

# National Agromet Advisory Service Bulletin

**Friday 5<sup>th</sup> September 2014**

**(For the period 5<sup>th</sup> to 9<sup>th</sup> September 2014)**



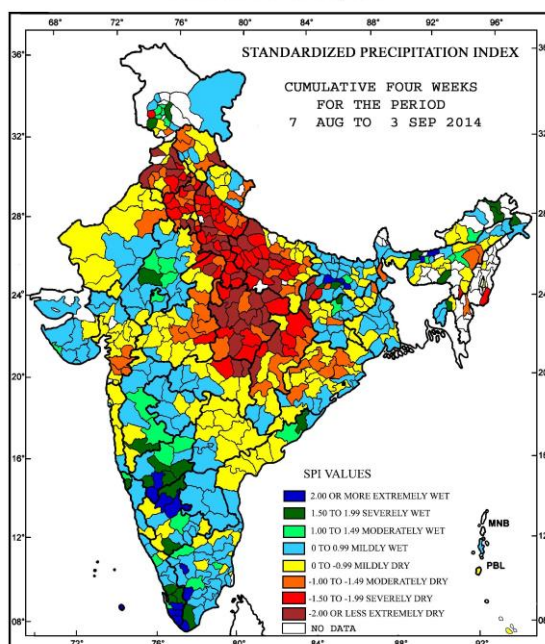
**Issued by**

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



**Standardised Precipitation Index**  
**Four Weekly**  
**for the Period 7<sup>th</sup> August to 3<sup>rd</sup> September 2014**

MINISTRY OF EARTH SCIENCES  
INDIA METEOROLOGICAL DEPARTMENT  
HYDROMET SECTION, PUNE

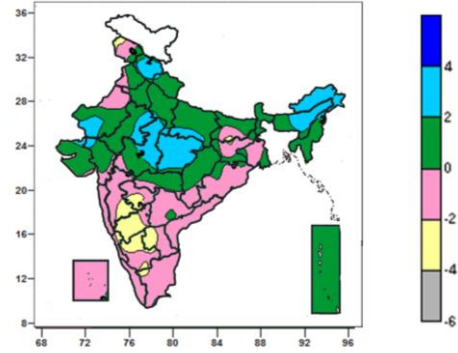
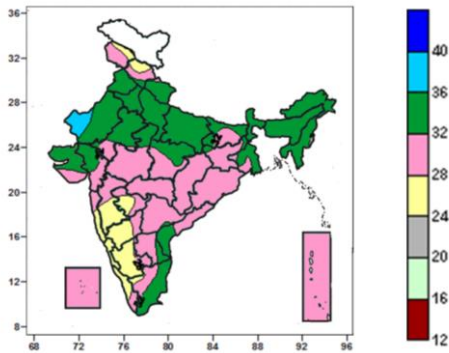


- Extremely/severely wet conditions experienced few districts of Karnataka and Kerala; in Bhilwara district of Rajasthan; Kargil and Rajouri districts of Jammu & Kashmir; Patna, Lakhisarai, Jhanabad and Nalanda districts of Bihar; Koderma district of Jharkhand; East Siang, Lohit and Upper Siang district of Arunachal Pradesh; Dhalai district of Tripura; East Khasi Hills district of Meghalaya; Kokrajhar, Bongangian, Baksa districts of Assam; Sangli district of Maharashtra; Vizianagaram district of Andhra Pradesh; Tiruppur, Theni, Tirunelveli and Kanyakumari districts of Tamil Nadu.
- Extremely/ moderately/ severely dry conditions experienced in most of the districts in Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and Chhattisgarh; few districts in Odisha; Poonch and Udhampur districts of Jammu & Kashmir; Chamba, Kangra, Shimla and Kinnaur districts of Himachal Pradesh; Pithoragarh and Almora districts of Uttarakhand; North Dinajpur district of West Bengal, Ranchi and Sahibganj districts of Jharkhand; Buxar, Rohtas, Aurangabad and Arwal districts of Bihar; Navasari, Surat, Tapi and Dangs districts of Gujarat; Nagpur, Bhandara and Gondia districts of Maharashtra.
- 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  
03.09.2014**

**Actual Mean Maximum Temperature (°C) in India for the week ending 03.09.2014**

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 03.09.2014**

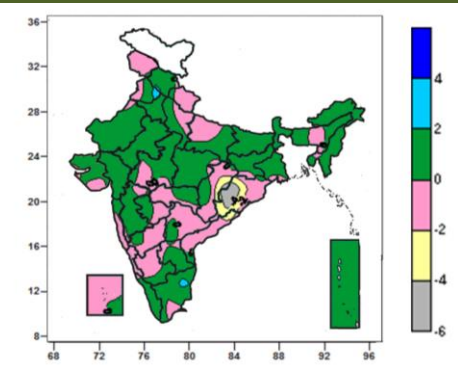
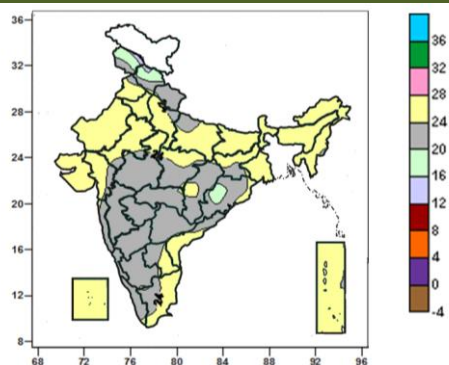


- 36 to 40°C over some parts of West Rajasthan.
- 32 to 36°C over entire country except many parts of Jammu & Kashmir, Bihar, Jharkhand, Odisha, Central India, Vidarbha, Telangana, Rayalaseema, Konkan & Goa, Madhya Maharashtra, Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Gangetic West Bengal, Gujarat, Konkan, Marathwada, Vidarbha, Interior Karnataka, Kerala and Tamil Nadu.
- 28 to 32°C over many parts of Jammu & Kashmir, Bihar, Jharkhand, Odisha, Central India, Vidarbha, Telangana, Rayalaseema, Lakshadweep, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Gangetic West Bengal, Gujarat, Konkan, Madhya Maharashtra, Marathwada, Vidarbha, Interior Karnataka, Kerala and Tamil Nadu.
- 24 to 28°C many parts of Konkan & Goa, Madhya Maharashtra, Karnataka, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Marathwada and Tamil Nadu.

- 2 to 4°C over entire country except many parts of Jammu & Kashmir, Assam & Meghalaya, Arunachal Pradesh, Nagaland, West Bengal & Sikkim, Mizoram, Tripura, Odisha, Rayalaseema, Karnataka, Konkan & Goa, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Sub-Himalayan West Bengal, Mizoram, Bihar, Jharkhand, Chhattisgarh, Coastal Andhra Pradesh, Tamil Nadu and Lakshadweep Islands.
- 0 to 2°C over many parts of Jammu & Kashmir, West Bengal & Sikkim, Mizoram, Tripura, Odisha, Rayalaseema, Karnataka, Konkan & Goa, Kerala, Tamil Nadu, Lakshadweep and Andaman & Nicobar Islands, some parts of Bihar, Jharkhand, Coastal Andhra Pradesh, and Chhattisgarh.
- -2 to 0°C over many Parts of Assam & Meghalaya, Arunachal Pradesh, Nagaland, some parts of Sub-Himalayan West Bengal, Mizoram, Tamil Nadu and Lakshadweep Islands.

**Actual Mean Minimum Temperature (°C) in India for the week ending 03.09.2014**

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 03.09.2014**



- 24 to 28°C over many parts of Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, West Bengal, North East India, Rajasthan, Gujarat, Coastal Andhra Pradesh, Lakshadweep, Andaman & Nicobar Islands, some parts of Jharkhand, Odisha, Central India, Konkan, Rayalaseema, Tamil Nadu and Kerala.
- 20 to 24°C over entire country except many parts of Punjab, Haryana, Delhi, Uttar Pradesh, Bihar, West Bengal, North East India, Rajasthan, Gujarat, Coastal Andhra Pradesh, Lakshadweep, Andaman & Nicobar

- 2 to 4°C over some parts of Punjab, Tamil Nadu.
- 0 to 2°C over entire country except many parts of Jammu & Kashmir, Uttarakhand, Coastal Andhra Pradesh, Telangana, Karnataka, Konkan & Goa, some parts of Himachal Pradesh, Punjab, Uttar Pradesh, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Tripura, Central India, West Rajasthan, Saurashtra, Telangana, Madhya Maharashtra, Marathwada, Tamil Nadu and Kerala.
- -2 to 0°C over many parts of Jammu & Kashmir,

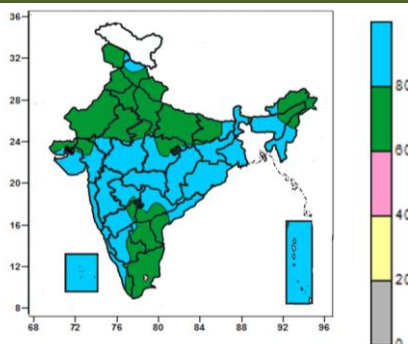
Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Jharkhand, Odisha, Central India, Konkan, Rayalaseema, Tamil Nadu and Kerala.

- 16 to 20°C over some parts of Jammu & Kashmir, Himachal Pradesh and Odisha.

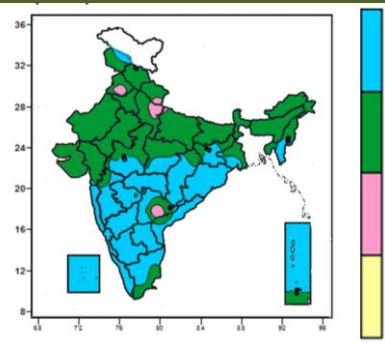
Uttarakhand, Coastal Andhra Pradesh, Telangana, Karnataka, Konkan & Goa, some parts of Himachal Pradesh, Punjab, Uttar Pradesh, Jharkhand, Gangetic West Bengal, Assam & Meghalaya, Tripura, Central India, West Rajasthan, Saurashtra, Telangana, Madhya Maharashtra, Marathwada, Tamil Nadu and Kerala.

### Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 03.09.2014

#### Relative Humidity (%) over India for the week ending 03.09.2014



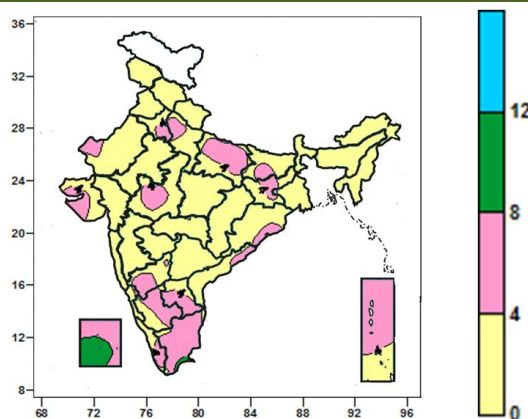
#### Cloud amount (okta) over India for the week ending 03.09.2014



- 80 to 100% over many parts of Jharkhand, West Bengal & Sikkim, Assam & Meghalaya, Manipur, Mizoram, Tripura, Odisha, Central India, Gujarat, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Arunachal Pradesh, East Rajasthan, Andhra Pradesh.
- 60 to 80% over entire country except many parts of Jharkhand, West Bengal & Sikkim, Assam & Meghalaya, Manipur, Mizoram, Tripura, Odisha, Central India, Gujarat, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Karnataka, Kerala, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Arunachal Pradesh, East Rajasthan, Andhra Pradesh and Tamil Nadu.
- 40 to 60% over some parts of Tamil Nadu.

- 6 to 8 okta over many parts of Jharkhand, Tripura, Odisha, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Gangetic West Bengal, Madhya Pradesh.
- 2 to 6 okta over entire country many parts of Jharkhand, Tripura, Odisha, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Gangetic West Bengal and Madhya Pradesh.
- 0 to 2 okta over some parts of Uttarakhand, Punjab, West Uttar Pradesh, and Telangana.

