

National Agromet Advisory Service Bulletin

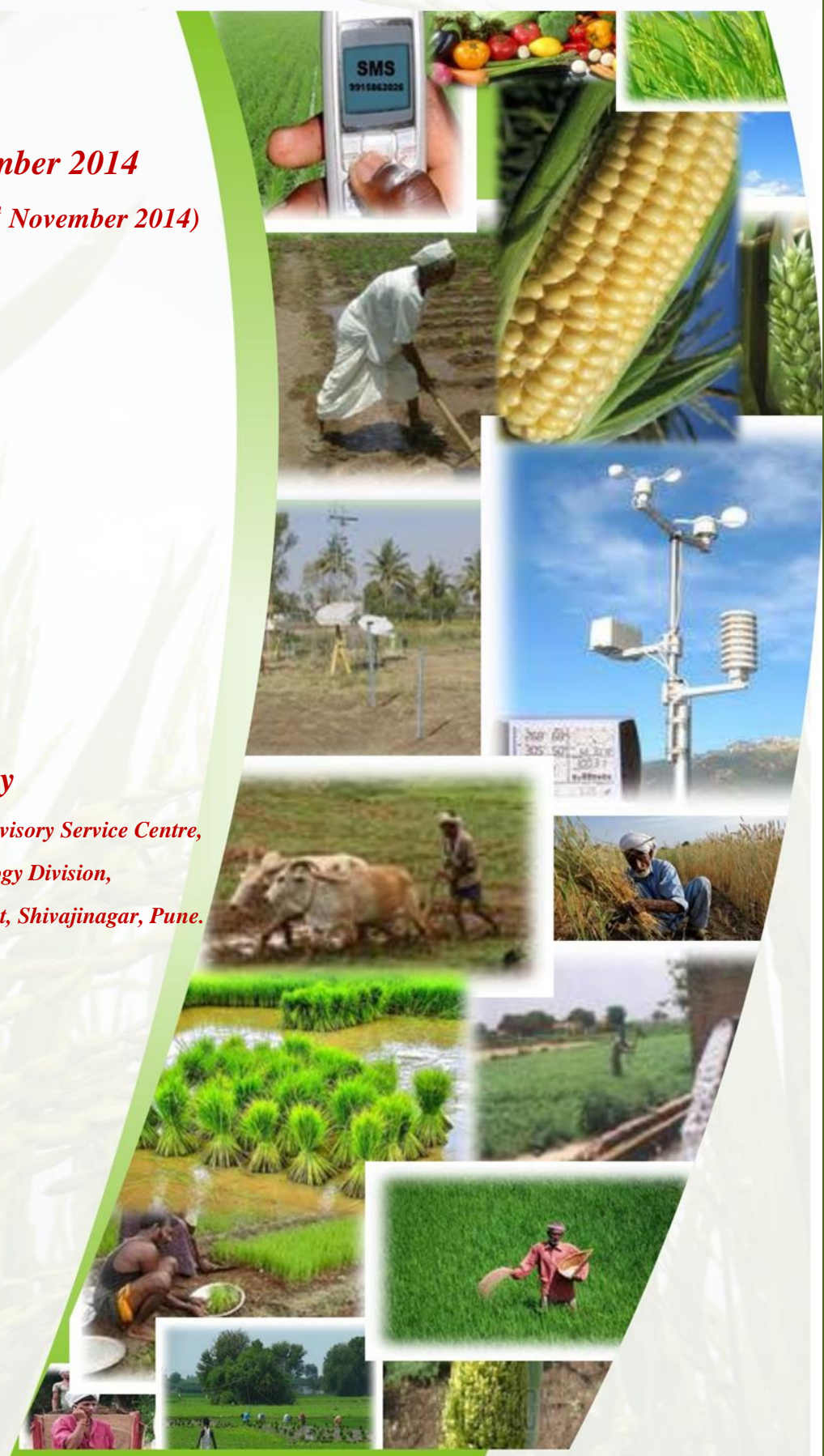
Friday 7th November 2014

(For the period 7th to 11th November 2014)



Issued by

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



Salient Advisories in view of Deep Depression

The deep depression over central Bay of Bengal remained practically stationary during past 12 hours and lay centred at 0530 hours IST of today, over central Bay of Bengal, near Lat.14.1°N and Long. 86.9°E, about 750 km eastsoutheast of Ongle, 560 km southeast of Vishakhapatnam and 730 km eastnortheast of Chennai. It would move westwards towards Andhra Pradesh coast and weaken gradually into a depression while reaching near the coast on 9th November 2014, morning.

In view of the squally wind on 8th & 9th November and anticipated rainfall over **north Coastal Andhra Pradesh and south coastal Odisha** in association with the Deep depression over central Bay of Bengal, the following agromet advisories are suggested;

In North Coastal Andhra Pradesh

- Postpone sowing of pulses and rice.
- Undertake propping in sugarcane and provide mechanical support to banana to prevent lodging due to high winds.

In South Coastal Odisha

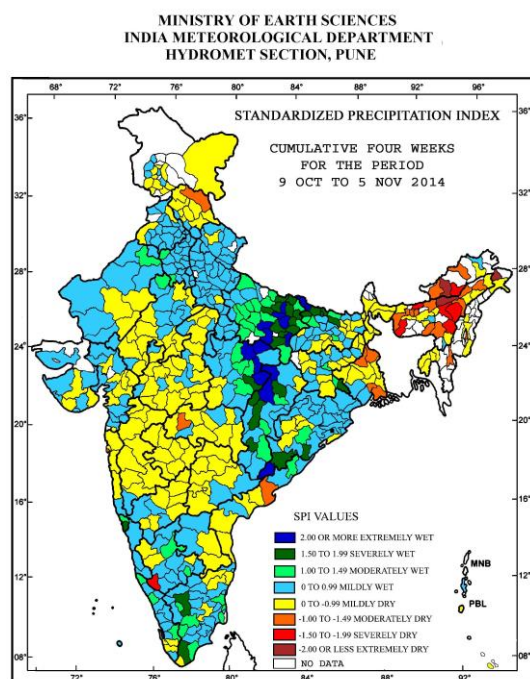
- Harvest already matured medium duration rice, groundnut and vegetables immediately. Keep harvested produce at safe places.
- Postpone sowing of *rabi* crops like mustard, sunflower, sesame, green gram, black gram and niger.
- Undertake propping in sugarcane and provide mechanical support to banana crops to prevent lodging due to high winds.

As squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off north coastal Andhra Pradesh-south coastal Odisha, fisherman are advised not to venture into the sea along and off north coastal Andhra Pradesh-south coastal Odisha.

Standardised Precipitation Index

Four Weekly

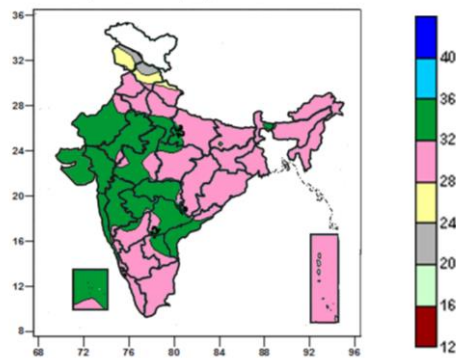
for the Period 9th October to 5th November 2014



- Extremely/severely wet conditions experienced in few districts of Chhattisgarh, East Uttar Pradesh; Sheohar, East Champaran, West Champaran, Darbhanga, Gopalganj, Sitamarhi districts of Bihar; Gajapati, Koraput, Malkangiri district of Odisha; East Singhbhum district of Jharkhand; Dindori, Rewa, Satna, Shahdol, Sidhi, Anuppur district of Madhya Pradesh; Erode, Tirunelveli districts of Tamilnadu.
- Extremely/ moderately/ severely dry conditions experienced in many district of Assam & Meghalaya and Arunachal Pradesh; Birbhum, Howrah, Murshidabad, Kolkata of Gangetic West Bengal; Aizwal district of Mizoram, Imphal district of Manipur, Kodaku district of Karnataka, East Godawari district of Andhra Pradesh, Akola, Mumbai district of Maharashtra; Lahual & Spiti district of Himachal Pradesh.
- Rest of the country experienced moderately wet, mild wet/dry conditions.

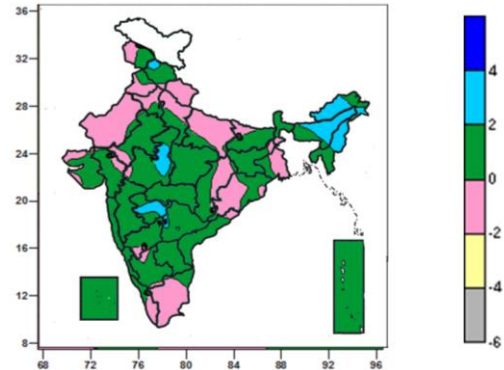
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 05.11.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 05.11.2014



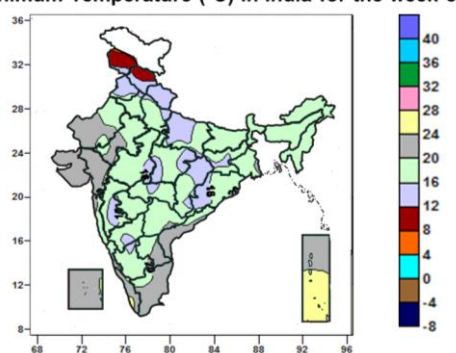
- 32 to 36°C over many parts of Rajasthan, Gujarat, West Madhya Pradesh, Maharashtra, Andhra Pradesh, Lakshadweep Islands, some parts of Haryana, Delhi, Uttar Pradesh, East Madhya Pradesh and Coastal & North Interior Karnataka.
- 28 to 32°C over entire country except many parts of Rajasthan, Gujarat, West Madhya Pradesh, Maharashtra, Andhra Pradesh, Lakshadweep Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, Uttar Pradesh, East Madhya Pradesh and Coastal & North Interior Karnataka.
- 24 to 28°C over some parts of Jammu & Kashmir, Himachal Pradesh.
- 20 to 24°C over some parts of Jammu & Kashmir, Himachal Pradesh.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 05.11.2014



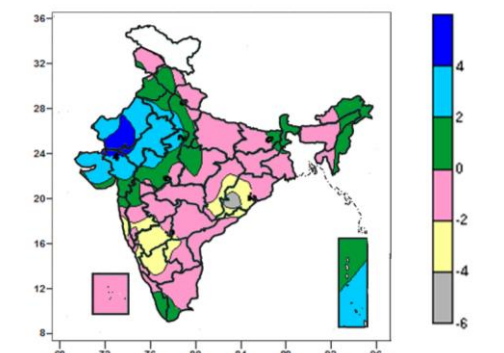
- 2 to 4°C over many parts of Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, some parts of Himachal Pradesh. West Madhya Pradesh, Mizoram, Telangana and Marathwada.
- 0 to 2°C over entire country except many parts of Uttarakhand, East Uttar Pradesh, Punjab, Haryana, Delhi, Gangetic West Bengal, Odisha, West Rajasthan, Tamil Nadu, Kerala, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Sub-Himalayan West Bengal, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Gujarat, Coastal Andhra Pradesh, Interior Karnataka Mizoram, Telangana and Marathwada..
- -2 to 0°C over many parts of Uttarakhand, East Uttar Pradesh, Punjab, Haryana, Delhi, Gangetic West Bengal, Odisha, West Rajasthan, Tamil Nadu, Kerala, some parts of Jammu & Kashmir, Himachal Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal, East Rajasthan, Gujarat, West Madhya Pradesh, Chhattisgarh, Coastal Andhra Pradesh and Interior Karnataka.

