



# *National Agromet Advisory Service Bulletin*

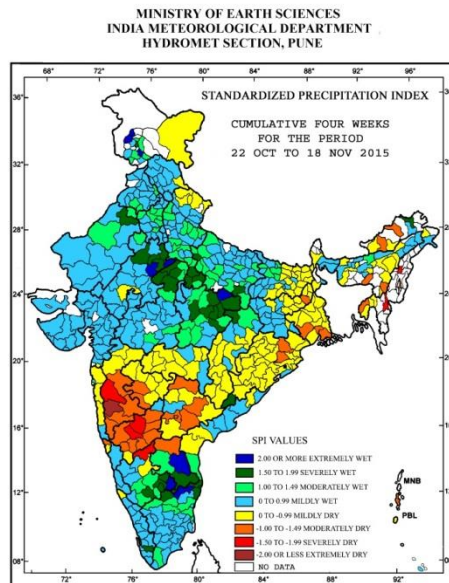


*Friday 20<sup>th</sup> November 2015*  
*(For the period 20<sup>th</sup> to 24<sup>th</sup> November 2015)*



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

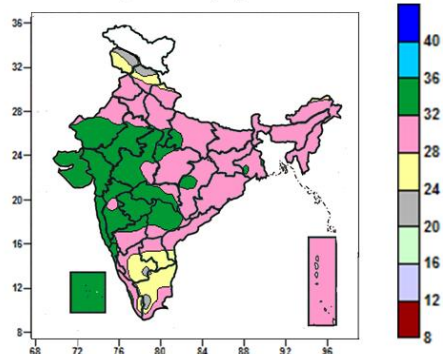
## Standardised Precipitation Index Four Weekly for the Period 22<sup>nd</sup> October to 18<sup>th</sup> November 2015



- Extremely/severely wet conditions experienced in few districts of Jammu & Kashmir; Madhya Pradesh; Upper Siang district of Arunachal Pradesh; Malkangiri district of Odisha; Kannauj, Mirzapur, Hamirpur, Jalaun, Jhansi districts of Uttar Pradesh; Hanumangarh, Bharatpur, Jaipur, Sawai Madhopur, Dholpur, Dausa, Karauli districts of Rajasthan; Koriya district of Chhattisgarh; Chittoor, Cuddapah districts of Andhra Pradesh; Chennai, Kanchipuram, Tiruvallur, Vellore, Krishnagiri districts of TamilNadu; Bangalore Rural, Bangalore Urban, Kolar, Mandya, Chickballapur districts of Karnataka; Pathanamthitta district of Kerala.
- Extremely/Severely dry conditions experienced in Aizwal district of Mizoram; Kohima district of Nagaland; Pune, Satara districts of Maharashtra; Bagalkote, Bijapur, Bellary districts of Karnataka.
- Moderately dry conditions experienced in many districts of Telangana; few districts of Arunachal Pradesh; West Bengal; Cachar district of Assam; East Khasi Hills district of Meghalaya; Imphal East district of Manipur; West Tripura district of Tripura; Dhenkanal, Keonjhar, districts of Odisha; Dumka districts of Jharkhand; North Goa districts of Konkan & Goa; Ahmednagar, Kolhapur, Sangli, Sholapur, Beed, Osmanabad districts of Maharashtra; Kurnool district of Andhra Pradesh; Belgam, Dharwad, Gadag, Gulbarga, Koppal, Raichur, Yadgir districts of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/wet conditions.

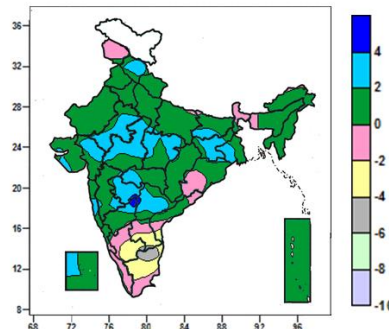
**Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 18.11.2015**

**Actual Mean Maximum Temperature (°C) in India for the week ending 18.11.2015**



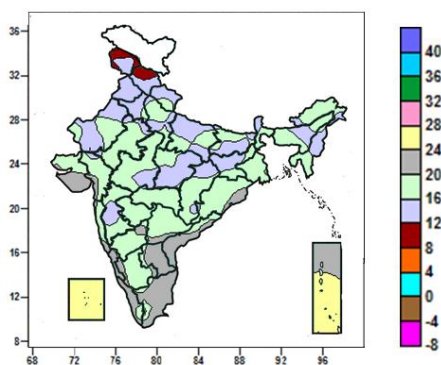
- Mean maximum temperature was between 28 to 36<sup>0</sup>C over rest of the country except Jammu & Kashmir, many parts of Himachal Pradesh, South Interior Karnataka, Tamil Nadu, Rayalaseema, and isolated pockets of Uttarakhand, Coastal Andhra Pradesh and Kerala where it was between 20 and 28<sup>0</sup>C.

