

National Agromet Advisory Service Bulletin

Friday 27th February 2015

(For the period 27th Feb. 2015 to 3rd March 2015)



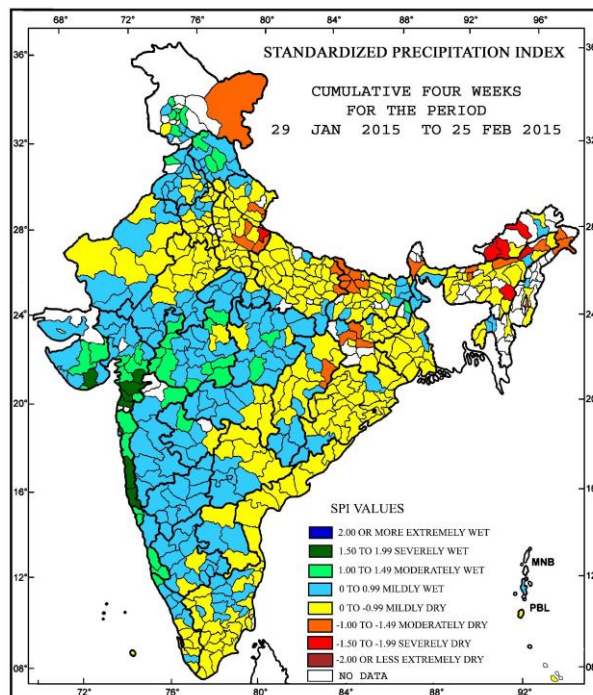
Issued by

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



Standardised Precipitation Index
Four Weekly
for the Period 29th January 2015 to 25th February 2015

MINISTRY OF EARTH SCIENCES
INDIA METEOROLOGICAL DEPARTMENT
HYDROMET SECTION, PUNE

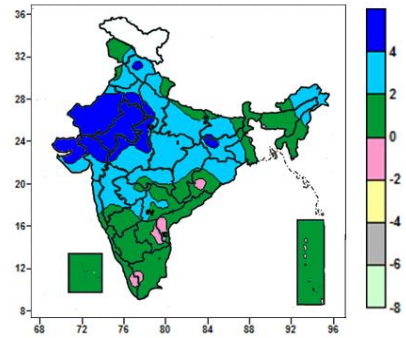
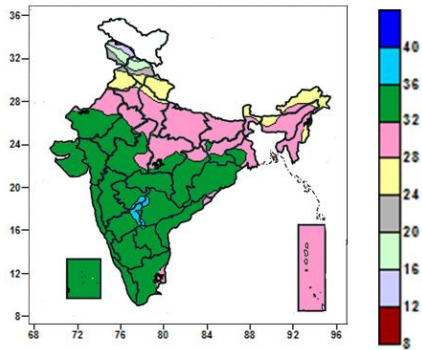


- Extremely/severely wet conditions experienced in Valsad, Narmada, Navsari, Tapi districts of Gujarat Region; Amreli district of Saurashtra; Ratnagiri, Sindhudurg, Mumbai Suburban districts of Konkan & Goa.
- Extremely /severely dry conditions experienced in East Kameng, Upper Subansiri, West Kameng districts of Arunachal Pradesh; Lakhimpur, N. C. Hills districts of Assam; Pilibhit district of west Uttar Pradesh.
- Moderately dry conditions experienced in Changlang, Lohit districts of Arunachal Pradesh; Dibrugarh, Shonitpur, Nalbari, Baksa districts of Assam; Imphal East district of Manipur, Darjeeling district of Sub Himalayan West Bengal; Chatra, Ranchi, Latehar districts of Jharkhand; East Champaran, West Champaran, Gopalganj, Muzaffarpur, Saran, Siwan districts of Bihar; Ballia, Kushi Nagar, Badaun, Rampur, Shahjahanpur districts of Uttar Pradesh; Almora, Champawat districts of Uttarakhand; Ladakh district of Jammu & Kashmir; Raigarh district of Chhattisgarh.
- Rest of the country experienced moderately wet/ mildly wet/dry conditions.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 25.02.2015

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.02.2015

Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.02.2015

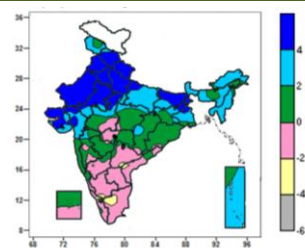
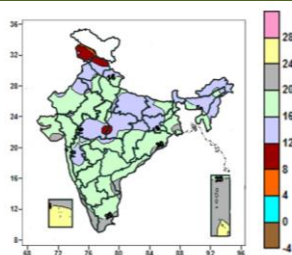


- 36 to 40 $^{\circ}\text{C}$ over isolated parts of Marathwada, Telangana, North Interior Karnataka.
- 32 to 36 $^{\circ}\text{C}$ over the country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, Bihar, North East India, Andaman & Nicobar Islands, many parts of West Bengal & Sikkim, East Madhya Pradesh, Jharkhand, few parts of Rajasthan, Chhattisgarh, West Madhya Pradesh and isolated parts of Odisha, Coastal Andhra Pradesh and Tamil Nadu.
- 28 to 32 $^{\circ}\text{C}$ over Bihar, Mizoram, Tripura, Andaman & Nicobar Islands, many parts of Haryana & Delhi, Assam & Meghalaya, Nagaland, Manipur, West Bengal, Uttar Pradesh, Jharkhand, East Madhya Pradesh, few parts of Rajasthan, Chhattisgarh, West Madhya Pradesh, isolated parts of Odisha, Arunachal Pradesh, Coastal Andhra Pradesh and Tamil Nadu.
- 24 to 28 $^{\circ}\text{C}$ over Sikkim, many parts of Uttarakhand, Punjab, Arunachal Pradesh, few parts of Haryana & Delhi, Assam, Manipur, isolated parts of Himachal Pradesh, Sub-Himalayan West Bengal and West Uttar Pradesh.
- 20 to 24 $^{\circ}\text{C}$ over few parts of Himachal Pradesh, Jammu & Kashmir, isolated parts of Uttarakhand and Punjab.
- 12 to 20 $^{\circ}\text{C}$ over many parts of Himachal Pradesh and Jammu & Kashmir.

- -2 to 0 $^{\circ}\text{C}$ over few parts of Andhra Pradesh and isolated parts of Odisha, Tamil Nadu and Kerala.
- 0 to 4 $^{\circ}\text{C}$ over entire country except many parts of Rajasthan, Gujarat State, few parts of West Madhya Pradesh, Andhra Pradesh and isolated parts of Himachal Pradesh, Bihar, Jharkhand, Odisha, Tamil Nadu and Kerala.
- 4 to 6 $^{\circ}\text{C}$ over many parts of Rajasthan, Gujarat State, few parts of West Madhya Pradesh and isolated parts of Himachal Pradesh, Bihar and Jharkhand.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.02.2015

Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.02.2015



- 4 to 8 $^{\circ}\text{C}$ over isolated parts of Jammu & Kashmir.
- 8 to 12 $^{\circ}\text{C}$ over many parts of Jammu & Kashmir, few

- -4 to -2 $^{\circ}\text{C}$ over few parts of Tamil Nadu, isolated parts of South Interior Karnataka, Coastal Andhra

parts of Himachal Pradesh and isolated parts of Madhya Pradesh.

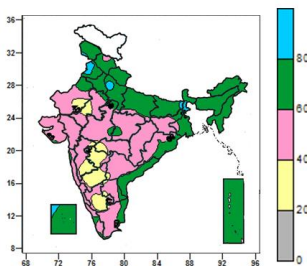
- 12 to 20°C over entire country except Lakshadweep, many parts of Jammu & Kashmir, Kerala, Andaman & Nicobar Islands, few parts of Himachal Pradesh, Tamil Nadu, Gangetic West Bengal and isolated parts of Madhya Pradesh, Saurashtra, Coastal Odisha and Andhra Pradesh.
- 20 to 28°C over Lakshadweep, many parts of Kerala, Andaman & Nicobar Islands, few parts of Tamil Nadu, Gangetic West Bengal and isolated parts of Saurashtra, Coastal Odisha and Andhra Pradesh.

Pradesh, Telangana and Kerala.

- -2 to 0°C over Rayalaseema, many parts of Coastal Andhra Pradesh, Interior Karnataka, Tamil Nadu, Kerala few parts of West Madhya Pradesh, Vidarbha, Madhya Maharashtra, Coastal Karnataka, Lakshadweep and isolated parts of Odisha, East Madhya Pradesh, Marathwada.
- 0 to 2°C over Konkan & Goa, many parts of Madhya Maharashtra, Marathwada, East Madhya Pradesh, Chhattisgarh, Odisha, Jharkhand, few parts of Jammu & Kashmir, Assam, Nagaland, West Madhya Pradesh, Lakshadweep and Isolated parts of Arunachal Pradesh, Nagaland, Gangetic West Bengal, Coastal Andhra Pradesh, Coastal & North Interior Karnataka, Kerala and Andaman & Nicobar Islands.
- 2 to 6°C over Himachal Pradesh, Uttarakhand, Punjab, Haryana & Delhi, Uttar Pradesh, Rajasthan, Gujarat State, Bihar, many parts of West Bengal & Sikkim, North East India, Andaman & Nicobar Islands, few parts of Madhya Pradesh and Jharkhand, isolated parts of Chhattisgarh and Madhya Maharashtra.

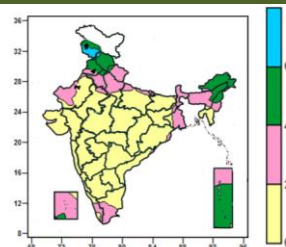
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 25.02.2015

Relative Humidity (%) over India for the week ending 25.02.2015



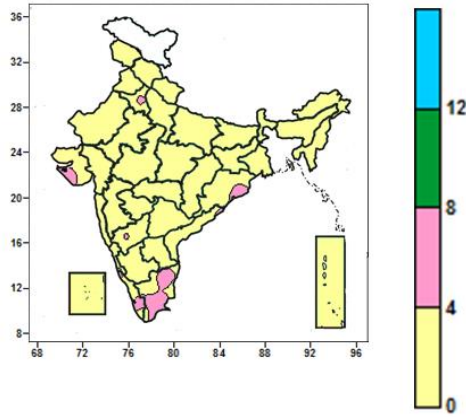
- 80 to 100% over isolated parts of Punjab, West Uttar Pradesh, Sub-Himalayan West Bengal, Bihar and Lakshadweep.
- 40 to 80% over entire country except many parts of Marathwada, North Interior Karnataka, South Interior Karnataka, few parts of Madhya Maharashtra, Rajasthan, Vidarbha, isolated parts of Punjab, West Uttar Pradesh, Sub-Himalayan West Bengal, Bihar, Telangana, Rayalaseema, Tamil Nadu and Lakshadweep.
- 20 to 40% over many parts of Marathwada, North Interior Karnataka, South Interior Karnataka, few parts of Madhya Maharashtra, Rajasthan, Vidarbha, isolated parts of Telangana, Rayalaseema and Tamil Nadu.

Cloud amount (okta) over India for the week ending 25.02.2015



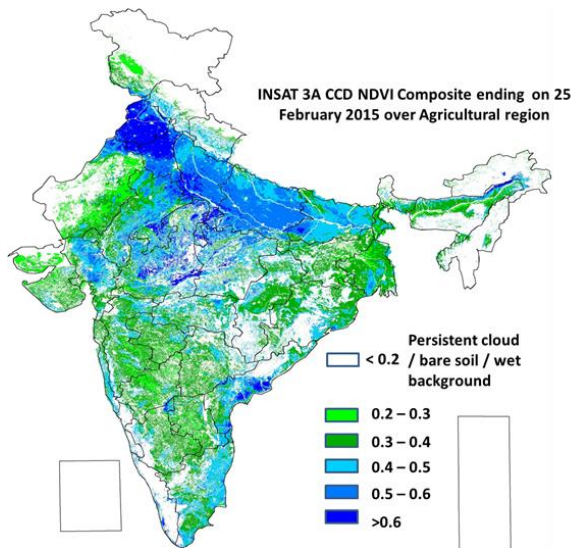
- 6 to 8 okta over many parts of Jammu & Kashmir.
- 4 to 6 over Nagaland, many parts of Himachal Pradesh, Punjab, Arunachal Pradesh and Andaman & Nicobar Islands, few parts of Assam, Manipur, isolated parts of Uttarakhand, Haryana & Delhi and Lakshadweep.
- 0 to 4 okta over entire country except Nagaland, many parts of Jammu & Kashmir, Himachal Pradesh, Punjab, Arunachal Pradesh and Andaman & Nicobar Islands, few parts of Assam and Manipur, isolated parts of Uttarakhand, Haryana & Delhi and Lakshadweep.

