

National Agromet Advisory Service Bulletin

Friday 12th December 2014
(For the period 12th to 16th December 2014)



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

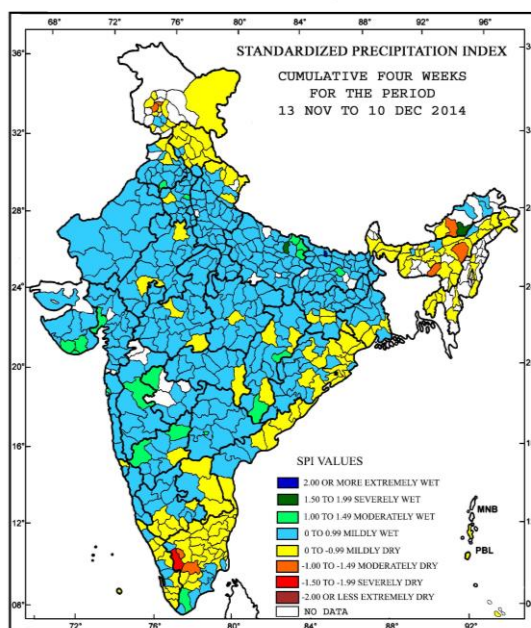


Standardised Precipitation Index

Four Weekly

for the Period 13th November to 10th December 2014

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE

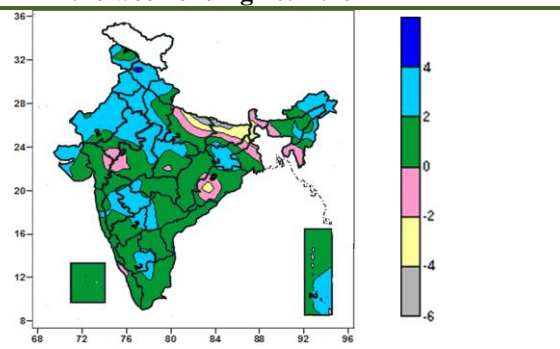
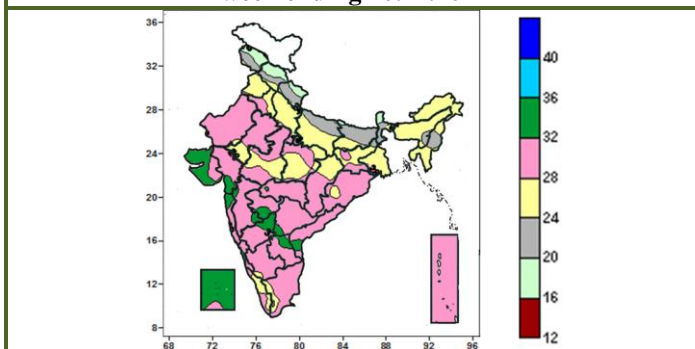


- Extremely/severely wet conditions in the district of Sant Kabir Nagar in Uttar Pradesh.
- Extremely/ moderately/ severely dry conditions experienced in few districts of Assam ; East Kameng district of Arunachal Pradesh; East Khasi Hills district of Meghalaya; Kohima District of Nagaland; Coimbatore, Dindigul, Vellore, Virudhunagar, Tirupur districts of Tamilnadu; Chamarajanagar, Mandya, Mysore districts of Karnataka.
- 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 10.12.2014

Actual Mean Maximum Temperature (°C) in India for the week ending 10.12.2014

Mean Maximum Temperature (°C) Anomaly in India for the week ending 10.12.2014



- 32 to 36^oC over many parts of Saurashtra & Kutch and Lakshadweep, some parts of Gujarat region, Konkan & Goa, Marathwada, Madhya Maharashtra, Vidarbha, North Interior Karnataka, Rayalaseema, Telangana and Coastal Andhra Pradesh.
- 28 to 32^oC over entire country except many parts of Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Delhi, Uttar Pradesh, Bihar, West Bengal, North eastern states, Saurashtra & Kutch and Lakshadweep, some parts of Jharkhand.
- 24 to 28^oC over many parts of Punjab, Delhi, Uttar Pradesh, Jharkhand, Gangetic West Bengal, Arunachal

- 2 to 4^oC over many parts of North India (except many parts of East Uttar Pradesh and some parts of Jammu & Kashmir), Rajasthan, Jharkhand, Saurashtra & Kutch, Marathwada, Nagaland and Arunachal Pradesh, some parts of East Madhya Pradesh, Bihar, Gangetic West Bengal, Odisha, Assam & Meghalaya, Vidarbha, Konkan & Goa, Madhya Maharashtra, Telangana, North Interior Karnataka, Tamil Nadu and Andaman & Nicobar Islands.
- 0 to 2^oC over many parts of Gujarat region, Saurashtra, Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan & Goa, Odisha, Gangetic West Bengal, Assam & Meghalaya, Karnataka, Andhra Pradesh, Telangana, Kerala, Tamil

Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram, & Tripura some parts of Jammu & Kashmir, East Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Odisha, South Interior Karnataka, Kerala and Tamil Nadu.

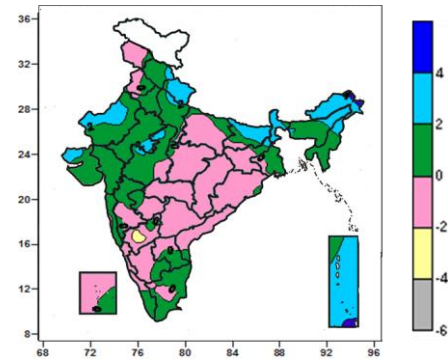
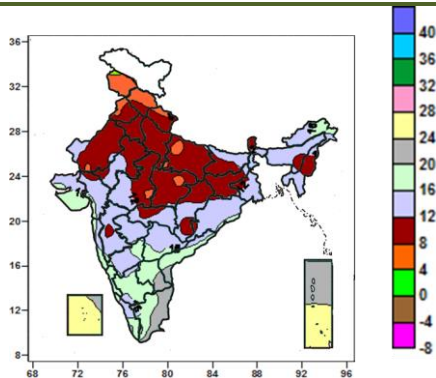
- 20 to 24⁰C over many parts of Uttarakhand, Bihar and Sub-Himalayan West Bengal & Sikkim, some parts of Jammu & Kashmir, Himachal Pradesh, Uttar Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram, & Tripura.
- 16 to 20⁰C over many parts of Jammu & Kashmir, Himachal Pradesh, some parts of Uttarakhand, Bihar and Sub-Himalayan West Bengal & Sikkim.

Nadu, Andaman & Nicobar Islands and Lakshdweep, some parts of Jammu & Kashmir, Uttarakhand, Uttar Pradesh, Bihar, Jharkhand, Arunachal Pradesh, Nagaland, Rajasthan.

- -2 to 0⁰C over many parts of Mizoram and Tripura, some parts East Uttar Pradesh, Bihar, Jharkhand, West Bengal, Assam & Meghalaya, Gujarat region, East Rajasthan, Madhya Pradesh, Chhattisgarh and Kerala.
- -2 to -4⁰C over some parts of East Uttar Pradesh, Bihar, Sub-Himalayan West Bengal and Odisha.

Actual Mean Minimum Temperature (°C) in India for the week ending 10.12.2014

Mean Minimum Temperature (°C) Anomaly in India for the week ending 10.12.2014

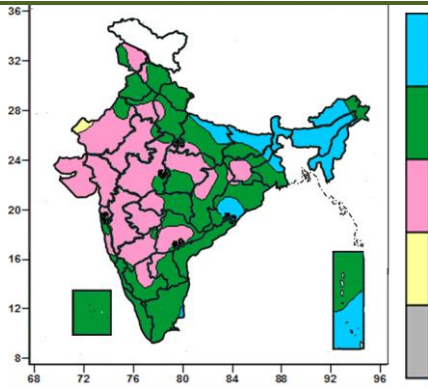


- 0 to 4⁰C over some parts of Northwestern part of Jammu & Kashmir.
- 4 to 8⁰C over many parts of Jammu & Kashmir, Himachal Pradesh, some parts of Punjab, Uttarakhand, East Uttar Pradesh, Madhya Pradesh, West Rajasthan.
- 8 to 12⁰C over Haryana, Delhi, Jharkhand, East Madhya Pradesh, many parts of Himachal Pradesh, Uttarakhand, Punjab, Uttar Pradesh, Rajasthan, Bihar, West Madhya Pradesh some parts of Vidarbha, Madhya Maharashtra, Chhattisgarh, Odisha, Northeast India.
- 12 to 16⁰C over West Bengal, Odisha, Sikkim, many parts of North East India, Gujarat, North Interior Karnataka, Madhya Maharashtra, Marathwada, Vidarbha, Telangana, some parts of Bihar, Rajasthan, Saurashtra and Kutch, South Interior Karnataka, Kerala, Chhattisgarh, Coastal Andhra Pradesh, Konkan.
- 16 to 20⁰C many parts of Saurashtra & Kutch, Goa, Coastal & South Interior Karnataka, Coastal Andhra Pradesh, Rayalaseema, some parts of Arunachal Pradesh, North Interior Karnataka, Telangana, Kerala, Tamil Nadu.
- 20 to 24⁰C over many parts of Tamil Nadu, Kerala, Lakshadweep Islands, some parts of Rayalaseema and Andaman & Nicobar Islands.