**Mean Maximum Temperature (°C) Anomaly in India for the week ending 18.11.2015**



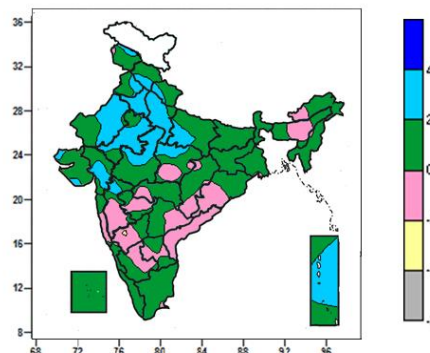
- Mean maximum temperature was above normal by 4 to 6<sup>0</sup>C over isolated pockets of Marathwada, Telangana, North Interior Karnataka.
- Mean maximum temperature was above normal by 2 to 4<sup>0</sup>C over many parts of Himachal Pradesh, East Rajasthan, Jharkhand, West Madhya Pradesh, Marathwada, Telangana, some parts of Gujarat region, Bihar, Gangetic West Bengal, East Madhya Pradesh, Vidarbha and isolated pockets of Saurashtra, Konkan, Madhya Maharashtra and Lakshadweep.
- Mean maximum temperature were below normal by 4 to 6<sup>0</sup>C over some parts of Tamil Nadu and isolated pockets of South Interior Karnataka, Rayalaseema.
- Mean maximum temperature was below normal by 2 to 4<sup>0</sup>C over some parts of Tamil Nadu, Rayalaseema, South Interior Karnataka and isolated pockets of Coastal Andhra Pradesh.
- It was normal to near normal in remaining parts of the Country.

**Actual Mean Minimum Temperature (°C) in India for the week ending 18.11.2015**



- Mean minimum temperature was between 8 to 12<sup>0</sup>C over many parts of Jammu & Kashmir, Himachal Pradesh.
- It was between 12 to 20 <sup>0</sup>C over rest of the country except Coastal Karnataka, Lakshadweep, Andaman &

**Mean Minimum Temperature (°C) Anomaly in India for the week ending 18.11.2015**



- Mean minimum temperature was above normal by 2 to 4<sup>0</sup>C over Haryana & Delhi, many parts of West Uttar Pradesh, Rajasthan, Andaman & Nicobar Islands, some parts of Himachal Pradesh, Punjab, East Uttar Pradesh, Madhya Pradesh, Gujarat region, Madhya Maharashtra, and isolated pockets of



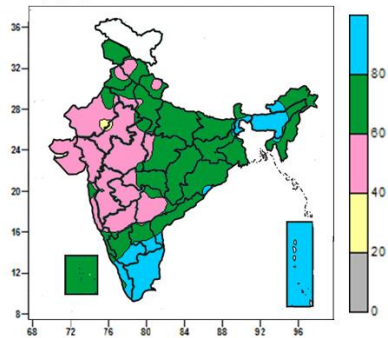
Nicobar Islands many parts of Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Saurashtra and isolated pockets of Gujarat region, Interior Karnataka, Telangana and Odisha where it was between 20 and 28°C.

Uttarakhand, Saurashtra & Kutch.

- Mean minimum temperature was below normal by 2 to 4°C over isolated pockets of South Interior Karnataka.
- It was normal to near normal in remaining parts of the country.

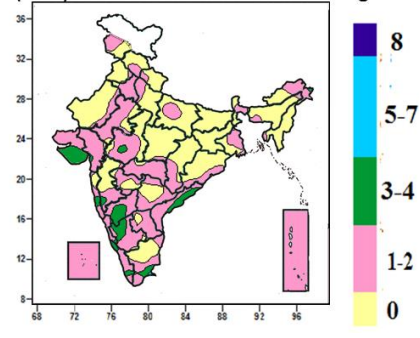
**Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 18.11.2015**

**Relative Humidity (%) over India for the week ending 18.11.2015**



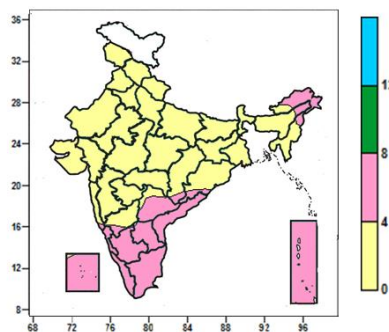
- Mean Relative humidity was above 80% over Tamil Nadu, Andaman & Nicobar Islands, many parts of Assam & Meghalaya, Kerala, some parts of Arunachal Pradesh, South Interior Karnataka, Rayalaseema and isolated pockets of Sub-Himalayan West Bengal, Odisha, Coastal Andhra Pradesh.
- Mean Relative humidity was between 60 to 80% over rest of the country except Gujarat, Madhya Maharashtra, Marathwada, many parts of Rajasthan, West Madhya Pradesh, Konkan & Goa, North Interior Karnataka, Telangana, some parts of Himachal Pradesh, Uttarakhand, Punjab, Haryana, East Madhya Pradesh, Vidarbha and isolated pockets of Uttarakhand, West Uttar Pradesh, Coastal Karnataka where it was between 40 to 60%.

**Cloud amount (okta) over India for the week ending 18.11.2015**



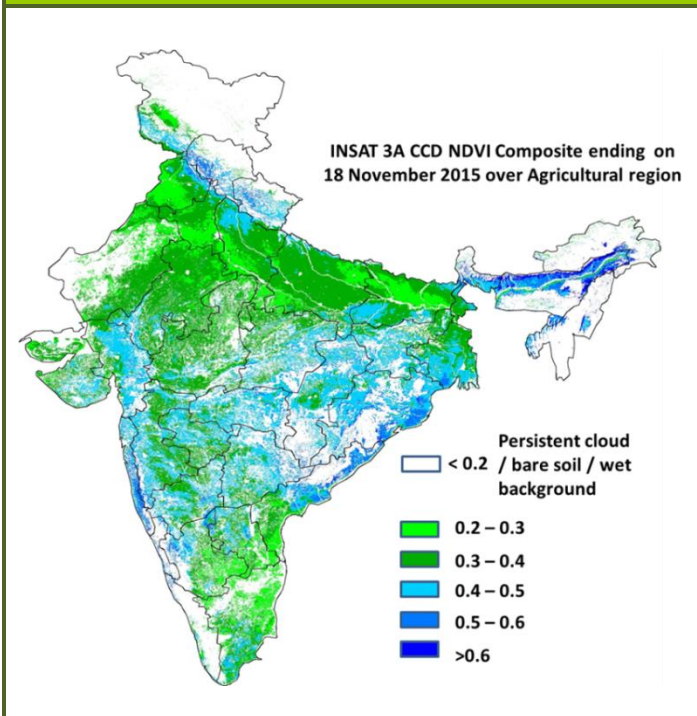
- Sky remained partly cloudy (3-4okta) over many parts of Saurashtra, some parts of, Coastal Andhra Pradesh, Interior Karnataka and isolated pockets of Coastal Gujarat region, West Madhya Pradesh, Konkan, Kerala and Tamil Nadu.
- Sky remained mainly clear/clear sky ( 1 to 2/0 okta) over rest of the country.