Wind speed (knots) over India for the week ending 25.02.2015



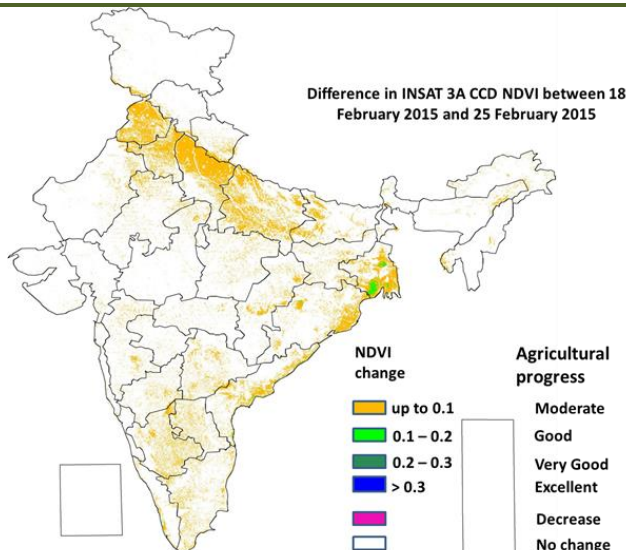
- 4 to 8 knots over many parts of Tamil Nadu, few parts of Saurashtra and Kerala and isolated parts of Coastal Andhra Pradesh, Haryana & Delhi, Odisha and North Interior Karnataka.
- 0 to 4 knots over entire country except many parts of Tamil Nadu, few parts of Saurashtra and Kerala and isolated parts of Coastal Andhra Pradesh, Haryana & Delhi, Odisha and North Interior Karnataka.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 25th FEBRUARY 2015 OVER AGRICULTURAL REGION OF INDIA



- Very good (NDVI > 0.6) agricultural vigour is observed over Punjab and Haryana, a few patches in west Madhya Pradesh, east Rajasthan, west Uttar Pradesh and coastal region of Andhra Pradesh. Vegetation is good (NDVI 0.4 - 0.6) over Bihar, east Rajasthan, Konkan & Goa, Gujarat Region, Coastal Andhra Pradesh and Tamil Nadu, coastal parts of Odisha. Some parts of central Bihar, few pockets of west Rajasthan and west Madhya Pradesh showed considerable increase in NDVI value. The NDVI remained within the range of 0.3 to 0.4 over few parts in Vidarbha, Madhya Maharashtra and South Interior Karnataka, Telangana and west Rajasthan.

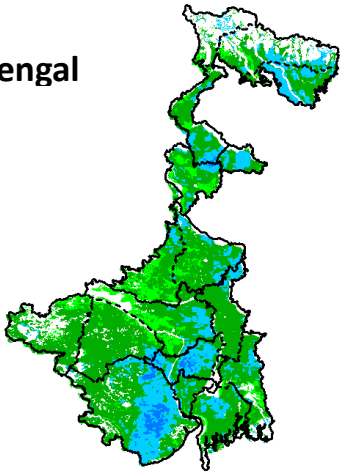
Difference in INSAT 3A CCD NDVI between 18th February 2015 and 25th February 2015



- Moderate progress in NDVI (up to 0.1) was observed over Punjab, Haryana, east and west Uttar Pradesh, a few parts of Chhattisgarh, Madhya Maharashtra, Telangana, Tamil Nadu, South Interior Karnataka, Rayalaseema, coastal Andhra Pradesh, Gangetic West Bengal and coastal parts of Odisha. Not much change was observed in Rajasthan, Madhya Pradesh, Gujarat State, North and Coastal Karnataka, Kerala, Bihar and Jharkhand.

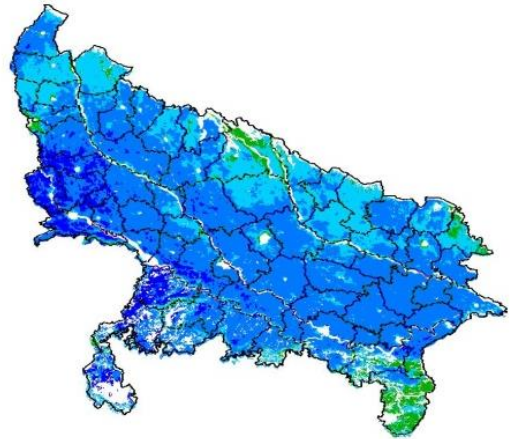
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 25th
FEBRUARY 2015 FOR DIFFERENT STATES**

West Bengal



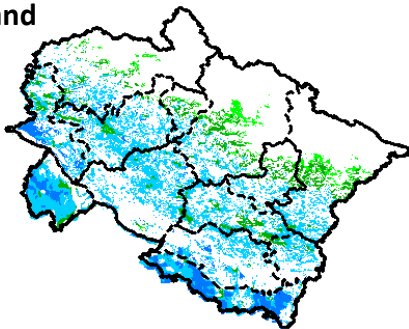
Agricultural vigour is moderate over most of the central parts of West Bengal, whereas patches in the northern and southern parts show higher values of NDVI varying from 0.4-0.6.

Uttar Pradesh



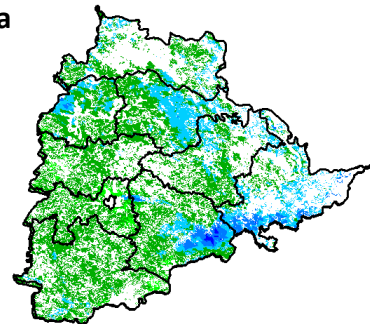
Agricultural vigour is good over the entire state of Uttar Pradesh where NDVI values varies from 0.4 -0.6. The NDVI high in the south western part of Uttar Pradesh.

Uttarakhand



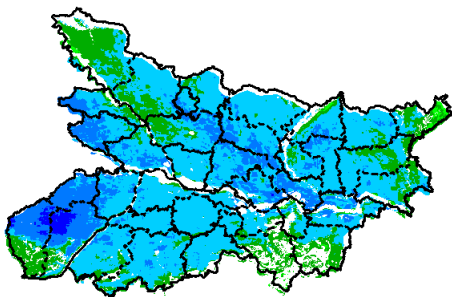
NDVI values vary from 0.2 - 0.5 over Uttarakhand. Higher values are seen in the southern and central part of Uttarakhand.

Telangana



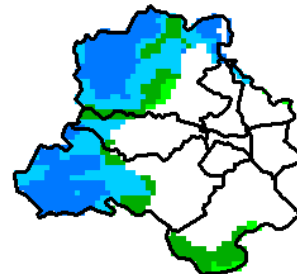
Agricultural vigour is good in pockets of eastern Telangana where NDVI values vary from 0.4 - 0.5. In the southern and western parts of the Telangana values of NDVI varies from 0.2- 0.3.

Bihar



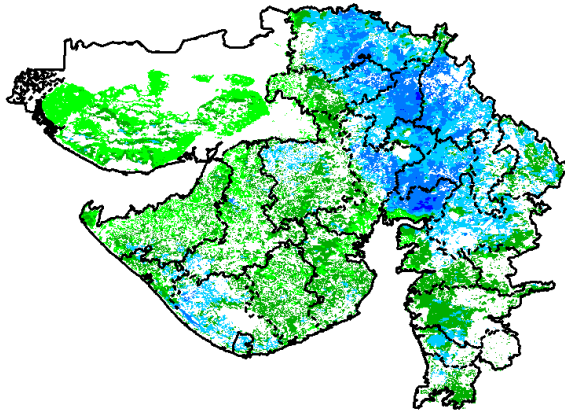
The entire state of Bihar shows comparatively a high value (0.4-0.6) of NDVI, except for few pockets in south eastern and north western Bihar region.

Delhi



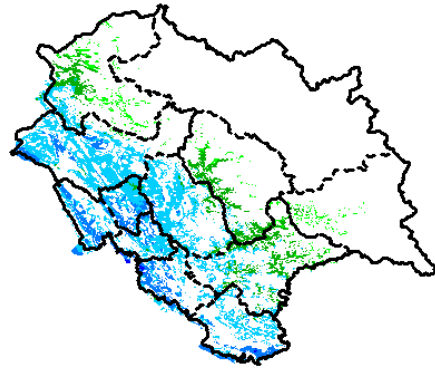
Agriculture vigour is good over western part of Delhi. NDVI values lies between 0.4-0.5. NDVI values are normal over central and western part of the state.

Gujarat



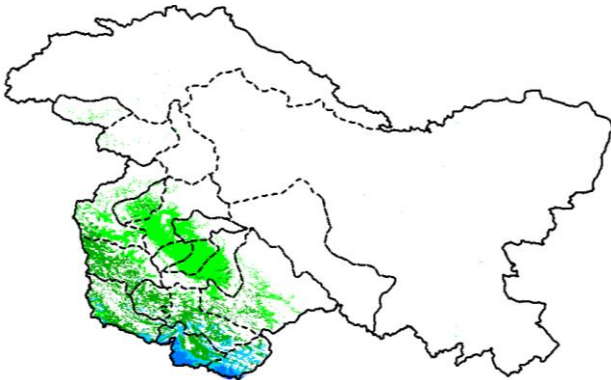
Agriculture vigour is good over parts of Eastern, northern Gujarat and southern Saurashtra where NDVI values lies between 0.4-0.5. Whereas normal NDVI is observed in Kutch and central Saurashtra.

Himachal Pradesh



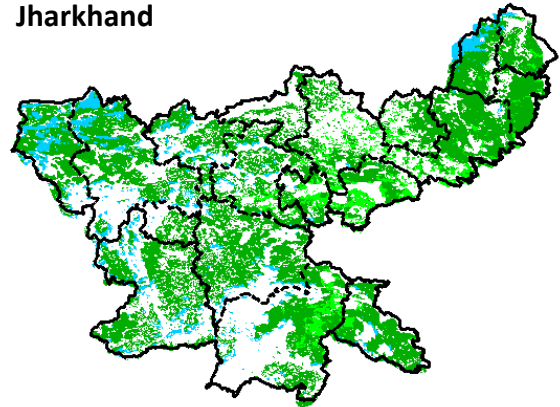
Agriculture vigour is good over southern and south western parts of Himachal Pradesh with NDVI values varying between 0.4-0.5. Whereas, isolated patches of normal NDVI are observed in the state.

Jammu - Kashmir



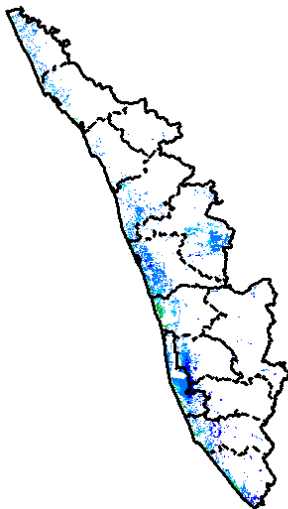
Agriculture vigour is normal all over Jammu and Kashmir. NDVI values vary in between 0.2-0.3 in south western parts.

Jharkhand



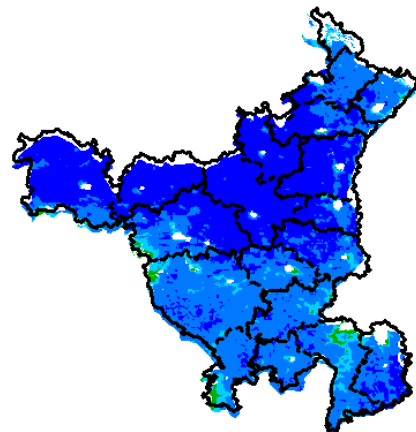
Agriculture vigour is moderate 0.2-0.3 over entire state of Jharkhand.