- -2 to 0⁰C over entire country except many parts of Himachal Pradesh, Punjab, Haryana, Delhi, Rajasthan, West Uttar Pradesh, Gangetic West Bengal, North East India, Madhya Pradesh, Saurashtra & Kutch, Gujarat, Konkan & Goa, Tamil Nadu, Kerala, Rayalaseema, some parts of Jammu & Kashmir, Uttarakhand, East Uttar Pradesh, Bihar, Jharkhand, Marathwada, North and South Interior Karnataka, Coastal Andhra Pradesh, Odisha and Andaman & Nicobar Islands where it was 0 to 2⁰C.

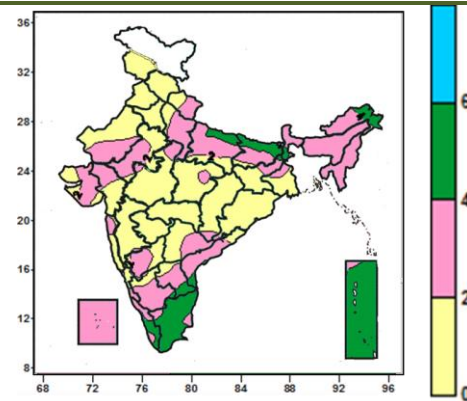
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 10.12.2014

Relative Humidity (%) over India for the week ending 10.12.2014



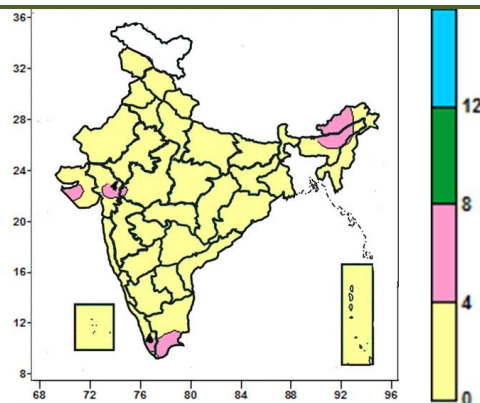
- 80 to 100% over entire Assam & Meghalaya, Nagaland, Manipur, Tripura, Sikkim, Sub-Himalayan West Bengal, many parts of Bihar, some parts of East Uttar Pradesh, Gangetic West Bengal, Jharkhand, Arunachal Pradesh, Odisha and Andaman & Nicobar Islands.
- 60 to 80% over entire Punjab, Uttarakhand, Delhi, Coastal Andhra Pradesh, Kerala, Tamil Nadu, many parts of Himachal Pradesh, Uttar Pradesh, Chhattisgarh, Gangetic West Bengal, Odisha, Rayalaseema, Konkan, South Interior Karnataka and Vidarbha, some parts of Jammu & Kashmir, Haryana, Rajasthan, Madhya Pradesh, Bihar, Jharkhand, Telangana and North Interior Karnataka.
- 40 to 60% over entire Gujarat, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, many parts of Jammu & Kashmir, Rajasthan, Madhya Pradesh, North Interior Karnataka, Telangana, Jharkhand, some parts of Himachal Pradesh, Vidarbha, South Interior Karnataka, Rayalaseema, Chhattisgarh, Odisha and East Uttar Pradesh.

Cloud amount (okta) over India for the week ending 10.12.2014



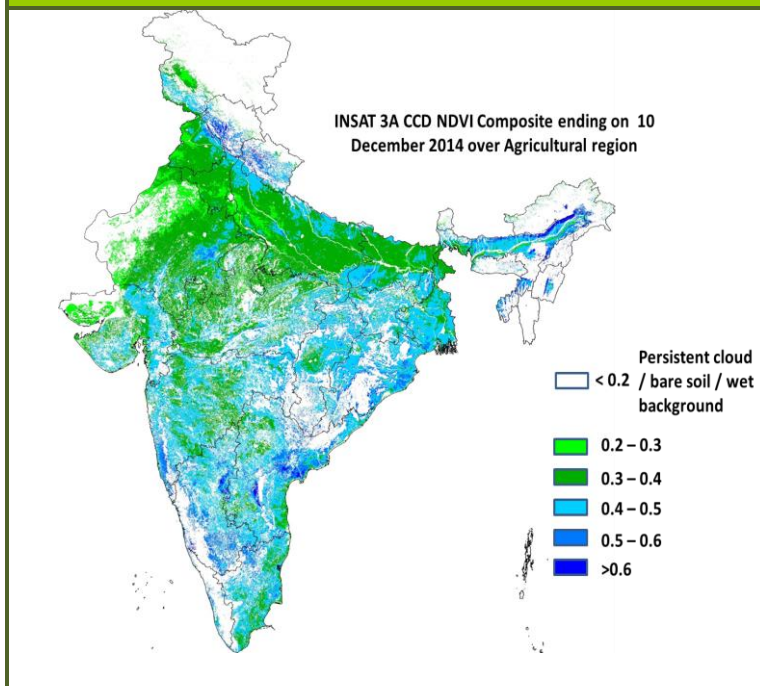
- 4 to 6 okta over many parts of Tamil Nadu, Kerala and Andaman & Nicobar Islands, over some parts of East Uttar Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal, Aurnachal Pradesh, South Interior Karnataka, Coastal Andhra Pradesh and Rayalaseema.
- 2 to 4 okta over entire Assam & Meghalaya, Manipur, Nagaland, Tripura, Tamil Nadu, many parts of Uttarakhand, Uttar Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Rajasthan, Saurashtra & Kutch, Gujarat, Coastal Andhra Pradesh, Rayalaseema, Karnataka, Andaman & Nicobar, some parts of Madhya Pradesh, Jharkhand, Gangetic West Bengal, Chhattisgarh, Telangana, Konkan and Kerala.
- 0 to 2 okta over entire Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, Delhi, Odisha, many parts of Gangetic West Bengal, West Rajasthan, Madhya Pradesh, Chhattisgarh, Maharashtra, Telangana, some parts of Uttarakhand, West Uttar Pradesh, East Rajasthan, Karnataka and Coastal Andhra Pradesh.

Wind speed (knots) over India for the week ending 10.12.2014

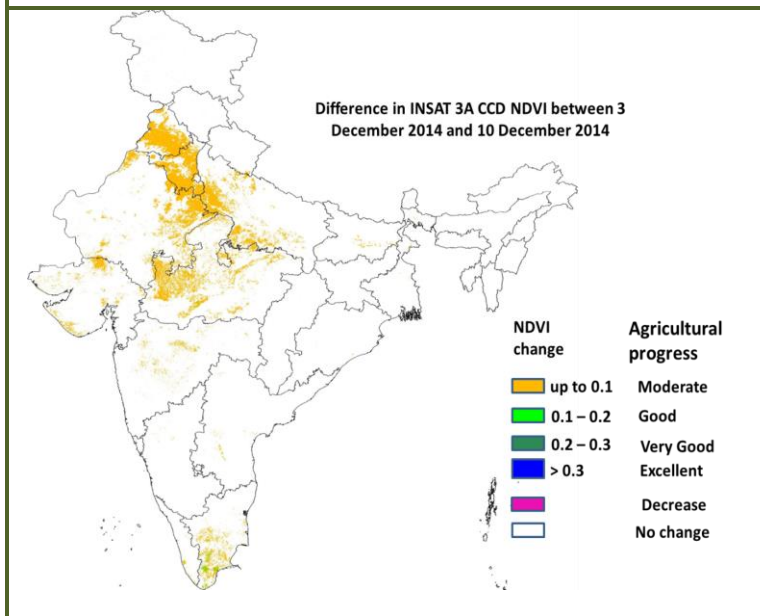


- 4 to 8 knots over many parts of Assam and Arunachal Pradesh, some parts of Tamil Nadu, Kerala, Gujarat region, Saurashtra.
- 0 to 4 knots over entire country except many parts of Assam and Arunachal Pradesh, some parts of Tamil Nadu, Kerala, Gujarat region and Saurashtra.

INSAT 3A CCD NDVI COMPOSITE OVER AGRICULTURAL REGION 01st October to 10th December 2014



- Agricultural vigour is good over most part of western and southern India, in few pockets in Punjab, Haryana, western parts of UP, eastern Rajasthan, central and western Gujarat and MP as NDVI varied between 0.4 to 0.5 upto 10th December 2014. The NDVI remains within the range of 0.3 to 0.4 over most of the part of the Indo Gangetic plains.



- Positive change in NDVI was observed over central and eastern part of Punjab and Haryana, few pockets in Northern Gujarat, few pockets in Maharashtra, some parts of western Rajasthan and eastern parts of MP and UP. Not much change was observed in rest of India.

Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 14th December, 2014)

- Rain/thundershowers would occur at most places over Coastal Karnataka during next 48 hours and at many places thereafter.
- Rain/thundershowers would occur at many places over Kerala and Lakshadweep during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry and South Interior Karnataka during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at isolated places over Konkan & Goa, Madhya Maharashtra and Marathwada during next 24 hours; at a few places on 13th and at isolated places thereafter.

Weather Warning during next 3 days

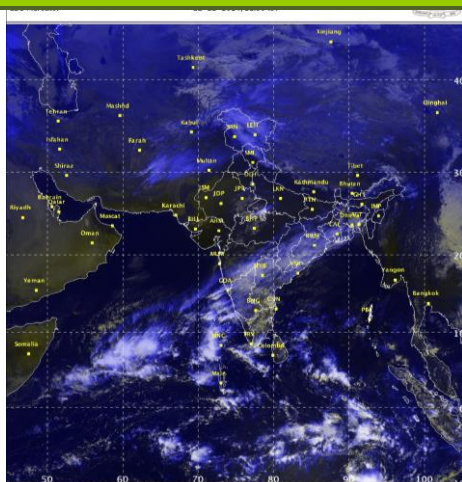
- **12 December (Day 1):** Dense fog (Visibility 200 m or less) would occur at isolated places over Nagaland, Manipur, Mizoram & Tripura. Heavy rainfall would occur at isolated places over south coastal Andhra Pradesh, interior Tamilnadu, Coastal & South Interior Karnataka, Kerala and Lakshadweep.
- **13 December (Day 2):** Dense fog (Visibility 200 m or less) would occur at isolated places over Nagaland, Manipur, Mizoram & Tripura. Heavy rainfall would occur at isolated places over interior Tamilnadu, Coastal & South Interior Karnataka, Kerala and Lakshadweep.
- **14 December (Day 3):** Heavy rainfall would occur at isolated places over North Interior Karnataka.

- Rain/thundershowers would occur at a few places over North Interior Karnataka during next 24 hours and at many places thereafter.
- Rain/thundershowers would occur at a few places over Andhra Pradesh during next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Telangana during the period.
- Rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh during next 48 hours and at a few places thereafter.
- Dry weather would prevail over Uttarakhand during next 24 hours and rain/snow would occur at isolated places on 13th and at a few places thereafter.
- Dry weather would prevail over Punjab, Haryana & Delhi, Uttar Pradesh, West Madhya Pradesh and Andaman & Nicobar Islands during next 24 hours and rain/thundershowers would occur at isolated places on 13th and at a few places thereafter.
- Dry weather would prevail over East Rajasthan, Gujarat Region and Vidarbha during next 24 hours and over East Madhya Pradesh and Chhattisgarh during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Dry weather would prevail over rest parts of the country.
- No significant change in minimum temperature over northwest & adjoining Central India during next 48 hours.
- Fog would occur at isolated places over Punjab, Haryana & Delhi, Uttarakhand Uttar Pradesh, Bihar, West Bengal & Sikkim and Odisha during next 24 hours and over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 72 hours.

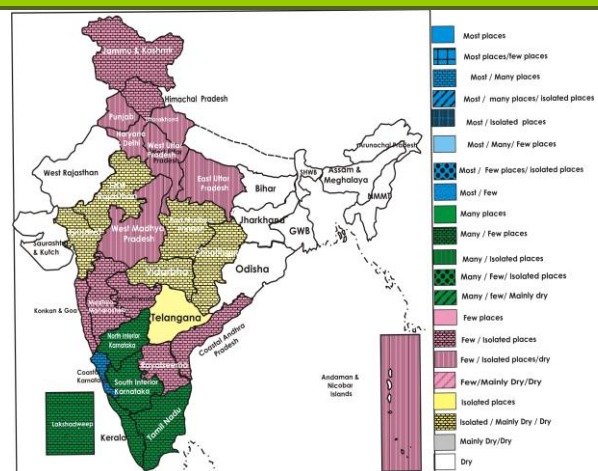
Weather Outlook for subsequent 4 days from 14th December 2014 to 18th December 2014.

- Rain/snow would occur at a few places over Western Himalayan Region on 15th and decreasing thereafter.
- Due to interaction of western disturbance with an easterly wave, rain/thundershowers would occur at a few places over Punjab, Haryana & Delhi, Uttar Pradesh, Madhya Pradesh, Madhya Maharashtra and Marathwada and at isolated places over Vidarbha and Rajasthan on 15th and decrease thereafter.
- Rain/thundershowers would occur at a few places over peninsular India and Andaman & Nicobar Islands.
- Fall in minimum temperatures by about 2°C over northwest & adjoining central India and rise in maximum temperatures by 2-3°C during 15th & 16th.
- Weather would be dry over rest of the country.

Satellite image dated, 12.12.2014, 0600 UTC



Weather Forecast Map (Valid upto 0830 hours of 15th December 2014)



Detailed Zonewise Agromet Advisories

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



Land preparation

Sugarcane

Cotton

Rice Transplanting

- **Realised Weather:** Rainfall occurred in Nilgiris district of Tamil Nadu; Kottayam district of Kerala and Nellore district of Coastal Andhra Pradesh. Weather remained dry over rest of the region.
- **Weather Forecast:** Rain/thundershowers would occur at most places over Coastal Karnataka during next 48 hours and at many places thereafter. Rain/thundershowers would occur at a few places over North Interior Karnataka during next 24 hours and at many places thereafter. Rain/thundershowers would occur at many places over Kerala during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at a few places over Andhra Pradesh during next 48 hours and at isolated places thereafter. Rain/thundershowers would occur at many places over Tamil Nadu & Puducherry and South Interior Karnataka during next 48 hours and at a few places thereafter. Rain/thundershowers would occur at isolated places over Telangana during the period.
- **Weather Warning:** Heavy rainfall would occur at isolated places over South Coastal Andhra Pradesh on 12th, Interior Tamil Nadu, Coastal & South Interior Karnataka and Kerala on 12th and 13th and North Interior Karnataka on 14th.
- **Weather Outlook:** Rain/thundershowers would occur at a few places over peninsular India. Weather would be dry over rest of the region.
- **Advisories:**
 - **Andhra Pradesh:**
 - Continue sowing of *rabi* pulses, groundnut and harvesting of *kharif* rice in the Krishna Godavari Zone. Complete sowing of Bengal gram in High Altitude Tribal Zone with desi varieties like JG-11, NBeg-3 and kabuli varieties like KAK-2 and Vihar.
 - Continue sowing of *rabi* groundnut in the Southern Zone.
 - Prevailing night temperatures may lead to spikelet sterility in rice in Anantapur district in the Scarce Rainfall Zone. To overcome this, avoid excess irrigation and provide alleyways to maintain temperature. In the present weather, stem rot incidence is noticed in Bengal gram in Kurnool district which is likely to spread. Spray Bavistin @ 1g per litre of water to manage the incidence on a non rainy day.
 - **Telangana:**
 - Complete sowing of *rabi* rice and black gram in the Northern Telangana Zone.
 - Prevailing cool and mainly dry weather conditions are congenial for incidence of leaf blight and tobacco mosaic virus in tomatoes in the Southern Telangana Zone. Spray Carbendazim 12 % + Mancozeb 63% WP @ 2 g or Mancozeb + Metalaxyl @ 2 g per litre of water to manage leaf blight and Fipronil @ 2 ml or Dimethoate @ 2 ml per litre of water to manage tobacco mosaic virus.
 - Present mainly dry weather conditions are congenial for upward leaf curl in chilli in the Northern Telangana Zone. Spray Fepronil @ 2ml or Diphenthiuron @ 1.25g/lt. of water to manage the disease.
 - **Karnataka:**
 - As rain/thundershowers would occur at most places in Coastal Karnataka, at many places over North Interior Karnataka on 13th & 14th and over South Interior Karnataka on 12th and 13th December, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers to the standing crops. As heavy rainfall would occur at isolated places over Coastal & South Interior Karnataka on 12th and 13th and over North Interior Karnataka on 14th, provide adequate drainage in standing crop fields to remove excess water. Also postpone harvesting of crops and keep harvested crops at safer places.
 - Undertake land preparation for transplanting of rice and sowing of maize after current spells of heavy rain.
 - Undertake sowing of pulses like black gram, green gram and green manure crop sun hemp in the Southern Zone after current spells of heavy rain.
 - In the present weather pod fly damage in pigeon pea was noticed throughout in all the district in the North East Transition Zone. Spray Thiomethaxam @ 0.25 ml per litre of water for control after current spells of rain.
 - **Kerala:**
 - As rain/thundershowers would occur at many places over Kerala along with isolated heavy rainfall on 12th and

13th December, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to remove excess water.