Actual Mean Minimum Temperature (°C) in India for the week ending 05.11.2014



- 8 to 12°C over many parts of Jammu & Kashmir and Himachal Pradesh.
- 12 to 16°C over many parts of Punjab, Uttarakhand, East Uttar Pradesh, Chhattisgarh, some parts of Jammu & Kashmir, Himachal Pradesh, Haryana, West Uttar Pradesh, Jharkhand, Gangetic West Bengal, Central India, Odisha, Vidarbha, Madhya Maharashtra and Interior Karnataka.
- 16 to 20°C over many parts of Haryana, Delhi, West Uttar

Mean Minimum Temperature (°C) Anomaly in India for the week ending 05.11.2014



- 4 to 6°C over some parts of Rajasthan, Gujarat region.
- 2 to 4°C over many parts of Rajasthan, Gujarat, Andaman & Nicobar Islands, some parts of Haryana, Delhi, West Uttar Pradesh and West Madhya Pradesh.
- 0 to 2°C over many parts of Himachal Pradesh, Punjab, Haryana, Delhi, West Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Madhya Pradesh, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Kerala some parts of Uttarakhand, Bihar, Jharkhand, Assam & Meghalaya,

Pradesh, East Rajasthan, Madhya Pradesh, East India, North East India, Telangana, Karnataka, Maharashtra, Goa, some parts of Punjab, East Uttar Pradesh, West Rajasthan, Chhattisgarh, Coastal Andhra Pradesh, Rayalaseema, Gujarat region, Tamil Nadu and Kerala.

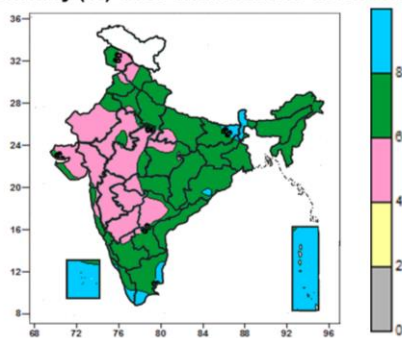
- 20 to 24⁰C over many parts of West Rajasthan, Gujarat, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Kerala, Lakshadweep Islands, some parts of East Rajasthan, Telangana, Coastal Karnataka and Andaman & Nicobar Islands.
- 24 to 28⁰C over many parts of Andaman & Nicobar Islands.

Tripura, Konkan, Gujarat, Madhya Maharashtra, Tamil Nadu and Andaman & Nicobar Islands.

- -2 to 0⁰C over entire country except many parts of Himachal Pradesh, Punjab, Haryana, Delhi, Himachal Pradesh, West Uttar Pradesh, Rajasthan, Gujarat, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Madhya Pradesh, Odisha, Interior Karnataka, Kerala, Andaman & Nicobar Islands, some parts of Uttarakhand, Bihar, Jharkhand, Assam & Meghalaya, Tripura, Konkan, Gujarat, Madhya Maharashtra, Tamil Nadu, Chhattisgarh, Konkan, Coastal Karnataka and Andhra Pradesh.
- -6 to -2⁰C over many parts of Odisha, Interior Karnataka, some parts of Chhattisgarh, Konkan, Madhya Maharashtra, Coastal Karnataka and Andhra Pradesh.

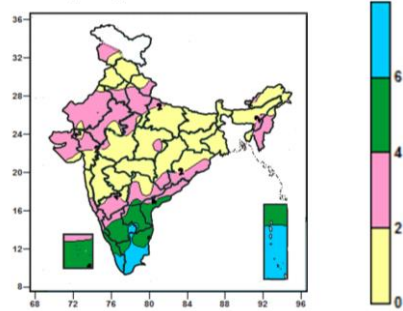
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 05.11.2014

Relative Humidity (%) over India for the week ending 05.11.2014



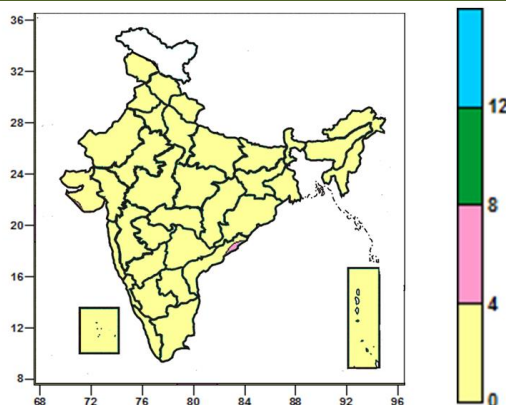
- 80 to 100% over many parts of Sub-Himalayan West Bengal & Sikkim, Lakshadweep, Andaman & Nicobar Islands, some parts of Bihar, Odisha, Kerala, and Tamil Nadu.
- 60 to 80% over entire country except many parts of Sub-Himalayan West Bengal & Sikkim, Rajasthan, Gujarat, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Telangana, North Interior Karnataka, Lakshadweep, Andaman & Nicobar Islands, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, Bihar, Odisha, East Madhya Pradesh, Vidarbha, Rayalaseema, Konkan, South Interior Karnataka, Kerala, and Tamil Nadu.
- 40 to 60% over many parts of Rajasthan, Gujarat, West Madhya Pradesh, Madhya Maharashtra, Marathwada, Telangana, North Interior Karnataka, some parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Uttar Pradesh, East Madhya Pradesh, Vidarbha, Rayalaseema, South Interior Karnataka and Konkan.

Cloud amount (okta) over India for the week ending 05.11.2014



- 6 to 8 okta over many parts of Tamil Nadu, Andaman & Nicobar Islands, some parts of Kerala and Rayalaseema.
- 4 to 6 okta over many parts of South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Lakshadweep Islands, some parts of Coastal Karnataka, Telangana, Kerala and Andaman & Nicobar Islands.
- 0 to 4 okta over entire country except many parts of South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Lakshadweep Islands, Andaman & Nicobar Islands, some parts of Coastal Karnataka, Telangana, Kerala and Rayalaseema.

Wind speed (knots) over India for the week ending 05.11.2014



- 4 to 8 knots over some parts of Saurashtra and Coastal Andhra Pradesh.
- 0 to 4 knots over entire country except some parts of Saurashtra and Coastal Andhra Pradesh.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 10th November, 2014)

- Rain/thundershowers would occur at many places over Jammu & Kashmir during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Coastal Andhra Pradesh during next 24 hours and increase thereafter.
- Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at isolated places over Nagaland, Manipur, Mizoram, Tripura, Gangetic West Bengal, Odisha, Tamil Nadu & Puducherry and Kerala during the period.
- Dry weather would prevail over Uttarakhand during next 24 hours and rain/thundershowers would occur at isolated places on 8th and dry weather would prevail thereafter.
- Rain/thundershowers would occur at isolated places over Assam & Meghalaya, West Rajasthan and Lakshadweep during next 24 hours; over Punjab during next 48 hours and dry weather would prevail thereafter.
- Rain/thundershowers would occur at isolated places over Himachal Pradesh on 7th; at a few places on 8th and at isolated places thereafter.
- Dry weather would prevail over rest parts of the country during the period.
- No significant change in minimum temperatures over many parts of northwest India during next 48 hours and fall by 2-3°C thereafter.
- No significant change in minimum temperatures over central & west India during next 48 hours.

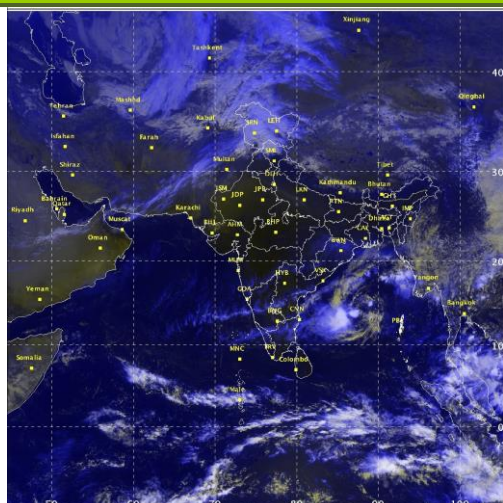
Weather Warning during next 3 days

- **07 November (Day 1):** Isolated heavy rain/snowfall would occur over Jammu & Kashmir.
- **08 November (Day 2):** Isolated heavy rain/snowfall would occur over Jammu & Kashmir. Squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off north coastal Andhra Pradesh-south coastal Odisha. Fisherman are advised not to venture into the sea along and off north coastal Andhra Pradesh south coastal Odisha.
- **09 November (Day 3):** Squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off north coastal Andhra Pradesh-south coastal Odisha. Fisherman are advised not to venture into the sea along and off north coastal Andhra Pradesh-south coastal Odisha.