Kerala



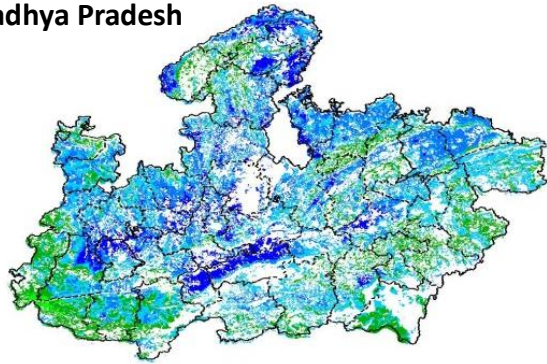
Some pockets in central and south coastal parts of Kerala show NDVI values varying from 0.4 - 0.5, whereas rest of agricultural vigour of Kerala shows normal values of NDVI.

Haryana



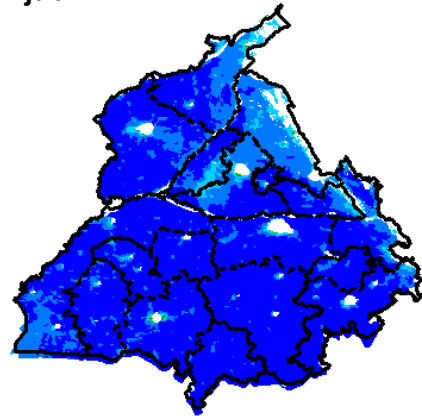
Agriculture vigour is good; NDVI values were 0.5-0.6 over most of the parts of Haryana. The north western parts show higher NDVI values (> 0.6).

Madhya Pradesh



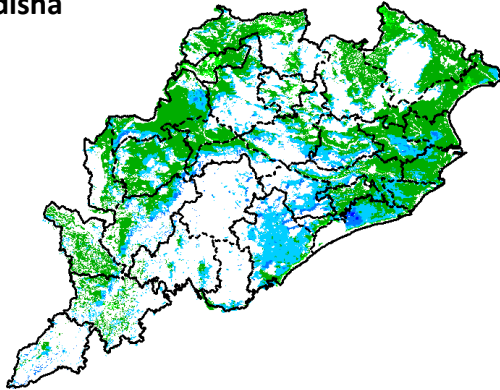
Agricultural vigour is good over central, western and northern region of Madhya Pradesh showing higher values of NDVI varies from 0.5 - 0.6. The overall Vegetation vigour is good over the entire state of Madhya Pradesh.

Punjab



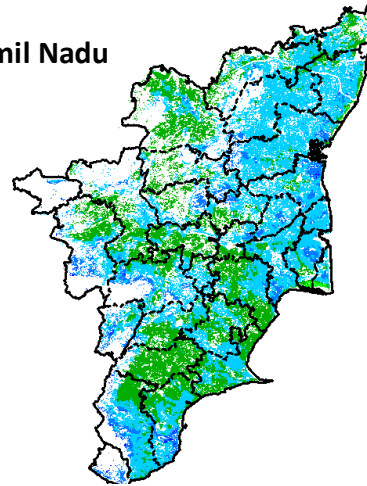
Agricultural vigour is comparatively good over entire state of Punjab with NDVI values varying from 0.5-0.6. Southern districts of Punjab showing dominantly higher NDVI values more than 0.6.

Odisha



Agricultural vigour is good for south eastern coast of Odisha with NDVI values of 0.3 - 0.5 whereas, eastern, central and south regions show normal values of NDVI.

Tamil Nadu



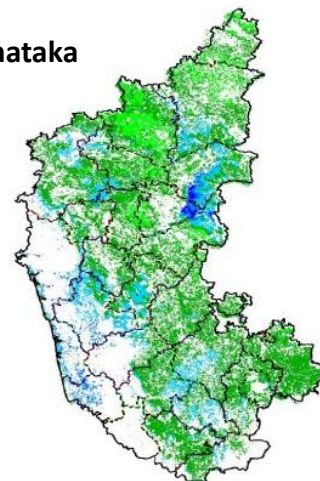
Agricultural vigour is good over Tamil Nadu with NDVI values varying from 0.4 - 0.6 in the coastal and Southern regions.

Chhattisgarh



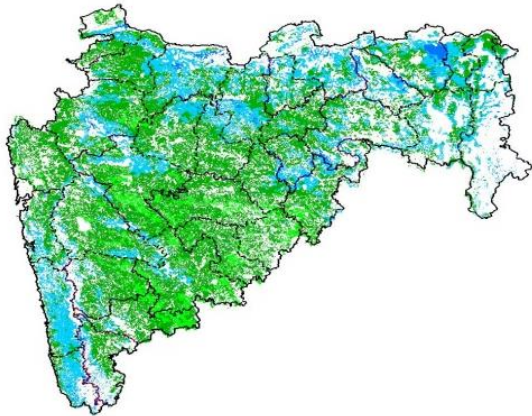
Agriculture vigour is good all over western and southern part of Chhattisgarh where NDVI values lies in between 0.3-0.5. NDVI values are normal over eastern, central and northern part of the state.

Karnataka



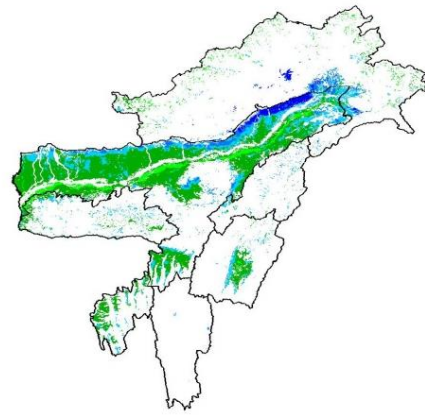
Agriculture vigour is good over some pockets in eastern and western coastal parts of Karnataka which lies in between 0.3-0.5. Rest of the part show normal condition where NDVI values vary up to 0.2-0.3

Maharashtra



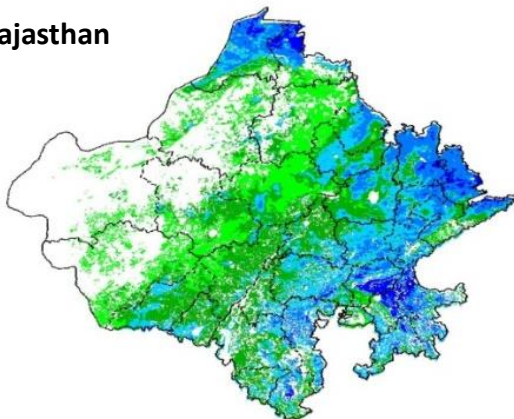
Agricultural vigour is good over Western coastal, Vidarbha and northern Marathwada region of Maharashtra with NDVI values of 0.3 - 0.5. Whereas, NDVI is moderate over central and southern parts of Marathwada region.

North East



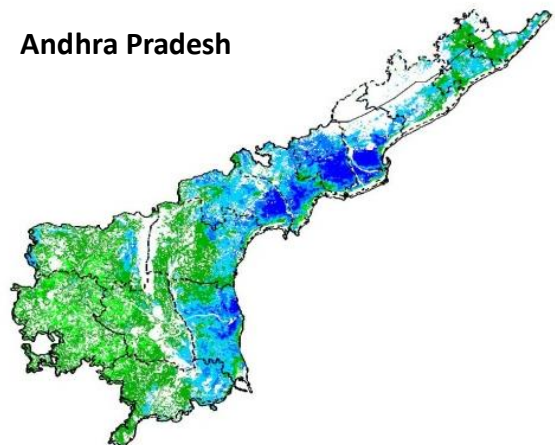
Agriculture vigour is good in valleys of northern hilly range of North-East states which covers part of Assam. NDVI values vary from 0.2-0.4 in this region. In north-east part of Assam, NDVI values are more than 0.6. Isolated patches of normal NDVI conditions are observed all over NE region.

Rajasthan

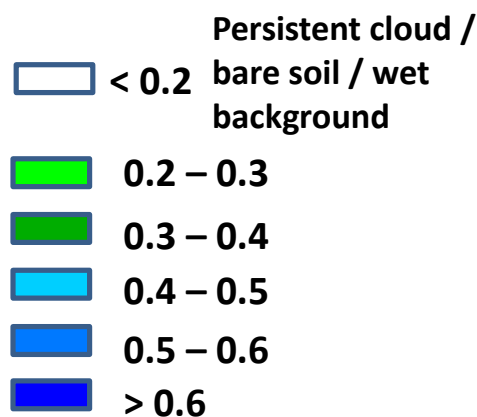


In the eastern, north eastern and northern part of Rajasthan NDVI shows higher values from 0.5-0.6. Whereas, Agricultural vigour is moderate over the central Rajasthan with NDVI values varying from 0.2 - 0.3.

Andhra Pradesh



Agriculture vigour is good (0.5 - 0.6) over central and coastal parts of Andhra Pradesh. The NDVI is normal over rest of the part of the state.



Weather Forecast

Weather Forecast for next 3 days (upto 0830 hours IST of 2nd March, 2015).

- Rain/snow would occur at isolated places over Jammu & Kashmir during next 24 hours and at most places thereafter.
- Rain/snow would occur at isolated places over Himachal Pradesh during next 24 hours and at many places thereafter.
- Rain/snow would occur at isolated places over Uttarakhand during next 24 hours; at a few places on 28th and at many places thereafter.
- Rain/thundershowers would occur at isolated places over Bihar during next 24 hours; over Uttar Pradesh during next 48 hours and at a few places thereafter.
- Rain/thundershowers would occur at many places over Arunachal Pradesh during the next 48 hours and decrease thereafter.
- Rain/thundershowers would occur at a few places over Assam and Meghalaya during the next 48 hours and at isolated places thereafter.
- Rain/thundershowers would occur at isolated places over Nagaland, Manipur, Mizoram and Tripura, Sub-Himalayan West Bengal & Sikkim, East Madhya Pradesh, Kerala, Tamil Nadu & Puducherry during the period.
- Dry weather would prevail over Punjab, Haryana & Delhi during next 24 hours; at isolated places on 28th and at a few places thereafter.
- Dry weather would prevail over Rajasthan, West Madhya Pradesh, Chhattisgarh, Jharkhand, Gujarat State, Konkan & Goa, Vidarbha, Telangana, Rayalaseema and Lakshadweep during next 24 hours; over Madhya Maharashtra, Marathwada, Interior Karnataka and Andaman Nicobar Islands during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- Dry weather would prevail over rest parts of the country during the period.
- No significant change in minimum and maximum temperatures over northwest, west and central India during next 48 hours.

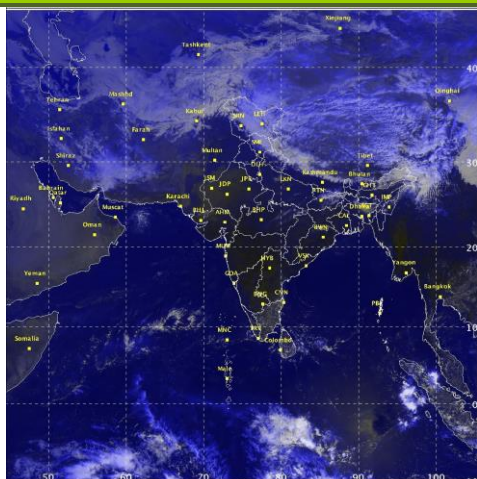
Weather Warning during next 3 days

- **27 February (Day 1):** Thunderstorm accompanied with hailstorm would occur at isolated places over Assam & Meghalaya.
- **28 February (Day 2):** Isolated heavy rain/snowfall would occur over Jammu & Kashmir. Thunderstorm accompanied with hailstorm would occur at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh.
- **01 March (Day 3):** Thunderstorm accompanied with hailstorm would occur at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh.