- High humidity and temperature is congenial for the incidence of Sigatoka disease in banana in the Southern Zone. Cut and remove all the badly affected leaves in a plot in a single day and apply Propiconazol 1ml / litre of water and Copper Oxy Chloride 4 ml/ litre of water after current spells of rain alternately at two weeks interval.

- **Tamil Nadu:**

- As rain/thundershowers would occur at many places over Tamil Nadu on 12th and 13th December, along with heavy rainfall at isolated places over interior Tamil Nadu, postpone irrigation, intercultural operations, application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields of south coastal Tamil Nadu to remove excess water.
- Complete transplanting of *thaladi* rice in the Cauvery Delta Zone.
- Due to prevailing humid weather conditions, BPH incidence is noticed in samba / thaladi rice fields in the Cauvery Delta Zone. Spray Thiamethoxam 40 g/acre or Buprofezin 25 SC 320 ml/acre after current spells of rain.
- Prevailing low temperature is congenial for incidence of false smut attack in rice and powdery mildew in grapes in the Western Zone. To control , spray 1 ml Propiconazole or 1ml Hexaconazole or Copper Oxychloride 2.5 g/lit or Copper Hydroxide 2.5 g/ lit after current spells of rain. If required, repeat the spray at 15 days interval.
- Prevailing low temperature and high humidity is congenial for the incidence of bacterial leaf blight in rice in Karaikal and Pondicherry. Spray 20 % cow dung extract or 0.2 % *Pseudomonas* fluorescence extract (2 ml or gm per litre of water) or 3 % neem oil + surfactant after current spells of rain. Repeat the spray once again after fifteen days.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- Prevailing night temperature is congenial for Pneumonia & Blue Tongue disease in sheep and goat in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate the animals to prevent the disease.

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 dry over rest of the region.
- **Weather Forecast:** Dry weather would prevail over the region during the period. Fog would occur at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 72 hours.
- **Weather Warning:** Dense fog (visibility 200 m or less) would occur over isolated places over of Nagaland, Manipur, Mizoram & Tripura on 12th and 13th December.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - In Assam, continue harvesting of matured *sali* rice.
 - In Upper Bramhaputra Valley Zone and Lower Bramhaputra Valley Zone of Assam, continue sowing of maize, rapeseed, mustard and transplanting of cole crops to main field.
 - In Hill Zone, Central Bramhaputra Valley Zone, North Bank Plain Zone and Lower Bramhaputra Valley Zone of Assam, continue nursery raising and sowing of *boro* rice.
 - In Central Bramhaputra Valley Zone, Hill Zone of Assam, continue transplanting of cole crop, sowing of *rabi* pulses like lentil, rajmah, pea, lathyrus and oilseeds, wheat and planting of potato.
 - Undertake transplanting of *boro* rice of about 45 days old (5- 6 leave stage) seedlings in Lower Bramhaputra Valley Zone of Assam.
 - In Meghalaya, continue sowing of Zero tillage pea, lentil and toria. Apply mulching in ginger/ turmeric and potato with locally available weed biomass, maize stalk etc. for conservation of moisture. Apply one irrigation to mustard/rapeseed at flowering stage. Undertake nursery preparation of *boro* rice in low lying areas.
 - In Lower Bramhaputra Valley Zone of Assam, due to foggy and cloudy conditions blight disease may become severe in potato. Spray Mancozeb 75 WP 2g/litre or Ridomil MZ-27 (64% Mancozeb + 8% Metalaxyl) 2g/litre followed by Dithane M-45 @ 2.5 g in 1litre of water for control.

- Due to foggy weather there is chance of infestation of aphid/ saw fly in rapeseed/ mustard in Hill Zone, Central Bramhaputra Valley Zone, Lower Bramhaputra Valley Zone and Barak Valley Zone of Assam. Spray Malathion 50Ec @ 2ml/ litre of water for control.
- In Hill Zone of Assam, due to foggy weather, there is chance of late blight in tomato. Apply Ridomil MZ-72 (2g/ litre) and Indofil M-45 2.5 g / litre to prevent the disease.
- Due to foggy weather condition, there is chance of late & early blight disease in potato in Meghalaya. Spray Mancozeb 75% WP @ 1.5- 2.0 kg/ha or Copper Oxy Chloride 50% WP @ 2.5 kg/ha or Chlorothalonil 75% WP @ 1.25 kg/ha. Also in foggy condition leaf spot disease may spread in ginger and turmeric. To prevent leaf Spot disease, apply Bordeaux mixture (5:5:50) or Captan @ 1.5 g/litre or Carbendazim @ 500g/ha. Also spray/ drench 1% Bordeaux mixture or Dithane M-45 (2.5g/l) to prevent rhizome rot in ginger.
- **Nagaland, Manipur, Mizoram and Tripura:**
- In Manipur, continue land preparation for sowing of *rabi* maize and transplanting of tomato. Apply light irrigation in rapeseed / mustard, pea, potato.
- In Mizoram, complete sowing of pea, mustard and toria, nursery sowing of tomato at the earliest. Undertake harvesting of rice.
- In Nagaland, continue sowing of pea. Complete nursery sowing of winter vegetables and toria.
- In Mild Tropical Plain Zone of Tripura, apply light irrigation on every alternate day in cole crops and tomato. Mulching must be done after irrigation to reduce evaporative losses.
- In Tripura, due to decrease in night temperature, there is chance of infestation of aphids on banana. Apply Dimethoate (Rogor) or Imidacloprid @ 0.8ml per litre of water.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- In Meghalaya, provide artificial heating through lighting of electric bulb to protect poultry birds (day old to 25 days old) from low temperature.

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



Sugarcane

Groundnut

Onion

Rice

- **Realised Rainfall:** Rainfall occurred in North & Middle Andaman districts of Andaman & Nicobar Islands. Dry weather prevailed over rest parts of the region.
- **Weather Forecast:** Dry weather would prevail over Andaman & Nicobar Islands during next 24 hours and rain/thundershowers would occur at isolated places on 13th and at a few places thereafter. Dry weather would prevail over rest of the region. Fog would occur at isolated places over Bihar, West Bengal & Sikkim and Odisha during next 24 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Weather would be dry over the region.
- **Advisories:**
 - **West Bengal:**
 - In Laterite and Red Soil Zone, complete planting of potato and sowing of mustard. Also continue seed bed preparation for nursery sowing of *boro* rice.
 - In New Alluvial Zone, present temperatures are conducive for sowing of wheat and planting of potato.
 - In Coastal Saline Zone, undertake land preparation for nursery bed preparation of *boro* rice and transplanting of onion.
 - In Old Alluvial Zone, complete sowing of wheat and pea. Undertake seed bed preparation for nursery sowing of *boro* rice. Undertake intercultural operation in wheat 21 days after sowing .
 - In Terai Zone, continue planting of potato. Due to foggy condition, there is chance of the attack of late blight in potato. Spraying of Mancozeb @ 2 g /litre of water and Blitox @ 4 g/litre of water alternately at 10-12 days interval by completely wetting the leaves is advised.
 - In New Alluvial Zone, weather is congenial for black rot disease in cabbage. To control the black rot disease, apply Streptocycline @ 100 mg per litre of water.
 - In Terai Zone, due to low temperature, there is chance of aphids in mustard. Spray Thiamethoxam @ 1 g /3 litres of water.