#### Wind speed (knots) over India for the week ending 03.09.2014



- 8 to 12 knots over many parts of Lakshadweep Islands.
- 4 to 8 knots over many parts of East Uttar Pradesh, Rayalaseema, Tamil Nadu, Interior Karnataka, Andaman & Nicobar Islands, some parts of Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, Coastal Odisha, Coastal Andhra Pradesh,

West Madhya Pradesh, West Rajasthan , Saurashtra & Kutch, Kerala and Lakshadweep Islands.

- 0 to 8 knots over entire country except many parts of East Uttar Pradesh, Rayalaseema, Tamil Nadu, Interior Karnataka, Lakshadweep Islands, Andaman & Nicobar Islands, some parts of Haryana, Delhi, West Uttar Pradesh, Bihar, Jharkhand, Coastal Odisha, Coastal Andhra Pradesh, West Madhya Pradesh, West Rajasthan , Saurashtra & Kutch and Kerala.

## Monsoon Watch

- Southwest monsoon was vigorous over Jammu & Kashmir, Punjab, West Rajasthan and Saurashtra & Kutch and active over Haryana, Chandigarh & Delhi, East Rajasthan, Gujarat region, coastal Karnataka and Kerala on 4th September 2014.

## Weather Forecast

### Weather Forecast for next 3 days (upto 0830 hours IST of 8<sup>th</sup> September, 2014)

- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands during the period.
- Rain/thundershowers would occur at most places over Odisha and Coastal Karnataka during the period.
- Rain/thundershowers would occur at most places over Jammu & Kashmir during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at most places over Punjab during next 24 hours and at many places thereafter.
- Rain/thundershowers would occur at most places over Himachal Pradesh, Haryana & Delhi, East Rajasthan and Gujarat Region during next 24 hours and at many places on 6<sup>th</sup> and decrease thereafter.
- Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram, Tripura, Jharkhand, East Madhya Pradesh, Chhattisgarh and Telangana during next 24 hours and over West Madhya Pradesh and South Interior Karnataka during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over Gangetic West Bengal, West Uttar Pradesh, Konkan & Goa, Coastal Andhra Pradesh and Kerala during the period.
- Rain/thundershowers would occur at many places over Uttarakhand, East Uttar Pradesh during next 24 hours and over Saurashtra & Kutch during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry during next 24 hours; over West Rajasthan during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Marathwada and Vidarbha during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at a few places over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Bihar, Madhya Maharashtra and Lakshadweep during the period.
- Rain/thundershowers would occur at isolated places over Rayalaseema and North Interior Karnataka during the period.

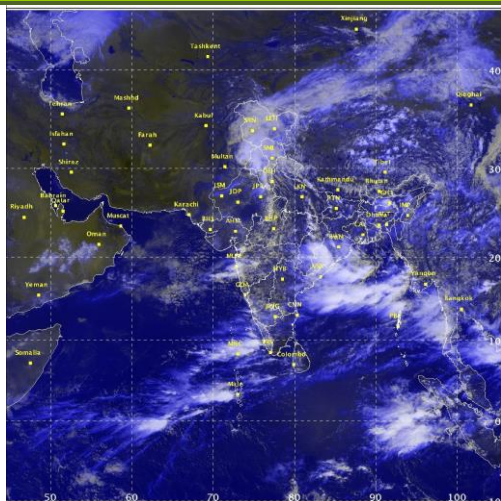
### Weather Warning during next 3 days

- **05 September (Day 1):** Heavy to very heavy rainfall would occur at isolated places over Jammu & Kashmir, Punjab and Odisha. Heavy rainfall would occur at isolated places over Himachal Pradesh, Uttarakhand, West Rajasthan, East Rajasthan, Gujarat region, Saurashtra & Kutch, Konkan & Goa and Coastal Karnataka.
- **06 September (Day 2):** Heavy to very heavy rainfall would occur at isolated places over Odisha. Heavy rainfall would occur at isolated places over Jammu & Kashmir, Telangana and Coastal Andhra Pradesh.
- **07 September (Day 3):** Heavy to very heavy rainfall would occur at isolated places over Odisha. Heavy rainfall would occur at isolated places over Telangana and Coastal Andhra Pradesh.

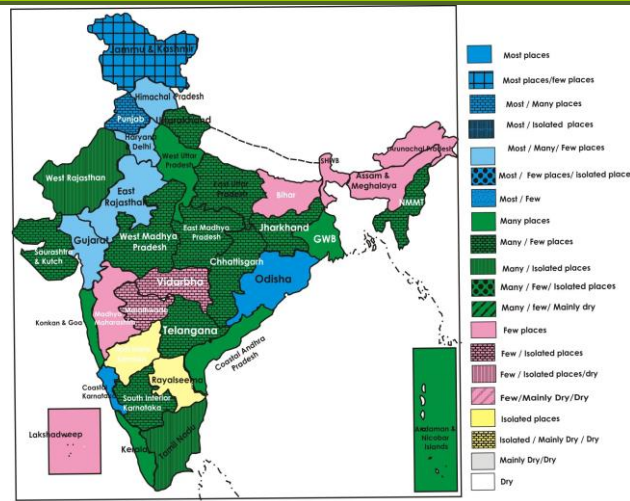
### Weather Outlook for subsequent 4 days from 8<sup>th</sup> September to 12<sup>th</sup> September 2014

- Increase in rainfall activity over east, central and adjoining Peninsular India.
- Rain/thundershowers would occur at many places along west coast and northwest India.
- Rain/thundershowers would occur at a few places over south interior peninsular India and northeast India
- Rain/thundershowers would occur at isolated places over rest parts of the country.

Satellite image dated, 05.09.2014, 0600 UTC



Weather Forecast Map (Valid upto 0830 hours of 8<sup>th</sup> September 2014)



### Salient Advisories

- Drain out excess water from standing crop fields in Valley Temperate Zone, Sub-Tropical and Intermediate Zone of **Jammu & Kashmir**.
- As rain/thundershowers would occur at most places over **Punjab, Haryana, Delhi, Uttarakhand, Jammu & Kashmir, Himachal Pradesh** and **East Rajasthan** and many places over **West Rajasthan** and **West Uttar Pradesh** on 5<sup>th</sup> & 6<sup>th</sup> September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. As heavy rainfall would occur at isolated places over **Uttarakhand, Himachal Pradesh, Rajasthan** on 5<sup>th</sup>, over **Jammu & Kashmir** on 5<sup>th</sup> and 6<sup>th</sup> and heavy to very heavy rainfall at isolated places over Punjab on 5<sup>th</sup> September, provide adequate drainage in standing crops to remove excess water.
- Drain out excess water from standing crop fields in Vindhya Plateau Zone of **Madhya Pradesh**.
- Undertake direct seeding of chillies and gap filling in direct seeded rice. Apply biogyme, micronutrients and mineral mixture in cotton after current spells of rain to recover from slow growth in the Krishna Godavari Zone of **Andhra Pradesh**.
- 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. Lay out dead furrows across the slope for every 3.6mts / 12 rows in groundnut fields for moisture conservation.
- In North Bank Plain Zone and Barak Valley Zone of **Assam**, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. 20-25 days old seedling of these cultivars can be transplanted in the main field upto mid September. Late and staggered planting after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) and old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can be transplanted up to mid September.

## Detailed Zonewise Agromet Advisories

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



*Rice*



*Sugarcane*



*Okra*



*Soybean*

- **Realised Rainfall:** Rainfall occurred in all districts of Kerala; all districts of Coastal and North Interior Karnataka; Bellary, Chikmagalur, Davangere, Kodagu and Shimoga districts of South Interior Karnataka; East and West Godavari, Guntur, Srikakulam, Vishakapatnam, Vizianagaram and Kurnool districts of Andhra Pradesh; all districts of Telangana; Chennai, Coimbatore, Erode, Kanyakumari, Nilgiris, Theni and Thiruvallur 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 Coastal Andhra Pradesh and Kerala during the period. Rain/thundershowers would occur at isolated places over Rayalaseema and North Interior Karnataka during the period. Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry during next 24 hours and at isolated places thereafter. Rain/thundershowers would occur at a few places over Telangana during next 24 hours and over South Interior Karnataka during next 48 hours and at many places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Coastal Karnataka on 5<sup>th</sup> September and over Telangana and Coastal Andhra Pradesh on 6<sup>th</sup> and 7<sup>th</sup> September.
- **Weather Outlook:** Increase in rainfall activity over Peninsular India adjoining to central India. Rain/thundershowers would occur at a few places over south interior peninsular India. Rain/thundershowers would occur at isolated places over remaining parts of the region.
- **Advisories:**
  - **Karnataka:**
    - As rain/thundershowers would occur at most places over Coastal Karnataka during the period along with heavy rainfall at isolated places on 5<sup>th</sup> September, 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 sunflower, sowing of fodder crops in some areas to avoid fodder shortage and undertake land preparation for *rabi* sowing utilizing the realized rainfall in the North Dry Zone of Karnataka.
    - In Eastern Dry Zone of Karnataka, continue sowing of ragi and planting of coconut, sapota, guava and mango.
    - Due to prevailing humid weather, blue beetle insects are noticed in rice fields and likely to spread in the Southern Dry Zone of Karnataka. Spray Bavistin @ 1mg / litre of water on a non rainy day.
    - Due to cloudy weather, sucking pest attack is severe in cotton in the Central Dry Zone of Karnataka. Spray one month old cotton crop with Dimethoate 30 EC @ 1.7 ml or Methyl Demeton @ 2.0 ml in one litre of water on a non rainy day to protect against sucking insects.
  - **Kerala:**
    - As rain/thundershowers would occur at most/ many places over Kerala during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
    - Undertake crown cleaning, phytosanitation, regulation of shade and provide proper drainage to prevent mid-whorl yellowing in coconut in the Southern Zone of Kerala.
    - Present high humid weather condition is congenial for incidence of bacterial leaf blight and brown plant hopper in rice in the Problem Area Zone of Kerala. Spray Streptocyclin @ 6g and cow dung slurry @200g/litre of water / acre to manage bacterial leaf blight and apply Quinalphos@400ml/acre to manage brown plant hopper after current spells of rain
    - High humidity and continuous rain are congenial for incidence of quick wilt disease and stem bleeding in coconut in the Central Zone of Kerala. Apply *Trichoderma* or *pseudomonas* culture in soil or 1% Bordeaux mixture can be sprayed on the leaves and small branches to manage quick wilt disease and chisel out the affected tissues completely and paint the wound with Tridemorph 5% to prevent stem bleeding after current spells of rain.
  - **Telangana and Andhra Pradesh:**
    - As rain/thundershowers would occur at many places over Coastal Andhra Pradesh during the period and at many places over Telangana on 6<sup>th</sup> and 7<sup>th</sup> September with isolated heavy spells on 6<sup>th</sup> and 7<sup>th</sup>, 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 the Southern Telangana Zone, complete sowing of cotton, maize, groundnut, pulses, castor etc. utilising the realised and expected rainfall.
- In Scarce Rainfall Zone of Rayalaseema, continue sowing of contingency crops like sorghum, bajra, foxtail millet, cowpea, sunflower, green gram, field bean, castor and horse gram utilizing the realised rainfall. Lay out dead furrows across the slope for every 3.6mts / 12 rows in groundnut fields for moisture conservation.
- Undertake direct seeding of chillies and gap filling in direct seeded rice. Apply biogyme, micronutrients and mineral mixture in cotton after current spells of rain to recover from slow growth in the Krishna Godavari Zone of Andhra Pradesh.
- Due to cloudy and humid conditions, sucking pest incidence in cotton and helioverpa in tomato was observed and likely to continue in Anantpur district in the Scarce Rainfall Zone of Rayalaseema. Apply Monochrotophos + water @ 1:4 ratio in the stem with brush at 20,40, 60 DAS to manage sucking pest incidence and spray Larvin @ 1.5 g/litre on a non rainy day to manage helioverpa incidence.
- Incidence of tobacco streak virus is noticed in cotton and is likely to increase in the Southern Telangana Zone. Spray Thiamethoxam @ 0.2g or Acetamiprid @ 0.2g per litre of water after current spells of rain.
- **Tamil Nadu:**
  - Continue sowing of *samba* rice in the Cauvery Delta Zone of Tamil Nadu.
  - Due to continuous rainfall, germination of irrigated cotton is affected in the Western Zone of Tamil Nadu. If more than 80% of the population is affected, go in for re-sowing at optimum soil moisture and if around 20% of the germination is affected, go for gap filling. If stunted growth with 100% population is noticed, spray urea 0.5% under enough soil moisture condition.
  - Arrange farm inputs for dry land cultivation in the North East Monsoon season in the South Zone of Tamil Nadu. Select drought resistant varieties of cotton, maize, jowar, green gram, sunflower and pearl millet.
- **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.
  - Vaccinate animals against foot and mouth disease twice in a year at six months interval in the Western and South Zone of Tamil Nadu.