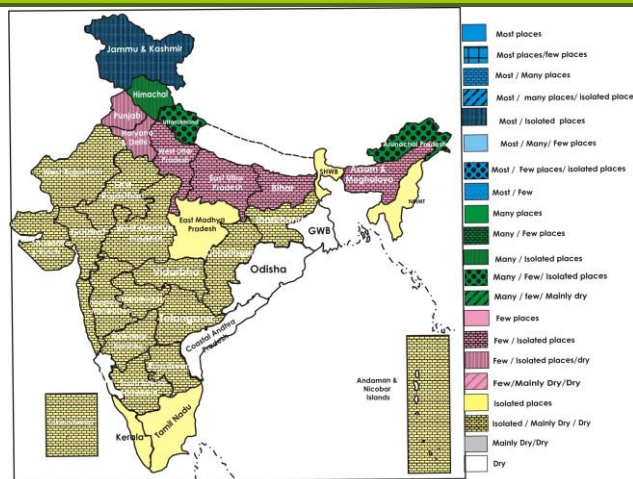
Weather Outlook for subsequent 4 days From 02nd March 2015 to 06th March 2015

- Widespread precipitation with heavy rainfall / snowfall would occur over western Himalayan region on 2nd March and decrease thereafter.
- Due to interaction of western disturbance with easterly wave, fairly widespread rain / thunderstorm activity would occur over plains of northwest India and at a few places over central and east India.
- Isolated rain/thunderstorm would also occur over peninsular India and northeastern States.

Satellite image dated, 27.02.2015, 0530 UTC



Weather Forecast Map (Valid upto 0830 hours of 2nd March, 2015)



Salient Advisories

- As rain/snow would occur at most places over **Jammu & Kashmir** on 28th February & 1st March along with heavy rain/snow fall at isolated places on 28th February, rain/snow would occur at many places over **Himachal Pradesh** on 28th February & 1st March and over **Uttarakhand** on 1st March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep already harvested crops at safe places. Provide adequate drainage in standing crops to avoid water stagnation in Jammu & Kashmir.
- As thunderstorm accompanied with hailstorm would occur at isolated places over **Punjab, Haryana, Chandigarh & Delhi** and **West Uttar Pradesh** on 28th February & 1st March, farmers are advised to use hail nets for orchard crops to protect from mechanical damage. Also provide mechanical support to young fruit plants and vegetables to prevent the crops from lodging due to strong winds.
- As thunderstorm accompanied with hailstorm would occur at isolated places over **Assam & Meghalaya** on 27th February, farmers are advised to use hail nets for orchard crops to protect from mechanical damage. Also provide mechanical support to banana and staking of vegetables to prevent the crops from lodging due to strong winds.

Detailed Zonewise Agromet Advisories

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



Sorghum



Sugarcane



Chilli



Rice Transplanting

- Realised Rainfall:** Weather remained mainly dry over the region.
- Weather Forecast:** Rain/thundershowers would occur at isolated places over Kerala and Tamil Nadu during period. Dry weather would prevail over Telangana and Rayalaseema during next 24 hours and over Interior Karnataka during the next 48 hours and rain/thundershowers would occur at isolated places thereafter. Dry weather would prevail over Coastal Andhra Pradesh, Coastal Karnataka during the period.
- Weather Warning:** Nil
- Weather Outlook:** Isolated rain / thunderstorm would occur over peninsular India.

- **Advisories:**

- **Andhra Pradesh:**

- Prevailing weather conditions (increase in day temperature and decrease in humidity) are congenial for the incidence of the dry root rot disease in oranges in the Scarce Rainfall Zone. Irrigate the entire basin initially followed by drenching of the entire basin with Carbendazim @ 2g/litre of water to manage the incidence.
- Due to prevailing dry weather conditions, there is chance of fruit drop apart from flower drop in mango orchards in the Southern Zone. To control, spray Planofix @ 2.5 ml/10 litres of water + multi K @ 8-10 g/litres of water.

- **Telangana:**

- Prevailing increase in temperature is congenial for leaf minor incidence in summer groundnut in the Northern Telangana Zone. To control, spray Monocrotophos @ 1.6 ml/litre of water.
- Prevailing dry weather conditions are congenial for the incidence of tikka leaf spot in groundnut in the Southern Telangana Zone. To control, spray Mancozeb @ 2.0g + Carbendazim @ 1.0g or Chlorothalonil @ 2.0g or Hexaconazole @ 1.0 ml per litre of water.

- **Karnataka:**

- Continue sowing of water melon, planting of fodder crops in areas having irrigation facility and harvesting of safflower and wheat in the North East Transition Zone.
- Continue sowing of cowpea and green gram and transplanting of bottle gourd and ridge under irrigated condition and complete harvesting of chickpea, wheat, sorghum and safflower in the North Dry Zone and North East Dry Zone.
- Undertake harvesting of chickpea in the early morning hours in the North Transition Zone, complete harvesting of chilli, cotton and wheat and continue planting of sugarcane.
- Undertake sowing of Bt cotton in the North East Dry Zone with assured irrigation. Due to increase in day temperature, water melon plants are suffering from soil moisture stress. Apply irrigation to ensure sufficient soil moisture.
- Irrigate areca nut, coconut and black pepper gardens either by furrow or drip irrigation in the Hill Zone and continue harvesting of black pepper.
- Due to increase of temperature, aphids in cow pea, powdery mildew in mango and increase in sucking pest in water melon were noticed in North East Dry Zone. Spray Dimethoate @ 2 ml/ litre of water to manage aphids, Difenconazole @ 1 ml/litre of water to manage powdery mildew and Imidachlorpid 0.5 ml/litre of water to manage sucking pests.

- **Kerala:**

- Continue sowing of *puncha* rice in Vellayani district and complete harvesting of Mundakan rice in Pathanamthitta district in the Southern Zone. Due to prevailing dry weather conditions, provide regular irrigation especially in irrigated coconut gardens through drip irrigation @ 50 litres /palm and flood irrigation @ 300 litres of water once in 5 days. Undertake mulching in banana basins to reduce temperature and conserve soil moisture.
- Due to rise in temperature and low humidity, there is a chance of Sigatoka disease in banana in the Central Zone. Spray 3 g of Dithane M-45 @ 1 litre of water.
- Prevailing hot weather conditions is congenial for attack of case worm in rice and accelerate the attack of insect vectors which spread viral diseases in vegetables in the Southern Zone. As a control measure, drain out the water from the rice fields and apply Carbaryl @ 4g/ litre of water, to control rice case worm and apply Rogour (Dimethoate) @ 1.5 ml/litre of water to control insect vectors in vegetables.

- **Tamil Nadu:**

- Continue nursery preparation of *navarai* rice and complete harvesting of matured *samba and thaladi* rice in the Cauvery Delta Zone. In rice fallow pulses, provide one irrigation during flowering stage under dry weather condition and undertake sowing of sesame.
- As dry weather would prevail, irrigate the sugarcane and banana crop using drip irrigation system in the South Zone.
- Undertake cultivation of cotton in the North Western Zone.
- Moderate humidity and light rain is congenial for the incidence of wilt disease in tomato at vegetative to flowering stage and fruit rot disease in chilli at fruiting stage in the Southern Zone. Mix and apply 2.5 kg of Trichoderma Viride @ 1% WP in 150 kg of compost or Farm Yard Manure to manage wilt disease and spray Captan @ 75% WP @ 800g in 400 litres of water/ acre (or) Copper Oxychloride @ 50% WP @ 1000 g in 300-400 litres of water/ acre to manage fruit rot disease.
- Suitable varieties are given in Annexure II.

- **Animal Husbandry**

- Since there increase in day temperature in the Western Zone, feed the animals and birds during early morning and late evening hours. Vaccinate sheep to prevent blue tongue disease during summer months.
- Anthrax disease is noticed in some parts of the Northern Telangana Zone. Vaccinate animals at the earliest.

- Provide 10% extra dry matter (DM) over and above the total requirement to fulfill the extra energy requirement to animals and deworm with suitable anti-helmentic drug in the Hill Zone of Karnataka.

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



Rice transplanting



Mustard



Potato



Cabbage

- **Realised Rainfall:** Rainfall occurred in East Siang district of Arunachal Pradesh; Chirang and Hailakandi districts of Assam; Dhalai and North Tripura district of Tripura. Mainly dry weather prevailed over rest parts of the region.
- **Weather Forecast:** Rain/thundershowers would occur at many places over Arunachal Pradesh during the next 48 hours and decrease thereafter. Rain/thundershowers would occur at a few places over Assam and Meghalaya during the next 48 hours and at isolated places thereafter. Rain/thundershowers would occur at isolated places over Nagaland, Manipur, Mizoram and Tripura during the period.
- **Weather Warning:** Thunderstorm accompanied with hailstorm would occur at isolated places over Assam & Meghalaya on 27th February.
- **Weather Outlook:** Isolated rain/thundershowers would occur over northeastern states.
- **Advisories:**
 - **Assam & Meghalaya, Arunachal Pradesh:**
 - As thunderstorm accompanied with hailstorm would occur at isolated places over Assam & Meghalaya on 27th February, farmers are advised to use hail nets for orchard crops to protect from mechanical damage. Also provide mechanical support to banana and staking of vegetables to prevent the crops from lodging due to strong winds.
 - In Assam, maintain 5cm of standing water in the field of *boro* rice.
 - In Assam & Meghalaya, normal sowing of summer crops and other agricultural operations are carried out under normal weather conditions.
 - In Hill Zone of Assam, due to humid and cloudy weather, late blight may be found in tomato and cole crops. Apply Ridomil MZ-72 @ 2 g/ litre of water on a non rainy day and repeat at 15 days interval.
 - In Meghalaya, due to humid weather, there is chance of attack of blast /brown spot disease in *boro* rice and powdery mildew and rust in pea. Spray Carbendazim @ 1g/litre of water against blast/brown spot. Spray Wettable Sulphur @ 2 g/litre or Dinocap @ 1 ml/litre of water against powdery mildew and spray Dithane M-45 (0.2 %) against rust in pea. Undertake plant protection measures on a non rainy day.
 - In Lower Brahmaputra Valley Zone and North Bank Plain Zone of Assam, due to cloudy weather, there is chance of blast and sheath blight in *boro* rice. Spray Mancozeb @ 0.2% or Copper oxychloride @ 0.4% against blast and Carbendazim @ 0.05% against the sheath blight on a non rainy day.
 - **Manipur, Mizoram, Nagaland and Tripura:**
 - In Nagaland, Manipur, Mizoram and Tripura, normal sowing of summer crops and other agricultural operations are carried out under normal weather conditions.
 - In Nagaland, as mainly dry weather would prevail, apply mulching in vegetables and cole crops Undertake mulching after irrigation to conserve moisture. Maintain 2 to 3cm standing water in the fields of *boro* rice at tillering stage.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - In Tripura, vaccinate pigs against swine fever.

