60	45.2	-28
Chandauli	34.2	-39	75.0	-2	30.4	-56
Deoria	55.5	-14	6.5	-91	79.4	19
Faizabad	37.3	-54	30.5	-59	205.0	-72
Farrukhabad	0.7	-99	7.1	-92	0.1	-99
Fatehpur	35.9	-47	10.9	-87	0.0	-100
Gazipur	40.7	-46	76.9	-11	26.5	-58
Gonda	66.3	-24	47.1	-36	51.2	-15
Gorakhpur	23.7	-75	18.5	-81	129.8	47
Hardoi	21.1	-60	10.7	-85	0.0	-100
Jaunpur	35.2	-30	52.6	-30	11.9	-75
Kannauj	62.5	4	8.1	-91	0.0	-100
Kanpur City	49.5	-12	12.4	-83	0.8	-99
Kanpur Dehat	44.4	-24	11.9	-85	3.8	-94
Kaushambi	79.3	61	13.1	-85	0.3	-99
Kheri	92.0	29	17.9	-72	48.6	-30
Kushi nagar	6.5	-92	14.5	-83	190.5	114
Lucknow	35.9	-41	31.8	-49	3.5	-94
Maharajganj	6.5	-92	6.5	-93	183.8	83
Mau	31.0	-52	1.5	-98	63.0	-6
Mirzapur	35.1	-48	101.2	15	12.0	-78
Pratapgarh	81.3	45	46.7	-41	5.3	-91

RaiBareilly	33.1	-39	17.3	-75	4.7	-92
Sahuji Maharajnagar	133.8	116	7.3	-91	6.3	-92
Sant Kabirnnagar	57.0	-24	4.0	-94	132.0	102
Sant Ravidas Nagar	0.0	-100	93.0	22	2.0	-97
Shrawasti	116.6	74	25.8	-63	112.2	71
Sidharthnagar	63.1	-6	15.1	-81	170.7	143
Sitapur	37.5	-25	34.3	-50	11.1	-83
Sonbhadra	65.6	-7	151.0	106	35.7	-46
Sultanpur	43.7	-24	45.5	-37	9.1	-84
Unnao	76.6	16	9.3	-88	0.3	-99
Varanasi	39.7	-35	149.7	125	13.2	-78
West Uttar Pradesh						
Agra	93.9	47	15.1	-81	0.0	-100
Aligarh	23.4	-64	20.6	-69	1.1	-98
Auraiya	27.5	-54	15.6	-78	0.0	-100
Badaun	73.6	11	7.8	-89	1.0	-98
Baghpat	43.8	-18	10.1	-81	0.0	-100
Bareilly	17.6	-76	10.5	-86	48.1	-10
Bijnor	36.5	-57	10.0	-87	43.6	-34
Bulandsahar	22.8	-63	6.5	-89	1.3	-98
Etah	38.8	-24	24.7	-65	0.0	-100
Etawah	31.1	-56	40.3	-53	0.0	-100
Firozabad	19.3	-66	22.4	-66	2.0	-97
GBNagar	8.0	-87	17.0	-71	0.0	-100
Ghaziabad	16.6	-74	1.0	-98	0.0	-100
Hamirpur	82.8	24	13.0	-86	7.5	-89
Jalaun	53.8	-16	6.9	-94	0.0	-100
Jhansi	82.3	22	22.9	-76	0.3	-99
Jotiba Phule Nagar	10.0	-85	0.0	-100	15.0	-78
Kanshiramnagar	112.0	93	58.0	-16	0.0	-100
Lalitpur	196.5	148	51.5	-48	4.0	-95
Mahamaya Nagar	57.0	1	9.5	-86	0.0	-100
Mahoba	54.2	-27	29.6	-69	0.0	-100
Mainpuri	18.8	-63	11.4	-84	1.5	-98
Mathura	39.6	-28	18.8	-69	0.0	-100
Meerut	24.0	-65	4.3	-94	0.0	-100
Moradabad	30.2	-61	22.5	-71	37.1	-48
Muzaffarnagar	46.6	-27	0.0	-100	0.0	-100
Pilibhit	18.2	-78	18.6	-75	69.0	-4
Rampur	18.7	-76	20.9	-72	39.9	-48
Saharanpur	49.7	-31	8.0	-88	0.3	-99
Shahjahanpur	25.9	-62	9.6	-87	36.9	-42
Uttarakhand						
Almora	14.2	-80	7.6	-90	63.4	-2
Bageshwar	65.8	-5	49.0	-33	52.5	-19
Chamoli	111.3	31	151.3	59	49.3	-32
Champawat	27.0	-72	61.5	-39	117.5	28