**Wind speed (knots) over India for the week ending 18.11.2015**



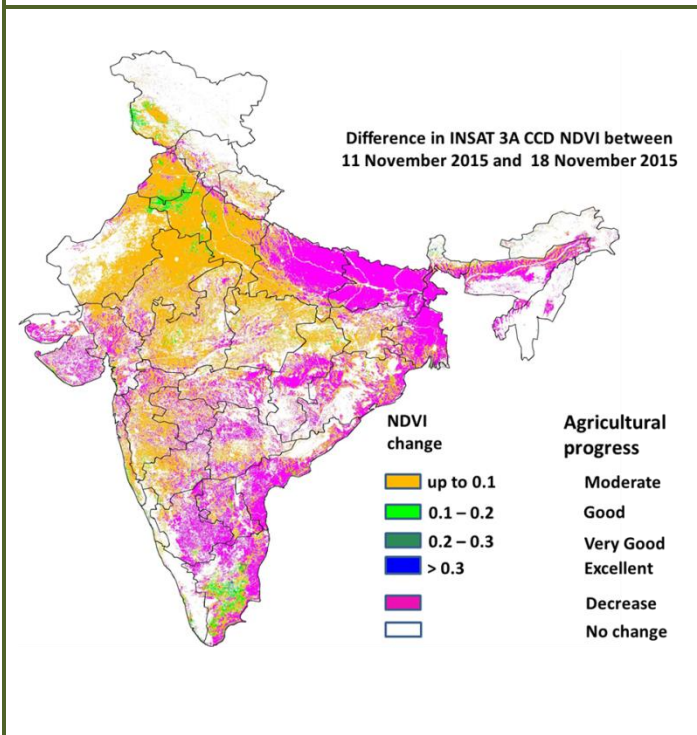
- Mean wind speed was 4 to 8 knots over Andhra Pradesh, Coastal & South Interior Karnataka, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, many parts of Arunachal Pradesh, Telangana, some parts of Nagaland, Goa and isolated pockets of Assam, Odisha, Chhattisgarh, North Interior Karnataka..
- It was less than 4 knots over rest of the country.

**INSAT 3A CCD NDVI COMPOSITE ENDING ON 18<sup>th</sup> November 2015 OVER AGRICULTURAL REGION OF INDIA**



- Agricultural vigour is good in some patches in Bihar, Coastal Andhra Pradesh, Odisha, West Bengal, Assam, Coastal Maharashtra, Marathwada, Vidarbha, East Madhya Pradesh, Gujarat, North Interior Karnataka, Jharkhand and Telangana, where NDVI varies from 0.4 to 0.6. Agricultural growth was moderate 0.2 to 0.3 over most parts of Rajasthan, West Madhya Pradesh, Punjab, Haryana, Uttar Pradesh, Bihar and Tamil Nadu.

**Difference in INSAT 3A CCD NDVI between 11<sup>th</sup> and 18<sup>th</sup> November 2015**



- Decrease in NDVI was observed in east Uttar Pradesh, Bihar, West Bengal, Coastal Odisha, Andhra Pradesh, Tamil Nadu, Gujarat, parts of Telangana, Marathwada and Vidarbha regions. A moderate progress (up to 0.1) in NDVI over patches in Maharashtra, Madhya Pradesh, Rajasthan, Punjab, Haryana and West Uttar Pradesh was observed. Good progress in NDVI (0.1 - 0.2) was observed over patches in Tamil Nadu, Punjab and Haryana.

- INSAT 3A CCD NDVI composite maps for the week ending on 18<sup>th</sup> November 2015 for different States are given below in Annexure II.

## Weather Forecast for next 5 days valid upto 0830 hours of 25<sup>th</sup> November 2015

- Moderate to dense fog would occur at isolated pockets of Assam & Meghalaya & Nagaland, Manipur, Mizoram & Tripura and Shallow to Moderate fog at isolated pockets of Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and Bihar in the morning hours during next 2-3 days.
- No significant change in day and night temperatures over plains of northwest India and fall by 1-2° C over central & east India during next 2-3 days.