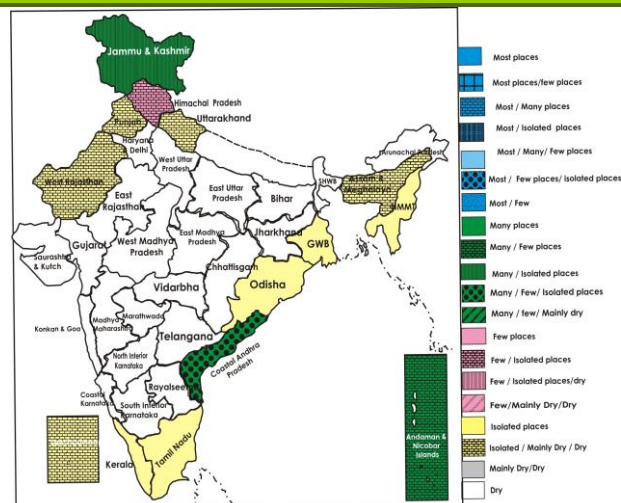
Weather Outlook for subsequent 4 days from 10th November to 14th November 2014

- Rain/thundershower would occur at many over Andaman & Nicobar Islands on 10th & 11th and decrease thereafter.
- Decrease in rain/snowfall activity over western Himalayan Region.
- Rain/thundershower would occur at a few places over Maharashtra, Karnataka, Kerala & Tamilnadu.
- Weather would be dry over rest of the country.

Satellite image dated, 07.11.2014, 0600 UTC



Weather Forecast Map (Valid upto 0830 hours of 10th November 2014)



Other Salient Advisories

- As rain/thundershowers would occur at many places over **Coastal Andhra Pradesh and Andaman and Nicobar** on 9th November, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
- As rain/thundershowers would occur at many places over **Jammu & Kashmir** on 7th and 8th November along with isolated heavy rain/snowfall, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crop fields to remove excess water.
- Continue sowing of wheat and chickpea in the North Dry Zone of Karnataka and continue sowing of *rabi* sunflower in Central Dry Zone of **Karnataka**.
- Continue transplanting of *thaladi* rice in the Cauvery Delta Zone of Tamil Nadu. Undertake direct sowing of rice in the North Western Zone of **Tamil Nadu**.

Detailed Zonewise Agromet Advisories

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



Rice



Sugarcane



Cotton



Soybean

- **Realised Rainfall:** Rainfall occurred in Chennai, Cuddalore, Dindigul, Kancheepuram, Kanyakumari, Karaikal, Madurai, Nagapattinam, Puducherry, Ramanathapuram, Sivaganga, Theni, Tirunelveli, Thiruvallur, Thiruvapur, Toothukudi, Villupuram and Virudhunagar districts of Tamil Nadu; all the districts of Kerala except Kasaragod and Wynad. Weather remained mainly dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Coastal Andhra Pradesh during next 24 hours and increase thereafter. Rain/thundershowers would occur at isolated places over Tamil Nadu & Puducherry and Kerala during the period. Dry weather would prevail over Telangana, Rayalaseema and Karnataka during the period.
- **Weather Warning:** Squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off north coastal Andhra Pradesh on 8th and 9th November.

Fisherman are advised not to venture into the sea along and off north coastal Andhra Pradesh.

- **Weather Outlook:** Rain/thundershower would occur at a few places over Karnataka, Kerala & Tamilnadu. Weather would be dry over rest of the region.
- **Advisories:**
 - **Andhra Pradesh**
 - In view of the squally wind on 8th & 9th November and anticipated rainfall over north Coastal Andhra Pradesh in association with the Deep depression over central Bay of Bengal, the following agromet advisories are suggested;
 - Postpone sowing of pulses and rice.
 - Undertake propping in sugarcane and provide mechanical support to banana to prevent lodging due to high winds.
 - As squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off north coastal Andhra Pradesh on 8th and 9th November, fisherman are advised not to venture into the sea along and off north coastal Andhra Pradesh.
 - As rain/thundershowers would occur at many places over Coastal Andhra Pradesh on 9th November, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
 - Continue sowing of *rabi* groundnut and Bengal gram in Scarce Rainfall Zone of Rayalaseema.
 - Due to hot and humid weather, fruit and flower drop incidence was observed due to thrips damage in cotton in Anantapuram district in the Scarce Rainfall Zone of Rayalaseema. Spray Acetamiprid @0.2g/litre of water to manage thrips incidence.
 - **Telangana:**
 - Continue sowing of maize, groundnut and sunflower and sowing of chickpea and safflower crops under optimum residual moisture conditions in the Southern Telangana region.
 - Prevailing weather conditions are congenial for the incidence of brown plant hopper in rice in the Southern Telangana Zone. Monitor the incidence and spray Buprofezin@ 1.6 ml per litre of water if more than 10 hoppers per hill are observed at tillering stage or if 20-25 hoppers per hill are observed at panicle initiation stage.
 - **Karnataka:**
 - Continue sowing of wheat and chickpea in the North Dry Zone of Karnataka.
 - Continue sowing of *rabi* sunflower in Central Dry Zone of Karnataka.
 - As dry weather would prevail, continue picking of early sown cotton in the North East Dry Zone of Karnataka.
 - Undertake harvesting of maize in the Southern Transition Zone of Karnataka.
 - Cloudy weather and light rainfall is congenial for incidences of tikka disease on groundnut and pod borer on redgram the Eastern Dry Zone of Karnataka. Spray Carbendiazim @ 0.5g/litre of water to control tikka and Methomyl or Indoxicarb@ 2.0 ml/litre of water to control pod borer.
 - Low temperature in North Transition Zone of Karnataka is congenial for leaf reddening in cotton, undertake spraying of 0.5 % of 19:19:19 (5 g/lit of water) water soluble fertilizer or 2% DAP along with 1% MgSO₄ and Planofix (0.25 ml/lit of water) to control.
 - In the Southern Dry Zone of Karnataka, blue beetle insects were noticed in rice due to wet and humid conditions. To manage this pest, spray Chloropyrifos 20EC @ 2 ml/liters of water.
 - **Kerala:**
 - Continue planting of banana, sowing of vegetables and fodder grass as intercrops in coconut gardens in the Southern Zone of Kerala.
 - Due to prevailing humid and wet weather Foot rot and Pollu disease is observed in pepper in the Problem Area Zone of Kerala. Drench the basal portion of the vines with 2% pseudomonas solution followed by application of trichoderma enriched cowdung+ neem cake @ 1kg /vine as a control measure for foot rot and spray Mancozeb 3g/litre of water to control Pollu disease
 - High relative humidity is congenial for the incidence of rice bug in rice in the Central Zone of Kerala. Spray Fipronil 5 SC @ 3 ml per one liter of water before 9 am or after 3 pm so that pollination is not affected.
 - Prevailing humid and wet weather conditions are congenial for blast and sheath blight in rice in the Southern Zone. Spray Carbendazim 50 WP @ 500 g/ ha after current spells of rain.
 - **Tamil Nadu:**
 - Continue transplanting of *thaladi* rice in the Cauvery Delta Zone of Tamil Nadu.
 - Provide adequate drainage in cotton and turmeric in the Western Zone of Tamil Nadu. Undertake land preparation for sowing of Bengal gram and coriander.
 - Undertake direct sowing of paddy in the North Western Zone of Tamil Nadu utilizing the realized rainfall.
 - Due to continuous wet spell, gall midge incidence is observed in rice in the Western Zone. Monitor the crop carefully and spray Thiamethoxam @ 100 gm / ha or Phasalone @ 2ml / litre of water if required.
 - Thrips and brown plant leaf hopper is observed in rice nursery in the South Zone of Tamil Nadu due to prevailing high cloud cover and humidity. Spray Phosphamidon 40 SL @ 50 ml/ 20 cents or Monocrotophos 36 SL @ 40 ml/ 20 cents.
 - Suitable varieties are given in Annexure II.

- **Animal Husbandry**
- Vaccinate livestock against foot and mouth disease in in the Scarce Rainfall Zone of Andhra Pradesh.

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



Rice



Okra



Cole Crops (Nursery)



Green Gram

- **Realised Rainfall:** Rainfall occurred in Upper Siang district of Arunachal Pradesh. Weather remained mainly dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Nagaland, Manipur, Mizoram and Tripura during the period. Rain/thundershowers would occur at isolated places over Assam & Meghalaya during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over Arunachal Pradesh during the period.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - In Upper Bramhaputra Valley Zone, Lower Bramhaputra Valley Zone, Barak Valley Zone, and North Bank Plain Zone of Assam, continue sowing of rapeseed/ mustard and nursery sowing of winter tomato and planting of potato.
 - In Hill Zone of Assam, continue nursery raising of winter vegetables. Continue land preparation and sowing of lentil, rapeseed and mustard, planting of potato. Undertake nursery raising of *boro* rice.
 - In Central Bramhaputra Valley Zone of Assam, continue transplanting of cole crops, land preparation and sowing of *rabi* pulses like lentil, rajmah, pea, lathyrus and oilseeds, wheat and planting of potato.
 - In Meghalaya, continue harvesting of *Kharif* rice. Undertake sowing of pea, toria & lentil after harvesting of rice under zero tillage condition for utilization of residual moisture. Continue harvesting of groundnut. Continue sowing of mustard/rapeseed, transplanting of cole crops like cabbage, cauliflower, broccoli etc. and planting of potato.
 - In Arunachal Pradesh, drain out water from the fields of normal transplanted *kharif* rice 7-10 days before harvesting to hasten maturity.
 - In the prevailing hot weather condition, there is chance of attack of shoot borer in turmeric and ginger in Hill Zone of Assam, spray Rogor @ 0.05%.
 - **Nagaland, Manipur, Mizoram and Tripura:**
 - In Manipur, continue harvesting of matured *kharif* rice, groundnut, black gram and tomato. Continue sowing of rapeseed/ mustard, field pea and land preparation and planting of potato, nursery raising of onion.
 - In Mizoram, continue sowing of pea, mustard and toria, nursery raising of tomato.
 - In Mild Tropical Plain Zone of Tripura, continue harvesting of *aman* rice, land preparation for sowing of *rabi* maize and sesame, nursery sowing of winter vegetables and planting of potato. Apply mulching in early cauliflower, brinjal and radish.
 - In Nagaland, continue nursery sowing of winter vegetables. Continue land preparation for toria and harvesting of matured *jhum* rice and soybean.
 - In Mizoram, weather is congenial for attack of stem borer, gundhi bug and leaf blast in rice, spray Monocrotophos @ 20 ml/10 litres water or Imidacloprid @ 20 ml/10 litres of water against stem borer. Spray Monocrotophos 36 WSC @ 1.5 ml/litre of water against gundhi bug. Spray Triclozole (Beam) @ 0.5 g/litre against leaf blast.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Meghalaya, provide poultry birds (day old to 25 days old) artificial heating through lighting of electric bulb to protect from low temperature.