Dehradun	119.2	-35	206.4	25	239.0	61
Garhwal Pauri	68.5	-44	16.0	-85	162.1	57

Garhwal Tehri	36.4	-66	34.4	-61	129.9	57
Haridwar	97.3	4	26.0	-73	52.8	-36
Nainital	82.5	-30	51.0	-47	209.3	100
Pithorgarh	83.6	-39	57.2	-55	129.9	4
Rudraprayag	106.3	-32	110.2	-32	64.2	-60
Udham Sing Nagar	41.0	-50	24.0	-71	56.2	-34
Uttarkashi	115.5	17	51.2	-50	55.8	-44
Bihar						
Araria	27.5	-69	52.7	-30	194.7	158
Arwal	14.7	-69	39.6	-41	57.6	8
Aurangabad	32.3	-39	50.2	-9	59.2	0
Banka	17.4	-72	19.2	-65	169.4	188
Begusarai	25.5	-64	0.0	-100	317.6	677
Bhabua	23.0	-67	215.6	215	10.0	-84
Bhagalpur	14.3	-80	12.3	-76	111.7	82
Bhojpur	9.4	-86	24.6	-56	132.5	104
Buxar	1.4	-97	8.8	-87	11.6	-80
Darbhanga	41.2	-36	32.8	-52	260.3	323
East Champaran	52.3	-18	33.5	-49	211.4	223
Gaya	44.2	-32	134.5	128	103.5	59
Gopalganj	90.3	46	0.0	-100	148.4	128
Jahanabad	24.2	-63	74.8	33	217.6	240
Jamui	37.4	-38	55.6	-7	95.6	87
Kathihar	3.3	-96	15.6	-70	151.9	156
Khagadia	16.4	-79	18.7	-72	139.5	112
Kishanganj	35.4	-65	119.8	3	135.4	43
Lakhisarai	29.0	-60	34.0	-38	286.0	436
Madhepura	11.0	-85	23.4	-66	156.4	204
Madhubani	25.5	-60	40.0	-49	188.7	221
Monghyar	16.8	-77	72.9	32	141.0	164
Muzaffarpur	41.2	-38	45.5	-30	192.4	217
Nalanda	13.6	-76	78.0	27	344.3	487
Nawada	20.2	-69	89.7	36	150.8	138
Patna	10.8	-81	55.8	-11	346.0	535
Purnea	6.5	-93	28.4	-64	78.8	34
Rohtas	39.8	-38	45.4	-27	23.1	-64
Saharsha	6.0	-93	3.0	-97	168.5	144
Samstipur	47.6	-22	55.2	-23	166.1	112
Saran	68.2	7	25.9	-61	203.6	214
Sheikpura	34.7	-36	71.1	39	132.1	168
Sheohar	0.0	-100	63.6	-7	175.4	174
Sitamarhi	6.0	-92	74.0	8	208.7	226
Siwan	81.7	31	11.7	-83	203.8	245
Supaul	36.7	-36	42.3	-25	207.5	292
Vaishali	77.7	28	42.4	-42	208.7	286
West Champaran	39.8	-44	68.1	-9	193.4	165
Jharkhand						
Bokaro	46.0	-45	138.1	116	51.1	-23
Chatra	70.0	4	105.1	25	44.2	-39

Deoghar	71.4	15	34.7	-47	42.8	-32
Dhanbad	53.5	-35	117.4	58	59.2	-5
Dumka	70.5	-5	78.6	17	50.6	-36
East Singhum	95.5	11	88.4	14	62.2	-7
Garhwa	72.6	-10	61.9	-14	23.0	-66
Giridih	37.1	-47	95.5	60	90.4	41
Godda	23.1	-59	32.0	-37	146.9	149
Gumla	113.6	40	55.9	-32	111.9	25
Hazaribagh	67.8	-4	204.5	173	91.8	55
Jamtara	38.3	-47	76.6	-8	72.8	-12
Khunti	70.2	-19	100.5	8	143.5	84
Koderna	21.0	-67	178.3	179	180.4	201
Latehar	57.2	-24	114.0	61	37.9	-34
Lohardagga	72.3	-20	72.4	5	45.9	-11
Pakur	28.6	-63	32.8	-56	97.6	20
Palamau	77.7	5	95.8	32	42.9	-36
Ramgarh	39.4	-49	144.0	120	34.6	-48
Ranchi	64.1	-25	64.2	-26	35.8	-55