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



*Rice*



*Okra*



*Jute*



*Green Gram*

- **Realised Rainfall:** Rainfall occurred in Lohit and Tawang districts of Arunachal Pradesh; Barpeta, Bongaigaon, Chirang, Goalpara, Hailakandi, Kamrup (Rural), Karimganj, Kokrajhar, Nowgaon and Nalbari districts of Assam; all districts except West Khasi Hills of Meghalaya; Aizwal, Saiha and Serchhip districts of Mizoram; Chandel and Imphal East districts of Manipur; Dimapur and Kohima 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 a few places over Arunachal Pradesh and Assam & Meghalaya during the period. Rain/thundershowers would occur at a few places over Nagaland, Manipur, Mizoram & Tripura during next 24 hours and at many places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over northeast India.
- **Advisories:**
  - **Assam & Meghalaya, Arunachal Pradesh:**
    - In Central Bramhaputra Valley Zone of Assam, continue sowing of green gram, black gram, sesame and nursery sowing of cole crops.
    - In Upper Bramhaputra Valley of Assam, farmers from the flood affected areas should select cultivars like Jalashree, Jalkuwari, Plaban. Also, collect short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. These varieties can be transplanted or sown within 1st week of September. More over 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.

- In North Bank Plain Zone and Barak Valley Zone of Assam, farmers in the flood affected areas should select short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. 20-25 days old seedling of these cultivars can be transplanted in the main field upto mid September. Late and staggered planting after receding flood with 60 to 80 days old seedlings of the varieties like Prafulla (80 days) and Gitesh (60 days) and old seedlings of other improved long duration variety like Monohar Sali, Salpona, Prasadbhog, Gobin bhog etc can be transplanted up to mid September.
- 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 Sub Tropical Hill Zone of Arunachal Pradesh, continue harvesting of maize, black gram, green gram, cucurbits, French bean, okra in clear weather.
- In Meghalaya, maintain water level of 3-5 cm in transplanted *sali* rice. 1<sup>st</sup> top dressing of 1/4<sup>th</sup> Urea (44Kg/ha) should be done after 1<sup>st</sup> hand weeding at 25-30 DAT. Continue nursery preparation/ sowing of vegetables like cabbage, cauliflower, carrot, radish, broccoli and French bean. Continue land preparation and planting of potato. Sowing of pea can be started now in high altitude of East Khasi Hills.
- Cloudy and humid weather is favourable for attack of leaf folder in rice in Upper Bramhaputra Valley of Assam, spray Chloropyrifos 20EC @ 1 ml per liter of water on a non rainy day.
- Due to cloudy and humid weather, there is chance of attack of rice hispa in *sali* rice at tillering stage in in North Bank Plain Zone and Hill Zone of Assam, spray with Quinolphos @ 10 ml /5 litre of water on a non rainy day.
- 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 on a non rainy day.
- Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in early transplanted rice and blast in normal transplanted rice in Arunachal Pradesh. Dust with Malathion 5D @ 20 kg/ha for gundhi bug and undertake foliar spray of Hexaconazole 5% EC @2ml/litre of water or Mancozeb 63%WP @ 2g/litre of water against blast on a non rainy day.
- In Meghalaya, due to cloudy weather & high humidity, there is chance of incidence of blast in direct seeded *ahu* rice. Spray Mancozeb @ 2g/litre or Carbendazim @1g/litre. Also present weather is congenial for development of late leaf spot in groundnut. Spray Carbendazim (0.05%) + Mancozeb (0.2 on a non rainy day.
- **Nagaland, Manipur, Mizoram and Tripura:**
- As rain/thundershowers would occur at many places over Nagaland, Manipur, Mizoram and Tripura on 6<sup>th</sup> and 7<sup>th</sup> September, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- In Manipur, maintain water level of 5-8cm in *kharif* rice and weeding may be done before top dressing.
- 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 Manipur, due to high moisture conditions, there is chance of rhizome rot / soft rot in ginger, apply Trichoderma Harzianum @ 5-10gm/ litre water to drench the soil or Redomil MZ-72 WP @ 2g/litre of water.
- In Mizoram, due to continuous wet condition, there is chance of leaf spot on ginger & turmeric, spray Dithane M-45 @ 2.5g/litre of water or Bavistin @ 1g/litre of water or Blitox @ 3 g/litre of water after current spells of rain.
- In Mild Tropical Plain Zone of Tripura, there is chance of attack leaf folder in *aman* rice due to prevailing humid weather. The attack may be managed by application of Imidachlopid @2ml per litre of water. Also, in the present weather, there may be attack of downy mildew in bitter gourd and pointed gourd. Redomil –MZ @2 g per liter may be applied to manage the attack. 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 Nagaland, precaution should be taken against Japanese encephalitis, a mosquito borne disease in pig. Avoid stagnant water in and around the sty, maintain proper hygienic condition. High humidity is favourable for occurrence of Coccidiodial disease in poultry, provide anti-coccidial drugs.
- In Tripura, damp litter and high moisture may cause Coccidiosis in the chicken, so avoid dampness in the deep litter.
- In Manipur, provide clean drinking water to livestock. Avoid water logging around the sheds as it may help in mosquito breeding.

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



**Sugarcane**

**Jute**

**Onion**

**Rice**

- **Realised Rainfall:** Rainfall occurred in all districts of Odisha; Araria, Bhagalpur, Lakhisari, Monghyr and Siwan districts of Bihar; all districts of Jharkhand except Chatra, Garhwa, Latehar, Palamu, Seraikela and West Singhbhum; all districts of Gangetic West Bengal; Cooch Behar, Darjeeling, East Sikkim, North Sikkim, South Sikkim and West Sikkim districts of Sub-Himalayan West Bengal & Sikkim; North & Middle Andaman and South Andaman districts of Andaman & Nicobar Islands. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Odisha and at many places over Gangetic West Bengal and Andaman & Nicobar Islands during the period. Rain/thundershowers would occur at a few places over Sub-Himalayan West Bengal & Sikkim and Bihar during the period. Rain/thundershowers would occur at a few places over Jharkhand during next 24 hours and at many places thereafter.
- **Weather Warning:** Heavy to very rainfall would occur at isolated places over Odisha during the period.
- **Weather Outlook:** Increase in rainfall activity over east India.
- **Advisories:**
  - **West Bengal:**
    - As rain/thundershowers would occur at many places over Gangetic West Bengal during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
    - In Old Alluvial Zone, continue sowing of black gram utilizing the realised rainfall.
    - In Old Alluvial Zone, due to cloudy and humid weather, there is a chance of stem borer, leaf folder and blast in *aman* rice, apply Chloropyriphos @2.5ml/litre of water or Cartap Hydrochloride 50WP @1g/litre of water against stem borer and leaf folder . To prevent the attack of blast, spray Tricyclazole @0.5g/litre of water. Apply the chemicals on a non rainy day.
    - Due to cloudy and high humid weather conditions, there is chance of attack of leaf folder in *aman* rice in New Alluvial Zone. As a control apply Triazophos @ 0.5 ml/litre or Chlorpyriphos 50% + Cypermethrin 5% @ 1.5 ml/litre of water. Also attack of white fly in okra has been reported leading to the spread of yellow mosaic virus. Spray Difenthiuron @ 0.75g per litre of water to prevent the further spread of the disease. Apply Redomil -MZ (@2 g per litre to control downy mildew and mosaic in bitter and pointed gourd. Spray Difenthiuron @ 0.75g per litre of water against thrips and mites in chilli. Apply the chemicals after current spells of rain.
    - In Laterite and Red Soil Zone, due to cloudy weather conditions, there is chance of attack of cutworm or termites in maize. To protect the crop, apply Chloropyrithos @ 3.5 kg / bigha (1.5% powder) after current spells of rain.
  - **Andaman and Nicobar Islands**
    - As rain/thundershowers would occur at many places over Andaman and Nicobar Islands
    - during the period, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
    - In North and Middle Andaman, undertake propping of banana plants having bunches to prevent damage by winds.
  - **Odisha:**
    - As rain/thundershowers would occur at most places over Odisha along with heavy to very heavy rainfall at isolated places during the period, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops. Provide adequate drainage in standing crops to remove excess water.
    - In East and South Eastern Coastal Plain Zone of Odisha, undertake land preparation and sowing of pre *rabi* crops like green gram, black gram, horse gram, cow pea and sesame in fallow upland and medium uplands after spells of heavy rain.
    - In North Central Plateau Zone of Odisha, continue planting of lemon and mango.
    - 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 @ 1 ml / 4 litres of water after current spells of rain.
    - 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 after current spells of rain.
    - In North Central Plateau Zone of Odisha, in the prevailing temperature, there are chances of occurrence of Yellow

vein mosaic disease in arhar. Spray Dimethoate @ 300g a.i./Ha or Methyl Demeton @ 250g a.i./ha to control the insect vector after current spells of rain.

- In North Central Plateau Zone of Odisha, maize crop has been infested with stem borer and likely to increase in the present weather. Apply Furadan 1 g in the leaf whorl or spray. Chloropyriphos @2 ml in 1 litre water after current spells of rain. Again repeat the spraying after 15 days of first spraying.

- **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue planting of onion. Continue sowing of pigeon pea and urad in upland areas. Undertake sowing of Shakarkand. Undertake weeding in early transplanted rice on a non-rainy day and after weeding apply 20 kg nitrogen/ha.
- In North East Alluvial Plain Zone of Bihar, in transplanted rice, apply top dressing of 1/3<sup>rd</sup> urea (44 kg/ha) after 1<sup>st</sup> hand weeding at 25-30 days after transplanting and apply remaining 1/3<sup>rd</sup> urea (44 kg/ha) after 2<sup>nd</sup> hand weeding at 40-45 days after transplanting. Maintain optimum water level in rice. Undertake land preparation preferably upland for sowing September arhar.
- In South Bihar Alluvial Zone, apply urea as 1<sup>st</sup> top dressing in 20-25 days old transplanted rice and 2<sup>nd</sup> top dressing after 40-45 days of transplanting of rice. Continue planting of mango, litchi, guava and papaya.