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



Sugarcane



Wheat



Rice transplanting



Onion

- **Realised Rainfall:** Mainly dry/dry weather prevailed over the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over Sub-Himalayan West Bengal & Sikkim during the period. Rain/thundershowers would occur at isolated places over Bihar during next 48 hours and at a few places thereafter. Dry weather would prevail over Jharkhand during next 24 hours; over Andaman & Nicobar Islands during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
- **Weather Warning:** Nil.
- **Weather Outlook:** Due to interaction of western disturbance with easterly wave, fairly widespread rain / thunderstorm activity would occur at a few places over east India.
- **Advisories:**
 - **West Bengal:**
 - Undertake land preparation for sowing of groundnut in upland fields in Coastal Saline Zone.
 - In Old Alluvial Zone, continue harvesting of mustard and potato. Maintain 5cm standing water in *boro* rice.
 - In New Alluvial Zone of West Bengal, undertake land preparation for sowing of sesame and green gram.
 - In the prevailing humid weather condition, there is chance of incidence of blast in rice during tillering stage in Laterite and Red Soil Zone of West Bengal. Apply Carbendazim @ 1g/litre of water and repeat at an interval of 10-15 days.
 - Due to cloudy weather condition, there are chances of attack of aphids in mustard and leaf eating caterpillars in vegetables in Hill Zone. To control aphids, spray Imidacloprid @ 1ml /litre of water or Acetamiprid @ 1g /litre of water and to control caterpillars, spray Dichlorvos @ 1g/litre of water.
 - **Andaman and Nicobar Islands:**
 - In North, Middle and South Andaman, as mainly dry weather is prevailing, apply irrigation to vegetables and undertake transplanting of the seedling of 30 days old brinjal and chilli.
 - In South, North and Middle Andaman districts, due to cloudy weather, there may be possibility of attack of thrips, leaf hopper and other sucking pests in vegetables. Spray Imidacloprid @ 2 ml /litre and Acephate 2 g/litre alternatively once in two weeks.
 - **Odisha:**
 - In Western Undulating Zone of Odisha, as dry weather is prevailing, apply irrigation in vegetables and onion. In transplanted rice, follow alternate wetting and drying during tillering stage. Continue harvesting of matured mustard. Continue planting of sugarcane.
 - In North Eastern Plateau Zone of Odisha, undertake sowing of sesame and green gram.
 - In Western Undulating Zone of Odisha and Mid Central Table Land Zone of Odisha, due to rise in temperature coupled with humidity, attack of stem borer has been aggravated in rice. To control, spray Triazophos @ 2 ml/litre of water.
 - In East and South Eastern Coastal Plain Zone and North Central Plateau Zone, high day and night temperature difference and humid weather may aggravate the infestation of blast in rice. Undertake spraying of Beam @ 1 g per litre water.
 - In North Eastern Coastal Plain Zone of Odisha, due to variation in temperature, there is possibility of attack of Tobacco caterpillar (*Spodopteralitura*) in mustard. For control i) use Pheromone trap using *Spodo* lure to monitor adult population of the insect ii) bird perching should be encouraged and night fire should be widely popularized iii) in case of appearance of the caterpillar, prepare poison bait with 1 kg rice bran+ 200 g jaggery/gur+10 g Methomyl 40% SP+Water. Keep the bait at 20-25 different places in the affected field. iv) for severe infestation, spray Emamectin Benzoate @ 3 g/10 litres of water.
 - **Bihar:**
 - In South Bihar Alluvial Zone, as dry weather is prevailing, apply irrigation to onion. Continue harvesting of early sown potato. Continue planting of sweet potato and complete transplanting of arvi crop.
 - In North West Alluvial Plain Zone of Bihar, as dry weather is prevailing, apply irrigation to onion. Continue

sowing of summer vegetables. Continue harvesting of early sown matured mustard and potato. Continue sowing of okra and land preparation for sowing of green gram/ black gram and maize.

- In North East Alluvial Zone of Bihar, as dry weather is prevailing, apply irrigation to wheat, maize and vegetables. Complete planting of spring sugarcane and sowing of cucumber, bottle gourd, muskmelon, watermelon, bitter gourd, ridge gourd and ladies finger.
- In North East Alluvial Zone of Bihar, rise in temperature along with prevailing humid condition will favour the incidence of stem borer in maize, apply Carbofuran 3G granules @ 25 kg/ha on a non rainy day.

▪ **Jharkhand:**

- In Western Plateau Zone, as dry weather is prevailing, apply irrigation to wheat at heading stage. Continue sowing of mung and harvesting of mustard. Undertake nursery sowing of cauliflower, cabbage, tomato, brinjal and chilli.
- In South Eastern Plateau Zone of Jharkhand, apply irrigation in wheat. Continue sowing of mung. Undertake harvesting of mustard.
- In Central & North Eastern Plateau Zone of Jharkhand, as dry weather is prevailing, apply irrigation to wheat which is at heading to milk stage. Continue sowing of high yielding variety of summer maize with assured irrigation and planting of sugarcane. Undertake sowing of okra.
- In Central & North Eastern Plateau Zone of Jharkhand, due to high humidity and fluctuation in temperature, there is chance of powdery mildew disease in mango/litchi, spray Kara then @ 1 ml or Sulfex @ 2 g per litre of water.
- Suitable varieties are given in Annexure II.
- **Animal Husbandry**
- In Jharkhand, farmers are advised to vaccinate pigs against swine fever.

CENTRAL INDIA [M.P., CHHATTISGARH]



Sugarcane



Wheat



Mustard



Onion

- **Realised Rainfall:** Mainly dry weather prevailed over the region.
- **Weather Forecast:** Rain/thundershowers would occur at isolated places over East Madhya Pradesh during the period. Dry weather would prevail over West Madhya Pradesh and Chhattisgarh during next 24 hours and rain/thundershowers would occur at isolated places thereafter.
No significant change in minimum and maximum temperatures central India during next 48 hours.
- **Weather Warning:** Nil.
- **Weather Outlook:** Due to interaction of western disturbance with easterly wave, fairly widespread rain / thunderstorm activity would occur at a few places over central India.
- **Advisories:**
 - **Madhya Pradesh:**
 - As mainly dry weather is prevailing, apply irrigation in gram at pod formation and pod filling stage in Jhabua Hill Zone.
 - Continue harvesting of matured mustard in Satpura Plateau Zone.
 - In Grid Zone undertake harvesting of matured mustard in clear weather.
 - Undertake sowing/ transplanting of summer vegetables in Malwa Plateau Zone and Bundelkhand Zone under normal weather condition.
 - Due to rise in temperature, there are chances of attack of sucking pests in papaya in Malwa Plateau Zone and Grid Zone, spray Dimethoate 25 EC @ 1/1.5 ml per litre of water.
 - Due to rise in temperature, there are chances of attack of pod borer in chickpea in Malwa Plateau Zone and Nimar Valley Zone, spray Quinolphos @ 2.0 ml per litre of water.
 - **Chhattisgarh:**
 - Undertake sowing/ transplanting of summer crops in Bastar Plateau Zone and in North Hill Zone of Madhya Pradesh under normal weather condition.
 - In North Hill Zone as mainly dry weather would prevail, apply irrigation in wheat at heading stage, continue harvesting of matured mustard and potato.
 - Due to rise in temperature, there are chances of attack of sucking pests in vegetables in Bastar Plateau Zone, spray Dimethoate 40 EC @ 1.5 ml per litre of water.

- **Animal Husbandry**

- Provide green fodder along with mineral mixture and fresh water for milch animals in Madhya Pradesh.

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



Wheat



Sugarcane



Mustard



Cabbage

- **Realised Rainfall:** Rainfall occurred in all districts of Jammu & Kashmir except Ladakh (Leh); all districts of Himachal Pradesh except Sirmaur; Garhwal Tehri, Pithoragarh, Rudraprayag and Uttarkashi districts of Uttarakhand; Amritsar, Gurdaspur, Hoshiarpur, Kapurthala, Ropar, Mohali and Tarn Taran districts of Punjab; Chandigarh district of Haryana. Mainly dry/dry weather prevailed over rest of the region.
- **Weather Forecast:** Rain/snow would occur at isolated places over Jammu & Kashmir during next 24 hours and at most places thereafter. Rain/snow would occur at isolated places over Himachal Pradesh during next 24 hours and at many places thereafter. Rain/snow would occur at isolated places over Uttarakhand during next 24 hours; at a few places on 28th and at many places thereafter. Rain/thundershowers would occur at isolated places over Uttar Pradesh during next 48 hours and at a few places thereafter. Dry weather would prevail over Punjab, Haryana & Delhi during next 24 hours; at isolated places on 28th and at a few places thereafter. Dry weather would prevail over Rajasthan during next 24 hours and rain/thundershowers would occur at isolated places thereafter.
No significant change in minimum and maximum temperatures over northwest India during next 48 hours.
- **Weather Warning:** Isolated heavy rain/snowfall would occur over Jammu & Kashmir on 28th February. Thunderstorm accompanied with hailstorm would occur at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 28th February and 1st March.
- **Weather Outlook:** Widespread precipitation with heavy rainfall / snowfall would occur over western Himalayan region on 2nd March and decrease thereafter. Due to interaction of western disturbance with easterly wave, fairly widespread rain / thunderstorm activity would occur over plains of northwest India.
- **Advisories:**
 - As rain/snow would occur at most places over Jammu & Kashmir on 28th February & 1st March along with heavy rain/snow fall at isolated places on 28th February, rain/snow would occur at many places over Himachal Pradesh on 28th February & 1st March and over Uttarakhand on 1st March, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of crops and keep already harvested crops at safe places. Provide adequate drainage in standing crops to avoid water stagnation in Jammu & Kashmir.
 - As thunderstorm accompanied with hailstorm would occur at isolated places over Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh on 28th February & 1st March, farmers are advised to use hail nets for orchard crops to protect from mechanical damage. Also provide mechanical support to young fruit plants and vegetables to prevent the crops from lodging due to strong winds.
 - **Jammu & Kashmir:**
 - In Valley Temperate Zone of Jammu & Kashmir, undertake nursery sowing of tomato, cauliflower, cabbage, knol khol, kale after current spells of heavy rain/snow.
 - In Sub Tropical and Intermediate Zone of Jammu & Kashmir, drain out excess water from wheat, pulses and vegetable fields.
 - Undertake harvesting of Chinese cabbage, palak, pakchoi and lettuce and undertake direct seed sowing of turnip, coriander and radish in Green Houses in Cold Arid Zone of Jammu & Kashmir.
 - **Uttarakhand:**
 - Undertake land preparation and sowing of moong and continue sowing of chickpea, rajmash, lentil, okra, planting of sugarcane and transplanting of onion in Bhabar and Tarai Zone of Uttarakhand.
 - In Hill Zone of Uttarakhand, continue land preparation for planting of potato, continue nursery sowing of tomato, brinjal and capsicum.
 - Due to humid weather, there may be incidence of yellow rust on wheat in Sub humid sub tropic Zone of Uttarakhand; for control, spray Propiconazole 25 EC (Tilt 25 EC) @ 0.1% after current spells of rain.
 - Due to humid and cloudy weather, there is chance of mealy bug infestation in mango plant in Sub humid sub tropic Zone of Uttarakhand. To control the insect, dust Methyl Parathion 2% @ 250 g per tree in the soil around

the trunk after current spells of rain.

▪ **Rajasthan:**

- In Southern Humid Plain Zone, Aravali Hill Zone of Rajasthan, carry out normal sowing of summer crops and other agricultural operations under normal weather conditions.
- In Arid Western Plain Zone of Rajasthan, as mainly dry weather would prevail, apply irrigation in timely sown wheat at grain formation stage and 2nd irrigation to the barley 65-70 days after sowing.
- Due to dry weather, there may be attack of termite in onion. To control termite, apply Chloropyriphos 20 EC @ 4 litres per ha with irrigation water in Semi Arid Eastern Plain Zone and Arid Western Plain Zone of Rajasthan.

▪ **Himachal Pradesh:**

- Continue sowing of sunflower in low and mid-hill areas and sowing of okra, French bean, cucumber, summer squash, bitter gourd, bottle gourd in low hill areas and nursery raising of high yielding varieties of tomato, brinjal, chilli and capsicum in mid hill areas of Sub-Montane and Low Hills Sub-Humid Tropical Zone by utilizing the realised and expected rainfall.
- Due to cloudy weather, there are chances of incidence of collar rot in apple in Mild Hills Sub Humid Zone. For control, spray Ridomil @ 75 g per 20 litres of water or Bavistin @ 15-20 g/20 litres of water or Dithane-M-45 @ 90-100 g/15 litres of water after current spells of rain.
- Prevailing humid weather is conducive for attack of aphids in vegetables in Mid Hills Sub-Humid Zone. For control, spray Methyl Demeton (Metasystax) @ 10ml per 10 litres of water after current spells of rain.