Sahebganj	45.6	-25	26.8	-61	26.2	-69
Saraikela	98.4	13	95.7	32	96.0	36
Simdega	152.4	61	80.2	-16	116.7	21
West Singhum	135.8	53	213.8	164	65.6	-13
East Rajasthan						
Ajmer	54.0	50	192.5	470	0.1	-99
Alwar	56.2	4	44.4	-21	1.9	-96
Banswara	85.2	3	29.8	-53	7.9	-89
Baran	160.3	114	323.3	319	3.4	-95
Bharatpur	84.2	47	46.3	-17	1.4	-97
Bhilwara	45.3	-12	293.7	527	2.3	-96
Bundi	158.7	168	257.5	367	0.3	-99
Chittorgarh	69.6	15	234.1	323	1.3	-98
Dausa	119.8	124	184.2	176	0.2	-99
Dholpur	181.3	193	34.3	-53	0.0	-100
Dungarpur	49.8	-16	30.4	-32	10.2	-81
Jaipur	68.9	49	150.0	213	0.8	-98
Jhalawar	152.2	77	210.4	203	3.0	-97
Jhunjhunu	31.6	-17	61.5	69	0.0	-100
Karauli	109.7	103	45.0	-53	0.0	-100
Kota	115.9	86	235.9	244	3.3	-95
Pratapgarh	85.6	4	101.0	94	11.0	-85
Rajsamand	47.4	16	133.0	224	0.4	-99
Sawai Madhopur	184.0	222	182.7	121	0.0	-100
Sikar	42.4	30	53.6	54	0.0	-100
Sirohi	58.2	-36	71.2	7	7.3	-91
Tonk	120.3	140	296.5	523	0.5	-99
Udaipur	46.5	-15	61.9	43	2.1	-95
West Rajasthan						
Barmer	26.2	12	24.6	29	1.9	-92
Bikaner	24.5	33	6.5	-59	3.4	-80

Churu	29.7	15	12.9	-48	0.0	-100
Hanumangarh	22.6	-1	0.0	-100	0.0	-100
Jaisalmer	40.3	210	3.9	-69	0.1	-99
Jalore	39.4	5	27.8	5	0.3	-99
Jodhpur	19.1	-23	77.3	272	0.6	-97
Nagaur	44.3	80	101.8	290	1.4	-95
Pali	33.0	-21	140.8	318	0.0	-100
Sri Ganganagar	4.3	-74	0.9	-94	0.0	-100
Gujarat Region						
Ahmedabad	63.4	32	24.3	-54	5.3	-87
Anand	97.1	56	22.5	-64	26.3	-55
Banaskantha	57.3	7	19.4	-48	4.1	-90
Baroda	66.3	-12	18.3	-76	27.9	-59
Broach	67.9	14	33.5	-37	14.3	-70
DNH	409.8	123	60.7	-63	46.0	-65
Dahod	46.5	-42	13.6	-80	14.3	-78
Daman	394.4	115	35.6	-78	68.4	-48
Dangs	149.5	-13	58.0	-59	34.5	-71
Gandhinagar	37.3	-46	17.2	-68	7.8	-83
Kheda	73.1	10	47.3	-24	16.7	-70
Mehsana	93.7	56	30.5	-38	5.0	-88
Narmada	71.3	-27	23.3	-74	15.9	-77
Navsari	165.0	23	43.7	-65	32.7	-68
Panchmahal	67.3	-18	12.6	-84	21.0	-70
Patan	81.6	82	28.3	-27	3.6	-90
Sabarkantha	79.5	11	22.1	-65	9.3	-83
Surat	125.3	41	17.3	-80	17.8	-74
Tapi	109.6	-12	20.2	-82	27.4	-68
Valsad	327.0	114	56.7	-55	45.0	-59
S K & Diu region						
Amreli	67.1	117	16.4	-46	5.0	-82
Bhavnagar	40.0	28	27.9	-15	4.2	-86
Diu	246.2	457	25.2	-33	5.7	-81
Jamnagar	154.5	450	24.9	-35	6.8	-68
Junagarh	233.4	407	29.7	-33	9.4	-76
Kutch	32.2	24	26.2	-10	8.3	-57
Porbandar	164.3	383	81.5	66	14.6	-54
Rajkot	56.9	55	28.3	-33	9.9	-66
Surendranagar	74.6	107	5.5	-84	4.2	-87
Maharashtra & Goa						
Konkan & Goa						
Mumbai City	199.2	38	59.7	-53	36.1	-65