- **Jharkhand:**

- As rain/thundershowers would occur at many places over Jharkhand on 6<sup>th</sup> & 7<sup>th</sup> September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops
- In Western Plateau Zone of Jharkhand, in upland areas, continue sowing of kulthi, niger and black gram by selecting improved varieties. In rice, apply urea after 20-25 days of transplanting. Continue sowing of maize in medium land. Select short duration variety like Birsa Vikas Maize-2 (Duration- 70-80 days) and medium duration variety like Birsa Maize-1 (Duration-80-85days). Undertake sowing of toria in medium land. Undertake field preparation for cultivation of early potato and green peas.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of urad, horse gram, niger and sweet potato. Continue sowing of tomato, cabbage and cauliflower in raised seed bed. Conserve rain water by repairing the broken bunds of the rice fields.
- Due to hot and humid weather, attack of stem borer in rice is being seen in Western Plateau Zone of Jharkhand. To control the stem borer, spray insecticide Monocrotophos 36 E.C. @ 1-2 ml per litre of water and mix Tipol in the solution or prepare the solution in soap water after current spells of rain. In case of heavy infestation of the insect, apply granular insecticide like Carbofuran 3 G @ 12 kg per acre) or Phorate 10 G (@ 4 kg per acre). However, at the time of broadcasting of granular insecticide, stagnated water in the field is must.
- Due to prevailing humid weather conditions, there is chance of attack of gundhi bug in timely sown rice in Western Plateau Zone of Jharkhand. To control the insects, dusting of Chlorpyriphos / Quinolphos / Methyl parathion dust @ 10 kg per acre after current spells of rain. As an alternative method (in the case of unavailability of the insecticides), dusting of coal / wood ash mixed with keroséne.
- Suitable varieties are given in Annexure II.

- **Animal Husbandry**

- In Coastal Saline Zone of West Bengal, there is chance of worm infection in grazing cattle. Feed Bolus (albozer, albozen, wormer-1.5 g) @ 1 bolus per 150 kg body weight.

### CENTRAL INDIA [M.P., CHHATTISGARH]



*Sugarcane*



*Rice*



*Okra*



*Green Gram*

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Dindori, Katni, Panna, Siddhi and Singrauli; all districts of West Madhya Pradesh except Gwalior; all districts of Chhattisgarh.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Chhattisgarh and East Madhya Pradesh during next 24 hours and over West Madhya Pradesh during next 48 hours and at many places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Increase in rainfall activity over central India.
- **Advisories:**
  - **Madhya Pradesh:**
    - As rain/thundershowers would occur at many places over East Madhya Pradesh on 6<sup>th</sup> & 7<sup>th</sup> September and over

West Madhya Pradesh on 7<sup>th</sup> September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.

- Drain out excess water from standing crop fields in Vindhya Plateau Zone of Madhya Pradesh.
- Due to cloudy weather, there are chances of attack of semilooper, tobacco caterpillar and girdle beetle in soybean, moong and urad in Jhabua Hill Zone of Madhya Pradesh, Spray Profenophos @ 2 ml per litre of water after current spells of rain.
- Due to cloudy weather, there are chances of incidence of leaf spot in urad crop in Gird Zone of Madhya Pradesh, spray Mancozeb @ 2.5 g per litre of water after current spells of rain.
- Due to heavy rain there are chances of stem rot in ginger and turmeric in Vindhya Plateau Zone of Madhya Pradesh, spray Blitox 50 E. C. @ 2.5gm per litre of water after current spells of rain.
- Due to humid weather, there is possibility of attack of girdle beetle in soybean in Bundelkhand Zone of Madhya Pradesh, spray Trizophos 40 E.C. @ 2.0 ml per litre of water after current spells of rain.

▪ **Chhattisgarh:**

- As rain/thundershowers would occur at many places over Chhattisgarh on 6<sup>th</sup> & 7<sup>th</sup> September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.
- In Plain Zone of Chhattisgarh, drain out excess water from fields of oilseeds and pulses and in fallow upland, sowing of horsegram and Niger may be undertaken upto mid September.
- Due to cloudy weather, there are chances of attack of blast in rice in North Hill Zone and Plain Zone of Chhattisgarh, apply Tricyclazole @ 120 g per acre after current spells of rain.
- Due to humid weather, there may be chance of incidence of tikka disease in groundnut in Plain Zone of Chhattisgarh, spray Metalexil @ 0.15% after current spells of rain.

• **Animal Husbandry**

- In Madhya Pradesh, provide clean water and concentrate feed mixed with dry and green fodder to cattle.
- In Chhattisgarh, create smoke around cattle sheds to protect from mosquitoes.

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



*Rice*

*Sugarcane*

*Bottle Gourd*

*Onion*

- **Realised Rainfall:** Rainfall occurred in Anantnag, Badgam, Doda, Ganderbal, Jammu, Kulgam, Pulwama, Rajouri, Ramban, Reasi, Shopian and Srinagar districts of Jammu & Kashmir; Basti and Sahuji Maharajnagar districts of East Uttar Pradesh. Hamirpur, Jalaun, Jhansi and Muzaffarnagar districts of West Uttar Pradesh; Mandi, Sirmaur and Solan districts of Himachal Pradesh; Ropar district of Punjab, Jind, Karnal and Yamunagar districts of Haryana; North Delhi, New Delhi, South Delhi, South West Delhi and West Delhi districts of Delhi; all districts of Uttarakhand except Amora, Champawat and Udham Sing nagar; all districts of East Rajasthan except Bharatpur, Jhunjhunu; Bikaner and Nagaur districts of West Rajasthan. Mainly dry weather prevailed over remaining parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over West Uttar Pradesh during the period. Rain/thundershowers would occur at most places over Punjab during next 24 hours and at many places thereafter. Rain/thundershowers would occur at most places over Jammu & Kashmir during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at most places over Haryana & Delhi, Himachal Pradesh and East Rajasthan during next 24 hours and decrease thereafter. Rain/thundershowers would occur at many places over East Uttar Pradesh and Uttarakhand during next 24 hours and at a few places thereafter. Rain/thundershowers would occur at many places over West Rajasthan during next 48 hours and at isolated places thereafter.
- **Weather Warning:** Heavy to very heavy rainfall would occur at isolated places over Jammu & Kashmir and Punjab on 5<sup>th</sup> September. Heavy rainfall would occur at isolated places over Himachal Pradesh, Uttarakhand and Rajasthan on 5<sup>th</sup> September and over Jammu & Kashmir on 6<sup>th</sup> September.
- **Weather Outlook:** Rain/thundershowers would occur at many places over northwest India. Rain/thundershowers would occur at isolated places over remaining parts of the region.
- **Advisories:**
  - As rain/thundershowers would occur at most places over Punjab, Haryana, Delhi, Uttarakhand Jammu & Kashmir, Himachal Pradesh and East Rajasthan and many places over West Rajasthan and West Uttar Pradesh on 5<sup>th</sup> & 6<sup>th</sup>

September, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers in the standing crops.

As heavy rainfall would occur at isolated places over Uttarakhand, Himachal Pradesh and Rajasthan on 5<sup>th</sup>, over Jammu & Kashmir on 5<sup>th</sup> and 6<sup>th</sup> and heavy to very heavy rainfall at isolated places over Punjab on 5<sup>th</sup> September, provide adequate drainage in standing crops to remove excess water.

▪ **Jammu & Kashmir:**

- Drain out excess water from standing crop fields in Valley Temperate Zone, Sub-Tropical and Intermediate Zone of Jammu & Kashmir.
- Due to humid weather conditions, there is attack of aphids on vegetable crops in Cold Arid Zone of Jammu & Kashmir. To control apply Malathion @ 1ml/litre of water after current spells of rain and repeat after 12 days of interval.
- Due to humid weather conditions, there is chance of attack of shoot and fruit borer in brinjal, tomato, okra in Intermediate Zone of Jammu & Kashmir. To control spray Lambda-Cyhalothrin 5% EC (Karate) @ 0.25 ml in 0.5 litres of water after current spells of rain.

▪ **Himachal Pradesh:**

- Continue nursery sowing of mid season cauliflower and cabbage in poly house in mid hill and lower region and transplanting of ageti cauliflower and cabbage in Sub-Montane & Low Hills Sub-Tropical Zone after spells of heavy rain.
- In Mid-Hills Sub-Humid Zone of Himachal Pradesh, continue sowing of carrot (var. Arkel, VL-7), cauliflower (Patna snowball and Joint snowball), cabbage (Pride of India, Golden anchor and hybrid) and transplanting of onion after spells of heavy rain.
- Weather is conducive for attack of rice blast, hispa, leaf folder in rice in Mild Hills Sub Humid Zone of Himachal Pradesh. For control of rice blast, spray Bavistin 0.01 or Beam 75 WP 0.06% in 10-15 days interval. For rice hispa and leaf folder, spray Chloropyrifos 20 EC (2.5ml /litres) of water after current spells of rain.
- Due to prevailing humid weather conditions, there are chances of attack of fruit rot and blight disease in capsicum and chillies in Mid Hills Sub-Humid of Himachal Pradesh. To control, apply Bourdeaux mixture 0.8% (800gms copper Sulphate+800gms lime+100L water) or Blitox or Masstox (300gms)/100litres of water after current spells of rain.

▪ **Uttarakhand:**

- Undertake sowing of early vegetable pea like VL Ageti Mater-7, Vivek Mater-10, and Arkel at high hills in Bhabar and Tarai Zone of Uttarakhand after spells of heavy rain.
- Undertake sowing of early toria, pea in Hill Zone of Uttarakhand after spells of heavy rain.
- In Sub humid Sub Tropical Zone of Uttarakhand, as rice crop is at active tillering stage, maintain 5cm water level and apply second dose of Urea at this stage.
- Under the present weather conditions, there are chances of stem borer in rice Sub Humid Sub Tropical Zone of Uttarakhand. Monitor the crop and if the incidence is more than 5 % then spray Phipronil 5 SC @ 400 ml or Cartap Hydrochloride 50 WP @ 250 g dissolved in 200 to 250 litres of water per acre after current spells of rain.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, continue field preparation and sowing of short duration hybrid maize (PMH 2) utilizing the expected rainfall.
- In Western Plain and Undulating Plain Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot and turnip.
- In Undulating Plain Zone of Punjab, complete new plantation of fruit crops as weather of this period is favourable for the establishment and growth of small plants. Higher humidity due to intermittent rainfall may lead to infection of sheath blight and other fungal pathogens in rice, spray Tilt @ 0.1% on the disease spots. To control Blast disease, spray Indofil-278 @ 500g per acre after current spells of rain.
- 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 Oberon @ 200ml/acre for white fly and Ulala 80g/acre after current spells of rain for the management of Jassids.
- 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, continue transplanting of onion seedling in the prepared fields.

▪ **Uttar Pradesh:**

- Continue nursery sowing of cauliflower, cabbage, tomato and chilli in Central Plain Zone and in Eastern Plain Zone of Uttar Pradesh utilizing the realized and expected rainfall.
- Continue sowing of arhar (Bahar, Narendra Arhar 1,2, Azad, Pusa-9, Malveey-Vikas, Chamtkar, PDA-11) and complete 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 and expected rainfall. Intercropping of Moong or lobia with arhar can also be undertaken. Continue sowing of ladies finger and lobia in Gorakhpur, Raibareilly and Sultanpur districts.