▪ **Punjab, Haryana and Delhi:**

- In Western Semi-Arid Zone of Delhi, continue sowing of ladies finger, cucurbitaceous crops and nursery sowing of vegetables like chilli, tomato and brinjal utilizing the realised and expected rainfall.
- Continue planting of sugarcane in Western Plain Zone of Punjab utilizing the realised and expected rainfall.
- In Western Zone of Punjab, prepare the field for transplanting of summer vegetables viz. chilli, tomato and bell pepper, undertake sowing of cucumber, bottle gourd, pumpkin, muskmelon, watermelon, bitter gourd in plastic trays or polythene bags utilizing the realised rainfall.
- In Western Zone of Haryana, undertake transplanting of young seedlings of tomato and chilli utilizing the realised and expected rainfall.
- Prevailing humid weather is conducive for severe attack of aphids in mustard in Western Plain Zone of Punjab and Western Zone of Haryana; monitor the crop regularly and spray Actara 25 WG @40g /acre on a non rainy day.
- Cloudy weather condition is favourable for yellow rust in wheat crop in Central Plain Zone, Undulating Plain Zone of Punjab and Western Semi-Arid Zone of Delhi. To control spray the crop with tilt 25 EC/Shine 25 EC/Bumper 25 EC or Folicur 25 EC @ 200 ml or Bayleton 25 WP @ 200 g in 200 litres of water/acre on a non rainy day.

▪ **Uttar Pradesh:**

- In Central plain Zone, Eastern Plain Zone and Bundelkhand Zone of Uttar Pradesh, undertake normal sowing of summer crops and other agricultural operations under normal weather conditions.
- Under humid weather condition, there is chance of attack of fruit borer and semi-looper in gram in Bundelkhand Zone. For control, spray Malathion 50 EC @ 2 litre/ha in 500-600 litres of water on a non rainy day.
- Under humid weather and favourable temperature (24^oC) condition, there is also chance of attack of aphids in mustard in Central Plain Zone. For control of aphids, spray Malathion 50 EC @ 2 ml or Dimethoate 30 EC or Chloropyriphos @ 0.5 ml or Imidachloprid @ 1.5 ml per litre of water/ha on a non rainy day.
- Under prevailing humid weather condition, there is chance of attack of leaf eating caterpillar in citrus fruits in Central Plain Zone. For control, spray Phosphomidan 100EC @ 0.6ml/litre of water on a non rainy day and repeat at an interval of three weeks.
- Suitable varieties are given in Annexure II.

• **Animal Husbandry**

- In, Punjab, Haryana, Chandigarh & Delhi and West Uttar Pradesh, keep cattle/goats indoor during thunderstorm / hailstorm period.



Banana

Sugarcane

Sorghum

Mango

- **Realised Rainfall:** Weather remained mainly dry over Vidarbha region and dry over rest of the region.
- **Weather Forecast:** Dry weather would prevail over the Gujarat State, Konkan & Goa and Vidarbha during next 24 hours; over Madhya Maharashtra and Marathwada during next 48 hours and rain/thundershowers would occur at isolated places thereafter.
No significant change in minimum and maximum temperatures over west India during next 48 hours.
- **Weather Warning:** Nil.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, as mainly dry weather would prevail, apply irrigation to groundnut (at 10–12 days interval) and vegetables. As mango is at pea/ marble size, considering the canopy apply 150 to 200 litres of water per **mango** tree at 15 days interval. Apply grass mulch in lateritic soil to avoid water loss. Maintain water level upto 5 cm at early tillering stage of summer rice and finger millet. Make shed, to protect the cashew, arecanut and mango grafts from bright sunshine. Considering wind speed (more than 12 Knots), provide mechanical support to newly planted grafts.
 - In Madhya Maharashtra, as dry weather prevailed, dry weather prevailed and rain/thundershowers with hailstorm would occur at isolated places on 1st and 2nd March, grape and pomegranate growers are advised to use hail nets to protect the crops from hail. Provide mechanical support to the banana and vegetable crops. Complete harvesting of already matured jowar, gram and safflower at the earliest and keep the harvested produce in safe place.
 - In Marathwada, as dry weather prevailed and rain/thundershowers with hailstorm would occur at isolated places on 1st and 2nd March, grape, pomegranate and sweet lime growers are advised to use hail nets to protect the crops from hail. Provide mechanical support to the banana plants and vegetable crops. Complete harvesting of jowar, gram and safflower at the earliest and keep the harvested produce in safe place during sunny hours.
 - In Vidarbha, as mainly dry weather would prevail, complete harvesting of jowar, gram and safflower. Maintain upto 5 cm water level in summer rice field (vegetative/ early tillering) in east Vidarbha.
 - Due to cloudy weather in Marathwada region there may be attack of thrips in onion, spray Carbosulphan @ 10 ml per 10 litres of water in interval of 10-15 days.
 - **Gujarat:**
 - Complete harvesting of matured mustard, castor and picking of cotton bolls in North West Zone. Continue sowing of groundnut and bajra.
 - Continue transplanting of rice, continue sowing of green gram and procure seeds of cowpea for summer sowing under assured irrigation in South Gujarat Heavy Rainfall Zone. Apply irrigation in garlic (bulb formation stage). Continue harvesting of tomato.
 - As dry weather is prevailing, apply irrigation to wheat (milk stage) in South Gujarat Zone. Spray 2% Potassium Nitrate in mango orchard for effective control of fruit dropping and higher flower setting in Middle Gujarat Zone.
 - Complete harvesting of wheat crop and keep the harvested produce at safer places as there are chances of rainfall at isolated places on 28th Feb. and 1st March in North Saurashtra Zone. Complete sowing of sesame, summer groundnut, vegetable crops (lady's finger, cluster bean, bottle gourd, sponge gourd, ridge gourd and bitter gourd), watermelon and transplanting of tomato and brinjal.
 - Continue sowing of groundnut and bajra, undertake sowing of sesame in North Gujarat Zone. As there are chances of rain, complete harvesting of matured mustard, castor, potato and picking of cotton bolls and postpone irrigation in wheat.
 - Due to cloudy weather, there are chances of mango hopper in mango orchard in South Gujarat Heavy Rainfall Zone; spray the mango orchard with Imidacloprid @ 4 to 5 ml per 10 litres of water or Monocrotophos @ 11 ml per 10 litres of water for control.
 - Due to increase in temperature thrips infestation is observed above ETL in groundnut in North Saurashtra Zone; to control, spray Profenophos @ 20 ml in 10 litres of water.
 - Suitable varieties are given in Annexure II.
- **Animal Husbandry**
 - Arrange for adequate amount of fresh drinking water for cattle, cover the poultry house with cloth / plastic sheets to protect the poultry birds from cold wind during night in Gujarat.

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

Annexure I
Week by week Rainfall Distribution

Sub-Divisions	11.02.15		18.02.15		25.02.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.0	-100	7.2	-73	6.6	-89
Dibang Valley	0.0	-100	15.0	-14	7.0	-90
East Kameng	0.0	-100	0.0	-100	0.0	-10
East Siang	1.7	-92	45.3	226	31.4	44
Kurung Kumey	**	**	**	**	**	**
Lohit	0.8	-94	8.1	-62	10.0	-62
Lower Dibang Valley	0.3	-99	0.0	-100	4.6	-93
Lower Subansari	**	**	**	**	**	**
Papumpara	6.6	-19	3.7	-86	7.3	-58
Tawang	0.0	-100	0.0	-100	0.0	-100
Tirap	0.0	-100	2.6	-89	4.4	-81
Upper Siang	0.0	-100	12.8	-52	11.6	-80
Upper Subansari	1.0	-76	0.0	-100	16.0	3
West Kameng	0.0	-100	0.0	-74	0.8	-93
West Siang	1.5	-91	2.0	-60	3.0	-87
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	0.0	-100	0.6	-93	4.8	-50
Bongaigaon	0.0	-100	0.0	-100	4.8	-54
Cachar	0.0	-100	0.0	-100	6.9	-61
Chirang	0.0	-100	0.0	-100	21.0	102
Darrang	0.0	-100	0.0	-100	0.0	-100
Dhemaji	0.0	-100	0.0	-100	1.0	-91
Dhubri	0.0	-100	0.0	-39	1.4	-51
Dibrugarh	0.0	-100	8.2	-39	4.0	-74
Goalpara	0.0	-100	0.0	-100	2.4	-59
Golghat	0.0	-100	10.1	-16	5.6	30
Hailakandi	0.0	-100	0.0	-100	22.5	8
Jorhat	0.0	-100	22.7	106	10.7	18
Kamrup(Rural)	0.0	-100	0.0	-100	8.4	29
Kamrup(Metro)	0.0	-100	0.3	-94	2.2	-66
Karbi Anglong	0.0	-100	3.2	-54	0.3	-97
Karimganj	0.0	-100	0.0	-100	2.0	-81
Kokrajhar	0.0	-100	0.0	-100	1.3	-86
Lakhimpur	0.1	-99	7.1	-41	4.4	-62
Morigaon	0.0	-100	0.0	-100	11.4	15
N.C.Hills	0.0	-100	0.0	-100	0.0	-100

Nowgong	0.0	-100	1.1	-75	4.8	-7
Nalbari	0.0	-100	0.0	-100	3.0	-25
Sonitpur	0.0	-100	0.1	-99	1.7	-71
Sibsagar	0.0	-100	5.1	-30	7.9	-32
Tinsukia	0.0	-100	11.5	-22	3.7	75
Udalgiri	0.8	-90	0.0	-100	2.5	-42
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	3.4	-11
East Khasi Hills	0.0	-100	0.3	-94	9.8	16
Jaintia Hills	0.0	-100	2.0	-79	1.0	-94
Ribhoi	0.0	-100	7.4	236	0.0	-100
South Garo Hills	0.0	-100	0.0	-100	10.0	335
West Garo Hills	0.0	-100	0.0	-100	0.4	-83
West Khasi Hills	0.0	-100	2.0	-67	9.0	-20
NMMT						
Mizoram						
Aizwal	0.0	-100	0.0	-100	15.0	16
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	10	-34
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	0.0	-100	0.0	-100	0.0	-100
Serchhip	**	**	**	**	**	**
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	0.0	-100	3.0	-61	2.0	-44
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	3.6	-59
Imphal west	0.0	-100	0.0	-100	0.3	-96
Senapati	0.0	-100	0.0	-100	4.0	11
Tamenglong	**	**	**	**	**	**
Thoubal	0.0	-100	0.0	-100	9.0	27
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.0	-100	9.6	638	13.1	1531
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	9.6	63	13.4	29
Longleng	**	**	**	**	**	**
Mokokchung	**	**	**	**	**	**
Mon	**	**	**	**	**	**
Parent	**	**	**	**	**	**
Phek	0.0	-100	15.0	154	7.0	-33
Tuensang	**	**	**	**	**	**
Wokha	**	**	6.0	-5	10.0	0
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	36.5	95
North Tripura	0.0	-100	0.0	-100	23.1	79

South Tripura	0.0	-100	0.0	-100	1.9	-87
West Tripura	0.0	-100	0.6	-90	12.9	14
Himachal Pradesh						
Bilaspur	0.0	-100	6.6	-67	54.0	238
Chamba	0.0	-100	12.7	-53	109.8	329
Hamirpur	0.0	-100	4.9	-77	57.4	332
Kangra	0.0	-100	8.8	-60	50.7	126
Kinnaur	0.2	-99	10.3	-66	60.3	146
Kullu	0.3	-99	27.1	2	105.0	313
Lahaul and Spiti	0.0	-100	30.0	-13	72.3	104
Mandi	0.0	-100	11.8	-47	81.4	402
Shimla	0.0	-100	12.0	-38	63.2	245
Sirmaur	0.0	-100	0.6	-96	19.7	83
Solan	0.0	-100	4.6	-75	39.6	123
Una	0.0	-100	3.9	-73	45.6	347
Punjab						
Amritsar	0.0	-100	8.1	-5	37.6	276
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	3.2	-52
Faridkot	0.0	-100	0.0	-100	11.0	224
Fatehgarh Saheb	0.0	-100	0.8	-89	7.5	34
Ferozpur	0.0	-100	3.6	-41	3.0	-21
Gurdaspur	0.0	-100	4.6	-65	44.8	213
Hoshiarpur	0.0	-100	2.4	-80	27.9	147
Jalandhar	0.0	-100	8.7	-11	19.6	131
Kapurthala	0.0	-100	5.3	-42	31.2	699
Ludhiana	0.0	-100	1.3	-84	11.9	61
Mansa	0.0	-100	0.0	-100	3.0	-33
Moga	0.0	-100	5.2	18	0.0	-100
Muktesar	0.0	-100	0.0	-100	8.5	102
Nawashahar	0.0	-100	0.6	-96	17.5	61
Patiala	0.0	-100	0.2	-96	4.4	-44
Ropar	0.0	-100	2.1	-86	26.6	186
Sangrur	0.0	-100	0.5	-89	7.2	19
Mohali	0.0	-100	0.3	-95	20.2	211
TarnTaran	0.0	-100	4.1	-30	41.4	492
Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.0	-100	9.9	58
Bhiwani	0.0	-100	0.0	-100	1.1	-72
Chandigarh	0.0	-100	0.0	-100	22.3	153
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	2.5	-37
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.9	-81
Jhajar	0.0	-100	0.0	-100	2.4	-31
Jind	0.0	-100	0.0	-100	1.1	-53
Katihah	0.0	-100	0.0	-100	4.0	-11
Karnal	0.0	-100	0.0	-100	1.3	-76