### 5 Day Rainfall Forecast (MID DAY) 20<sup>th</sup> November 2015

Met Sub-divisions	20 Nov	21 Nov	22 Nov	23 Nov	24 Nov
1. Andaman & Nicobar Islands	SCT	SCT	ISOL	FWS	FWS
2. Arunachal Pradesh	DRY	DRY	DRY	DRY	DRY
3. Assam & Meghalaya	DRY	DRY	DRY	DRY	DRY
4. N. M. M. & T.	DRY	DRY	DRY	DRY	DRY
5. S.H. West Bengal & Sikkim	DRY	DRY	DRY	DRY	DRY
6. Gangetic West Bengal	DRY	DRY	DRY	DRY	DRY
7. Orissa	DRY	DRY	DRY	DRY	DRY
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
11. West Uttar Pradesh	DRY	DRY	DRY	DRY	DRY
12. Uttarakhand	DRY	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	DRY	DRY	DRY	DRY	DRY
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	DRY	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	ISOL	DRY	DRY	ISOL	ISOL
17. West Rajsthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	DRY	DRY	DRY	DRY
19. West Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
20. East Madhya Pradesh	DRY	DRY	DRY	DRY	DRY
21. Gujrat Region	DRY	ISOL	ISOL	DRY	DRY
22. Saurashtra & Kutch	DRY	ISOL	ISOL	DRY	DRY
23. Konkan & Goa	ISOL	ISOL	ISOL	ISOL	DRY
24. Madhya Maharashtra	DRY	ISOL	ISOL	ISOL	DRY
25. Marathawada	DRY	ISOL	ISOL	DRY	DRY
26. Vidharbha	DRY	DRY	DRY	DRY	DRY
27. Chhattisgarh	DRY	DRY	DRY	DRY	DRY
28. Coastal Andhra Pradesh	SCT	ISOL	ISOL	ISOL	DRY
29. Telangana	DRY	DRY	DRY	DRY	DRY
30. Rayalaseema	SCT	ISOL	ISOL	DRY	DRY
31. Tamilnadu & Puducherry	FWS	SCT	FWS	FWS	ISOL
32. Coastal Karnataka	SCT	SCT	ISOL	ISOL	ISOL
33. North Interior Karnataka	ISOL	ISOL	ISOL	DRY	DRY
34. South Interior Karnataka	SCT	ISOL	ISOL	ISOL	ISOL
35. Kerala	DRY	DRY	DRY	DRY	FWS
36. Lakshadweep	FWS	SCT	SCT	FWS	FWS

#### % Station Reporting Rainfall

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)
No Rain	Dry		

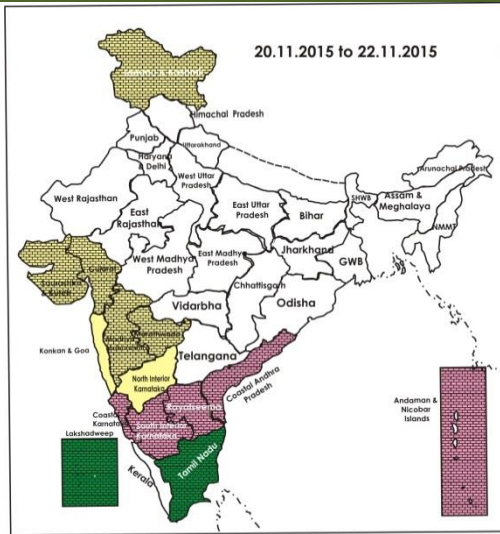
### Weather Warning during next 5 days

- 20 November (Day 1):** No weather warning.
- 21 November (Day 2):** Heavy rain would occur at isolated places over coastal Tamilnadu & Puducherry.
- 22 November (Day 3):** Heavy rain would occur at isolated places over coastal Tamilnadu & Puducherry.
- 23 November (Day 4):** No weather warning.
- 24 November (Day 5):** Heavy rain would occur at isolated places over Andaman & Nicobar islands.

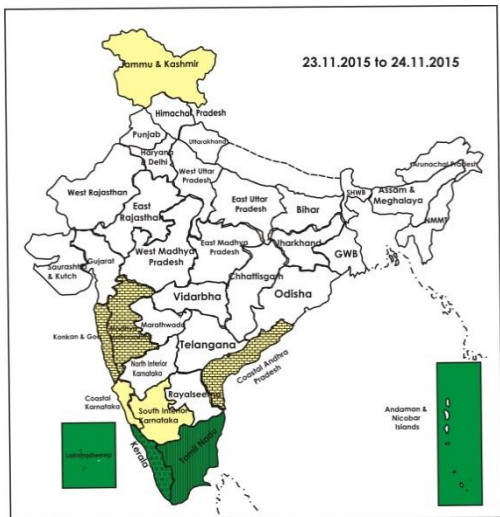
## Weather Outlook for subsequent 2 days from 25<sup>th</sup> to 27<sup>th</sup> November 2015

- Rain/thundershowers would occur at many places over Andaman & Nicobar Islands and at a few places over extreme south peninsular India.

### Weather Forecast Map (Valid upto 0830 hours of 25<sup>th</sup> November, 2015)

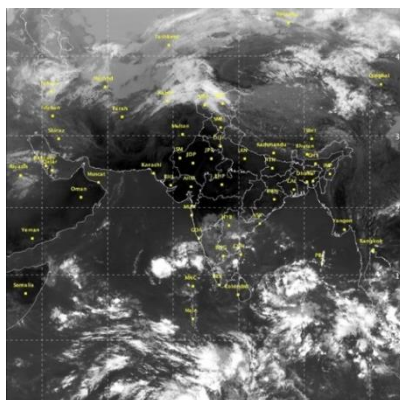


- Most places
- Most places/few places
- Most / Many places
- Most/many places/ isolated places
- Most / Isolated places
- Most / Many/ Few places
- Most / Few places/ isolated places
- Most / Few
- Most/Many/ Dry
- Many places
- Many / Few places
- Many / Isolated places
- Many / Few/ Isolated places
- Many / few/ Mainly dry
- Many / Isolated/ Mainly dry
- Many/ Dry
- Few places
- Few / Isolated places
- Few / Isolated places/dry
- Few/Mainly Dry/Dry
- Isolated places
- Isolated / Mainly Dry / Dry
- Mainly Dry/Dry
- Dry