- Continue nursery sowing of cauliflower ( Japanese, Pusa Synthetic, Pusa Snowball and Patna), cabbage [Golden Acre, Pride of India, Pusa Mukta (Sel – 8)] and knol khol (White Vienna) in Jhansi district of Bundelkhand zone of Uttar Pradesh.
- Under prevailing humid weather condition, there are chances of incidence of blast disease in rice in Western Plain Zone of Uttar Pradesh. For control of rice blast, spray Beem @ 120 g per 200 litres of water after current spells of rain. For control of leaf eating caterpillar in vegetable, spray Di-corovas @ 1ml per litre of water after current spells of rain.
- Prevailing humid weather condition is congenial for attack of green plant hopper and brown leaf hopper on rice in Central Plain Zone (Kanpur) of Uttar Pradesh. To control, spray Quinalphos 25 EC @ 1.5 litre per ha after current spells of rain.
- **Rajasthan:**
  - Undertake nursery sowing of cauliflower (Japanese, Pusa hybrid-2 and Himjoyti) and radish (Pusa Chetki) in Semi Arid Eastern Plain Zone of Rajasthan after spells of heavy rain.
  - Continue nursery sowing of cauliflower (Pusa hybrid-2, Improved Japanese, Pusa Shubhra and Pusa Himjyoti) in Flood Prone Eastern Plain Zone of Rajasthan after current spells of heavy rain.
  - Continue nursery sowing of mid season cauliflower (Japanese, Pusa hybrid-2 and Himjoyti) and sowing radish (Pusa Chetki) in Arid Western Plain Zone of Rajasthan after spells of heavy rain.
  - Due to warm and cloudy weather condition, there are attack of sucking pests in vegetables in Transitional Plain Zone of Inland Drainage of Rajasthan. For control, spray Nimbidin @ 3 ml/litre of water or Dimethoate 30 EC @ 15 ml. dissolved in 15 litre of water after current spells of rain.
  - Due to cloudy weather condition, there are chances of girdle beetle & Semilooper on soybean in Southern Humid Plain Zone of Rajasthan. To control girdle beetle spray Dimethoate 30 EC @ 1 litre/ha and spray Profenophos 50 EC @ 1.0 lit/ha to control semilooper after current spells of rain.
- **Horticulture**
  - Hot and humid weather is favourable for the attack of fruit fly in guava in Intermediate Zone of Jammu & Kashmir. For control of fruit fly, harvest fruit when still hard, destroy fallen fruits and use bait. Install fruit fly traps in orchards.
  - Under prevailing humid weather condition, there are chances of incidence of scab in apple in Mild Hills Sub-Humid Zone of Himachal Pradesh. Apply Ziram or Captan @ 600ml per 200 litres of water 15-20 days before harvesting in clear weather.
- **Animal Husbandry:**
  - Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals 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]



*Rice*



*Sugarcane*



*Okra*



*Soybean*

- **Realised Rainfall:** Rainfall occurred in all districts of Maharashtra and Gujarat State.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Konkan & Goa and at a few places over Madhya Maharashtra during the period. Rain/thundershowers would occur at most places over Gujarat region during next 24 hours and decrease thereafter. Rain/thundershowers would occur at many places over Saurashtra & Kutch during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Marathwada and Vidarbha during next 24 hours and at a few places thereafter.
- **Weather Warning:** Heavy rainfall would occur at isolated places over Gujarat region, Saurashtra & Kutch and Konkan & Goa on 5<sup>th</sup> September.
- **Weather Outlook:** Rain/thundershowers would occur at many places along west coast. Rain/thundershowers would occur at isolated places over remaining parts of the region.
- **Advisories:**
  - **Maharashtra:**
    - As rain/thundershowers would occur at many places over Konkan & Goa during the period along with isolated heavy rainfall on 5<sup>th</sup> September, postpone irrigation, inter-cultural operations and application of fertilizers and plant

- protection measures in standing crops. Provide adequate drainage in standing crops to avoid water stagnation.
- In Konkan, maintain water level upto 5 cm in main rice field. Drain out excess water from the rice, finger millet & vegetable fields.
  - In Madhya Maharashtra, continue planting of *adsali* sugarcane utilising the current rains and conserve rain water for future use. Maintain the water level of 5 cm in transplanted rice field. Undertake intercultural operations like weeding and fertilizer application in sugarcane, vegetables and in late sown cotton, jowar, red gram, soybean and sunflower on a non rainy day.
  - In Marathwada region in Maharashtra, make furrows in cotton, soybean and jowar fields for rain water harvesting.
  - In Vidarbha, to avoid wilting in cotton & soybean, drain out excess water from crop field & drenching of Copper Oxychloride solution @30g per 10 litres water may be done on a non rainy day. Maintain water level upto 3-5 cm in transplanted rice fields. In West Vidarbha region, it is advised to plan for early *rabi* red gram (C-11, ICPL-87119) and early *rabi* sesame (N-8). Maintain water level upto 5 cm in already transplanted rice field in East Vidarbha.
  - Due to cloudy and rainy weather there may be more incidence of thrips & blight in onion in Western Maharashtra Scarcity Zone; spray Carbosulfan 10 ml + Mancozeb @ 25 g per 10 litres water with 10 ml sticker by hand pump on a non rainy day.
  - Due to cloudy & humid weather, there may be leaf curl in chilli in Central Vidarbha Zone; spray Propineb @15 g per 10 litres water on a non rainy day.
  - **Gujarat:**
  - As rain would occur at most places of Gujarat region and at many places over Saurashtra & Kutch on 5<sup>th</sup> and 6<sup>th</sup> September along with heavy rainfall at isolated places, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crops to avoid water stagnation. Harvest rain water for future use.
  - Continue sowing of castor in Bhal and Coastal Zone of Gujarat after current spells of heavy rain.
  - Apply supplementary dose of nitrogen in form of urea @ 87 kg/h in cotton, gap filling and thinning in pearl millet in North West Zone after current spells of rain.
  - In North Saurashtra Zone, drain out excess rain water from cotton in low-lying fields. To reduce dropping of flower and immature balls, spray Nephthalic acetic acid @ 7 ml /10 liters of water after current spells of rain.
  - Due to high humidity, there is a chance of attack of sucking pest in cotton in Bhal and Coastal Zone of Gujarat; spray Methyl-O-Demeton or Dimethoate @ 10ml/10 liter water after current spells of rain. Humid weather condition is also congenial for incidence of sucking pest in vegetables in North West Zone and Bhal and Coastal Zone; spray of Emidachoprid or Thiomethoxam 4 ml/10litre of water after current spells of rain.
  - Due to increase in humidity there is a chance of heavy attack of *Helicoverpa Armigera* in soybean in South Saurashtra Zone; for control spray Dichlorvos @0.05 (5ml) or Fenitrothion @0.05 (10 ml) in 10 litre of water after current spells of rain.
  - Due to warm and humid weather, there is possibility of leaf spot disease in groundnut in North Saurashtra Zone; spray Hexaconazole @15 ml or Tebuconazole @10 ml in 10 liters of water after current spells of rain.
  - **Animal Husbandry**
  - In Gujarat, keep fodder in safe places to avoid spoilage due to heavy rain. Keep animal sheds hygienic and clean 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	20.08.14		27.08.14		03.09.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	162.3	69	220.5	279	4.7	-86
Dibang Valley	**	**	**	**	**	**
East Kameng	71.4	45	41.2	-36	4.7	-92
East Siang	443.9	147	557.3	247	0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	207.1	90	259.4	155	40.9	-47
Lower Dibang Valley	329.6	710	625.9	1199	8.3	-74
Lower Subansari	**	**	**	**	**	**
Papumpara	323.0	271	175.3	35	13.5	-90
Tawang	113.0	-20	65.0	-49	73	-26
Tirap	152.4	37	74.0	-42	23.2	-77
Upper Siang	199.6	80	440.4	335	26.6	-65
Upper Subansari	104.8	117	113.0	152	3.8	-90
West Kameng	74.6	-48	147.8	16	22.8	-77
West Siang	194.5	109	138.0	39	8	-85
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	235.0	84	178.4	19	28.6	-70
Barpeta	256.0	101	234.3	56	70.2	-26
Bongaigaon	304.0	185	467.6	190	84.4	4
Cachar	78.5	-28	165.5	70	27.1	69
Chirang	324.2	204	498.4	210	54	-34
Darrang	56.0	-2	34.0	-48	10	-81
Dhemaji	166.0	52	212.0	102	12	-87
Dhubri	233.1	150	127.0	2	19	-73
Dibrugarh	95.2	-1	122.3	33	23.8	-68
Goalpara	168.1	120	114.4	17	32.1	-49
Golghat	47.9	-16	59.2	-10	5.8	-90
Hailakandi	58.6	-45	22.0	-72	35.8	-51
Jorhat	55.7	-27	76.3	-2	9.3	-86
Kamrup(Rural)	62.4	-5	59.0	-7	44	9
Kamrup(Metro)	62.4	-5	54.5	-14	11.7	-71
Karbi Anglong	57.3	26	24.6	-54	2.1	-94
Karimganj	237.9	156	144.4	33	57	-37
Kokrajhar	332.7	164	309.9	91	53.2	-62
Lakhimpur	190.6	74	220.0	110	3.2	-97
Morigaon	172.0	179	51.7	-23	15.4	-76
N.C.Hills	77.1	86	43.4	-25	5.6	-91
Nowgong	150.1	137	44.8	-39	46	-24
Nalbari	193.5	199	93.6	11	46	-18
Sonitpur	86.5	-4	38.7	-52	3.2	-95



Sibsagar	63.3	-8	57.2	-22	29.4	-51
Tinsukia	107.1	8	207.3	174	13.8	-84
Udalgiri	82.2	44	93.4	42	28.8	-45
<b>Meghalaya</b>						
East Garo Hills	280.3	212	506.3	494	45.8	-2
East Khasi Hills	853.4	242	588.8	122	110.8	-27
Jaintia Hills	161.0	-4	185.0	-33	34	-79
Ribhoi	124.8	24	109.1	41	64.4	-27
South Garo Hills	172.0	96	68.0	-28	37	-43
West Garo Hills	229.8	161	143.8	52	39.6	-39
West Khasi Hills	**	**	**	**	**	**
<b>NMMT</b>						
<b>Mizoram</b>						
Aizwal	46.3	-60	55.0	-53	101.7	9
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	92.0	3	40.0	-64	40	-50
Serchhip	64.6	-45	125.4	21	142.4	93
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	56.0	-50	18.0	-83	49	-44
Churachandpur	0.0	-100	**	**	**	**
Imphal east	52.8	-16	80.0	38	37.3	-41
Imphal west	32.5	-44	121.4	192	0.8	-98
Senapati	**	**	48.0	-13	20	-69
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	**	**
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	40.4	-11	42.0	-35	36.9	-29
Kephire	**	**	**	**	**	**
Kohima	109.2	18	68.8	-17	38.2	-49
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	108	17	139	68	5	-93
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	363.0	314	4.0	-93	93	48
North tripura	114.3	22	39.2	-48	61.2	-16
South tripura	177.6	82	56.2	-38	74.1	14
West tripura	165.9	94	31.9	-55	89.9	36
<b>Himachal Pradesh</b>						

Bilaspur	104.1	66	2.6	-95	18.3	-62
Chamba	36.0	-63	3.1	-96	22.5	-73
Hamirpur	289.4	222	2.8	-97	19.3	-67
Kangra	169.6	27	14.9	-87	24.5	-69
Kinnaur	3.0	-85	0.0	-100	3.5	-80
Kullu	71.7	92	0.0	-100	18.2	-32
Lahaul and Spiti	5.3	-83	0.0	-100	24.6	-13
Mandi	239.9	173	3.2	-95	43.1	-19
Shimla	53.1	29	0.0	-99	25.8	-20
Sirmaur	92.1	-16	0.1	-99	50.7	-26
Solan	89.9	23	0.0	-100	43.4	-10
Una	217.0	193	5.1	-91	27.6	-39
<b>Punjab</b>						
Amritsar	1.8	-96	1.4	-96	12.8	-50
Barnala	0.0	-100	0.0	-100	2.0	-89
Bhatinda	0.0	-100	0.0	-100	24.5	119
Faridkot	0.0	-100	0.5	-98	1.5	-91
Fatehgarh Saheb	0.0	-100	0.0	-100	0.3	-99
Ferozpur	0.0	-100	1.0	-95	2.8	-88
Gurdaspur	123.4	75	6.3	-88	6.6	-84
Hoshiarpur	11.5	-79	0.0	-100	6.6	-78
Jalandhar	0.0	-100	0.0	-100	8.6	-76
Kapurthala	0.2	-99	4.3	-85	12.9	-43
Ludhiana	0.0	-100	0.0	-100	5.3	-80
Mansa	0.0	-100	0.0	-100	25.9	109
Moga	8.0	-77	0.0	-100	1.0	-94
Muktesar	0.0	-100	0.0	-100	4.2	-76
Nawashahar	3.3	-94	0.0	-100	23.0	-46
Patiala	0.0	-100	0.0	-100	5.3	-84
Ropar	41.6	-25	0.0	-100	42.5	15
Sangrur	0.0	-100	0.0	-100	7.8	-61
Mohali	8.5	-80	0.0	-100	5.5	-83
TarnTaran	0.7	-97	0.0	-100	5.5	-76
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	3.1	-96	0.0	-100	16.3	-67
Bhiwani	0.0	-100	0.0	-100	16.6	-24
Chandigarh	7.2	-89	0.0	-100	3.3	-91
Faridabad	0.0	-100	0.0	-100	7.3	-86
Fatehabad	0.2	-99	0.0	-100	6.4	-59
Gurgaon	0.0	-100	0.0	-100	15.5	-48
Hissar	0.0	-100	0.0	-100	16.2	-10
Jhajar	0.0	-100	0.0	-100	27.4	26
Jind	0.0	-100	0.0	-100	36.1	64
Katihah	0.0	-100	0.0	-100	7.9	-66
Karnal	0.0	-100	0.0	-100	42.9	60
Kurukshetra	0.0	-100	0.0	-100	11.3	-64
Mahendragarh	0.0	-100	0.0	-100	8.1	-62
Mewat	0.0	-100	0.0	-100	6.6	-83