Kurukshetra	0.0	-100	0.0	-100	0.4	-92
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	15.7	36
Panipat	0.0	-100	0.0	-100	1.0	-80
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	2.2	-52
Sonepat	0.0	-100	0.0	-100	0.3	-93
Yamunanagar	0.0	-100	0.0	-100	6.4	-25
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	2.2	-63
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	0.2	-97
South West Delhi	0.0	-100	0.0	-100	5.9	-1
West Delhi	0.0	-100	0.0	-100	1.0	-83
Jammu & Kashmir						
Anantnag	28.0	84	18.6	-28	85.5	185
Badgam	4.0	-74	25.8	34	50.1	171
Bandipore	**	**	**	**	**	**
Baramula	19.5	-66	25.4	-30	99.5	76
Doda	0.2	-99	17.6	-63	118.0	130
Ganderbal	13.0	2	31.2	64	63.6	274
Jammu	0.4	-94	11.6	-37	58.9	196
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	4.4	-55	43.6	94
Kistwar	**	**	**	**	**	**
Kulgam	9.8	-36	12.8	-50	64.0	113
Kupwara	24.4	9	29.2	-14	114.5	242
Ladakh(Leh)	0.0	-100	0.0	-100	1.7	16
Poonch	**	**	**	**	**	**
Pulwama	6.8	-9	6.7	-63	78.1	478
Rajouri	10.2	28	2.3	-81	59.9	192
Ramban	3.9	-86	19.1	-60	138.9	171
Reasi	4.0	-79	16.9	-33	76.6	114
Samba	0.3	-96	5.1	-72	39.5	98
Shopian	6.0	-20	0.0	-100	**	**
Srinagar	6.5	-49	24.8	30	90.2	430
Udhampur	1.5	-92	5.1	-80	120.0	235
East Madhya Pradesh						
Anuppur	7.2	-12	12.5	62	0.0	-100
Balaghat	0.9	-86	6.3	85	0.0	-100
Chhatarpur	9.9	129	1.3	-64	0.0	-100
Chindwara	5.9	10	1.2	-61	0.0	-100

Damoh	2.0	-71	8.5	60	0.0	-100
Dindori	3.2	-45	7.4	32	0.0	-100
Jabalpur	8.8	91	3.8	50	0.0	-100
Katni	15.8	193	13.2	200	0.0	-100
Mandla	19.1	218	4.9	-34	0.0	-100
Narsingpur	10.4	136	0.0	-100	0.0	-100
Panna	12.7	127	0.0	-100	0.0	-100
Rewa	0.7	-82	0.0	-100	0.0	-100
Sagar	3.4	-19	0.0	-100	0.0	-100
Satna	5.6	-2	1.4	-70	0.0	-100
Seoni	18.2	152	21.8	540	1.4	-46
Shahdol	1.0	-79	1.0	-87	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	10.0	614	0.0	-100	0.0	-100
Umaria	2.4	-65	0.6	-92	0.0	-100
West Madhya Pradesh						
Agar	3.3	200	0.0	-100	0.0	-100
Alirajpur	2.4	243	0.0	-100	0.0	-100
Asoknagar	21.0	813	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	17.7	419	6.5	489	0.0	-100
Bhind	1.3	-22	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	13.1	1094	0.0	-100	0.0	-100
Datia	8.7	212	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	5.0	738	0.0	-100	0.0	-100
Guna	26.5	755	0.0	-100	0.0	-100
Gwalior	5.7	126	0.0	-100	0.1	-96
Harda	11.5	219	0.0	-100	0.0	-100
Hosangabad	11.1	184	0.8	-53	0.0	-100
Indore	1.8	80	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	6.3	273	0.0	-100	0.0	-100
Khargone	0.7	-39	0.0	-100	0.0	-100
Mandsaur	4.8	494	0.0	-100	0.0	-100
Morena	4.5	277	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	5.6	197	0.0	-100	0.0	-100
Ratlam	6.4	814	0.0	-100	0.0	-100
Sehore	2.0	-31	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.5	-38	0.0	-100	0.0	-100
Shivpuri	6.5	242	0.0	-100	0.0	-100
Ujjain	2.2	44	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh						

Bastar	0.0	-100	0.0	-100	1.7	-40
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.9	-84	3.2	-21	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	0.3	-93	0.0	-100
Koriya	2.8	13	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	0.2	-92	0.0	-100
Rajandgaon	0.4	-88	0.4	-83	0.0	-100
Surguja	0.3	-93	2.7	-22	0.0	-100
East Uttar Pradesh						
Allahabad	0.5	-85	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	15.0	398	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	3.6	18	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	0.5	-88	0.0	-100	0.0	-100
Hardoi	0.2	-95	0.0	-100	0.0	-100
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	1.6	-58	0.0	-100	0.0	-100
Kanpur City	0.1	-97	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	0.3	-89	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	4.3	47	0.0	-100	0.0	-100

RaiBareilly	1.4	-42	0.0	-100	0.0	-100
Sahuji Maharajnagar	1.2	-72	0.0	-100	0.0	-100
Sant Kabirnnagar	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	1.2	-56	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.9	-79	0.0	-100	0.0	-100
West Uttar Pradesh						
Agra	0.5	-78	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	0.6	-88
Bijnor	0.0	-100	0.0	-100	0.4	-94
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	15.3	365	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	14.7	373	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	17.4	729	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	0.0	-100
Mahoba	13.2	560	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	0.2	-96
Muzzaffarnagar	0.0	-100	0.0	-100	1.4	-75
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.4	-93
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	0.8	-92
Bageshwar	0.0	-100	0.0	-100	19.0	88
Chamoli	0.0	-100	0.0	-100	18.8	-10
Champawat	0.0	-100	0.0	-100	1.5	-84
Dehradun	0.0	-100	0.0	-100	8.8	-33
Garhwal Pauri	0.0	-100	0.0	-100	2.7	-71

Garhwal Tehri	0.0	-100	0.0	-100	21.6	95
Haridwar	0.0	-100	0.0	-100	1.8	-80
Nainital	0.0	-100	0.0	-100	4.4	-58
Pithorgarh	0.0	-100	4.0	-76	21.6	32
Rudraprayag	0.0	-100	0.2	-99	27.2	30
Udham Sing Nagar	0.0	-100	0.0	-100	0.5	-89
Uttarkashi	0.0	-100	5.0	-82	36.6	138
Bihar						
Araria	0.0	-100	0.0	-100	6.7	291
Arwal	0.0	-100	0.0	-100	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	0.9	-63	0.0	-100
Bhagalpur	0.0	-100	0.0	-100	2.3	1
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
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	0.1	-97	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	5.9	633	5.3	103
Khagadia	0.0	-100	0.0	-100	16.4	1947
Kishanganj	0.0	-100	0.0	-100	1.9	12
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	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	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	3.9	11
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	1.2	-60
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	**	**
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	4.8	46
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	0.1	-96	0.9	-76
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	1.2	-74
Dumka	0.0	-100	0.5	-67	5.0	85
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	2.4	-1
Godda	0.0	-100	0.0	-100	7.3	127
Gumla	0.0	-100	0.0	-100	**	**
Hazaribagh	0.0	-100	0.0	-100	0.1	-96
Jamtara	0.0	-100	0.0	-100	5.7	49
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	0.1	-99	0.5	-85	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	12.8	814
Saraikela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	5.4	42	**	**
West Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.0	-98
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.2	-80	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	0.5	52	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	0.1	-84	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.5	-81
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.6	-59	0.0	-100	0.0	-100
Pratapgarh	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	1.7	-32
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	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	0.0	-100	0.0	-100	**	**
Jalgaon	5.8	544	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	2.5	1139	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	7.5	276	0.0	-100	**	**
Jalna	5.1	533	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	0.3	-69	0.0	-100	0.0	-100
Vidarbha						
Akola	0.9	-54	0.0	-100	0.0	-100
Amraoti	7.6	215	0.0	-100	0.0	-100
Bhandara	2.4	-53	0.0	-100	0.0	-100
Buldhana	2.8	112	0.2	7	0.0	-100
Chandrapur	2.0	-14	0.0	-100	0.2	-87
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-99	1.2	-60	0.1	-94
Nagpur	9.4	168	0.9	-63	4.9	132
Wardha	9.6	267	0.0	-100	0.0	-100
Washim	3.8	70	0.0	-100	0.0	-100
Yeotmal	3.9	179	0.0	-100	0.0	-100
Odisha						
Angul	0.0	-100	3.5	-25	0.0	-100
Balasore	0.0	-100	1.1	-91	10.2	22
Bargarh	0.0	-100	4.8	19	0.0	-100
Bhadrak	0.0	-100	3.1	-72	0.0	-100
Bolangir	0.0	-100	0.8	-83	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	6.2	20	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	8.2	-58	1.8	-76
Ganjam	0.0	-100	1.3	-83	0.0	-99
Jagatsingpur	0.0	-100	4.2	-55	3.6	-46
Jajpur	0.0	-100	8.4	-19	0.0	-100
Jharsuguda	0.0	-100	3.5	14	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	7.2	-18	0.6	-87

Kendrapara	0.0	-100	1.2	-92	2.5	-66
Keonjhar	0.0	-100	15.2	60	0.0	-100
Khurda	0.0	-100	4.2	-46	0.8	-92
Koraput	0.0	-100	0.8	-77	0.0	-100
Malkangiri	0.0	-100	0.0	-100	3.0	30
Mayurbhanj	0.0	-100	2.3	-57	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	2.0	-63	0.0	-100
Puri	0.0	-100	3.1	-64	0.0	-100
Rayagada	0.0	-100	0.8	-92	0.0	-100
Sambalpur	0.0	-100	3.3	-37	0.0	-100
Sonepur	0.0	-100	0.3	-92	0.0	-100
Sundargarh	0.0	-100	0.4	-88	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	3.5	-81	0.0	-100	9.3	-10
North & Middle Andaman	0.0	-100	0.0	-100	0.0	-100
South Andaman	0.0	-100	0.0	-100	0.5	-89
GWB						
Bankura	0.0	-100	0.0	-87	0.8	71
Birbhum	0.0	-100	3.9	-100	3.8	-5
Burdwan	0.0	-100	1.2	97	4.5	-18
East Midnapore	0.0	-100	0.3	-68	0.1	-98
Hooghly	0.0	-100	1.1	-92	2.8	-72
Howrah	0.0	-100	3.1	-82	1.0	-82
Kolkata	0.0	-100	0.0	-45	0.4	-95
Murshidabad	0.0	-100	8.3	-100	3.5	-8
Nadia	0.0	-100	1.0	360	2.6	-20
24 Pargana (N)	0.0	-100	0.0	-70	0.5	-91
Purulia	0.0	-100	4.3	-99	0.1	-99
24 Pargana (S)	0.0	-100	0.3	-46	0.0	-100
West Midnapore	0.0	-100	1.8	-94	4.4	51
SHWB & Sikkim						
Cooch Behar	0.0	-100	0.0	-100	11.7	194
Darjeeling	0.0	-100	0.4	-97	1.9	-76
East Sikkim	0.0	-100	8.4	-42	0.7	-94
Jalpaiguri	0.0	-100	0.0	-100	7.8	65
Malda	0.0	-100	0.0	-100	0.6	-81
North Dinajpur	0.0	-100	0.0	-100	5.3	200
North Sikkim	0.0	-100	13.7	-33	2.2	-92
South Dinajpur	0.0	-100	0.0	-100	7.7	31
South Sikkim	0.0	-100	5.1	-65	0.0	-100
West Sikkim	0.0	-100	10.2	-50	1.3	-95
Karnataka						
Coastal Karnataka						
Dakshin Kannada	0.0	-100	0.0	-100	2.0	297
Udupi	0.0	-100	0.0	-100	0.0	-100
Uttar Kannada	0.0	-100	0.0	-100	0.0	-100