## Satellite image dated, 20.11.2015 0600 UTC



## Salient Advisories

- As rain/thundershowers would occur at many places over **Tamil Nadu & Puducherry** from 20<sup>th</sup>, 22<sup>nd</sup> and 23<sup>rd</sup> November alongwith heavy rainfall at isolated places over Coastal Tamil Nadu & Puducherry on 21<sup>st</sup> and 22<sup>nd</sup>, postpone intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crops and keep already harvested produces at safer places. Provide adequate drainage in standing crop fields.
- In the North Eastern Zone of **Tamil Nadu**, due to heavy rain and flooding standing crops like rice, sugarcane, banana, brinjal, chilli, bitter gourd and fodder crops are affected. Drain out excess water from the crop fields wherever possible. In the Cauvery Delta Zone, drain out excess water from already transplanted rice fields and *Samba* rice fields. In Hill Zone, farmers in Nilgiri districts are advised to spray Copper Oxy Chloride @ 2g/litre of water to control Head rot disease in Cabbage & Cauliflower due to heavy rain and flooding.
- In the Southern Zone of **Andhra Pradesh**, in **Chittoor, Kadapa** and **Nellore** districts, paddy nurseries and transplanted paddy, pulses (black gram, green gram, red gram and Bengalgram) and groundnut crop fields got inundated and damaged due to heavy rains.
  - Farmers suggested to take the following remedial measures as follows:
  - Late *kharif* rice: The crop is at tillering to panicle initiation stage. Farmers were advised to drain out excess water from the fields. Apply booster dose of 25kg Urea+ 15kg MOP/acre are to be applied 4 to 5 days after draining excess water.
  - *Rabi* rice nurseries: Wherever nurseries are inundated, farmers were advised to drain out excess water from the field. In case not possible resowing is advocated. Farmers were advised to take up *rabi* rice varieties viz., MTU-1010, NLR- 34449 (Nellore mashuri), Somasila, Sravani, etc.
  - Other crops: Drain out the water from the fields.
  - *Rabi* groundnut sowings must not be undertaken immediately, as there is chance of occurrence of seedling rot due to excess moisture.
  - Undertake harvesting of late sown *kharif* crop in clear weather and dry the produce thoroughly to protect from attack of fungal diseases.
- Continue land preparation and sowing of second rice crop (Uma variety) and planting of cool season vegetables in the Problem Area Zone of **Kerala**, continue nursery sowing of rice in Kollam district and continue sowing of *Mundakan* rice and cultivation of cool season vegetables in the Central Zone.
- In **North Interior Karnataka**, continue sowing of jowar, Bengal gram (JG-11, Annegiri-1, ICCV-10) and safflower in the North East Dry Zone. In North Transition Zone, continue sowing of sorghum, safflower, chickpea and wheat. In **South Interior Karnataka**, continue sowing of medium to short duration varieties of finger millet, maize, sunflower, Bengal gram, field bean, horse gram, niger and black gram in Eastern Dry Zone.
- Moderate to dense fog would occur at isolated pockets of **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** and Shallow to Moderate fog at isolated pockets of Punjab, Haryana, Chandigarh &



Delhi, Uttar Pradesh and Bihar in the morning hours during next 2-3 days, monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures by contacting the nearest Agricultural University/College/KVK.

- Continue sowing of Bengal gram in **Gujarat, Madhya Pradesh, Chhattisgarh, Rajasthan, Punjab and Uttar Pradesh** and continue sowing of mustard/rapeseed in **Assam & Meghalaya, Bihar, Jharkhand, Odisha, Rajasthan, Madhya Pradesh, Chhattisgarh, Uttar Pradesh and Uttarakhand** with irrigation facilities. Undertake land preparation and sowing of wheat in **Punjab, Haryana, Rajasthan, Madhya Pradesh, Gujarat, Maharashtra, Bihar, Jharkhand, Uttar Pradesh and Himachal Pradesh** under assured irrigation.
- As dry weather would prevail, apply irrigation in already sown toria in **Bihar and Uttar Pradesh**.
- Taking advantage of prevailing dry weather, continue harvesting of matured *Aman* rice in **West Bengal, Sali** rice in **Assam** and continue harvesting of rice in **Bihar, Jharkhand, Uttar Pradesh, Chhattisgarh and Coastal Karnataka**.