Mumbai Suburban	248.5	72	91.2	-28	30.6	-70
North Goa	340.3	49	168.2	-20	81.3	-47
Raigad	435.2	81	141.1	-33	51.4	-73
Ratnagiri	272.5	9	139.8	-37	48.9	-75
Sindhudurg	206.3	1	131.8	-29	91.1	-37
South Goa	292.4	47	215.9	14	106.0	-17
Thane	430.3	119	105.7	-43	47.4	-66

Madhya Maharashtra						
Ahmednagar	25.0	21	4.9	-71	14.8	-7
Dhule	18.4	-55	3.2	-88	1.7	-94
Jalgaon	25.4	-52	7.0	-84	6.2	-86
Kolhapur	221.0	58	80.0	-39	32.4	-70
Nandurbar	65.6	-7	18.9	-66	22.9	-54
Nasik	123.8	65	40.5	-35	28.7	-49
Pune	174.1	164	42.5	-28	27.7	-44
Sangli	58.0	83	16.8	-40	14.8	-25
Satara	123.8	130	29.4	-37	18.3	-50
Solapur	8.3	-66	4.5	-78	21.3	10
Marathwada						
Aurangabad	25.3	-31	5.0	-85	7.1	-77
Beed	12.0	-55	4.5	-85	12.5	-55
Hingoli	28.9	-52	6.8	-88	6.6	-89
Jalna	15.5	-58	2.4	-93	4.2	-87
Latur	17.5	-65	8.7	-81	9.7	-81
Nanded	28.9	-48	14.2	-75	2.7	-95
Usmanabad	19.4	-40	9.2	-70	25.0	-20
Parbhani	20.8	-57	3.6	-91	1.4	-97
Vidarbha						
Akola	30.0	-44	20.8	-61	12.6	-68
Amraoti	10.3	-85	1.3	-98	15.2	-72
Bhandara	106.7	12	43.1	-58	12.9	-84
Buldhana	73.2	34	5.0	-89	3.4	-92
Chandrapur	55.5	-43	17.9	-79	8.2	-90
Gadchiroli	111.8	0	32.5	-70	15.3	-84
Gondia	151.4	55	56.5	-45	3.8	-96
Nagpur	37.8	-50	11.0	-81	12.1	-81
Wardha	8.6	-88	5.8	-91	9.9	-83
Washim	25.3	-63	2.6	-96	10.9	-80
Yeotmal	30.9	-52	4.0	-94	7.0	-88
Odisha						
Angul	323.8	331	21.7	-75	18.5	-79
Balasore	267.4	281	116.4	36	37.7	-50
Bargarh	410.6	414	76.3	-13	22.5	-75
Bhadrak	198.7	127	80.4	1	22.5	-73
Bolangir	151.2	84	75.1	-11	43.2	-50
Boudh	393.0	389	79.2	-15	46.6	-43
Cuttack	194.8	149	61.6	-22	57.8	-37
Deogarh	299.9	180	13.8	-89	33.9	-73
Dhenkanal	231.2	177	39.6	-57	29.8	-65
Gajapati	75.2	60	20.5	-67	53.6	-11
Ganjam	97.9	100	26.0	-50	66.1	15
Jagatsingpur	130.7	29	51.1	-20	29.8	-71
Jajpur	173.9	107	64.0	-22	47.7	-45
Jharsuguda	326.6	225	80.3	-26	35.5	-66
Kalahandi	229.6	176	71.2	-24	47.2	-49
Kandhamal	188.1	134	29.7	-68	38.1	-53

Kendrapara	141.8	79	55.3	-40	10.7	-89
Keonjhar	230.0	181	46.5	-41	25.1	-67
Khurda	182.7	131	29.4	-64	39.1	-52
Koraput	150.4	61	32.6	-70	77.8	-17
Malkangiri	118.2	20	41.0	-63	26.2	-77
Mayurbhanj	232.9	170	87.9	-5	58.7	-33
Nawapara	232.9	246	30.3	-52	34.4	-54
Nawarangpur	187.6	148	61.9	-42	63.9	-48
Nayagarh	198.4	187	14.2	-82	33.9	-59
Puri	152.2	125	30.1	-62	16.4	-80
Rayagada	154.1	188	42.7	-29	67.5	8
Sambalpur	503.8	370	46.6	-62	33.9	-73
Sonepur	396.2	262	94.1	-9	46.8	-57
Sundargarh	242.8	172	78.5	-7	72.7	-24