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



Sugarcane

Groundnut

Onion

Rice

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands. Weather remained mainly dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at a few places over Andaman & Nicobar Islands during next 48 hours and at many places thereafter. Rain/thundershowers would occur at isolated places over Gangetic West Bengal and Odisha during the period. Dry weather would prevail over Sub-Himalayan West Bengal & Sikkim, Jharkhand and Bihar during the period.
- **Weather Warning:** Squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off south coastal Odisha on 8th and 9th November.
Fisherman are advised not to venture into the sea along and off north coastal south coastal Odisha.
- **Weather Outlook:** Rain/thundershower would occur at many places over Andaman & Nicobar Islands on 10th & 11th and decrease thereafter. Weather would be dry over rest of the region.
- **Advisories:**
 - **West Bengal:**
 - Continue field preparation for sowing of wheat and planting of potato in Laterite and Red Soil Zone of West Bengal. Continue land preparation for nursery sowing of winter vegetables and mustard.
 - In New Alluvial Zone, continue land preparation for sowing of mustard and nursery sowing of winter vegetables. Continue harvesting of early transplanted aman rice, if 80% of rice is ripened and prepare the main field for sowing of *rabi* crops.
 - In Coastal Saline Zone, continue sowing of early mustard variety like agrani, panchali.
 - In Old Alluvial Zone, continue nursery sowing/ sowing of winter vegetables like radish, broccoli, land preparation for sowing of mustard and harvesting of matured *aman* rice.
 - In Terai Zone, continue planting of potato, sowing of mustard, nursery sowing of chilli, tomato, radish and broccoli.
 - Due hot and humid weather, there is a chance of attack of sheath blight in *aman* rice in New Alluvial Zone. Spray Carbendazim @ 1.5 g/litre of water against sheath blight. Also in late transplanted *aman* rice, brown plant hopper may become severe. To control BPH (If it cross 10 insects per hill), apply Diclorovos or Carbaryl @ 1 ml per litre of water.
 - **Andaman and Nicobar**
 - As rain/thundershowers would occur at many places over Andaman and Nicobar islands on 9th November, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops.
 - **Odisha:**
 - In view of the squally wind on 8th and 9th November and anticipated rainfall over south coastal Odisha in association with the Deep depression over central Bay of Bengal, the following agromet advisories are suggested ;
 - Harvest already matured medium duration rice, groundnut and vegetables immediately. Keep harvested produce at safe places.
 - Postpone sowing of *rabi* crops like mustard, sunflower, sesame, green gram, black gram and niger.
 - Undertake propping in sugarcane and banana crops to prevent lodging due to high winds.
 - As squally wind speed reaching 35-45 kmph gusting 55 kmph would prevail along and off south coastal Odisha on 8th and 9th November, fisherman are advised not to venture into the sea along and off south coastal Odisha.
 - In North Central Plateau Zone of Odisha, undertake land preparation and sowing of wheat.
 - In East and South Eastern Coastal Plain Zone of Odisha, present weather is optimum for sowing of rainfed groundnut in river banks, green pea and mustard. Also undertake nursery raising of onion and sowing of sunflower under irrigated condition.
 - In North Eastern Coastal Plain Zone of Odisha, due to high humid weather, there is chance of blast and Sheath rot/blight in rice. To manage blast, apply Tricyclazole @ 0.5 g/litre of water or Kasugamycin @ 1.5 g/litre of water. For control of Sheath rot/blight, alternate application of Hexaconazole @ 400 ml/acre and Thiophanate

methyl @ 300 g/acre at two weeks interval is advised.

- In North Eastern Coastal Plain Zone of Odisha, due to higher temperature gradient there is widespread attack of BPH in rice. To control it, drain out water from the field and spray Thiomethoxam 25WG @ 100g/acre + Neem pesticide 300ppm@1000ml/acre or Acephate+Imidacloprid @750 g/acre.
- In North Eastern Plateau Zone of Odisha, due to cloudy and high humid weather, there is chance of Tikka leaf spot in groundnut. To control, spray Mancozeb @ 2.5 g per liter of water.
- Prevailing humidity and temperature are conducive for incidence of leaf roller and case worm in rice in East and South Eastern Coastal Plain Zone of Odisha. To control, spray Triozophos or Fipronil or Hostathion @ 200 ml in 200 litres of water per acre.
- In Western Undulating Zone of Odisha, bacterial leaf blight has been observed in rice and likely to spread in the present weather. Spray Streptocycline @0.1g + Carbendazim @ 2 g in one litre of water with mixing sticker @ 0.5 ml/litre of water. Spray 200 litres of pesticide solution per acre preferably during morning hours.

▪ **Bihar:**

- In North West Alluvial Plain Zone of Bihar, continue sowing of maize, pea, sunflower, garlic, lentil, rajma and planting of potato. Continue harvesting of matured rice. Prepare nursery bed for onion crop. Undertake field preparation for sowing of wheat, gram, barley and fodder crop like barseem, oat etc.
- In North East Alluvial Zone of Bihar, undertake sowing of lentil, peas, rai, sunflower and transplanting of mature seedlings of cauliflower, cabbage, broccoli and tomato in raised bed. Undertake harvesting of matured rice.

▪ **Jharkhand:**

- In Western Plateau Zone of Jharkhand, continue sowing of gram, lentil, linseed. Also continue sowing of mustard and rainfed wheat. Continue planting of early potato and sowing of green peas. Continue harvesting of already matured rice. Continue sowing of barley.
- In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of toria, mustard, green pea and planting of potato. Continue nursery raising of onion. Continue sowing of wheat, gram, lentil, linseed. Continue harvesting of rice.
- In South Eastern Plateau Zone of Jharkhand, continue land preparation/sowing of chick pea. Continue nursery raising of onion. After harvesting of rice, undertake sowing of rainfed wheat. Continue sowing of field pea and linseed.
- Due to humid weather, there are chances of infestation of beetles in pigeon pea in South Eastern Plateau Zone of Jharkhand, spray Chlorpyrifos @ 1.5 ml per liter of water for control.
- Suitable varieties are given in Annexure II.

• **Animal Husbandry**

- In North West Alluvial Plain Zone of Bihar, low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers are advised to give protein enriched diet to the animals. Do not keep the animal in the open.
- In Coastal Saline Zone of West Bengal, provide poultry birds (day old to 25 days old) artificial heating through lighting of electric bulb to protect from low temperature.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Rice



Okra



Onion

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Dry weather would prevail over the region. No significant change in minimum temperatures over central India during next 48 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - Undertake sowing of *rabi* crops like wheat, chickpea, mustard, linseed and vegetables like coriander, spinach, radish, fenugreek, green pea and planting of potato, garlic and onion in Bundelkhand Zone. Also undertake transplanting of tomato, chilli, brinjal, cauliflower and cabbage on raised beds.
 - Continue land preparation for sowing of wheat, gram, planting of winter sugarcane and nursery sowing of

- vegetables, garlic, onion, green pea, early planting of potato in Vindhya Plateau Zone of Madhya Pradesh.
- Continue sowing of vegetable pea, mustard, toria and field preparation for planting of potato in Kymore Plateau and Satpura Hill Zone.
 - Continue harvesting of soybean and sowing of pea, early planting of potato in Malwa Plateau Zone. Also undertake transplanting of onion, tomato, brinjal, chilli, cabbage and cauliflower on the prepared beds.
 - Undertake harvesting of matured soybean and continue land preparation and sowing of wheat, gram in Nimar Valley Zone.
 - Complete harvesting of matured soybean, green gram, black gram, groundnut and maize in Jhabua Hills Zone. Continue land preparation for sowing of mustard, gram and wheat and keep inputs ready. Continue nursery sowing of winter vegetables (tomato, chilli, brinjal, cauliflower, cabbage, capsicum), sowing of early green pea, garlic and planting of early potato. Apply irrigation in cotton at flowering/boll formation stage under moisture stress condition.
 - Due to cloudy weather there are chances of attack of sucking pest in vegetables in Vindhya Plateau Zone of Madhya Pradesh, spray Imidacloprid or Thiamethoxam @ 0.35 g per litre of water.
 - **Chhattisgarh:**
 - Continue harvesting of matured rice in North Hill Zone and keep it in the field for proper sun drying for 1-2 days.
 - Continue land preparation and sowing of *rabi* crops like wheat, toria, green pea, mustard, gram, linseed, planting of early potato and transplanting of vegetables like cabbage, cauliflower, tomato etc. in North Hill Zone.
 - Continue nursery sowing of cauliflower, tomato, brinjal, chilli etc. and cultivation of leafy vegetables like coriander, fenugreek and palak and continue sowing of toria, green, pea, mustard, gram and linseed in Chhattisgarh Plain Zone. Continue harvesting of matured rice and soybean.
 - Continue land preparation for sowing of toria, green pea, linseed and nursery sowing of vegetables like, chilli, cauliflower, tomato etc. in Bastar Plateau Zone.
 - Suitable varieties are given in Annexure II.