Palwal	0.0	-100	0.0	-100	1.5	-93
Panchkkula	43.7	-43	0.0	-100	12.5	-76
Panipat	0.0	-100	0.0	-100	20.3	-11
Rewari	0.0	-100	0.0	-100	4.8	-81
Rohtak	0.0	-100	0.0	-100	26.4	-21
Sirsa	0.0	-100	0.0	-100	10.0	-6
Sonepat	0.0	-100	0.0	-100	10.3	-68
Yamunanagar	3.0	-96	0.0	-100	39.2	-36
<b>Delhi</b>						
Central Delhi	12.0	-79	0.0	-100	25.0	-38
East Delhi	0.0	-100	0.0	-100	9.0	-78
New Delhi	0.0	-100	0.0	-100	44.4	9
North Delhi	1.4	-98	0.0	-100	32.7	-19
North East Delhi	0.0	-100	0.0	-100	28.0	-31
North West Delhi	0.0	-100	0.0	-100	4.3	-89
South Delhi	0.0	-100	0.0	-100	40.0	-1
South West Delhi	0.0	-100	0.0	-100	56.8	40
West Delhi	0.0	-100	0.0	-100	41.0	1
<b>Jammu &amp; Kashmir</b>						
Anantnag	78.8	525	13.0	0	93.2	451
Badgam	49.0	271	2.6	-71	35.8	209
Bandipore	**	**	**	**	**	**
Baramula	47.0	196	5.0	-62	25.6	61
Doda	47.5	93	3.6	-76	42.6	149
Ganderbal	64.1	421	34.0	174	91.2	902
Jammu	90.6	28	3.6	-94	40.2	-15
Kargil	**	**	**	**	**	**
Kathua	204.8	127	1.2	-98	4.2	-93
Kistwar	**	**	**	**	**	**
Kulgam	81.7	548	4.5	-65	80.3	375
Kupwara	34.9	203	7.7	-24	7.6	6
Ladakh(Leh)	0.0	-100	0.5	-79	10.2	540
Poonch	0.7	-98	9.3	-72	14.1	-58
Pulwama	60.7	346	4.8	-60	50.0	282
Rajouri	58.4	-21	16.2	-63	49.4	7
Ramban	53.3	117	9.6	-37	92.7	442
Reasi	130.5	52	7.9	-91	69.6	-8
Samba	143.9	103	0.0	-100	20.2	-57
Shopian	66.0	385	7.0	-41	58.0	343
Srinagar	48.6	295	10.3	-17	43.5	378
Udhampur	99.4	16	1.1	-99	25.0	-67
<b>East Madhya Pradesh</b>						
Anuppur	6.8	-93	11.2	-86	64.8	-12
Balaghat	11.3	-91	26.8	-70	71.5	-17
Chhatarpur	2.6	-97	0.0	-100	26.9	-66
Chindwara	8.5	-87	66.7	28	90.7	50
Damoh	20.1	-76	6.7	-91	48.0	-29
Dindori	13.2	-87	12.2	-85	28.0	-57
Jabalpur	0.1	-99	0.0	-100	77.6	-3

Katni	3.4	-96	4.0	-95	1.6	-82
Mandla	11.0	-90	5.4	-93	93.1	14
Narsingpur	5.6	-95	4.2	-93	95.0	20
Panna	11.4	-87	0.0		14.7	-79
Rewa	3.0	-96	0.0	-100	43.6	-36
Sagar	1.3	-99	6.3	-92	54.8	-23
Satna	27.5	-66	3.3	-95	30.6	-45
Seoni	3.3	-96	15.4	-75	71.8	13
Shahdol	0.0	-100	1.0	-99	72.0	7
Sidhi	16.2	-80	0.0	-100	10.4	-87
Singrauli	0.0	-100	0.0	-100	21.0	-63
Tikamgarh	0.0	-100	1.5	-98	63.0	4
Umaria	1.2	-99	13.0	-85	33.3	-56
<b>West Madhya Pradesh</b>						
Alirajpur	27.2	-45	80.0	24	49.4	-11
Asoknagar	1.3	-98	0.0	-100	42.5	-18
Barwani	2.9	-93	44.2	-2	99.3	121
Betul	4.8	-93	42.9	-17	104.2	77
Bhind	0.0	-100	0.0	-100	57.1	12
Bhopal	2.6	-97	14.6	-80	97.0	30
Burhanpur	0.0	-100	33.6	-46	116.7	114
Datia	0.0	-100	1.0	-98	50.3	-16
Dewas	3.0	-96	9.0	-85	103.0	36
Dhar	6.7	-88	34.5	-30	87.1	40
Guna	8.2	-90	1.2	-99	17.6	-72
Gwalior	0.0	-100	0.0	-100	3.8	-94
Harda	4.4	-96	15.2	-76	179.6	126
Hosangabad	0.9	-99	15.5	-81	115.9	17
Indore	3.0	-95	39.4	-20	86.5	31
Jhabua	16.4	-66	75.1	52	151.4	142
Khandwa	0.0	-100	59.3	23	121.3	83
Khargone	0.4	-99	34.0	-28	63.7	-1
Mandsaur	2.9	-96	6.3	-87	86.1	29
Morena	0.0	-100	0.0	-100	36.8	-23
Neemuch	0.8	-99	9.5	-83	130.7	147
Raisen	5.0	-95	5.2	-93	128.1	61
Rajgarh	3.8	-95	30.0	-54	117.8	65
Ratlam	8.5	-88	21.9	-62	112.5	74
Sehore	3.6	-96	27.6	-62	115.4	31
Shajapur	6.5	-92	4.8	-91	113.3	69
Sheopur	0.0	-100	0.0	-100	54.0	25
Shivpuri	0.0	-100	0.0	-100	72.3	43
Ujjain	3.5	-95	26.8	-51	109.2	59
Vidisha	2.6	-97	2.6	-97	69.0	-6
<b>Chhattisgarh</b>						
Bastar	47.2	-45	61.1	-17	101.5	35
Bijapur	80.7	-11	71.1	-22	227.8	152
Bilaspur	10.0	-88	20.5	-66	68.8	5
Dantewara	30.0	-58	14.2	-81	302.1	304

Dhamtari	8.8	-89	107.2	61	105.0	62
Durg	16.8	-77	4.6	-93	89.0	56
Janjgir	14.1	-86	16.5	-80	35.5	-47
Jashpurnagar	54.7	-42	17.6	-80	96.7	20
Kanker	2.5	-98	67.1	-17	70.2	-10
Korba	39.0	-64	42.3	-47	39.5	-37
Koriya	14.0	-86	55.1	-23	73.1	7
Kawardha	6.4	-91	5.5	-90	63.6	-3
Mahasumund	54.2	-42	38.8	-30	84.5	17
Narayanpur	4.0	-96	92.6	12	217.4	191
Raigarh	39.9	-55	30.1	-52	116.0	71
Raipur	39.1	-53	14.5	-76	75.6	18
Rajandgaon	10.1	-86	9.7	-86	61.0	-21
Surguja	33.4	-60	5.9	-92	45.1	-39
<b>East Uttar Pradesh</b>						
Allahabad	10.5	-82	2.1	-97	8.4	-82
Ambedkar Nagar	17.0	-73	0.0	-100	1	-98
Azamgarh	25.9	-55	0.0	-100	7.8	-85
Bahraich	114.7	74	13.6	-81	7.3	-88
Ballia	95.6	93	25.4	-57	14.8	-68
Balrampur	180.9	133	10.8	-85	2.8	-96
Banda	27.2	-65	6.8	-89	26.9	-51
Barabanki	8.4	-88	9.2	-85	17	-69
Basti	45.2	-28	1.3	-98	49.7	-8
Chandauli	30.4	-56	0.0	-100	4.4	-91
Deoria	79.4	19	40.0	-44	4.5	-91
Faizabad	205.0	-72	0.0	-100	9.7	-81
Farrukhabad	0.1	-99	0.0	-100	9.8	-75
Fatehpur	0.0	-100	0.0	-100	24.3	-41
Gazipur	26.5	-58	9.0	-84	15.3	-68
Gonda	51.2	-15	0.5	-99	6.6	-88
Gorakhpur	129.8	47	26.7	-68	19	-67
Hardoi	0.0	-100	0.0	-100	22.7	-53
Jaunpur	11.9	-75	4.0	-94	7.1	-86
Kannauj	0.0	-100	0.0	-100	13.8	-72
Kanpur City	0.8	-99	0.0	-100	17.4	-53
Kanpur Dehat	3.8	-94	0.0	-100	5.1	-90
Kaushambi	0.3	-99	0.0	-100	19.8	-53
Kheri	48.6	-30	0.0	-100	13.7	-75
Kushi nagar	190.5	114	18.0	-80	2	-96
Lucknow	3.5	-94	0.0	-100	13.3	-72
Maharajganj	183.8	83	51.0	-40	12.5	-78
Mau	63.0	-6	18.0	-79	4	-92
Mirzapur	12.0	-78	0.0	-100	4.7	-92
Pratapgarh	5.3	-91	1.3	-98	17	-65
RaiBareilly	4.7	-92	0.9	-98	9.9	-78
Sahuji Maharajnagar	6.3	-92	0.0	-100	38.5	-40
Sant Kabirnagar	132.0	102	30.0	-52	25	-52
Sant Ravidas Nagar	2.0	-97	0.0	-100	28	-45