- **Andaman and Nicobar:**
 - Continue sowing of vegetables, pulses and raised nursery beds for sowing of brinjal, chilli and tomato in North and Middle Andaman. Continue sowing of maize and groundnut.
- **Odisha:**
 - In Western Undulating Zone, continue sowing of groundnut. Undertake land preparation for sowing of mustard in residual moisture immediately after harvesting of rice. Apply irrigation in transplanted cabbage, cauliflower and tomato which are at two to three week stage.
 - In North Central Plateau Zone, continue sowing of green pea, sunflower, mustard, groundnut, sesame and planting of potato.
 - In East and South Eastern Coastal Plain Zone, present weather is optimum for sowing of groundnut, green pea and mustard. Also continue nursery raising of onion. Continue planting of banana and transplanting of cole crops. Undertake sowing of garlic in irrigated upland and medium land. Continue sowing of sesame.
 - In North Eastern Plateau Zone, continue sowing of wheat, groundnut, gram, peas and onion. Continue harvesting of rice. As dry weather is prevailing, apply irrigation to potato. Continue transplanting of chilli.
 - In North Eastern Coastal Plain Zone of Odisha, continue sowing of rapeseed and mustard.
 - In Mid Central Table Land Zone of Odisha, continue harvesting of rice.
 - In East and South Eastern Coastal Plain Zone of Odisha, the prevailing weather may aggravate the infestation of aphids in pulses and powdery mildew in pulses and cole crops. Spray Imidachloprid @ 5 ml or Metacystox @ 20 ml per 10 litre water to control aphids and spray Sulfex @ 50 g per 10 litre water to control powdery mildew.
- **Bihar:**
 - In North West Alluvial Plain Zone of Bihar, undertake sowing of late varieties of wheat up to 25 December. Carry out intercultural operations like weeding and earthing in potato. Apply light irrigation to potato, early sown wheat crop which is in CRI stage and vegetables. Prepare nursery for sowing of *boro* rice.
 - In North East Alluvial Zone of Bihar, undertake sowing of late sown irrigated wheat varieties. Apply light irrigation in wheat crop which is about 20-25 days old and also apply urea @ 30 kg/acre after two days of irrigation. Prepare nursery for sowing of *boro* rice.
 - In South Bihar Alluvial Zone, complete sowing of gram and late sown mustard varieties. Carry out intercultural operations like weeding in gram, lentil and pea crops after 25-30 days of sowing. Undertake sowing of late sown wheat varieties. Apply light irrigation in timely sown wheat crop which is in CRI stage.
- **Jharkhand:**
 - In Western Plateau Zone of Jharkhand, as dry weather is prevailing apply irrigation to already sown wheat crop and apply urea @ 22 kg per acre after irrigation in 20 - 25 days old crops. Carry out inter cultural operations in pulse and oilseed crops to conserve soil moisture and control weeds. After harvesting of rice, undertake sowing of late irrigated wheat varieties.
 - In South Eastern Plateau Zone of Jharkhand, continue nursery raising of onion and transplanting of cole crops. Complete sowing of chick pea, wheat, linseed and lentil. Continue planting of potato. Timely sown wheat crop is at crown root formation stage. At this stage irrigate the crop.
 - In Central & North Eastern Plateau Zone of Jharkhand, continue sowing of wheat. Continue harvesting of rice. Prepare nursery bed for onion.
 - In South Eastern Plateau Zone of Jharkhand, low temperature and foggy weather is favourable for the attack of early and late blight disease in early planted potato crop; spray Krilaksil or Ridomil MZ @ 1.5 g per litre of water to control the disease.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Coastal Saline Zone and Old Alluvial Zone of West Bengal, there is chance of worm attack in cattle due to cold weather. Feed Albomer @ 1.5 g bolus per 150 kg weight and keep them in proper shed.
 - In North East Alluvial Zone of Bihar, protect the milch animals from cold wind by keeping under covered shelter and provide warm water for drinking for better milk yield.
- **Fishery**
 - In Terai Zone of West Bengal, as temperature is decreasing, do not apply cow dung or any other organic manure and apply lesser quantity of supplementary feed in pond. Apply lime @ 60 kg/bigha with 2.5 m water level.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane

Land preparation

Okra

Onion

- **Realised Rainfall:** Weather remained dry over the region during the week.
- **Weather Forecast:** Dry weather would prevail over West Madhya Pradesh on 12th; rain/thundershowers would occur at isolated places on 13th and at a few places thereafter. Dry weather would prevail over East Madhya Pradesh and Chhattisgarh during next 48 hours and rain/thundershower would occur at isolated places thereafter. No significant change in minimum temperature over Central India adjoining to Northwest India during next 48 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Due to interaction of western disturbance with an easterly wave, rain/thundershowers would occur at a few places over Madhya Pradesh on 15th and decrease thereafter. Fall in minimum temperature by 2°C over Central India adjoining to Northwest India and rise in maximum temperature by 2-3°C during 15th & 16th. Weather would be dry over rest of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - As mainly dry weather is prevailing, irrigate early sown potato and vegetables in Satpura Plateau Zone. Continue sowing of gram, wheat, planting of garlic, and transplanting of onion.
 - Continue sowing of wheat in Bundelkhand Zone. Also continue transplanting of tomato, chilli, brinjal, cauliflower and cabbage on raised beds. As mainly dry weather is prevailing, apply irrigation in early sown wheat and mustard crop. Undertake weeding and hoeing in onion and garlic crops. Due to cold weather condition, undertake mulching in orchard crops.
 - Continue sowing of wheat and gram in Nimar Valley Zone. Continue sowing of vegetables like coriander, onion, garlic and planting of potato.
 - Continue sowing of wheat, green pea and nursery sowing of tomato, chilli, brinjal, cauliflower, cabbage, capsicum, onion, planting of potato, turmeric and ginger in Vindhya Plateau Zone. Undertake planting of sugarcane.
 - Continue sowing of carrot, garlic, spinach, fenugreek and radish and planting of potato in Kymore Plateau and Satpura Hill Zone. Irrigate vegetables like tomato, brinjal and chillies and pick up matured fruits.
 - Continue sowing of wheat, pea and planting of potato in Malwa Plateau Zone. Also continue transplanting of onion, tomato, brinjal, chilli, cabbage and cauliflower on the prepared beds. As dry weather is prevailing irrigate wheat, newly planted fruit plants and chickpea.
 - Due to partly cloudy weather, there are chances of attack of stem borer and fruit borer in tomato, brinjal and okra in Vindhya Plateau Zone; for control spray Trizophos @ 800ml per ha on a non rainy day.
 - **Chhattisgarh:**
 - In North Hill Zone and Plain Zone, continue sowing of wheat, planting of potato, garlic, onion and continue transplanting of vegetables like cauliflower, tomato, brinjal, chilli etc.
 - Continue sowing sunflower, groundnut and *rabi* moong and planting of autumn sugarcane in Plain Zone of Chhattisgarh.
 - Continue sowing of toria, green pea, linseed, gram, wheat and nursery sowing of vegetables like, chilli, cauliflower, tomato etc. in Bastar Plateau Zone. As mainly dry weather is prevailing, apply irrigation in wheat (after 20-25 days of sowing), gram and potato.
 - Due to partly cloudy weather, there are chances of attack of powdery mildew disease in green peas in North Hill Zone. Spray Karathen @ 1 ml per litre of water or Sulfex @ 3 g per litre of water.
 - Suitable varieties are given in Annexure II.

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



Land preparation

Sugarcane

Bottle Gourd

Onion

- **Realised Rainfall:** Weather remained mainly dry over the region.
- **Weather Forecast:** Rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh during next 48 hours and at a few places thereafter. Dry weather would prevail over Uttarakhand during next 24 hours and rain/snow would occur at isolated places on 13th and at a few places thereafter. Dry weather would prevail over Punjab, Haryana & Delhi and Uttar Pradesh during next 24 hours and rain/thundershowers would occur at isolated places on 13th and at a few places thereafter. Dry weather would prevail over East Rajasthan during next 24 hours and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over rest parts of the region. No significant change in minimum temperature over Northwest India during next 48 hours. Fog would occur at isolated places over Punjab, Haryana & Delhi, Uttarakhand and Uttar Pradesh during next 24 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Rain/snow would occur at a few places over Western Himalayan Region on 15th and decrease thereafter. Due to interaction of western disturbance with an easterly wave, rain/thundershowers would occur at a few places over Punjab, Haryana & Delhi and Uttar Pradesh and at isolated places over Rajasthan on 15th and decrease thereafter. Fall in minimum temperature by 2°C over Northwest India and rise in maximum temperature by 2-3°C during 15th & 16th. Weather would be dry over rest of the region.
- **Advisories:**
 - **Jammu & Kashmir:**
 - Continue sowing of wheat, barley and lentil in Intermediate Zone of Jammu & Kashmir. Undertake hoeing cum intercultural operations in mustard within 30 days of sowing to control weeds and conserve moisture.
 - Continue sowing of peas and planting of garlic in Valley Temperate Zone of Jammu & Kashmir. Apply top dose of urea @ 3.6 kg/kanal on a non-rainy day. Undertake hand weeding /hoeing in saffron to reduce infestation by weeds on a non-rainy day.
 - Undertake intercultural operation in already sown wheat crops in Sub-tropical Zone of Jammu & Kashmir on a non-rainy day. For the management of weeds, undertake spraying of Isoproturon @ 0.75kg a.i + 2, 4-D ethyl ester @ 500 ml per hectare (30-35 DAS) on a non-rainy day. Also apply first dose of (25%) urea as top dressing at CRI stage on a non-rainy day.
 - **Himachal Pradesh:**
 - Continue sowing of wheat in Lower and Mid Hills regions of Sub-Montane and Low Hills Sub-Humid Tropical Zone, as temperatures are conducive. Continue direct sowing of radish, turnip, carrot and fenugreek in lower regions. Complete transplanting of cabbage, cauliflower and broccoli.
 - Undertake intercultural operation in already sown wheat and ghubhi sarson by spraying Isoproturon 75 WP @ 70 g per 30 litres of water on a non-rainy day in Sub-Montane and Low Hills Sub-Humid Tropical Zone. Undertake application of nitrogen fertilizer on a non-rainy day in cole crops after 20-25 days of sowing.
 - In Mid Hills Sub-Humid Zone, continue transplanting of late season cauliflower (Pusa-snowball) and cabbage and planting of onion at a distance of 15X10cm. Complete sowing of pea, radish, turnip, methi and spinach.
 - Continue sowing of Chinese cabbage, cabbage and coriander in High Hill Dry Temperate Zone.
 - Under prevailing low temperature condition, there are chances of attack of cut worm in cauliflower in Sub-Montane and Low Hills Sub-Humid Tropical Zone. Chloropyriphos 20 EC @ 80 ml mixed in 1kg of sand can be spread in the fields on a non-rainy day.
 - Under prevailing low temperature condition, there are chances of incidence of canker disease in apple in Mild Hills Sub-Humid Zone. Spray Bordeaux mixture [copper sulphate (2 Kg)+quick lime (2 kg)] in 200 litres of water on a non-rainy day.
 - Under prevailing dry weather condition, there are chances of aphids attack in vegetables in Mid Hills Sub-Humid Zone. Spray Methyl Demeton (Metasystox) @ 10 ml per 10 litres of water on a non-rainy day.
 - **Uttarakhand:**
 - Undertake sowing of late varieties of wheat in Hill Zone and Sub Humid Sub Tropical Zone of Uttarakhand.
 - Undertake harvesting of potato in Bhabar and Tarai Zone of Uttarakhand. Apply first irrigation in wheat crop at Crown Root Initiation stage and then top dress @ 2.5 kg Urea per canal when soil moisture is sufficient. Apply 2nd irrigation in wheat crop 40 to 45 days after sowing. Undertake weeding & thinning operations in pea,

chickpea, rajmash and garlic in clear weather.