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	0.0	-100
Chichballapur	0.0	-100	0.0	-100	0.0	-100
Chickmagalur	0.0	-100	0.0	-100	0.4	-68
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	0.0	-100
Kodagu	0.0	-100	0.0	-100	4.8	119
Kolar	0.0	-100	0.0	-100	0.0	-100
Mandya	0.0	-100	0.0	-100	0.0	-100
Mysore	0.0	-100	0.0	-100	0.0	-100
Ramnagara	0.0	-100	0.0	-100	0.0	-100
Shimoga	0.0	-100	0.0	-100	0.0	-100
Tumkur	0.0	-100	0.0	-100	0.0	-100
Kerala						
Alappuzha	3.6	-59	0.9	-84	0.0	-100
Kannur	0.0	-100	0.0	-100	0.0	-100
Ernakulam	0.0	-100	0.5	-86	0.0	-100
Idukki	0.0	-100	5.8	106	0.0	-100
Kasaragod	0.0	-100	0.0	-100	0.0	-100
Kollam	0.0	-100	18.2	164	0.0	-100
Kottayam	0.2	-96	4.1	-46	0.0	-99
Kozhikode	0.0	-100	0.0	-100	0.0	-100
Malappuram	0.0	-100	0.0	-100	0.0	-100
Palakkad	0.0	-100	0.0	-100	0.0	-100
Pathanamthitta	0.0	-100	3.9	-57	13.4	-94
Thiruvananthapuram	0.0	-99	0.0	-100	0.0	-100
Thrissur	0.0	-100	0.0	-100	0.0	-100
Wynad	0.0	-100	0.0	-100	0.0	-100
Tamil Nadu						
Ariyalur	0.0	-100	0.0	-100	0.0	-100
Chennai	0.0	-100	0.0	-100	0.0	-100
Coimbatore	0.0	-100	0.0	-100	0.0	-100
Cuddalore	0.0	-100	0.0	-100	0.0	-100

Dharmapuri	0.0	-100	0.0	-100	0.0	-100
Dindigul	0.0	-100	0.0	-100	0.0	-100
Erode	0.0	-100	0.0	-100	0.0	-100
Kanchipuram	0.0	-100	0.0	-100	0.0	-100
Kanyakumari	0.0	-100	0.0	-100	0.0	-100
Karikal	0.0	-100	0.0	-100	0.0	-100
Karur	0.0	-100	0.0	-100	0.0	-100
Krishnagiri	0.0	-100	0.0	-100	0.0	-100
Madurai	0.0	-100	0.0	-100	0.0	-100
Nagapattinam	0.0	-100	0.0	-100	0.0	-100
Namakkal	0.0	-100	0.0	-100	0.0	-100
Nilgiris	0.0	-100	0.0	-100	0.0	-100
Perambalur	0.0	-100	0.0	-100	0.0	-100
Puducherry	0.0	-100	0.0	-100	0.0	-100
Pudukottai	0.0	-100	0.0	-100	0.0	-100
Ramanathapuram	1.9	-63	0.0	-100	0.0	-100
Salem	0.0	-100	0.0	-100	0.0	-100
Sivaganga	0.0	-100	0.0	-100	0.0	-100
Thanjavur	0.0	-100	0.0	-100	0.0	-100
Theni	0.0	-100	0.0	-100	0.0	-100
Tirunelveli	0.2	-98	1.3	-100	1.3	-100
Tirupur	0.0	-100	0.0	-100	0.0	-100
Tiruvallur	0.0	-100	0.0	-100	0.0	-100
Tiruvannamalai	0.0	-100	0.0	-100	0.0	-100
Tiruvarur	0.0	-100	0.0	-100	0.0	-100
Toothukudi	2.7	-37	0.0	-84	0.0	-100
Trichy	0.0	-100	0.0	-100	0.0	-100
Vellore	0.0	-100	0.0	-100	0.0	-100
Villupuram	0.0	-100	0.0	-100	0.0	-100
Virudhunagar	0.0	-100	0.0	-100	0.0	-100
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	0.0	-100	0.0	-100	0.0	-100
Guntur	0.0	-100	0.0	-100	0.0	-100
Krishna	0.0	-100	0.0	-100	0.0	-100
Nellore	0.0	-100	0.0	-100	0.0	-100
Prakasam	0.0	-100	0.0	-100	0.0	-100
Sirkakulam	0.0	-100	4.0	-23	0.1	-98
Visakhapatnam	0.0	-100	0.0	-100	0.2	-96
Vizianagram	0.0	-100	0.6	-85	0.6	-86
West Godavari	0.0	-100	0.1	-96	0.0	-100
Rayalaseema						
Anantapur	0.0	-100	0.0	-100	0.0	-100
Chittoor	0.0	-100	0.0	-100	0.0	-100
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	0.0	-100	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	0.0	-100	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

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

Karnataka

Sunflower: Mordern, K.B.S.H-1, 41, 42 and 44

Maize: Ganga-11, Deccan-103, N.A.C-6002 & 6004, Nityashree

Groundnut: ICGS-11, K-134, Chintamani-2(KCH-2)

Ragi: Indaf-5, GPU-26 and 48

Sugar-cane: Co-86032, Co-94012

Tamil Nadu:

Irrigated sesame: TMV 4, TMV 6 and SVPR 1

Cotton: MCU-5, Surabhi and SVPR-2

Assam

Sunflower: Jwalamukhi.

Green gram: Pratap, T-44, Kopergaon, AAU-39, K-851 and ML-55.

Black gram: T-9, Pant-U-19, UG-157.

Direct seeded ahu rice: Banglami, Rangadoria, Ahu joha, Rasi, Banglami, Rangadoria, Ahu joha, Rasi.

Okra: Pusa Sawani, Arka Anamika, Parbhdani Kranti

Odisha

Sunflower: Morden, Sunrise, Surya and Hybrid varieties like KBSH-1, KBSH-3 and MSFH.

Groundnut: Smruti, TAG-27, TAG – 24 and JL-24

Onion: Nasik Red, Patna Red, Pune Red, Bellary Red, Pusa Ratnar, Pusa Madhavi, Arka Niketan ,Arka Pragati

Ragi: HYVs. like Subhra, Vairabi, Dibyasingh, Nilachala, Subhra, Godavari and Chilka.

Bihar

Boro rice: Gutum, Prabhat, Richaria, Dhanlaxmi, SarojRajendraBhagvati, and R.A.U

Sweet Potato: Cross 4 and Rajendra shakarkand 35

Okra: Parvani kranti, Arka abhay, Arka anamika, Barsha Uphar, KS 312, Okra 4, Punjab 7, Pant Bhindi 1

Jharkhand:

Summer rice: IR-36, IR-64, Naveen, lalat, Parijat (80-85 days).

Summer maize: Birsa Makka-1, Birsa Makka-2, Suwan-1(Hybrid), HQPM (Hybrid)

Green gram: mung S.M.L.- 668

Sugarcane: BO 147

Okra: Improved varieties – Pusa A - 4, Prabhani Kranti, Arka Anamika, Versha Uphar & Hybrid varieties – Sonal and Sarika

Jammu & Kashmir

Onion: Agrifound Parvati, Pusa red, N-53.

Uttarakhand

Tomato: VL Tomato-3, Pant T-3, Him Sona, Him Shikhar.

Capsicum: California Vander, Pus Dipti, Anupam. Heera, Indira, Supriya & Bharat.

Potato: Kufri- Jyoti, Ashok, Anand

Moong: Pant Moong-2, Pant Moong-4, Pant Moong-5, Pant Moong-6, Narendra Moong-1

Himachal Pradesh

Wheat: HPW-155, HPW-89, HPW-147, HPW-236, HPW-211 in low and mid hill and HPW-155, HPW-236, HPW-42 in high hill

Late variety of Cauliflower: broccoli

Cauliflower: Pusa-snowwall

Radish:Japanese white, Chinese pink and mino early white

Turnip: PTWG-1

Carrot: Pusa kesar

Fenugreek: I.C. 74, Kasoori

East Uttar Pradesh

Wheat: Narendra-1012, HD-2824, 2733, HP-1731, UP-2382, PWD-343, CVW-38, DBW-39, UO-2382, HUW-510

Wheat (Late varieties): Malaveey-234, HP-1633, H-1744, Narendra-1014, UP-2425

Onion: Pusa red, Kalynpur red, light red

Lentil: T-8, Pant L-406, 234

Chilli: Patasi-1, Jwala, Sadabahar

Lobia: lobia 263, Pusa Phaguni

Tomato: Pant T-2, Azad T-2, Narendra-1,2,4,5,6

Maize: Navjyoti, Kanchan, Gaurav, Surya, Navin, Shweta, Azad Uttam,Prakash, Deccan-115, MMH-135, Ganga-11, Pusa, Maize-2, JH-3459

Urd: T-9, Narendra-1, Azad-1, Uttar Azad-2, Shekhar-2

West Uttar Pradesh:

Wheat (non-irrigated): K-9644, Maghar (K-8027), Mandakini (K-9351), Indra (K-8962), Gomati (K-9465), HDR-77, HD-2888

Wheat (Irrigated): K-307, DBW-17, PBW-343,502,550, GW-366, K-1006, 607,402, DVW-39

KRL-210, 213, 19, K-8434(Prasad), NW-1067

Lentil: Narendra-1, DPL-62, Pant-5, L-4076, K-75, HUL-57, Shekhar-3, 2, IPL-81

Sunflower: No.1, PAC- 302, SH-322

Punjab

Sugarcane: CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89

Rajasthan

Groundnut: T.A.G.24, T.G.37A, G.G.2, D.H.86.

Maharashtra

Madhya Maharashtra

Groundnut: SB-11, JL-286, Phule Unati, TPG-41, TG-26 or JL-501.

Sunflower: SS-56, Modern, EC-68414 or bhanu and hybrid varieties like KBSH-1 or phule Raviraj or MSFH-17.

Marathwada

Jowar: Parbhani Moti or Parbhani Jyoti.

suru Sugarcane: CO-86032, COM- 7125, CO-8014 or CO-740

Okra: Parbhani Kranti

Vidarbha

Groundnut: TAG-24, TG-26 or SB-11.

Water Melon: Sugar baby, Arka Jyoti or Arka Manik.

Okra: Arka Anamika, Parbhani Kranti, Akola Bahar or Phule Utkarsha.

Sesamum: AKT-101 or NT-11-99.

Gujarat

Groundnut: GG-2, 4 and GG-20, TAG-24, TG-37-A, TPG-41,GG-2, GJG-3.

Sesamum: G.Til-2, G.Til-3.

Cowpea: Guj. Cowpea-4, 5 and Pusa Falguni.

Green gram: Guj. Mung-3, 4.

Brinjal: Junagadh oblong, Junagadh long, Guj. Bringle-2.

Lady' finger: Guj. Hy.-1 & 2.

Ridge gourd: Pusa nasdar, Jaipuri.

Bottle gourd: Junagadh tender long, Pusa summer prolific long.

Sponge Gourd: Pusa chikni.

Bitter Gourd: Priya, Pusa domosmi.

Cluster bean: Pusa sadabahar, Pusa navbahar, IC-11388.

Watermelon: Sugar baby, Arka jyoti.