### *Detailed Zonewise Agromet Advisories*

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



*Maize*



*Groundnut*



*Land preparation*



*Rice*

- **Realised Rainfall:** Significant Rainfall occurred all districts of Tamilnadu except Erode and Namakkal; Udipi district of Coastal Karnataka, Bangalore Rural & Urban, Chamarajanagar, Chikballapur, Kodagu, Kolar and Tumkur districts of South Interior Karnataka; all the districts of Kerala except Kasargod, Kottayam and Thrissur; all districts of Coastal Andhra Pradesh except Srikakulam and Vizianagaram; all districts of Rayalaseema except Kurnool. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **Tamil Nadu:**
    - As rain/thundershowers would occur at many places over Tamil Nadu & Puducherry from 20<sup>th</sup>, 22<sup>nd</sup> and 23<sup>rd</sup> November alongwith heavy rainfall at isolated places over Coastal Tamil Nadu & Puducherry on 21<sup>st</sup> and 22<sup>nd</sup>, postpone intercultural operation and application of plant protection measures and fertilizers to the standing crops. Postpone harvesting of matured crops and keep already harvested produces at safer places. Provide adequate drainage in standing crop fields.
    - In the North Eastern Zone, due to heavy rain and flooding standing crops like rice, sugarcane, banana, brinjal, chilli, bitter gourd and fodder crops are affected. Drain out excess water from the crop fields wherever possible.
    - In the Cauvery Delta Zone, drain out excess water from already transplanted rice fields and *Samba* rice fields.
    - In Hill Zone, farmers in Nilgiri districts are advised to spray Copper Oxy Chloride @ 2g/l to control Head rot disease in Cabbage & Cauliflower due to heavy rain and flooding.
    - In the Western Zone, since rainfall is expected in the next five days, drainage should be given in all the irrigated and rainfed crops. Harvest the rain water to reuse during dry periods, avoid boll picking in winter combodia cotton and postpone fertilizer application to crops.
    - In the South Zone, in areas where transplanting of rice is not yet completed, complete transplanting operation after receding of flood water.
    - In the North Western Zone, undertake direct sowing of rice using the realized rainfall.
    - Due to high relative humidity in the Western Zone, downy mildew may occur in grapes. Spray Bordeaux mixture @ 1% on non rainy days.
  - **Andhra Pradesh:**
    - In the Southern Zone of Andhra Pradesh, in Chittoor, Kadapa and Nellore districts, paddy nurseries and transplanted paddy, pulses (black gram, green gram, red gram and Bengal gram) and groundnut crop fields got inundated and damaged due to heavy rains.
    - Farmers suggested to take the following remedial measures as follows:

- Late *kharif* rice: The crop is at tillering to panicle initiation stage. Farmers were advised to drain out excess water from the fields. Apply booster dose of 25kg Urea+ 15kg MOP/acre are to be applied 4 to 5 days after draining excess water.
- *Rabi* rice nurseries: Wherever nurseries are inundated, farmers were advised to drain out excess water from the field. In case not possible resowing is advocated. Farmers were advised to take up *Rabi* rice varieties viz., MTU-1010, NLR- 34449 (Nellore mashuri), Somasila, Sravani, etc.
- Other crops: Drain out the water from the fields.
- *Rabi* groundnut sowings must not be undertaken immediately, as there is chance of occurrence of seedling rot due to excess moisture.
- Undertake harvesting of late sown *kharif* crop in clear weather and dry the produce thoroughly to protect from attack of fungal diseases.
- In Coastal Zone of Andhra Pradesh, drain out excess water from standing crop fields.
- In the Scarce Rainfall Zone, continue land preparation for sowing of safflower and Bengal gram (desi and kabuli varieties) and sowing of the *rabi* groundnut.
- Prevailing weather conditions are congenial for incidence of Leaf neck blast and Sheath blight in late *kharif* rice in the Southern Zone. To control, spray Spraying of Trifloxi strobil + Tebuconazole 0.4g/litres of water on a non rainy day.
- Prevailing weather conditions are congenial for incidence of sheath rot and false smut in rice
- in the North Coastal Zone. To control, spray Propiconazole @ 1.0 ml /litre of water on a non rainy day.
- **Telangana:**
- In the Southern Telangana Zone, continue sowing of *rabi* crops like maize, sorghum, groundnut and sunflower under irrigated conditions. Undertake nursery sowing of short duration varieties rice from 2nd fortnight of November to 1<sup>st</sup> fortnight of December. Apply 2 kg urea for 200 m<sup>2</sup> nursery area at 10-15 days after sowing.
- In the Northern Telangana Zone, undertake harvesting of rice and cotton and continue sowing of sunflower and Bengal gram.
- In the Northern Telangana Zone, defoliator (*Spodoptera exigua*) is noticed in maize (4-5 leaf stage). To control, spray Monocrotophos @ 1.6 ml/litre of water (or) Acephate @ 1.5 g. /litre of water.
- In the Southern Telangana Zone, incidence of grey mildew disease is noticed in cotton. To control, spray Wettable Sulphur @ 3g per litre of water.
- **Karnataka:**
- Continue sowing of short duration varieties of sunflower: KBSH-41, KBSH-44 and KBSH-53, Bengal gram: JJ-11, KAK-2 and Vishal, field bean: HA-3 and HA-4 and groundnut: K-134, GPBD-4 in Eastern Dry Zone.
- Continue harvesting of rice in Coastal Zone, during harvesting time, leave about 15 cm height of straw from ground surface, to decompose and add nutrients in the soil.
- In North Dry Zone, continue sowing of short duration, drought resistant *rabi* sorghum (var. Maldandi and Mugati), chickpea (var. A-1, JG-11 and Jaki-9218) and safflower (var. A-1), sunflower using the realized and expected rainfall and intercropping of *rabi* sorghum + chickpea (2: row proportion); chickpea + safflower ( 4:2 row proportion).
- In North Transition Zone, continue sowing of sorghum, safflower, chickpea and wheat.
- Undertake Harvesting of rice and maize in the Southern Transition Zone.
- In Southern Dry Zone, blast disease was noticed in paddy crop. To manage the disease, remove the weed hosts around the fields and spray with Carbendazim @ 1gm/ litre of water or Tricyclozole @ 0.6 gm/litre of water on non rainy day.
- In North East Dry Zone, brown plant hopper on rice and mealy bugs on cotton are noticed. For control, undertake spraying Chloropyrifos @ 2.0 ml or Monocrotophos @ 1.5 ml dissolved in one litre of water on rice and on cotton, undertake spraying of Monocrotophos @ 2 ml or Profenophos @ 2 ml/litre of water.
- **Kerala:**
- Continue sowing of *Mundakan* rice and cultivation of winter vegetables in the Central Zone. Continue transplanting of rice in Northern Zone.
- Continue land preparation and sowing of second rice crop (Uma variety) and planting of cool season vegetables in the Problem Area Zone.
- Due to change in weather pattern, there is a chance of sigatoka disease in banana in the Central Zone. Spray Pseudomonas @ 10- 20g/litre of water. In case of severe attack apply SAAF @ 2 g/litre of water.
- Prevailing weather conditions (rains and high humidity) are congenial for incidences of sheath blight and sheath rot in rice and foot rot in banana in the Southern Zone. Spray Bavistin @ 200 gm/Tilt (Propiconazol) 150 ml/ 200 litre of water to control sheath blight and sheath rot and 5- 10 litre of Streptocycline @ 500 mg/ 1 litre of water for foot rot disease. To control further spread of foot rot disease, spray 10 litre of 1% Bordeaux mixture.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- Prevailing weather conditions are congenial for the occurrence of ET, sheep pox and PPR in sheep and Hemorrhagic Septicemia, foot and mouth disease in cattle and buffaloes in Southern Telangana. To prevent the diseases, vaccinate the animals.