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



Rice



Sugarcane



Bottle Gourd



Onion

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Jammu & Kashmir during next 48 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Himachal Pradesh during next 24 hours; at a few places on 8th and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Punjab during next 48 hours and over West Rajasthan during next 24 hours and dry weather would prevail thereafter. Dry weather would prevail over Uttarakhand during next 24 hours; rain/thundershowers would occur at isolated places on 8th and dry weather would prevail thereafter. Dry weather would prevail over Uttar Pradesh, Haryana & Delhi and East Rajasthan during the period. No significant change in minimum temperatures over many parts of northwest India during next 48 hours and fall by 2-3°C thereafter.
- **Weather Warning:** Isolated heavy rain/snowfall would occur over Jammu & Kashmir on 7th and 8th November.
- **Weather Outlook:** Decrease in rain/snowfall activity over western Himalayan Region. Weather would be dry over rest of the region.
- **Advisories:**
 - **Jammu & Kashmir:**
 - As rain/thundershowers would occur at many places over Jammu & Kashmir on 7th and 8th November along with isolated heavy rain/snowfall, postpone irrigation, intercultural operations and application of fertilizers and plant protection measures in standing crops. Provide adequate drainage in standing crop fields to remove excess water.
 - Continue land preparation for sowing of oat and continue sowing of wheat, barley, toria, mustard, pea, gram, lentil, vegetables viz. (cauliflower, cabbage, radish and knoll khol) in Intermediate Zone of Jammu & Kashmir after current spells of heavy rain/snow.
 - In Sub-Tropical Zone of Jammu & Kashmir, continue land preparation for sowing of wheat, mustard, toria, ghobi sarson, pulses viz. chickpea, pea and lentil, direct sowing of vegetable crops like radish, spinach, peas,

methi, coriander, turnip and planting of potato and garlic. Continue transplanting of knolkhol, broccoli, cabbage & cauliflower after current spells of heavy rain/snow.

- Continue land preparation for sowing of vegetables viz. peas, spinach and methi and planting of garlic in Valley Temperate Zone of Jammu & Kashmir after current spells of heavy rain/snow.

▪ **Himachal Pradesh:**

- Continue sowing of early wheat, planting of potato and sowing of early varieties of pea and onion in Lower and Mid Hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Continue direct sowing of radish, turnip, carrot and fenugreek and transplanting of cabbage, cauliflower and broccoli. Continue sowing of gobhi sarson, linseed and sowing of berseem, lucerne and oats as fodder crops. Continue sowing of barley in high altitude areas. Complete sowing of gram and lentil in lower areas like districts Mandi and Kangra.
- Complete sowing of radish, turnip and spinach in Mid Hills Sub-Humid Zone of Himachal Pradesh. Continue nursery preparation for sowing of late season cauliflower and cabbage..
- Undertake harvesting of cauliflower and apple and sowing of Chinese cabbage, cabbage and coriander in High Hill Dry Temperate Zone of Himachal Pradesh.
- Under prevailing humid weather condition, there are chances of attack of blister blight in tea in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Spray Calixin @ 0.2% or folicure 0.1% and if attack is severe then repeat spray at 15 days with alternate spray of Blitox 0.3% at seven days interval.
- Under prevailing humid weather condition, there are chances of attack of cut worm in cauliflower in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Chloropyriphos 20 EC @ 80ml mixed in 1kg of sand can be spread in the fields.

▪ **Uttarakhand:**

- Continue land preparation for sowing of wheat and planting of potato in Hill Zone. Continue transplanting of onion and sowing of garlic, mustard, palak, methi, radish, early toria, pea.
- After harvesting of matured rice and soybean, continue land preparation and sowing of wheat and continue sowing of mustard and planting of autumn sugarcane in Bhabar and Tarai Zone of Uttarakhand. Also continue sowing of vegetables viz. pea, coriander, spinach and radish.
- Continue sowing of mustard, chickpea, pea, nursery sowing of vegetables like brinjal, tomato and planting of potato and continue field preparation for planting of winter sugarcane in Sub Humid Sub Tropical Zone of Uttarakhand.

▪ **Punjab, Haryana and Delhi:**

- In Western Undulating Zone of Punjab, continue nursery sowing of mid-season cauliflower, desi varieties of radish, carrot under irrigation and turnip and planting of mango, litchi and apply irrigation in rice, cotton and maize.
- In Central Plain Zone of Punjab, continue sowing of desi varieties of carrot, radish and turnip crops and undertake transplanting of tomato under irrigation. Continue planting of potato and nursery sowing of cauliflower. Continue harvesting of matured maize and groundnut in Ludhiana district. Continue planting of early maturing autumn sugarcane.
- In Undulating Plain Zone of Punjab, continue sowing of long duration wheat, lentil and continue sowing of gram.
- In Western Zone of Punjab, continue sowing of raya, gobhi sarson, *rabi* onion, carrot, tomato. Prepare the field for planting of potato.
- In Western Zone of Haryana, prepare the fields for sowing of mustard and gram and arrange the certified seeds for mustard and gram. As dry weather would prevail, harvest matured guar, bajra and continue the picking of matured cotton bolls of early sown cotton.
- Present weather is favourable for attack of top borer in sugarcane in Western Zone of Haryana, apply Carbofuran 3G @13 kg or Phorate 10G @ 8 kg in furrows and apply light irrigation.

- In Delhi, continue transplanting of onion seedlings and planting of early potato, winter sugarcane. Continue land preparation for sowing of early mustard, pea and early toria and sowing of radish, spinach, sarson, *rabi* onion, carrot and coriander.

▪ **Uttar Pradesh:**

- Complete harvesting of rice in Allahabad, Chitrakut, Kausmbi, Pratapgarh and Fatehpur districts of Central Plain Zone of Uttar Pradesh. Undertake land preparation for sowing of wheat during 15-30th November. Carry out thinning in mustard within 15-20 day of sowing and intercultural operation in gram.
- As dry weather would prevail, apply irrigation in late sown rice in Central Plain Zone of Uttar Pradesh. Continue sowing of rapeseed, gram, peas, matar and maize with available soil moisture. Complete planting of potato. Undertake transplanting of cauliflower, cabbage, chilli, brinjal and tomato and sowing of spinach, fenugreek, radish, carrot and garlic.
- Continue sowing of gram, peas, lentil, rapeseed and mustard and planting of potato with available soil moisture in Basti, Faizabad, Sant Kabir Nagar and Gorakhpur districts of Eastern Plain Zone of Uttar Pradesh.
- Continue land preparation for sowing of garlic, coriander and fenugreek in Eastern Plain Zone of Uttar Pradesh.
- Continue sowing of taramira, alsi, berseem and planting of sugarcane and potato in Western Plain Zone of Uttar Pradesh with available moisture.

- Undertake sowing of peas, lentil, gram, mustard and rapeseed in Jhansi district of Bundelkhand Zone of Uttar Pradesh. Keep the inputs ready for sowing of drought resistant varieties of wheat crop.
- Under prevailing hot weather condition, there are chances of attack of army bug in rice in Central Plain Zone of Uttar Pradesh. For control, spray Chlopyriphos 20 EC or Quinolphos 25Ec @ 1.5 ml per 400-600 litres of water.
- **Rajasthan:**
 - Continue sowing of lentil upto 15th November and continue land preparation and sowing of mustard, barley, nursery sowing of cauliflower, cabbage and planting of potato in Flood Prone Eastern Plain Zone of Rajasthan.
 - Continue land preparation and sowing of wheat, lentil, gram in South eastern Humid Plain Zone of Rajasthan
 - Continue land preparation and sowing of lucerne, taramira, methi and mustard in Transitional Plain Zone of Inland Drainage of Rajasthan.
 - Continue field preparation for the sowing of wheat and barley and complete sowing of mustard and gram. Continue nursery sowing of cauliflower and radish and rainfed taramira, toria in Semi Arid Eastern Plain Zone of Rajasthan.
 - Continue sowing of cummin, rapeseed (sarson) in Arid Western Plain Zone (Jodhpur) of Rajasthan.
 - Continue land preparation and sowing of rapeseed, gram, linseed in irrigated North Western Plain Zone of Rajasthan.
 - In Sub Humid Southern Plain and Aravali Hill Zone of Rajasthan, continue sowing of wheat gram and mustard and continue harvesting of maize and sorghum.
 - Present weather is congenial for attack of mealy bug on mango, guava and pomegranate trees in Semi Arid Eastern Plain Zone of Rajasthan. To control, mix Quinalphos @ 1.5 % and Methyl Parathion 2% dust @ 50-100 g per tree pit in soil at a depth of 10-25 cm.
 - In the present weather there is chance of infestation of saw fly and painted bug on early sown mustard in Arid Western Plain Zone of Rajasthan. To control, apply Methyl Parathion @ 2% or Malathion 5% dust @ 24 kg/ha during morning or evening time and repeat after 15 days if required.
 - Suitable varieties are given in Annexure II.
- **Floriculture**
 - Continue nursery raising of winter flowers in poly houses in Sub Montane and Low Hills Sub-Tropical; Zone of Himachal Pradesh. For the control of blue beetle in roses and balsam, spray Cypermythrin @0.05%. Present weather is conducive for attack of mites in carnation. For control, spray Cypermythrin @0.05% at 15 days interval.
- **Animal Husbandry:**
 - Due to fall in night temperature, keep cows in their cowshed to protect them from cold in High Hill Temperate Dry Zone of Himachal Pradesh. Also give 40-50g minerals mixture with the daily.
 - Under prevailing humid weather condition, there are chances of attack of ticks and mites on animals in Sub Montane and Low Hills Sub-Tropical; Zone of Himachal Pradesh and Intermediate Zone of Jammu & Kashmir. 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



Cotton



Soybean

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Dry weather would prevail over the region. No significant change in minimum temperatures over west India during next 48 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/thundershower would occur at a few places over Maharashtra. Weather would be dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, complete harvesting of already matured mid late and late maturing rice variety and matured finger millet. Complete sowing of brinjal, chilli, cabbage and knol khol on raised beds. Apply irrigation, fertilizers and intercultural operations in vegetable crops and mango and cashew orchards.
 - In Madhya Maharashtra, apply irrigation to sugarcane, vegetables and grapes, banana and pomegranate orchards, safflower and *rabi* jowar. Complete harvesting of matured rice in Kolhapur region and continue harvesting of

matured rice in Western ghat region and Western parts of Pune district. Continue intercultural operations like weeding and fertilizer application in sugarcane, vegetables, *rabi* jowar and orchards. Continue sowing of wheat. Also continue sowing of irrigated gram and planting of pre-seasonal sugarcane. Continue picking fully opened cotton boll during morning hours. Undertake the planting of banana.