- Apply irrigation in wheat crop at Crown Root Initiation stage and light irrigation in mustard, chickpea, potato and pea in Sub Humid Sub Tropical Zone of Uttarakhand.
- Under prevailing low temperature condition, there are chances of attack of katua in gram and lentil in lower hill region of Hill Zone of Uttarakhand. For control, spray Chloropyriphos @ 250 g per canal on a non-rainy day.

▪ **Punjab, Haryana and Delhi:**

- In Western Zone of Punjab, continue sowing of wheat of late varieties, raya, gobhi sarson, onion, carrot, tomato. Apply light irrigation to early sown wheat and to sugarcane at monthly interval.
- In Western Semi-arid Zone of Delhi, undertake sowing of late varieties of wheat at seed rate of 125 kg seed per hectare. Also undertake transplanting of mature seedlings of tomato, cauliflower, cabbage, knolkhol and broccoli crop in the raised bed.
- Under prevailing dry weather condition, continue harvesting of rice in Western Zone of Haryana. As temperatures are conducive, continue sowing of wheat. Apply irrigation in already sown wheat at CRI stage.
- Present foggy weather is favourable for incidence of diamond back moth or tobacco caterpillar on cauliflower and cabbage in Western Zone of Punjab. To control spray Dipel 8L @ 300 ml/acre or Halt WP7 @ 300 g using 80-100 litres of water on a non rainy day and repeat at 7 day interval.
- Due to foggy weather conditions, there is chance of incidence of late blight disease in potato in Western Zone of Punjab. To control, spray Indofil-M-45/Kavach/Antracol @500-700g/acre on a non-rainy day at weekly interval.
- Present weather is favourable for attack of top borer in sugarcane in Eastern Zone of Haryana, apply Carbofuran 3G @13 kg or Phorate 10G @ 8 kg on a non-rainy day in furrows.
- Present weather condition is favourable for attack of painted bug in mustard crops in Western Semi-arid Zone in Delhi; if attack is severe, spray Carbaryl (Sevin) @ 2 g/litre of water on a non-rainy day.

▪ **Uttar Pradesh:**

- Continue sowing of late varieties of wheat with seed drill method and complete sowing of normal varieties of wheat in Bundelkhand Zone. Continue sowing of late varieties of gram. Undertake harvesting of matured cauliflower, cabbage, tomato, chilli, brinjal in clear weather.
- Undertake sowing of lentil with seed rate of 55-75 kg/ha in Central Plain Zone of Uttar Pradesh. Undertake 1st intercultural operation followed by irrigation after 20-25 days of sowing in maize
- In Central Plain Zone of Uttar Pradesh, apply irrigation in toria at flowering/pod formation stage. Undertake harvesting of cauliflower, gourd, brinjal and tomato in clear weather. Raise the nursery of onion.
- Undertake sowing of late varieties of wheat and harvesting of medium duration cabbage in Eastern Plain Zone of Uttar Pradesh.
- Undertake sowing of sunflower and continue sowing of late varieties of wheat in Western Plain Zone of Uttar Pradesh. Apply irrigation to early sown wheat after 21 days after sowing and to sugarcane crops at 20 days interval.
- Foggy weather is conducive for the incidence of blight disease in potato in Central Plain Zone of Uttar Pradesh. For control, spray Macozeb or Blitox 0.2 % @ 2 g per litre of water on a non-rainy day.
- Under foggy weather condition, there are chances of attack of aphids in toria in Central Plain Zone of Uttar Pradesh. Spray Methyl-O-Demeton 25% EC or Chloropyriphos 20% EC @ 1 litre per 600-700 litres of water per ha on a non rainy day.
- Under prevailing dry weather condition, there are chances of attack of aphids in toria in Ballia and Deoria districts of Eastern Plain Zone of Uttar Pradesh. Spray Malathion 50 EC @ 2 litres or Monocrotophos 36 SL 600-800 ml in 600-800 litres of water per ha on a non rainy day.

▪ **Rajasthan:**

- Undertake weeding in early sown wheat crop in Flood Prone Eastern Plain Zone of Rajasthan by spraying a solution of Metasulfuron Methyl @ 20g/ha in 500 litre water. After irrigation and nitrogen application, earthing up is recommended at 30-35 days after planting of potato crops.
- Undertake sowing of late varieties of wheat after seed treatment In Semi-Arid Eastern Plain Zone of Rajasthan. Undertake transplanting of onion.
- Complete sowing of gram upto 15th December and apply irrigation after 45 days of sowing in South eastern Humid Plain Zone of Rajasthan. Apply first irrigation in mustard after 35-40 days of sowing and then undertake application of nitrogen.
- Continue sowing of wheat, barley, fenugreek, lucerne in Transitional Plain Zone of Inland Drainage.
- Weather condition is favourable for attack of sawfly in mustard in Flood Prone Eastern Plain Zone of Rajasthan. To control, spray Malathion 50 E.C. @ 500 ml in 500 litres of water.
- In Arid Western Plain Zone of Rajasthan, there are chances of occurrence of powdery mildew in mustard. Spray Metalexyl 8% or Mancozeb 64% @ 2 g per litre of water. For control of attack of painted bug or saw fly, spray Methyl Parathion 2% @ 20 kg per hectare.
- Suitable varieties are given in Annexure II.

• **Floriculture**

- Under prevailing dry weather condition, undertake harvesting of tuberose in Central Plain Zone of Uttar Pradesh.

- Current temperature is favourable for nursery raising of winter flowers in poly houses in Sub Montane and Low Hills Sub-Tropical Zone of Himachal Pradesh. Present weather is conducive for attack of mites in carnation. For control, spray Cypermythrin @0.05% at 15 days interval.
- Complete transplanting of winter season annuals in Valley Temperate Zone of Jammu & Kashmir.
- **Animal Husbandry:**
- Due to fall in night temperature, keep cows in their cowshed to protect them from cold in Himachal Pradesh and Central Plain Zone of Uttar Pradesh. Also give 40-50g mineral mixture with the daily feed. Due to fall in temperature, make the arrangements for protection of cold in the poultry houses in Sub-Montane and Low Hills Sub-Humid Tropical Zone of Himachal Pradesh. Undertake vaccination for IBD and Ranikhet disease as there are chances of spread of these diseases.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Onion