Shrawasti	112.2	71	57.7	-18	14	-77
Sidharthnagar	170.7	143	22.5	-71	12.8	-77
Sitapur	11.1	-83	1.6	-98	19.7	-69
Sonbhadra	35.7	-46	3.5	-94	21	-61
Sultanpur	9.1	-84	0.3	-99	23.2	-55
Unnao	0.3	-99	0.0	-100	11.3	-73
Varanasi	13.2	-78	16.7	-75	9.5	-83
<b>West Uttar Pradesh</b>						
Agra	0.0	-100	0.0	-100	20.7	-59
Aligarh	1.1	-98	0.0	-100	2.5	-93
Auraiya	0.0	-100	0.0	-100	9	-80
Badaun	1.0	-98	0.0	-100	3.4	-94
Baghpat	0.0	-100	0.0	-100	28.6	23
Bareilly	48.1	-10	0.0	-100	6.4	-89
Bijnor	43.6	-34	0.0	-100	15.9	-63
Bulandsahar	1.3	-98	0.0	-100	9.1	-77
Etah	0.0	-100	0.0	-100	6.7	-81
Etawah	0.0	-100	0.0	-100	1.3	-97
Firozabad	2.0	-97	0.0	-100	10.8	-76
GBNagar	0.0	-100	0.0	-100	0	-100
Ghaziabad	0.0	-100	0.0	-100	1.3	-97
Hamirpur	7.5	-89	0.8	-99	38.5	-24
Jalaun	0.0	-100	3.5	-93	36.8	-29
Jhansi	0.3	-99	2.9	-95	33.3	-43
Jotiba Phule Nagar	15.0	-78	0.0	-100	1.5	-96
Kanshiramnagar	0.0	-100	0.0	-100	6	-88
Lalitpur	4.0	-95	0.0	-100	35	-54
Mahamaya Nagar	0.0	-100	0.0	-100	0.5	-99
Mahoba	0.0	-100	0.0	-100	10	-78
Mainpuri	1.5	-98	0.0	-100	5.1	-88
Mathura	0.0	-100	0.0	-100	16.3	-60
Meerut	0.0	-100	0.0	-100	21.7	-43
Moradabad	37.1	-48	0.0	-100	5.7	-88
Muzzaffarnagar	0.0	-100	0.0	-100	31.1	-2
Pilibhit	69.0	-4	0.0	-100	8.4	-88
Rampur	39.9	-48	0.0	-100	12.6	-76
Saharanpur	0.3	-99	0.0	-100	20.7	-47
Shahjahanpur	36.9	-42	0.0	-100	12.5	-74
<b>Uttarakhand</b>						
Almora	63.4	-2	0.0	-100	28.2	-29
Bageshwar	52.5	-19	0.0	-100	32.0	-19
Chamoli	49.3	-32	8.8	-85	46.2	-1
Champawat	117.5	28	8.0	-91	17.0	-79
Dehradun	239.0	61	3.2	-98	46.9	-48
Garhwal Pauri	162.1	57	0.0	-100	57.7	-18
Garhwal Tehri	129.9	57	0.0	-100	52.0	-17
Haridwar	52.8	-36	0.0	-100	32.0	-38
Nainital	209.3	100	0.0	-100	70.4	-7
Pithorgarh	129.9	4	14.1	-87	38.6	-61

Rudraprayag	64.2	-60	0.1	-99	38.0	-59
Udham Sing Nagar	56.2	-34	0.0	-100	15.8	-73
Uttarkashi	55.8	-44	0.0	-100	56.2	-20
<b>Bihar</b>						
Araria	194.7	158	77.5	-17	36.8	-39
Arwal	57.6	8	21.4	-66	14.5	-63
Aurangabad	59.2	0	0.0	-100	5.8	-90
Banka	169.4	188	17.8	-65	23.4	-48
Begusarai	317.6	677	88.2	31	15.2	-73
Bhabua	10.0	-84	43.0	-45	12.9	-76
Bhagalpur	111.7	82	29.6	-53	41.6	-12
Bhojpur	132.5	104	64.1	-7	19.5	-63
Buxar	11.6	-80	1.2	-98	0.4	-99
Darbhanga	260.3	323	24.9	-66	3.2	-93
East Champaran	211.4	223	85.8	2	0.9	-98
Gaya	103.5	59	36.2	-42	6.0	-87
Gopalganj	148.4	128	39.4	-53	3.4	-93
Jahanabad	217.6	240	58.9	16	10.9	-75
Jamui	95.6	87	7.3	-88	16.7	-67
Kathihar	151.9	156	98.5	40	20.5	-54
Khagadia	139.5	112	25.3	-64	24.4	-42
Kishanganj	135.4	43	215.8	99	20.7	-78
Lakhisarai	286.0	436	128.0	86	70.2	33
Madhepura	156.4	204	92.4	8	4.3	-93
Madhubani	188.7	221	85.8	7	1.7	-97
Monghyar	141.0	164	10.4	-85	68.2	30
Muzaffarpur	192.4	217	78.4	-4	4.7	-90
Nalanda	344.3	487	17.9	-71	19.1	-60
Nawada	150.8	138	5.0	-92	11.6	-73
Patna	346.0	535	27.1	-65	25.6	-32
Purnea	78.8	34	72.2	-15	5.1	-92
Rohtas	23.1	-64	1.0	-98	5.1	-91
Saharsha	168.5	144	5.0	-94	0.0	-100
Samstipur	166.1	112	63.8	8	0.9	-98
Saran	203.6	214	12.0	-85	19.6	-55
Sheikpura	132.1	168	18.1	-72	25.2	-42
Sheohar	175.4	174	3.6	-96	14.0	-70
Sitamarhi	208.7	226	75.1	-17	4.4	-91
Siwan	203.8	245	81.7	9	33.4	-24
Supaul	207.5	292	158.1	89	8.8	-81
Vaishali	208.7	286	38.4	-51	9.7	-75
West Champaran	193.4	165	128.6	16	2.1	-97
<b>Jharkhand</b>						
Bokaro	51.1	-23	30.6	-50	81.2	19
Chatra	44.2	-39	14.3	-76	16.5	-70
Deoghar	42.8	-32	38.6	-34	41.7	-11
Dhanbad	59.2	-5	21.8	-68	67.2	8
Dumka	50.6	-36	54.9	-11	36.7	-36
East Singbhum	62.2	-7	50.9	-12	35.8	-46

Garhwa	23.0	-66	4.6	-91	1.0	-98
Giridih	90.4	41	27.9	-54	56.9	6
Godda	146.9	149	24.6	-64	47.7	19
Gumla	111.9	25	61.1	-6	82.6	25
Hazaribagh	91.8	55	17.1	-73	49.9	-8
Jamtara	72.8	-12	22.7	-72	37.6	-38
Khunti	143.5	84	52.5	-28	65.0	-11
Kodernna	180.4	201	17.1	-70	33.7	-40
Latehar	37.9	-34	18.1	-70	26.3	-56
Lohardagga	45.9	-11	25.2	-60	58.9	14
Pakur	97.6	20	69.8	-11	61.7	-14
Palamau	42.9	-36	31.6	-47	11.9	-81
Ramgarh	34.6	-48	55.6	-1	47.0	-21
Ranchi	35.8	-55	30.5	-51	43.7	-38
Sahebganj	26.2	-69	4.2	-94	67.2	8
Saraikela	96.0	36	30.7	-51	17.1	-77
Simdega	116.7	21	21.5	-72	139.7	66
West Singhum	65.6	-13	46.8	-29	28.6	-60
<b>East Rajasthan</b>						
Ajmer	0.1	-99	1.8	-95	62.7	159
Alwar	1.9	-96	0.2	-99	38.1	-7
Banswara	7.9	-89	13.7	-77	138.9	104
Baran	3.4	-95	1.4	-98	46.1	-13
Bharatpur	1.4	-97	0.0	-100	27.7	-34
Bhilwara	2.3	-96	11.0	-78	53.0	37
Bundi	0.3	-99	0.0	-100	68.2	63
Chittorgarh	1.3	-98	14.0	-78	84.2	46
Dausa	0.2	-99	0.0	-100	46.8	28
Dholpur	0.0	-100	0.0	-100	37.8	-4
Dungarpur	10.2	-81	15.8	-67	144.5	190
Jaipur	0.8	-98	0.0	-100	44.2	37
Jhalawar	3.0	-97	7.1	-90	56.3	-14
Jhunjhunu	0.0	-100	1.5	-95	27.5	18
Karauli	0.0	-100	0.0	-100	51.5	33
Kota	3.3	-95	0.0	-100	30.5	-46
Pratapgarh	11.0	-85	17.0	-70	143.0	106
Rajsamand	0.4	-99	26.7	-32	76.1	114
Sawai Madhopur	0.0	-100	0.0	-100	50.7	42
Sikar	0.0	-100	3.3	-89	47.0	113
Sirohi	7.3	-91	21.7	-62	56.8	-21
Tonk	0.5	-99	0.0	-100	44.2	24
Udaipur	2.1	-95	46.7	5	56.5	17
<b>West Rajasthan</b>						
Barmer	1.9	-92	1.4	-92	11.7	-21
Bikaner	3.4	-80	2.2	-86	33.7	122
Churu	0.0	-100	5.1	-78	14.0	-20
Hanumangarh	0.0	-100	0.1	-99	23.0	100
Jaisalmer	0.1	-99	0.0	-100	14.8	45
Jalore	0.3	-99	5.4	-80	22.1	-14



Jodhpur	0.6	-97	0.0	-100	29.9	102
Nagaur	1.4	-95	0.0	-100	30.1	43
Pali	0.0	-100	21.6	-33	10.6	-66
Sri Ganganagar	0.0	-100	1.2	-91	23.9	107
<b>Gujarat Region</b>						
Ahmedabad	5.3	-87	15.4	-49	80.0	99
Anand	26.3	-55	8.3	-82	75.5	33
Banaskantha	4.1	-90	10.3	-71	86.2	130
Baroda	27.9	-59	19.2	-65	39.2	-42
Broach	14.3	-70	28.9	-21	63.6	22
DNH	46.0	-65	160.7	40	146.0	-20
Dahod	14.3	-78	30.4	-44	86.1	20
Daman	68.4	-48	117.2	2	193.4	6
Dangs	34.5	-71	52.0	-54	114.0	-20
Gandhinagar	7.8	-83	19.2	-45	97.7	79
Kheda	16.7	-70	21.1	-55	73.6	19
Mehsana	5.0	-88	22.6	-37	83.0	64
Narmada	15.9	-77	26.4	-52	38.4	-54
Navsari	32.7	-68	43.9	-49	71.9	-33
Panchmahal	21.0	-70	38.4	-36	68.2	-4
Patan	3.6	-90	27.6	-13	93.9	156
Sabarkantha	9.3	-83	34.8	-27	154.2	146
Surat	17.8	-74	45.6	-17	92.0	16
Tapi	27.4	-68	57.6	-25	40.4	-59
Valsad	45.0	-59	82.4	-13	123.3	5
<b>S K &amp; Diu region</b>						
Amreli	5.0	-82	28.6	27	120.2	292
Bhavnagar	4.2	-86	18.9	-30	100.0	172
Diu	5.7	-81	0.6	-95	140.4	582
Jamnagar	6.8	-68	1.5	-89	79.5	171
Junagarh	9.4	-76	6.1	-68	98.7	146
Kutch	8.3	-57	0.0	-99	69.2	207
Porbandar	14.6	-54	6.3	-53	173.2	391
Rajkot	9.9	-66	24.3	16	104.1	231
Surendranagar	4.2	-87	1.9	-92	81.5	151
<b>Maharashtra &amp; Goa</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	36.1	-65	64.7	-41	274.9	147
Mumbai Suburban	30.6	-70	83.7	-23	233.4	100
North Goa	81.3	-47	163.0	30	458.8	401
Raigad	51.4	-73	120.2	-28	297	92
Ratnagiri	48.9	-75	57.9	-63	319.3	129
Sindhudurg	91.1	-37	103.5	-27	317.2	185
South Goa	106.0	-17	202.8	101	441.6	379
Thane	47.4	-66	106.4	-14	203.7	60
<b>Madhya Maharashtra</b>						
Ahmednagar	14.8	-7	106.2	310	68.3	142
Dhule	1.7	-94	78.2	209	68.4	153
Jalgaon	6.2	-86	61.4	60	86.8	103