- In Marathwada, apply irrigation to sugarcane, red gram and vegetables. Continue intercultural operation like weeding and fertilizer application to sugarcane, *rabi* jowar and vegetables. Complete sowing of *rabi* safflower. Continue sowing of irrigated gram and wheat. Start picking fully opened cotton boll (irrigated and early sown) during morning hours. Continue planting of pre-seasonal sugarcane.
- In Vidarbha, as dry weather is prevailing, apply irrigation in vegetables and orange, sweet lime orchards. Apply fertilizers and continue intercultural operations in vegetables. Maintain water level up to 8 cm in rice fields in East Vidarbha. Complete sowing of safflower with the help of available soil moisture. Continue harvesting of early maturing rice crop and start harvesting mid late rice in East Vidarbha. Continue picking of fully opened cotton boll (early sown) in West Vidarbha. Start sowing of irrigated wheat.
- Rise in temperature and humid weather in Central Vidarbha zone, there may be attack of aphids and jassids in cotton; spray Acetamiprid 20 % @ 4 gm per 10 litres of water.
- Due to cloudy weather during last week in Marathwada, there may be attack of hoppers on new mango flush and inflorescence; spray Cypermethrin 3 ml per 10 litres of water on whole tree.
- Rise in day temperature and humid weather in Pune region is favourable for downy mildew in cucumber, ridge guard and bottle guard; spray Metalaxyl 8 % + Mancozeb 64 % @ 20 g per 10 litres of water. Same may be repeated after 10-12 days.
- **Gujarat**
 - Under soil moisture stress condition, apply irrigation in alternate row in cotton at 8-10 days interval for better boll development in North Gujarat Zone.
 - Carryout inter-cultural operation and weeding in castor crop to conserve soil moisture in North Gujarat Zone, North West Zone, Bhal and Coastal Zone and Middle Gujarat Zone.
 - Provide shade and apply irrigation to vegetable nursery in Middle Gujarat Zone.
 - Complete harvesting of fully matured groundnut and picking of matured bolls of cotton in North Gujarat Zone and harvesting of fully matured groundnut in North West Zone, harvesting of matured rice South Gujarat Heavy Rainfall Zone and harvesting of groundnut in South Saurashtra Zone.
 - Continue sowing of mustard, gram and fennel in North Gujarat Zone, sowing of mustard fennel in North West Zone, sowing of wheat, gram and mustard in Bhal and Coastal Zone, sowing of wheat, mustard, gram, cumin, coriander, peas, carrot and garlic in North Saurashtra Zone, sowing of gram in Middle Gujarat Zone and sowing of onion, castor, chickpea, sweet corn and planting of sugarcane in South Gujarat Heavy Rainfall Zone. Undertake land preparation and sowing of wheat and gram in South Saurashtra Zone.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Gujarat, increase the green fodder quantity for feeding. Arrange adequate amount of fresh drinking water for cattle.

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

Annexure I
Week by week Rainfall Distribution

Sub-Divisions	22.10.14		29.10.14		05.11.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Karnataka						
Coastal Karnataka						
Dakshin Kannada	72.7	52	86.8	79	6.7	-74
Udupi	50.9	22	105.0	140	0.3	-99
Uttar Kannada	3.7	-86	76.0	176	0.0	-100
N I Karnataka						
Bagalkote	1.2	-94	50.1	137	0.0	-100
Belgaum	5.2	-78	64.5	223	0.0	-100
Bidar	1.4	-91	10.6	-44	0.0	-100
Bijapur	0.1	-99	34.5	55	0.0	-100
Dharwad	4.4	-84	47.0	149	0.0	-100

Gadag	1.8	-93	21.9	15	0.0	-100
Gulbarga	1.2	-92	17.7	-15	0.0	-100
Haveri	0.5	-98	61.0	211	0.0	-100
Koppal	6.1	-65	81.3	299	0.0	-100
Raichur	1.4	-92	37.8	122	0.0	-100
Yadgir	0.4	-98	37.2	19	0.0	-100
S I Karnataka						
Bangalore Rural	18.7	-38	103.2	300	2.7	-89
Bangalore Urban	26.9	-12	82.2	246	0.5	-98
Bellary	3.6	-82	75.4	223	0.0	-100
Chamarajnagar	21.6	-37	91.4	171	1.5	-94
Chichballapur	17.8	-33	50.1	113	0.1	-99
Chickmagalur	14.7	-58	71.5	114	0.0	-100
Chitradurga	3.7	-81	112.9	468	0.0	-100
Davangere	1.6	-93	62.1	197	0.0	-100
Hassan	29.5	-6	50.5	51	0.0	-100
Kodagu	19.1	-54	28.9	-28	4.0	-83
Kolar	8.4	-67	61.3	148	0.7	-97
Mandya	27.1	-10	59.4	109	0.3	-98
Mysore	32.2	0	42.7	33	1.2	-93
Ramnagara	23.5	-28	68.6	139	0.0	-100
Shimoga	2.0	-92	62.1	138	0.0	-100
Tumkur	17.0	-31	92.7	243	0.1	-99
Kerala						
Alappuzha	119.3	60	73.9	-2	27.9	-62
Kannur	103.3	117	92.0	84	38.3	-5
Ernakulam	139.5	120	123.0	77	45.2	-21
Idukki	90.7	2	161.8	143	86.0	23
Kasaragod	110.7	169	97.0	83	0.6	-98
Kollam	116.1	33	73.2	-10	58.9	-35
Kottayam	154.1	133	117.1	60	53.4	-26
Kozhikode	117.4	132	82.8	25	76.6	51
Malappuram	107.9	48	89.5	56	56.2	-1
Palakkad	65.0	3	74.3	25	27.2	-55
Pathanamthitta	138.0	61	78.6	-14	39.8	-49
Thiruvananthapuram	138.5	90	36.9	-42	53.5	-30
Thrissur	100.0	49	99.2	54	36.0	-36
Wynad	62.5	29	87.3	64	8.7	-69
Tamil Nadu						
Ariyalur	108.1	106	31.7	-31	12.0	-74
Chennai	288.8	238	89.4	15	63.8	-36
Coimbatore	88.3	123	106.9	143	2.9	-93
Cuddalore	237.3	282	56.3	-7	39.7	-43
Dharmapuri	27.8	-32	125.2	258	6.8	-79
Dindigul	161.2	215	112.0	153	25.4	-47
Erode	76.7	91	187.5	392	2.9	-93
Kanchipuram	132.5	97	51.7	-24	30.2	-61
Kanyakumari	123.6	78	57.8	6	40.0	-45
Karikal	347.1	439	75.1	-30	45.2	-64

Karur	78.8	102	98.7	229	8.2	-76
Krishnagiri	37.6	-2	95.9	206	2.4	-92
Madurai	42.0	-29	63.4	38	73.0	30
Nagapattinam	336.6	344	86.5	15	56.3	-38
Namakkal	40.9	2	85.1	168	6.3	-82
Nilgiris	153.6	185	101.9	80	0.6	-99
Perambalur	57.0	11	106.6	157	7.8	-83
Puducherry	261.7	301	89.5	-10	48.6	-51
Pudukottai	65.6	54	44.7	21	9.8	-73
Ramanathapuram	183.1	234	53.6	5	38.0	-41
Salem	61.8	32	86.9	118	8.9	-77
Sivaganga	116.6	138	62.7	29	30.8	-36
Thanjavur	130.7	153	42.2	-16	17.2	-69
Theni	92.5	99	109.8	141	42.7	-14
Tirunelveli	246.0	389	73.8	65	47.0	-27
Tirupur	94.7	140	142.1	285	2.9	-93
Tiruvallur	138.1	143	67.2	16	37.9	-51
Tiruvannamalai	37.3	-26	40.8	-6	8.9	-80
Tiruvarur	238.1	291	43.8	-24	21.6	-67
Toothukudi	208.9	322	50.1	21	37.8	-35
Trichy	61.4	39	53.4	46	12.2	-69
Vellore	30.7	-18	43.2	34	6.9	-80
Villupuram	104.5	107	69.8	49	23.1	-51
Virudhunagar	35.2	-34	55.5	22	92.6	63
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	11.7	-77	9.5	-72	0.0	-100
Guntur	7.0	-82	128.1	351	0.0	-100
Krishna	21.3	-54	61.3	120	0.0	-100
Nellore	52.6	-35	93.4	39	15.1	-85
Prakasam	19.3	-61	70.6	76	0.0	-100
Sirkakulam	5.6	-89	3.5	-91	0.0	-100
Visakhapatnam	15.3	-69	13.7	-60	0.0	-100
Vizianagram	23.5	-55	21.8	-27	0.0	-100
West Godavari	7.8	-84	24.6	-25	0.0	-100
Royalaseema						
Anantapur	1.5	-92	75.6	306	0.0	-100
Chittoor	41.5	7	52.0	49	13.8	-69
Cuddapah	9.1	-74	69.9	181	0.0	-100
Kurnool	6.2	-71	61.4	247	0.1	-99
Telangana						
Adilabad	2.2	-89	16.9	17	0.0	-100
Hyderabad	0.0	-100	15.6	-31	0.0	-100
Karimnagar	0.2	-99	6.9	-62	0.0	-100
Khammam	17.5	-12	50.1	227	0.0	-100
Mehabubnagar	1.4	-91	21.9	57	0.0	-100
Medak	2.1	-86	12.3	-40	0.0	-100
Nalgonda	3.6	-84	70.9	330	0.0	-100
Nizamabad	1.4	-93	8.1	-61	0.0	-100