Sugarcane

Cotton

Mango

- **Realised Rainfall:** Weather remained dry over the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Konkan & Goa, Madhya Maharashtra and Marathawada on 12th; at a few places on 13th and at isolated places thereafter. Dry weather would prevail over Gujarat Region and Vidarbha during next 24 hours and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over rest parts of the region.
- **Weather Warning:** Nil.
- **Weather Outlook:** Due to interaction of western disturbance with an easterly wave, rain/thundershowers would occur at a few places over Madhya Maharashtra and Marathawada and at isolated places over Vidarbha on 15th and decrease thereafter. Weather would be dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, apply irrigation and fertilizers in vegetable crops and mango and cashew orchards. Prepare the field for the sowing of *rabi* groundnut. Prepare raised bed for nursery sowing of *rabi* rice. Undertake planting of watermelon variety 'Sugar Baby' on one side of ridges with a spacing of 4 x 1 m.
 - In Madhya Maharashtra, continue intercultural operations like weeding and fertilizer application in sugarcane, vegetables, *rabi* jowar, wheat and safflower. Continue picking fully opened cotton bolls during morning hours on a non rainy day. Apply irrigation to vegetables, sugarcane, safflower, *rabi* jowar, gram, wheat and grapes, banana and pomegranate orchards. Continue the harvesting of matured sugarcane.
 - In Marathwada, continue intercultural operation like hoeing, weeding and fertilizer application to sugarcane, *rabi* jowar, wheat, gram and vegetables on a non-rainy day. Continue picking fully opened cotton bolls during morning hours on a non rainy day. Avoid irrigation during boll bursting.
 - In Vidarbha, prepare raised bed for nursery sowing of *rabi* rice. Undertake sowing of linseed and mustard in East Vidarbha.
 - As cloudy weather is expected in Pune region, there may be more infestation of powdery mildew in cucumber, ridge gourd, pumpkin, chilli, guar, tomato; spray water soluble sulphur 80% @ 20 g per 10 litres of water. In cucumber instead of Sulphur spray Carathane @ 5 ml per 10 litres of water on a non rainy day.
 - Due to cloudy weather in South Konkan, there may be attack of mango hoppers in new flush and inflorescence. For control, spray 25 % Cypermethrin @ 4 ml per 10 litres of water on a non rainy day.
 - **Gujarat**
 - Complete sowing of wheat till 15th December, continue transplanting of onion and undertake sowing of gram in South Gujarat Heavy Rainfall Zone. As mainly dry weather is prevailing, apply irrigation to wheat (timely sown at CRI stage), castor and sugarcane crop. Carry out hand weeding and intercultural operations in vegetables and fenugreek.
 - Undertake sowing of wheat in Middle Gujarat Zone and planting of sugarcane in South Gujarat Zone.
 - In North Gujarat Zone, carry out weeding and intercultural operations in cumin, mustard, fennel and vegetable crops. Apply irrigation in potato crop (sandy soil) at an interval of 6 to 7 days and in vegetable crops (brinjal, chilli, tomato, cabbage and cauliflower). Undertake sowing of isabgol.
 - Complete picking of matured bolls of cotton in North Saurashtra Zone. Continue harvesting of matured onion. Apply irrigation in wheat at CRI stage and in cotton through drip system or irrigate alternate beds through flood

irrigation.

- Complete sowing of wheat (up to 15th December), chickpea and picking of matured bolls of cotton in South Saurashtra Zone. Apply irrigation in cotton at boll formation stage.
- Carry out hand weeding in castor, intercultural operations and weeding in vegetable crops and apply irrigation in cotton at 15- 20 days interval in Bhal and Coastal Zone.
- In North Saurashtra Zone, present weather is congenial for attack of fruit borers in brinjal and tomato, monitor the crops and use pheromone traps 4-6 per acre. Spray Spinosad @ 3.0 ml/10 litre of water.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- In Gujarat, provide warm water to lactating animals. Keep young calves indoors during night. Keep animal sheds dry 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	26.11.14		03.12.14		10.12.14	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Karnataka						
Coastal Karnataka						
Dakshin Kannada	6.5	-58	0.0	-100	4.1	-23
Udupi	0.8	-94	0.0	-100	4.2	-47
Uttar Kannada	0.0	-100	0.0	-100	0.1	-98
N I Karnataka						
Bagalkote	0.0	-100	0.0	-100	0.0	-100
Belgaum	0.0	-100	0.0	-100	0.0	-100
Bidar	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100
Dharwad	0.0	-100	0.0	-100	0.0	-100
Gadag	0.0	-100	0.0	-100	0.0	-100
Gulbarga	0.0	-100	0.0	-100	0.0	-100
Haveri	0.0	-100	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100
S I Karnataka						
Bangalore Rural	0.0	-100	0.0	-100	0.0	-100
Bangalore Urban	0.0	-100	0.0	-100	0.0	-100
Bellary	0.0	-100	0.0	-100	0.0	-100
Chamarajnagar	0.0	-100	0.0	-100	2.0	-78
Chichballapur	0.0	-100	0.0	-100	0.0	-100
Chickmagalur	0.0	-100	0.0	-100	4.4	41
Chitradurga	0.0	-100	0.0	-100	0.0	-100
Davangere	0.0	-100	0.0	-100	0.0	-100
Hassan	0.0	-100	0.0	-100	1.6	-52
Kodagu	0.0	-100	0.0	-100	7.1	66
Kolar	0.0	-100	0.0	-100	0.0	-100
Mandya	0.0	-100	0.0	-100	0.3	-96
Mysore	0.0	-100	0.0	-100	2.3	-60

Ramnagara	0.0	-100	0.0	-100	0.0	-100
Shimoga	0.0	-100	0.0	-100	5.9	79
Tumkur	0.0	-100	0.0	-100	0.0	-100
Kerala						
Alappuzha	12.0	-66	4.3	-75	17.8	-17
Kannur	22.6	31	0.0	-100	0.0	-100
Ernakulam	23.6	-23	3.1	-72	15.5	-22
Idukki	7.9	-72	4.3	-72	2.3	-88
Kasaragod	0.0	-100	0.0	-100	0.7	-90
Kollam	18.6	-44	21.3	19	5.6	-70
Kottayam	6.3	-78	8.5	-40	23.6	67
Kozhikode	6.2	-71	0.1	-99	0.3	-97
Malappuram	3.1	-88	0.1	-99	4.9	-48
Palakkad	1.0	-96	0.3	-97	3.5	-65
Pathanamthitta	7.7	-79	4.4	-69	3.1	-83
Thiruvananthapuram	29.0	0	21.8	16	11.7	-51
Thrissur	10.8	-58	0.0	-100	0.2	-98
Wynad	5.1	-76	0.0	-100	4.0	-53
Tamil Nadu						
Ariyalur	2.5	-94	19.0	-43	6.5	-89
Chennai	0.0	-100	0.9	-98	9.2	-85
Coimbatore	0.6	-97	1.2	-92	5.2	-70
Cuddalore	1.2	-98	56.9	10	10.0	-86
Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	4.5	-84	10.2	-56	0.2	-99
Erode	0.5	-98	0.5	-97	2.9	-85
Kanchipuram	0.0	-100	2.6	-94	4.5	-92
Kanyakumari	85.7	167	55.0	150	5.9	-68
Karikal	33.8	-68	111.5	82	1.5	-98
Karur	0.1	-99	6.0	-63	1.4	-93
Krishnagiri	0.0	-100	0.0	-100	0.0	-100
Madurai	13.5	-45	22.0	22	1.0	-94
Nagapattinam	40.2	-55	117.9	62	1.3	-99
Namakkal	0.3	-98	0.6	-96	0.0	-100
Nilgiris	12.7	-62	4.5	-85	22.2	-8
Perambalur	0.0	-100	7.0	-74	2.2	-94
Puducherry	0.0	-100	46.8	-13	2.0	-97
Pudukottai	17.2	-50	53.9	85	3.5	-90
Ramanathapuram	81.1	148	63.5	71	0.6	-99
Salem	1.1	-95	0.2	-99	0.7	-97
Sivaganga	36.2	54	48.0	98	11.9	-53
Thanjavur	14.5	-71	58.2	51	1.4	-98
Theni	11.7	-49	12.4	-11	1.1	-93
Tirunelveli	122.5	234	50.9	63	15.4	-37
Tirupur	0.2	-99	0.2	-99	0.2	-99
Tiruvallur	0.0	-100	0.4	-99	4.1	-91
Tiruvannamalai	0.0	-100	0.3	-99	0.1	-99
Tiruvarur	35.2	-50	75.0	22	2.0	-98
Toothukudi	103.9	201	39.9	29	2.4	-90