- North western zone of Tamilnadu , due rainfall forecast day temperatures may be low which is likely to increase feed intake in poultry. Cover the sides of the poultry houses to protect from drizzling. Chick shed should be covered on the sides and provide adequate artificial heat to prevent huddling of chicks
- Prevailing weather conditions are favourable for blue tongue disease in sheep and goats in the Scarce Rainfall Zone of Andhra Pradesh. Vaccinate animals to prevent the disease.
- In the Western Zone of Tamil Nadu, because of the continuous wet spell, cattle and poultry feeds may get contaminated with fungus. During this season, keep the feeds the dry to prevent occurrence of dysentery and diarrhoea.

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



*Greengram*



*Land preparation*



*Okra*



*Rice*

- **Realised Rainfall:** Mainly dry weather prevailed over the region

- **Advisories:**

- As moderate to dense fog would occur at isolated pockets of Assam & Meghalaya & Nagaland, Manipur, Mizoram & Tripura in the morning hours during next 2-3 days, monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures by contacting the nearest Agricultural University/College/KVK.
- **Assam, Meghalaya & Arunachal Pradesh:**
- In Lower Bramhaputra Valley Zone, continue sowing of *rabi* maize, wheat and land preparation and sowing of rapeseed & mustard and planting of potato. Also continue nursery sowing of *boro* rice with varieties Boro-1, -2, -3, Kalinga-3, Mahsuri, Joymati, Dinanath, Swarnav etc. particularly suitable for LBVZ for November sowing and harvesting of *Sali* rice.
- In Barak Valley Zone, continue nursery bed preparation for cauliflower, cabbage, knol khol and land preparation for planting of potato.
- In Central Bramhaputra Valley Zone of Assam, continue land preparation and sowing of wheat *rabi* pulses, rapeseed & mustard, planting of potato, nursery sowing of cole crops and harvesting of matured *Sali* rice. Undertake nursery sowing of *boro* rice.
- In North Bank Plain Zone, continue land preparation for sowing of rapeseed & mustard and nursery sowing of cabbage, cauliflower, brinjal, tomato and knol khol and planting of potato. Undertake harvesting of matured *Sali* rice. Farmers are advised to adopt relay cropping with pea in the rice field. 20- 25 days before harvesting the *Sali* paddy, suitable varieties of pea such as T-136, bonnevill etc.
- In Upper Bramhaputra Valley Zone of Assam, continue harvesting of *Sali* rice. Complete the sowing of rapeseed & mustard and planting of early potato at the earliest.
- In Hill Zone of Assam, continue nursery sowing of *boro* rice and land preparation and sowing of lentil, early variety potato, rapeseed & mustard and planting of winter vegetables.
- In Arunachal Pradesh, complete sowing of pea and continue transplanting of banana, cole crops (cabbage, cauliflower, broccoli, knolkhol, etc.). Continue harvesting of rice.
- In Meghalaya, continue sowing of rapeseed and mustard, pea, carrot and radish, nursery preparation of cabbage, cauliflower, tomato and broccoli and sowing of pea in high altitude regions and continue land preparation for sowing of mustard/rapeseed and planting of potato in mid to low altitude regions.
- In North Bank Plain Zone, in prevailing weather condition, Gundhi bug infestation is observed in *Sali* rice at panicle emergence to milk/dough stage. For control, apply Malathion 5% dust @ 20 kg/ha if the pest population is above ETL.
- In Lower Bramhaputra Valley Zone of Assam, due to cloudy weather there is chance of late blight in potato. Spray Ridomil MZ-27 and Dithan M-45 (@ 2.5g/litre with this spray used sticker Triton (0.5ml/litre).
- In Upper Bramhaputra Valley Zone of Assam, to control fruit & shoot borer infestation in brinjal crop, it is advised to apply Furadon granule @ 2.5 gram per plant 20 days after transplanting in the main field. Alternatively, farmers may apply Decis 2.8 EC @ 1 ml/litre of water.
- In Barak Valley Zone, weather is favorable for attack of aphid and saw fly in rapeseed/ mustard. To control the aphids and saw fly, spray Dimethoate (Rogar) @ 1 ml/litre of water. Also spray Malathion @ 1ml/litre of water against leaf eater caterpillar in cole crops. .
- In Arunachal Pradesh, to control cut worm in pea, drench the root zone of pea with Chlorpyrifos 20 EC @ 2ml/litre of water.