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	18.8	-64	81.6	27	51.7	-17
North & Middle Andaman	77.9	-20	159.2	47	70.6	-32
South Andaman	45.7	-46	81.1	-26	45.3	-53
GWB						
Bankura	68.4	4	113.8	59	69.6	8
Birbhum	56.6	-23	54.0	-30	120.4	93
Burdwan	48.7	-38	44.1	-30	76.3	24
East Midnapore	243.7	179	161.9	158	59.0	-24
Hooghly	60.3	-18	47.6	-7	165.6	177
Howrah	116.5	6	80.1	20	171.0	125
Kolkata	106.4	17	71.2	0	108.0	55
Murshidabad	32.3	-52	39.3	-19	160.5	138
Nadia	70.7	20	14.0	-70	147.6	129
24 Pargana (N)	58.2	-31	46.9	-23	110.7	49
Purulia	59.5	-21	61.2	-14	60.7	-6
24 Pargana (S)	114.9	7	109.3	16	82.8	-2
West Midnapore	63.4	-18	88.5	20	70.1	-1
SHWB & Sikkim						
Cooch Behar	15.6	-91	141.1	-34	89.2	-39
Darjeeling	81.5	-45	117.0	-23	264.1	86
East Sikkim	67.8	-41	100.7	-3	112.7	26
Jalpaiguri	80.5	-48	145.0	-8	301.6	112
Malda	14.6	-78	53.7	-5	123.0	93
North Dinajpur	5.6	-89	37.5	-49	25.5	-59
North Sikkim	86.0	-12	77.5	-7	70.9	-34
South Dinajpur	0.5	-99	8.1	-83	110.6	66
South Sikkim	106.5	-7	116.4	12	138.9	55
West Sikkim	100.0	2	55.5	-34	187.0	73
Karnataka						
Coastal Karnataka						
Dakshin Kannada	474.2	98	286.9	39	52.4	-74
Udupi	537.4	123	377.9	62	73.3	-66

Uttar Kannada	492.2	151	229.4	26	66.3	-57
N I Karnataka						
Bagalkote	8.8	-51	13.4	-21	33.3	154
Belgaum	82.2	111	28.9	-17	19.3	-23
Bidar	12.0	-70	20.4	-51	11.0	-77
Bijapur	4.6	-78	3.7	-80	23.7	30
Dharwad	61.5	106	32.4	28	20.5	-7
Gadag	14.8	-22	9.6	-46	47.7	288
Gulbarga	9.4	-74	6.2	-82	23.5	-47
Haveri	134.7	303	20.5	-29	23.4	-6
Koppal	4.2	-76	11.4	-46	44.9	169
Raichur	4.8	-82	3.9	-86	16.9	-38
Yadgir	5.8	-83	13.7	-59	20.5	-48
S I Karnataka						
Bangalore Rural	8.9	-64	24.6	7	22.4	-22
Bangalore Urban	7.1	-75	15.0	-45	39.2	25
Bellary	19.4	-3	5.5	-72	52.1	206
Chamarajnagar	14.1	-15	14.8	26	22.7	47
Chichballapur	10.4	-53	14.1	-37	39.4	61
Chickmagalur	314.0	143	85.3	-25	50.8	-51
Chitradurga	24.7	69	6.5	-49	48.4	325
Davangere	51.8	127	14.6	-33	44.0	132
Hassan	71.0	86	31.7	7	38.3	14
Kodagu	299.6	87	113.3	-16	39.2	-71
Kolar	0.0	-99	3.0	-86	30.7	40
Mandya	10.8	-15	9.6	3	32.3	121
Mysore	30.1	74	18.6	55	40.4	148
Ramnagara	6.9	-71	33.0	71	24.5	0
Shimoga	543.9	337	150.2	47	48.3	-51
Tumkur	8.7	-55	13.2	-16	33.2	72
Kerala						
Alappuzha	246.3	180	70.2	-15	43.0	-40
Kannur	472.7	185	182.6	37	13.8	-88
Ernakulam	402.4	265	185.3	72	12.8	-85
Idukki	407.2	181	110.7	-13	92.9	-29
Kasaragod	470.7	144	273.7	72	14.1	-90
Kollam	160.9	151	43.7	-21	57.4	0
Kottayam	349.5	243	117.3	22	33.8	-60