Trichy	2.4	-92	16.2	-20	1.0	-97
Vellore	0.0	-100	0.0	-100	0.0	-100
Villupuram	0.7	-98	11.3	-66	1.7	-96
Virudhunagar	15.5	-49	14.6	-38	1.9	-89
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	0.0	-100
Guntur	0.5	-97	0.0	-100	0.0	-100
Krishna	2.7	-80	0.0	-100	0.0	-100
Nellore	0.0	-100	0.0	-100	30.2	-29
Prakasam	3.0	-86	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	0.0	-100	0.0	-100
Visakhapatnam	0.0	-100	0.0	-100	0.0	-100
Vizianagram	0.0	-100	0.0	-100	0.0	-100
West Godavari	0.7	-95	0.0	-100	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.0	-100	0.0	-100
Chittoor	0.0	-100	0.0	-100	0.6	-97
Cuddapah	0.0	-100	0.0	-100	0.0	-100
Kurnool	0.0	-100	0.0	-100	0.0	-100
Telangana						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100
Karimnagar	0.0	-100	0.0	-100	0.0	-100
Khammam	2.8	-55	0.0	-100	0.0	-100
Mehabubnagar	0.0	-100	0.0	-100	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	1.0	-77	0.0	-100	0.0	-100
Nizamabad	0.0	-100	0.0	-100	0.0	-100
Rangareddy	0.0	-100	0.0	-100	0.0	-100
Warangal	0.0	-100	0.0	-100	0.0	-100
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	0.0	-100	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	23.3	442	0.0	-100	0.6	-89
Kurung Kumey	**	**	**	**	**	**
Lohit	6.1	-22	0.0	-100	0.0	-100
Lower Dibang Valley	14.8	-11	0.0	-100	4.3	-19
Lower Subansari	**	**	**	**	**	**
Papumpara	7.1	36	1.5	-59	12.7	12550
Tawang	3.0	-63	13.0	88	1.0	-74
Tirap	0.0	-100	0.0	-100	0.0	-100
Upper Siang	0.0	-100	0.6	-96	24.2	297
Upper Subansari	16.4	193	0.0	-100	5.2	73
West Kameng	0.0	-100	0.0	-100	0.0	-100
West Siang	24.5	188	0.0	-100	5.0	14
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	0.0	-100	0.0	-100	0.0	-100
Chirang	0.0	-100	0.0	-100	0.0	-100
Darrang	0.0	-100	0.0	-100	0.0	-100
Dhemaji	13.0	210	0.0	-100	0.0	-100
Dhubri	0.0	-100	0.0	-100	0.0	-100
Dibrugarh	2.1	-66	0.0	-100	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	2.6	-47	0.0	-100	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100
Jorhat	2.9	-59	0.0	-100	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.3	-81	0.0	-100	0.0	-100
Karbi Anglong	0.0	-100	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	0.0	-100	0.0	-100
Lakhimpur	5.7	36	0.1	0.8	3.8	82
Morigaon	3.2	10	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100
Nowgong	0.0	-100	0.0	-100	0.0	-100
Nalbari	0.0	-100	0.0	-100	0.0	-100
Sonitpur	0.0	-100	0.0	-100	0.1	-97
Sibsagar	1.6	-79	0.0	-100	0.0	-100
Tinsukia	0.0	-100	0.0	-100	0.0	-100
Udalgiri	12.1	317	0.0	-100	0.4	-79
Meghalaya						
East Garo Hills	15.7	3040	0.0	-100	0.0	-100
East Khasi Hills	0.1	-99	0.0	-100	0.0	-100
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	0.0	-100	0.0	-100	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Garo Hills	0.0	-100	0.0	-100	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100
NMMT						
Mizoram						
Aizwal	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	0.0	-100	0.0	-100	0.0	-100
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	0.0	-100	0.0	-100	0.0	-100
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	0.0	-100	0.0	-100	0.0	-100

Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	0.0	-100
Imphal west	0.0	-100	0.0	-100	0.0	-100
Senapati	0.0	-100	0.0	-100	0.0	-100
Tamenglong	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	0.0	-100
Ukhrul	**	**	**	**		
Nagaland						
Dimapur	0.0	-100	0.0	-100	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	0	-100	0	-100	0	-100
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	0.0	-100
North tripura	0.0	-100	0.0	-100	0.0	-100
South tripura	0.0	-100	0.0	-100	0.0	-100
West tripura	0.0	-100	0.0	-100	0.0	-100
Himachal Pradesh						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	0.0	-100	0.1	-97	0.0	-100
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Kangra	0.0	-100	0.0	-100	0.0	-100
Kinnaur	0.0	-100	0.0	-100	0.0	-100
Kullu	0.0	-100	0.3	-95	0.0	-100
Lahaul and Spiti	0.0	-100	4.1	-41	0.0	-100
Mandi	0.0	-100	0.0	-100	0.0	-100
Shimla	0.0	-100	0.0	-100	0.0	-100
Sirmaur	0.0	-100	0.0	-100	0.0	-100
Solan	0.0	-100	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
Punjab						
Amritsar	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Hoshiarpur	0.0	-100	0.0	-100	0.0	-100
Jalandhar	0.0	-100	0.0	-100	0.0	-100
Kapurthala	0.0	-100	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.0	-100	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100
North Delhi	0.0	-100	0.0	-100	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	0.0	-100	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	0.0	-100	1.9	-82	0.0	-100
Badgam	0.0	-100	0.0	-100	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	2.5	-57	0.0	-100
Doda	0.0	-100	1.2	-93	0.0	-100

Ganderbal	0.0	-100	2.4	-60	0.0	-100
Jammu	0.0	-100	0.0	-100	0.0	-100
Kargil	0.0	-100	0.0	-100	0.0	-100
Kathua	0.0	-100	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	1.0	-91	0.0	-100
Kupwara	0.0	-100	13.5	19	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	0.3	-98	0.0	-100
Pulwama	0.0	-100	0.0	-100	0.0	-100
Rajouri	**	**	0.0	-100	0.0	-100
Ramban	0.0	-100	0.2	-99	0.0	-100
Reasi	0.0	-100	0.0	-100	0.0	-100
Samba	0.0	-100	0.2	-94	0.0	-100
Shopian	0.0	-100	0.0	-100	0.0	-100
Srinagar	0.0	-100	0.0	-100	0.0	-100
Udhampur	0.0	-100	0.0	-100	0.0	-100
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.0	-100
Damoh	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.0	-100	0.0	-100
Seoni	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	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	**	**	**	**
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	0.0	-100	0.0	-100
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	0.0	-100
Aligarh	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.0	-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	0.0	-100	0.0	-100
Uttarakhand						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	0.0	-100
Champawat	0.0	-100	0.0	-100	0.0	-100
Dehradun	0.0	-100	0.0	-100	0.0	-100
Garhwal Pauri	0.0	-100	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100
Haridwar	0.0	-100	0.0	-100	0.0	-100
Nainital	0.0	-100	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	0.0	-100
Rudraprayag	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
Bihar						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	**	**	**	**	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	0.0	-100	0.0	-100
Buxar	**	**	**	**	**	**
Darbhanga	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	0.0	-100

Madhubani	0.0	-100	0.0	-100	0.0	-100
Monghyar	**	**	**	**	**	**
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	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	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	0.0	-100	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	0.0	-100	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	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	0.0	-100
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderrna	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	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikelela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	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	0.0	-100	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	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	0.0	-100	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	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	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	-100	0.0	-100
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	-100
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	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	0.0	-100	0.0	-100	**	**
Dangs	0.0	-100	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	0.0	-100	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	0.0	-100
Junagarh	0.0	-100	0.0	-100	0.0	-100
Kutch	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	0.0	-100	0.0	-100
North Goa	0.0	-100	0.0	-100	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.0	-100	0.0	-100	0.0	-100
Sindhudurg	0.0	-100	0.0	-100	0.0	-100
South Goa	0.0	-100	0.0	-100	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	**	**	**	**	**	**
Jalgaon	0.0	-100	0.0	-100	0.0	-100
Kolhapur	0.0	-100	0.0	-100	0.0	-100
Nandurbar	**	**	**	**	**	**
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	0.0	-100	0.0	-100	0.0	-100
Satara	0.0	-100	0.0	-100	0.0	-100
Solapur	0.0	-100	0.0	-100	0.0	-100
Marathwada						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	**	**	**	**
Hingoli	**	**	0.0	-100	0.0	-100
Jalna	0.0	-100	**	**	0.0	-100
Latur	0.0	-100	0.0	-100	0.0	-100
Nanded	0.0	-100	0.0	-100	0.0	-100
Usmanabad	0.0	-100	0.0	-100	0.0	-100
Parbhani	0.0	-100	0.0	-100	0.0	-100
Vidarbha						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100

Nagpur	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
Odisha						
Angul	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-100	0.0	-100
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-100	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	0.0	-100	0.0	-100
Ganjam	0.0	-100	0.0	-100	0.0	-100
Jagatsingpur	0.0	-100	0.0	-100	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.0	-100	0.0	-100
Khurda	0.0	-100	0.0	-100	0.0	-100
Koraput	0.0	-100	0.0	-100	0.0	-100
Malkangiri	0.0	-100	0.0	-100	0.0	-100
Mayurbhanj	0.0	-100	0.0	-100	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	0.0	-100	0.0	-100
Rayagada	0.0	-100	0.0	-100	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	92.1	17	18.4	-72	19.5	71
North & Middle Andaman	4.0	-89	26.4	-8	37.2	20
South Andaman	35.6	-48	33.8	-14	2.2	-95
GWB						
Bankura	0.0	-100	0.0	-100	0.0	-100
Birbhum	0.0	-100	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100

Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100
Purulia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.0	-100	0.0	-100
West Midnapore	0.0	-100	0.0	-100	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.0	-100	0.0	-100
Darjeeling	0.0	-100	4.9	87	0.0	-100
East Sikkim	0.0	-100	1.8	-64	0.0	-100
Jalpaiguri	0.1	-93	2.1	-57	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	0.0	-100	0.0	-100
North Sikkim	0.0	-100	25.2	300	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	0.0	-100	0.0	-100	0.0	-100
West Sikkim	0.0	-100	5.5	-13	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 Mukta (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

Boro rice: Gutum, Prabhat, Richaria, Dhanlaxmi, Saroj Rajendra Bhagvati, and R.A.U

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

Chhattisgarh

Gram: JG-16, JG-11, JG-74, Vaibhav

Linseed: RLC-92, Indira-32

Wheat: GW-273, Lok-1

Mustard: Pusa Bold

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.