Kolhapur	32.4	-70	78.5	-4	130.9	101
Nandurbar	22.9	-54	36.2	-20	43.8	-14
Nasik	28.7	-49	74.6	53	86.2	59
Pune	27.7	-44	96.2	144	81.2	101
Sangli	14.8	-25	69.6	215	91.6	382
Satara	18.3	-50	108.5	262	66.1	122
Solapur	21.3	10	87.6	214	79.6	182
<b>Marathwada</b>						
Aurangabad	7.1	-77	81.1	114	66.2	46
Beed	12.5	-55	77.7	129	90.6	112
Hingoli	6.6	-89	39.1	-27	158.4	135
Jalna	4.2	-87	71.9	85	101.9	114
Latur	9.7	-81	85.3	57	114.2	110
Nanded	2.7	-95	69.0	17	104.5	85
Usmanabad	25.0	-20	96.5	116	81.7	107
Parbhani	1.4	-97	62.7	5	108.7	90
<b>Vidarbha</b>						
Akola	12.6	-68	53.5	28	134.9	198
Amraoti	15.2	-72	55.5	30	113.8	132
Bhandara	12.9	-84	43.2	-44	40.2	-48
Buldhana	3.4	-92	71.0	71	123.1	200
Chandrapur	8.2	-90	16.9	-79	143.6	82
Gadchiroli	15.3	-84	34.6	-62	202.3	141
Gondia	3.8	-96	37.8	-58	45.7	-47
Nagpur	12.1	-81	37.6	-28	54.0	-24
Wardha	9.9	-83	36.6	-32	91.4	46
Washim	10.9	-80	68.0	36	130.6	168
Yeotmal	7.0	-88	73.1	29	175.6	207
<b>Odisha</b>						
Angul	18.5	-79	49.8	-23	93.5	21
Balasore	37.7	-50	11.0	-84	159.4	143
Bargarh	22.5	-75	27.7	-61	71.2	8
Bhadrak	22.5	-73	32.8	-53	122.1	81
Bolangir	43.2	-50	40.7	-39	46.3	-48
Boudh	46.6	-43	57.6	-23	100.7	29
Cuttack	57.8	-37	59.7	-20	145.1	132
Deogarh	33.9	-73	59.7	-24	157.5	88
Dhenkanal	29.8	-65	42.6	-42	93.3	27
Gajapati	53.6	-11	71.4	14	86.4	46
Ganjam	66.1	15	47.1	-15	133.3	120
Jagatsingpur	29.8	-71	27.1	-60	215.2	262
Jajpur	47.7	-45	45.0	-42	129.3	83
Jharsuguda	35.5	-66	17.2	-76	131.6	67
Kalahandi	47.2	-49	15.3	-80	70.0	12
Kandhamal	38.1	-53	58.7	-22	101.9	31
Kendrapara	10.7	-89	26.9	-61	199.7	195
Keonjhar	25.1	-67	36.4	-34	60.6	-14
Khurda	39.1	-52	63.5	-8	134.7	120
Koraput	77.8	-17	87.4	8	106.8	43

Malkangiri	26.2	-77	40.8	-54	165.0	106
Mayurbhanj	58.7	-33	34.5	-48	96.3	14
Nawapara	34.4	-54	34.4	-54	99.3	72
Nawarangpur	63.9	-48	106.3	25	145.2	67
Nayagarh	33.9	-59	43.9	-29	85.8	18
Puri	16.4	-80	14.1	-77	220.0	212
Rayagada	67.5	8	47.4	-28	86.6	59
Sambalpur	33.9	-73	35.9	-54	102.7	23
Sonepur	46.8	-57	46.5	-35	74.6	-5
Sundargarh	72.7	-24	12.3	-81	110.8	47
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	51.7	-17	63.5	4	5.7	-91
North & Middle Andaman	70.6	-32	90.0	-16	136.8	27
South Andaman	45.3	-53	63.0	-28	68.4	-34
<b>GWB</b>						
Bankura	69.6	8	61.7	1	63.1	-5
Birbhum	120.4	93	46.4	-24	50.3	-9
Burdwan	76.3	24	66.5	12	71.6	31
East Midnapore	59.0	-24	7.1	-90	157.3	70
Hooghly	165.6	177	39.5	-37	61.2	-3
Howrah	171.0	125	25.1	-51	58.4	-21
Kolkata	108.0	55	14.6	-81	56.7	-21
Murshidabad	160.5	138	20.0	-64	60.9	14
Nadia	147.6	129	38.7	-15	67.9	40
24 Pargana (N)	110.7	49	29.1	-55	62	16
Purulia	60.7	-6	39.2	-36	48.9	-36
24 Pargana (S)	82.8	-2	24.1	-76	75.1	-21
West Midnapore	70.1	-1	55.7	-19	58.9	-21
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	89.2	-39	150.3	-6	41.7	-65
Darjeeling	264.1	86	274.0	66	78.1	30
East Sikkim	112.7	26	186.5	73	91.5	-5
Jalpaiguri	301.6	112	377.1	129	25.5	-81
Malda	123.0	93	42.9	-44	26.6	-47
North Dinajpur	25.5	-59	78.3	4	18.1	-78
North Sikkim	70.9	-34	331.6	216	108.3	4
South Dinajpur	110.6	66	122.8	89	15.2	-70
South Sikkim	138.9	55	267.4	148	73.8	-24
West Sikkim	187.0	73	96.0	-9	36	-66
<b>Karnataka</b>						
<b>Coastal Karnataka</b>						
Dakshin Kannada	52.4	-74	138.7	-13	198.1	93
Udupi	73.3	-66	182.5	4	303.6	154
Uttar Kannada	66.3	-57	164.3	41	264.1	221
<b>N I Karnataka</b>						
Bagalkote	33.3	154	75.9	339	39.2	158
Belgaum	19.3	-23	71.8	224	55.0	201

Bidar	11.0	-77	86.1	85	89.2	97
Bijapur	23.7	30	57.2	162	91.0	251
Dharwad	20.5	-7	57.6	211	53.0	227
Gadag	47.7	288	97.0	427	32.6	94
Gulbarga	23.5	-47	96.7	155	121.7	192
Haveri	23.4	-6	80.2	295	54.7	270
Koppal	44.9	169	130.3	535	36.5	57
Raichur	16.9	-38	129.7	381	101.2	255
Yadgir	20.5	-48	59.2	57	95.6	167
<b>S I Karnataka</b>						
Bangalore Rural	22.4	-22	96.2	235	2.6	-91
Bangalore Urban	39.2	25	55.6	92	2.9	-90
Bellary	52.1	206	95.9	361	33.7	53
Chamarajnagar	22.7	47	67.5	304	9.4	-37
Chichballapur	39.4	61	50.0	94	6.0	-76
Chickmagalur	50.8	-51	79.0	11	87.8	94
Chitradurga	48.4	325	93.4	581	22.2	61
Davangere	44.0	132	94.1	411	44.1	204
Hassan	38.3	14	23.3	-3	23.6	22
Kodagu	39.2	-71	36.9	-62	209.9	207
Kolar	30.7	40	10.0	-53	2.7	-87
Mandya	32.3	121	29.9	95	5.3	-65
Mysore	40.4	148	42.1	217	26.6	80
Ramnagara	24.5	0	45.4	65	1.7	-95
Shimoga	48.3	-51	108.6	52	186.3	327
Tumkur	33.2	72	69.1	302	5.3	-73
<b>Kerala</b>						
Alappuzha	43.0	-40	192.6	128	166.8	210
Kannur	13.8	-88	79.4	-25	315.7	383
Ernakulam	12.8	-85	143.7	79	262.5	381
Idukki	92.9	-29	139.5	35	300.8	298
Kasaragod	14.1	-90	83.8	-29	319.2	277
Kollam	57.4	0	233.5	269	194.3	325
Kottayam	33.8	-60	192.8	133	238.9	294
Kozhikode	19.1	-83	202.1	113	317.1	432
Malappuram	18.8	-80	110.8	46	174.1	232
Palakkad	28.5	-67	70.4	10	199.4	357
Pathanamthitta	65.1	-14	265.1	226	231.5	316
Thiruvananthapuram	15.5	-53	181.6	464	209.0	833
Thrissur	7.3	-93	157.4	84	197.0	222
Wayanad	24.3	-82	79.8	-29	208.3	162
<b>Tamil Nadu</b>						
Ariyalur	58.6	145	12.9	-66	12.9	-68
Chennai	1.3	-96	92.8	157	92.8	149
Coimbatore	36.8	304	45.1	299	43.4	277
Cuddalore	80.8	224	19.2	-48	17.7	-53
Dharmapuri	57.4	160	8.8	-71	8.8	-72
Dindigul	75.1	373	29.1	46	28.6	34
Erode	44.3	275	37.5	126	37.5	100

Kanchipuram	3.2	-92	19.1	-54	19.1	-51
Kanyakumari	3.1	-85	133.2	759	141.8	839
Karikal	21.1	26	5.5	-83	5.5	-81
Karur	53.6	391	11.4	-33	11.2	-40
Krishnagiri	35.9	56	10.6	-61	5.4	-80
Madurai	55.9	173	22.6	-5	21.5	-16
Nagapattinam	53.6	198	8.4	-69	8.3	-70
Namakkal	29.4	44	13.2	-49	10.8	-60
Nilgiris	40.8	-12	53.7	52	49.3	40
Perambalur	127.7	586	10.3	-56	10.3	-60
Puducherry	45.9	50	4.9	-86	5	-85
Pudukottai	78.9	240	14.1	-54	14.1	-59
Ramanathapuram	13.5	46	8.0	-27	7.5	-33
Salem	54.8	112	30.0	-12	29.5	-14
Sivaganga	87.8	438	4.2	-83	4.2	-84
Thanjavur	82.6	311	18.4	-45	18.1	-46
Theni	41.1	361	41.1	504	37.4	398
Tirunelveli	6.0	-16	29.9	443	28.5	400
Tirupur	68.0	844	30.1	234	29.1	203
Tiruvallur	11.0	-66	38.2	14	38.3	9
Tiruvannamalai	52.9	65	6.9	-81	7.1	-81
Tiruvarur	66.4	232	19.8	-30	17.2	-39
Toothukudi	12.7	297	4.5	-15	3.6	-32
Trichy	50.7	247	9.6	-59	9.5	-62
Vellore	25.5	-21	14.1	-58	11.5	-64
Villupuram	73.4	158	15.1	-60	15.1	-60
Virudhunagar	43.4	287	17.0	37	14.8	1
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	0.8	-98	16.2	-62	58.8	53
Guntur	31.7	-11	45.1	14	32.9	0
Krishna	39.0	-7	21.9	-53	24.6	-37
Nellore	21.2	-7	45.9	95	15.8	-20
Prakasam	18.7	2	31.7	9	15.8	-39
Sirkakulam	47.2	1	47.1	-2	95.1	104
Visakhapatnam	24.4	-37	41.5	-8	130.7	228
Vizianagram	56.4	23	57.2	5	127.8	210
West Godavari	11.7	-74	41.6	-16	59.1	30
<b>Rayalaseema</b>						
Anantapur	15.3	-5	41.8	114	9.2	-56
Chittoor	40.0	59	26.9	5	4.4	-83
Cuddapah	14.7	-38	57.2	86	13.1	-32
Kurnool	9.3	-69	97.4	223	40.6	42
<b>Telangana</b>						
Adilabad	10.2	-84	63.9	10	129.8	104
Hyderabad	10.6	-78	28.0	-24	104.1	188
Karimnagar	2.7	-95	46.8	9	131.8	172
Khammam	14.6	-71	30.7	-41	100.7	97
Mehabubnagar	2.3	-94	58.1	69	83.0	136

Medak	0.0	-100	55.5	41	84.4	96
Nalgonda	10.9	-65	35.3	5	56.3	65
Nizamabad	2.9	-96	47.6	-25	105.0	88
Rangareddy	13.1	-73	68.3	80	118.0	222
Warangal	6.7	-86	45.9	3	132.8	183

### 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

#### Bihar

**Shakarkand:** Rajendra Shakarkand- 5, Rajendra Shakarkand-35, Rajendra Shakarkand-43, Rajendra Shakarkand-47, Kalmegh and Rajendra Shakarkand-92.

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

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

**Radish:** Pusa Chetki, Pusa Himani, Pusa Rashmi, Japani Saphed

**Pointed gourd:** Rajendra Parwal-1, Rajendra parwal-2, FP1 and 3

#### Jharkhand:

**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),

**Maize:** short duration variety: Birsa Vikas Maize-2 and medium duration variety: Birsa Maize-1.