Kozhikode	352.2	127	140.3	9	19.1	-83
Malappuram	345.6	191	99.5	10	18.8	-80
Palakkad	317.9	268	62.0	-27	28.5	-67
Pathanamthitta	270.3	210	62.9	-27	65.1	-14
Thiruvananthapuram	100.0	168	45.0	38	15.5	-53
Thrissur	289.9	133	121.0	13	7.3	-93
Wayanad	339.9	90	141.0	-4	24.3	-82
Tamil Nadu						
Ariyalur	0.0	-100	21.8	-13	58.6	145
Chennai	38.0	36	78.8	160	1.3	-96
Coimbatore	105.7	1255	36.3	353	36.8	304

Cuddalore	3.3	-83	54.6	94	80.8	224
Dharmapuri	0.0	-100	21.2	24	57.4	160
Dindigul	2.9	-78	25.4	108	75.1	373
Erode	5.4	-40	5.3	-48	44.3	275
Kanchipuram	5.4	-79	103.0	185	3.2	-92
Kanyakumari	24.7	36	31.6	77	3.1	-85
Karikal	1.4	-92	5.6	-54	21.1	26
Karur	2.2	-56	0.0	-100	53.6	391
Krishnagiri	1.4	-92	21.9	27	35.9	56
Madurai	2.9	-79	23.6	43	55.9	173
Nagapattinam	1.5	-89	34.8	78	53.6	198
Namakkal	2.5	-85	19.3	-16	29.4	44
Nilgiris	112.4	142	62.1	46	40.8	-12
Perambalur	0.0	-100	27.3	112	127.7	586
Puducherry	0.3	-99	52.9	84	45.9	50
Pudukottai	17.0	18	30.4	38	78.9	240
Ramanathapuram	1.3	-77	15.2	71	13.5	46
Salem	7.8	-59	25.5	2	54.8	112
Sivaganga	9.2	-46	33.2	74	87.8	438
Thanjavur	1.3	-91	13.0	-36	82.6	311
Theni	36.0	445	10.5	62	41.1	361
Tirunelveli	2.1	-68	0.0	-100	6.0	-16
Tirupur	2.1	-58	12.0	90	68.0	844
Tiruvallur	23.1	-7	63.0	123	11.0	-66
Tiruvannamalai	1.3	-95	88.0	212	52.9	65
Tiruvarur	1.9	-86	6.7	-67	66.4	232
Toothukudi	0.0	-100	2.6	-1	12.7	297
Trichy	0.3	-97	5.1	-60	50.7	247
Vellore	2.1	-91	52.1	97	25.5	-21
Villupuram	0.1	-99	70.6	207	73.4	158
Virudhunagar	0.0	-100	6.0	-48	43.4	287
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	8.7	-78	28.3	-46	0.8	-98
Guntur	1.0	-97	7.3	-79	31.7	-11
Krishna	6.6	-85	10.0	-80	39.0	-7
Nellore	9.6	-50	32.8	50	21.2	-7
Prakasam	1.1	-94	1.6	-91	18.7	2
Sirkakulam	42.4	-2	51.4	18	47.2	1
Visakhapatnam	27.3	-24	30.3	-28	24.4	-37
Vizianagram	25.8	-32	41.2	3	56.4	23
West Godavari	19.1	-60	39.7	-39	11.7	-74
Rayalaseema						
Anantapur	1.7	-88	4.1	-71	15.3	-5
Chittoor	6.2	-73	36.4	38	40.0	59
Cuddapah	1.1	-96	5.4	-77	14.7	-38
Kurnool	2.6	-91	7.0	-72	9.3	-69
Telangana						
Adilabad	31.1	-54	14.0	-81	10.2	-84

Hyderabad	9.5	-78	3.8	-91	10.6	-78
Karimnagar	29.2	-46	5.2	-91	2.7	-95
Khammam	35.1	-47	20.3	-70	14.6	-71
Mehabubnagar	7.7	-78	9.8	-71	2.3	-94
Medak	11.4	-79	12.6	-73	0.0	-100
Nalgonda	3.8	-88	6.9	-80	10.9	-65
Nizamabad	31.2	-55	8.5	-88	2.9	-96
Rangareddy	10.2	-72	7.8	-79	13.1	-73
Warangal	21.8	-59	12.6	-79	6.7	-86

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