Rangareddy	5.7	-64	18.8	8	0.0	-100
Warangal	6.6	-59	15.5	-7	0.0	-100
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	18.3	-72	4.0	-82	5.4	-66
Dibang Valley	**	**	**	**	**	**
East Kameng	0.6	-99	0.0	-100	0.0	-100
East Siang	26.7	-35	0.0	-100	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	8.5	-77	0.0	-100	0.6	-94
Lower Dibang Valley	48.6	33	0.4	-97	2.6	-84
Lower Subansari	**	**	**	**	**	**
Papumpara	22.6	-53	3.5	-59	1.0	-94
Tawang	0.0	-100	13.0	-33	2.0	-71
Tirap	9.8	-81	12.4	-8	3.0	-73
Upper Siang	45.2	-27	5.6	-85	35.2	34
Upper Subansari	9.8	-68	0.0	-100	3.2	-33
West Kameng	14.6	-68	0.0	-100	0.0	-100
West Siang	14.0	-47	2.5	-93	1.0	-90
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.0	-100	0.0	-100
Bongaigaon	0.0	-100	0.0	-100	0.0	-100
Cachar	6.4	-80	1.0	-94	0.0	-100
Chirang	16.2	-45	0.0	-100	0.0	-100
Darrang	0.0	-100	0.0	-100	0.0	-100
Dhemaji	45.0	53	0.0	-100	2.0	-78
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	17.6	-31	0.1	-99	2.1	-80
Goalpara	0.3	-99	3.5	-71	0.0	-100
Golghat	12.1	-33	0.1	-99	0.0	-100
Hailakandi	36.2	34	0.6	-93	0.0	-100
Jorhat	12.4	-39	22.9	82	0.0	-100
Kamrup(Rural)	36.0	68	0.0	-100	0.0	-100
Kamrup(Metro)	1.5	-93	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	2.4	-60	0.0	-100
Karimganj	41.0	137	2.0	-93	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	28.2	-4	0.3	-97	3.4	-64
Morigaon	0.0	-100	1.2	-87	0.0	-100
N.C.Hills	4.3	-50	4.2	-95	0.0	-100
Nowgong	0.9	-96	1.5	-92	0.0	-100
Nalbari	13.0	-31	0.0	-100	0.0	-100
Sonitpur	7.8	-69	0.8	-94	0.0	-100
Sibsagar	32.2	105	1.3	-88	0.0	-100
Tinsukia	15.5	-53	0.0	-100	0.9	-93
Udalgiri	1.5	-90	0.5	-97	0.0	-100
Meghalaya						

East Garo Hills	9.0	-43	0.0	-100	0.0	-100
East Khasi Hills	0.3	-99	3.7	-89	0.1	-99
Jaintia Hills	0.0	-100	0.4	-91	0.0	-100
Ribhoi	2.6	-93	32.9	92	9.0	125
South Garo Hills	1.0	-94	0.0	-100	0.0	-100
West Garo Hills	0.2	-99	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100
NMMT						
Mizoram						
Aizwal	1.1	-97	8.2	-77	1.2	-96
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	58.0	93	15.0	-52	3.0	-86
Serchhip	14.6	-60	35.4	89	2.0	-87
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	7.0	-71	16.0	-55	0.0	-100
Churachandpur	**	**	**	**	**	**
Imphal east	2.8	-78	6.6	-73	3.9	-85
Imphal west	0.0	-100	0.1	-99	0.0	-100
Senapati	3.0	-79	9.0	-54	0.0	-100
Tamenglong	**	**	**	**	**	**
Thoubal	36.0	334	11.0	-35	0.0	-100
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	1.0	-93	2.4	-77	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	29.0	33	1.4	-93	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Parent	**	**	**	**	**	**
Phek	8	-63	7	-66	1	-93
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	25.0	3	0.0	-100
North tripura	3.3	-87	1.4	-94	0.0	-100
South tripura	7.6	-72	3.0	-87	0.0	-100
West tripura	25.1	8	6.4	-72	0.0	-100
Himachal Pradesh						
Bilaspur	0.0	-100	0.4	-84	0.0	-100
Chamba	2.7	-71	3.7	-44	0.1	-97
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.1	-98	1.0	-72	0.0	-100

Kinnaur	0.7	-91	0.8	-83	0.0	-100
Kullu	2.4	-79	5.8	44	0.0	-100
Lahaul and Spiti	0.0	-100	0.0	-100	0.0	-99
Mandi	1.7	-75	2.6	-4	0.0	-100
Shimla	0.0	-100	4.3	12	0.0	-100
Sirmaur	0.2	-97	0.4	-82	0.0	-100
Solan	0.0	-100	4.0	28	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
Punjab						
Amritsar	0.0	-100	0.3	-63	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	2.1	-6	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100
Jalandhar	0.0	-100	0.1	-64	0.0	-100
Kapurthala	0.0	-100	0.4	0	0.0	-100
Ludhiana	0.0	-100	0.5	0	0.0	-100
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.4	-50	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	0.4	-64	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	0.0	-100	0.0	-100
TarnTaran	0.0	-100	1.0	43	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.2	-81	0.0	-100
Chandigarh	0.0	-100	0.1	-92	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.2	-95	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.5	-43	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.0	-100	0.0	-100	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	11.4	442	4.0	-82	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.0	-100	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	0.3	-84	0.0	-100	0.0	-100

Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
Delhi						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	0.0	-100	0.3	-50	0.0	-100
North Delhi	0.0	-100	0.3	-50	0.0	-100
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.5	-17	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.0	-100
West Delhi	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir						
Anantnag	0.4	-96	12.3	47	0.2	-98
Badgam	0.0	-100	6.9	-39	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	3.4	-78	11.8	23	10.5	-27
Doda	0.0	-100	2.8	-48	0.0	-100
Ganderbal	3.2	-58	13.0	71	1.4	-77
Jammu	0.0	-100	0.3	-93	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	3.6	**	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	1.5	-83	10.2	21	0.0	-100
Kupwara	0.8	-92	14.6	4	12.7	28
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	0.0	-100	11.8	219	0.0	-100
Pulwama	7.0	-11	9.9	47	0.0	-100
Rajouri	0.0	-100	8.3	108	0.0	-100
Ramban	0.0	-100	7.3	35	0.0	-100
Reasi	0.0	-100	3.9	26	0.0	-100
Samba	0.0	-100	0.0	-100	0.0	-100
Shopian	2.0	-75	10.0	49	0.0	-100
Srinagar	1.6	-79	9.4	24	0.0	-100
Udhampur	0.0	-100	3.7	19	0.0	-100
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-95	0.0	-100
Chhatarpur	0.8	-83	0.0	-100	0.0	-100
Chindwara	1.9	-59	0.0	-100	0.0	-100
Damoh	2.0	-50	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100

Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.5	-84	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	9.0	95	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh						
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	2.4	-54	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	8.1	88	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.5	-87	0.0	-100	0.0	-100
Indore	2.9	-44	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	1.2	-50	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	17.8	456	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh						
Bastar	1.4	-87	9.4	-29	0.0	-100
Bijapur	3.6	-74	6.1	-49	0.0	-100
Bilaspur	0.1	-99	0.9	-89	0.0	-100
Dantewara	16.2	-3	6.4	-47	0.0	-100
Dhamtari	2.0	-81	6.2	-28	0.0	-100
Durg	8.4	-13	4.0	-53	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100

Kanker	0.0	-100	7.5	-47	0.0	-100
Korba	4.1	-56	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	1.0	-90	0.0	-100
Mahasumund	0.4	-94	2.1	-73	0.0	-100
Narayanpur	1.2	-89	15.7	25	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	4.3	-37	0.0	-100
Rajandgaon	0.0	-100	1.2	-88	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	0.0	-100	0.0	-100
Ballia	0.0	-100	0.0	-100	0.0	-100
Balrampur	0.0	-100	0.0	-100	0.0	-100
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	0.0	-100	0.0	-100
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.0	-100	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.0	-100	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	0.0	-100	0.0	-100	0.0	-100
Hardoi	0.0	-100	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	0.0	-100
Kanpur City	0.0	-100	0.0	-100	0.0	-100
Kanpur Dehat	0.0	-100	0.0	-100	0.0	-100
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	0.0	-100	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	0.0	-100	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	0.0	-100	0.0	-100	0.0	-100
Sidharthnagar	0.0	-100	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	0.0	-100	0.0	-100	0.0	-100

Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	2.1	158	0.0	-100
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	10.4	197	0.0	-100	0.0	-100
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.0	-100
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	0.0	-100	0.0	-100
Bulandsahar	0.5	-86	0.0	-100	0.0	-100
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	1.0	-86	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100
Mathura	0.0	-100	0.0	-100	0.0	-100
Meerut	0.0	-100	0.0	-100	0.0	-100
Moradabad	0.0	-100	0.5	-100	0.0	-100
Muzaffarnagar	0.0	-100	0.0	-100	0.0	-100
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.5	-100	0.0	-100
Uttarakhand						
Almora	2.4	-55	0.0	-100	0.0	-100
Bageshwar	12.0	126	0.0	-100	0.0	-100
Chamoli	2.3	-69	5.5	44	0.0	-100
Champawat	19.5	76	0.0	-100	0.0	-100
Dehradun	0.0	-100	14.7	297	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.1	-99	0.5	-76	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	2.9	-51	0.5	-24	0.0	-100
Pithorgarh	3.0	-59	0.5	-86	2.0	-68
Rudraprayag	0.0	-100	0.6	-78	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.1	-99	22.6	205	0.0	-100
Bihar						

Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	1.5	25	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.7	-65	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	12.0	243
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.0	-100	0.0	-100	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.0	-100	0.0	-100	0.0	-100
Lakhisarai	0.0	-100	27.5	277	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100
Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	11.3	842	0.0	-100
Purnea	0.0	-100	0.1	-96	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	0.0	-100	2.0	-13	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100
Jharkhand						
Bokaro	0.0	-100	1.0	-87	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.3	-97	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.4	-97	5.5	-21	0.0	-100
Garhwa	0.0	-100	**	**	0.0	-100
Giridih	0.0	-100	0.8	-86	0.0	-100
Godda	0.0	-100	0.7	-82	0.0	-100
Gumla	0.0	-100	3.4	-56	0.0	-100

Hazaribagh	0.0	-100	0.3	-97	0.0	-100
Jamtara	0.0	-100	0.6	-95	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	29.4	539	0.0	-100
Ranchi	0.0	-100	2.2	-76	0.0	-100
Sahebganj	3.6	-67	0.0	-100	0.0	-100
Saraikela	0.0	-100	2.0	-60	0.0	-100
Simdega	27.5	116	1.4	-50	0.0	-100
West Singbhum	4.2	-66	2.2	-52	0.0	-100
East Rajasthan						
Ajmer	0.1	-95	0.0	-98	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	9.9	1138	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.7	-59	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	8.4	664	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-91
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-98	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-96	0.0	-98
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100

Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.0	-97
Anand	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	0.0	-100	0.0	-100
DNH	0.0	-100	0.0	-100	0.0	-100
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	0.0	-100
Dangs	12.0	-12	0.0	-100	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.0	-100	0.0	-100	0.0	-100
Panchmahal	0.0	-100	0.0	-100	0.0	-100
Patan	0.0	-100	0.0	-100	0.0	-100
Sabarkantha	0.0	-100	0.0	-100	0.0	-100
Surat	3.2	17	0.0	-100	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
Amreli	0.0	-100	0.0	-100	0.0	-100
Bhavnagar	0.0	-100	0.0	-100	0.0	-100
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	0.0	-100	0.1	-97
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.7	-82
Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra & Goa						
Konkan & Goa						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.1	-99	0.1	-98	0.0	-100
North Goa	14.8	-55	143.3	476	0.0	-100
Raigad	0.0	-100	0.7	-93	0.0	-100
Ratnagiri	5.4	-78	18.0	36	0.0	-100
Sindhudurg	11.5	-54	79.6	342	0.0	-100
South Goa	18.2	-43	185.2	774	0.0	-100
Thane	1.1	-92	0.1	-99	0.0	-100
Madhya Maharashtra						
Ahmednagar	9.5	-25	1.9	-80	0.0	-100
Dhule	0.8	-84	0.0	-100	0.0	-100
Jalgaon	1.4	-66	0.0	-100	0.0	-100
Kolhapur	4.9	-79	47.6	154	0.0	-100
Nandurbar	5.7	61	0.0	-100	0.0	-100
Nasik	4.8	-54	0.8	-88	0.0	-100
Pune	4.2	-73	5.3	-58	0.0	-100

Sangli	11.2	-42	17.6	14	0.0	-100
Satara	8.9	-53	8.7	-38	0.0	-100
Solapur	8.0	-53	7.7	-48	0.0	-100
Marathwada						
Aurangabad	7.7	-17	0.4	-95	0.0	-100
Beed	5.6	-59	0.0	-100	0.0	-100
Hingoli	1.8	-80	1.0	-91	0.0	-100
Jalna	5.9	-32	1.0	-86	0.0	-100
Latur	8.2	-34	3.3	-76	0.0	-100
Nanded	0.1	-99	4.8	-61	0.0	-100
Usmanabad	7.0	-59	5.6	-53	0.0	-100
Parbhani	0.8	-94	0.4	-95	0.0	-100
Vidarbha						
Akola	0.0	-99	0.3	-97	0.0	-100
Amraoti	2.4	-58	0.9	-88	0.0	-100
Bhandara	0.4	-94	0.0	-100	0.0	-100
Buldhana	11.9	74	0.4	-93	0.0	-100
Chandrapur	0.1	-99	7.6	-29	0.0	-100
Gadchiroli	0.0	-100	1.3	-85	0.0	-100
Gondia	7.5	2	0.3	-98	0.0	-100
Nagpur	21.1	284	0.3	-98	0.0	-100
Wardha	10.0	24	2.2	-82	0.0	-100
Washim	13.3	93	0.1	-98	0.0	-100
Yeotmal	2.2	-78	1.2	-88	0.0	-100
Odisha						
Angul	9.0	-61	0.5	-97	0.0	-100
Balasore	3.2	-89	0.0	-99	0.0	-100
Bargarh	2.3	-81	1.0	-79	0.0	-100
Bhadrak	9.8	-72	0.0	-99	0.0	-100
Bolangir	3.7	-74	3.7	-63	0.0	-100
Boudh	8.9	-52	0.0	-100	0.0	-100
Cuttack	50.2	104	0.1	-99	0.0	-100
Deogarh	0.0	-100	0.7	-91	0.0	-100
Dhenkanal	13.1	-48	1.1	-94	0.0	-100
Gajapati	23.7	-41	7.4	-20	0.0	-100
Ganjam	12.5	-76	2.8	-91	0.0	-100
Jagatsingpur	7.0	-81	0.1	-99	0.0	-100
Jajpur	17.6	-40	0.1	-99	0.0	-100
Jharsuguda	0.5	-96	2.4	-62	0.0	-100
Kalahandi	4.6	-70	2.8	-66	0.0	-100
Kandhamal	16.7	-9	0.8	-94	0.0	-100
Kendrapara	6.0	-83	0.0	-100	0.0	-100
Keonjhar	8.1	-71	0.7	-94	0.0	-100
Khurda	19.9	-39	0.0	-99	0.0	-100
Koraput	21.2	-43	7.5	-49	0.0	-100
Malkangiri	35.4	44	6.0	-64	0.0	-100
Mayurbhanj	8.6	-65	0.2	-98	0.0	-100
Nawapara	12.0	10	3.7	-47	0.0	-100
Nawarangpur	5.9	-64	10.6	-34	0.0	-100

Nayagarh	15.0	-36	0.0	-100	0.0	-100
Puri	20.6	-46	0.4	-99	0.0	-100
Rayagada	7.7	-73	3.9	-37	0.0	-100
Sambalpur	0.0	-100	2.7	-67	0.0	-100
Sonepur	0.0	-100	0.7	-92	0.0	-100
Sundargarh	1.8	-80	1.5	-76	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	17.0	-73	17.8	-73	89.6	22
North & Middle Andaman	9.7	-76	26.7	-49	87.0	66
South Andaman	1.5	-97	33.5	-44	86.1	40
GWB						
Bankura	0.0	-100	2.8	-81	0.0	-100
Birbhum	0.8	-96	1.1	-90	0.0	-100
Burdwan	2.7	-86	3.7	-69	0.0	-100
East Midnapore	0.7	-97	0.0	-99	0.0	-100
Hooghly	0.0	-100	1.7	-89	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.3	-98	0.0	-100
Murshidabad	0.0	-100	4.0	-64	0.0	-100
Nadia	0.0	-100	0.8	-95	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-99	0.0	-100
Purulia	0.3	-99	3.8	-48	0.0	-100
24 Pargana (S)	0.0	-100	0.9	-98	0.0	-100
West Midnapore	10.5	-39	0.2	-98	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	1.1	-94	4.7	-42	0.8	-91
East Sikkim	0.0	-100	1.2	-91	0.1	-98
Jalpaiguri	0.2	-99	5.8	-40	0.1	-98
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.7	-98	4.9	-86	5.0	-61
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	8.4	-39	1.7	-80
West Sikkim	3.0	-92	12.0	-66	0.0	-100

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

Tamil Nadu

Late Samba/ Thaladi rice: ADT 38, ADT 46, ADT 49, Improved white Ponni, IR 20, ASD 19, Paiyur1, TRY 1, TRY 3, CO 48, CO 49, BPT 5204 and CO 50

Direct seeded rice: (White Ponni or ADT 39)

Assam

Green gram: T-44, Kopergaon, K-851, ML-56, ML-131 etc.

Black gram : T-9, T-27, Pant U-19, T-122.

Radish : Pusa Deshi, Pusa Chetki, Pusa Himani

Cauliflower : Improved Japanese, Pusa Synthetic, Pusa Snowhall and Main Crop Patna.

Early maturity Cabbage varieties : Golden Acre, Pride of India, Pusa Mukht (Sel – 8).

Early maturity Knol Khol : White Vienna.

Winter brinjal : Pusa Kranti, Pusa Purple Long, Pusa Purple Round, Pusa Vairab, Pant Samrat

Meghalaya

Pigeon pea: short duration : UPAS-120, ICPL 87. long duration WB 20, Pusa 9 & Sarita.

Cabbage: H-139, Pride of India

Cauliflower: Meghalaya Local

Carrot: New Karoda, Nantesh

Radish: Local genotype

Broccoli: Puspa, Aiswarya

French bean: Naga Local

Pea: Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

Potato: Kufri Joyti, Kufri Megha, Kufri Giriraj, Kufri Girdhari, Kufri Himsona, Kufri Himalini.

Pea: Arkel (for vegetables), TRC P8, TRC P9, Prakash, Rachna.

Tripura

Tomato: Trishul, Allrounder, T- 1408, T- 1458, Anup.

Cauliflower: CFL- 4048, Pusa early synthetic, Kamaya, Suhasihi.

Cabbage: BC- 76, Pusa Drum Head, Pusa Synthetic.

Broccoli: Everest, Ayeshwaria.

Odisha

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

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

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

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

West Bengal

Banana: Mortoman, Chapa, Kathali, Singapuri.

Tomato: Avinash-2, 448.

Cabbage: Pride of India, Pusa early, Kranti.

Cauliflower: Jawhar moti, Bharat Jyoti, Early banaras

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.

Madhya Pradesh

Gram: JG-130, JG-11, JG-315, JG-16

Wheat: Sujata, HW-2004, HI-1500

Winter Sugarcane: KJN 86-572, KJN 86-141

Green Pea: Arkel, PSM-3, Jawahar Pea 1, Jawahar Pea 2

Chickpea: J.G-11, J.G-74

Jammu & Kashmir

Berseem: Mescavi, Pusa Giant, BL-1 and Vardan

Uttarakhand

Pea: VL Ageti Mater-7, Vivel Mater-10, Pant Subjee Mater-3, Azad Mater-3 and Arkel

Potato: Kufri- Jyoti, Ashok, Anand

Toria : Pant Toria-30, 303, 507 or local varieties.

Himachal Pradesh

Peas: Palam Triloki, Arkel, VL-7 and Matar Ageta

Late variety of Cauliflower: broccoli

East Uttar Pradesh

Cabbage: Imprabad Japani, Pusa chipali and Pusa kartiki

Radish: Japani white, Pusa chetakij, Hisar Muli No.1 and kalyanpur-1

Toria: T-9, T-36, Pant -30,303, B-9

Potato: Kuferi - Chandramukhi, Bahar

Mustard: Basati, Maya, Kanti, Urvashi, Narendra, Swarna-8, Narendra Ageti-4

Ageti Matar: Kashi - Nandini,Uday, Mukti, Arkel, Azad-3

West Uttar Pradesh:

Toria: Sangam, TL-17, 67

Ageti matar: Azad P-3, Arkel

Maharashtra

Madhya Maharashtra

rabi jowar: Selection-3, Phule Mauli, Phule Anuradha in light soil, Phule Chitra, Maldandi-35-1 in medium soil and Phule

Vasudha, Phule Yashodha in black soil

Safflower: Bhima or Phule Kusuma

Marathwada

Jowar: Parbhani Moti or Parbhani Jyoti.

Gujarat:

Pea: Pusa Pragati.

Carrot: Pusa Rudhira and Pusa Kesar.