▪ **Manipur, Mizoram, Nagaland and Tripura:**

- In Manipur, continue sowing of rapeseed/mustard, field pea, garden pea and transplanting of onion and continue land preparation of planting of potato. Continue harvesting of *kharif* rice. Complete transplanting 25-30 days old seedling of cabbage and cauliflower.
- In Mizoram, continue nursery sowing of brinjal and chilli. Continue sowing of pea, mustard and toria and harvesting of banana and passion fruit.
- In Nagaland, continue harvesting of matured wetland paddy and transplanting of mature seedlings of cauliflower, cabbage, broccoli, tomato etc may be done in raised bed. Continue sowing of chickpea, lentil, linseed, mustard.
- In Tripura, complete sowing of toria, sesame and lentil and continue land preparation for planting of potato. Continue sowing of winter vegetables..
- Suitable varieties are given in Annexure III.

• **Animal Husbandry**

- In Northeastern states, poultry birds should be regularly observed and fed with antibiotics and vitamins after consulting veterinary doctors and to control foot and mouth disease and swine flu of house animal vaccinated should be done at proper time.
- In Arunachal Pradesh, vaccinate poultry against RD, IBD at recommend ages, apply artificial heating through lighting of electric bulb @ 2watt/chick in damp cold areas or during night time to protect the poultry birds (day old to 25 days old) from low temperature. Prevent from Coccidiosis give anti coccidial drops.
- In Nagaland, extreme chill affect the egg production, increased the mortality and increase the bacterial and viral diseases. Increase the energy value of feed through oil and carbohydrates.

• **Fishery**

- In Central Brahmaputra Valley Zone of Assam, apply Potash @ 4-5 mg/litre of water, Sukrena WS @ 1 litre per bigha of water and lime in required doses in fish ponds to protect the fish population against various bacterial diseases prevalent in winter season.

**WEST INDIA [GOA, MAHARASHTRA, GUJARAT]**



*Cotton*



*Sugarcane*



*Rice*



*Land preparation*

- **Realised Rainfall:** Weather remained dry over the region.

• **Advisories:**

▪ **Maharashtra:**

- In Konkan, apply irrigation, fertilizers and intercultural operations in vegetable crops and orchard crops like mango and cashew. Continue harvesting of late maturing rice variety. Continue sowing of short duration crops like cowpea, wal and kulthi utilizing residual moisture in soil in the harvested rice fields by following land preparation in '*vapsa*' condition. Continue preliminary operations for vegetable nursery of chilli, brinjal, cabbage, knol-khol on raised bed nursery.
- In Madhya Maharashtra, complete sowing of irrigated wheat and gram. Undertake harvesting of late maturing rice variety. Complete transplanting for *rabi* onion. Continue picking of cotton in interval of 15-20 days. Dry the kapas and keep it in clean and dry place. Apply irrigation to vegetables and grapes, banana and pomegranate orchards, safflower, *rabi* jowar, gram and wheat. Complete planting of pre-seasonal sugarcane with assured irrigation.
- In Marathwada, apply residual mulch in *rabi* jowar to minimize water loss due to evaporation. Continue picking of cotton in interval of 15-20 days. Dry the boll and keep it in clean and dry place. Undertake intercultural operations such as light hoeing and weeding in sunflower. Apply irrigation to sugarcane, red gram and vegetables. Complete sowing of irrigated wheat and gram.
- In Vidarbha, as dry weather is expected during next 5 days, apply irrigation to vegetable crops, sugarcane and orchards like orange and sweet lime in Central Vidarbha region. Undertake intercultural operations such as light hoeing in *rabi* crops to control evaporation losses from soil. Also to conserve moisture in orchards use farm waste as mulch. Continue harvesting of matured rice. Complete sowing of gram and wheat with irrigation facilities. Continue picking of cotton in interval of 15-20 days in west Vidarbha. Dry the kapas and keep it in clean and dry place. Undertake sowing of linseed in east Vidarbha.
- Due to partly cloudy weather in South Konkan, there may be incidence of thrips on mango inflorescence; spray Spinosad @ 2.5 ml per 10 litres of water on the whole tree.
- Due to humid weather there may be incidence of blight and thrips on onion in Pune region; spray Dithane M 45

- @ 30 g and Profenofos @ 10 g per 10 litres of water with sticker at 15 days interval.
- Due to humid climatic conditions in Madhya Maharashtra, there may be incidence of downy mildew in cucumber and other vegetables; spray Copper oxychloride @ 5 g or Mancozeb 64% + metalaxil 8% combined fungicide @20 g per 10 litres of water at an interval of 10-12 days.
- **Gujarat:**
  - Undertake sowing of potato, wheat and amaranths under assured water condition in North Gujarat Zone; sowing of wheat, maize and cumin in Middle Gujarat Zone; continue sowing of wheat, adopt intercropping of groundnut and moong in sugarcane in South Gujarat Zone.
  - Continue sowing of wheat, chickpea, onion, garlic, carrot and pea (for vegetable purpose), cumin, coriander under irrigation in North Saurashtra Zone. Continue picking of cotton. Apply irrigation to lemon orchard at regular interval to prevent fruit cracking and fast development of fruits.
  - Undertake sowing of rabi crops like wheat, chick pea, onion, cumin, coriander, garlic in South Saurashtra Zone.
  - In North West Zone, continue sowing of gram; undertake land preparation for sowing of wheat; continue sowing of lucerne and sowing/transplanting of cabbage, cauliflower, brinjal, onion, carrot and radish under irrigation.
  - Under present weather condition heavy attack of pink boll worm observed in irrigated cotton in North Saurashtra Zone; farmers are advised not to take second flush of flowering and uproot the crop after picking.
  - Weather conditions are favourable for outbreak of fruit fly in ber in North Saurashtra zone and North West Zone; spray Canithione 50 E.C. @ 10 ml or Malathione 50 E.C. @ 20 ml / 10 litres of water.
  - In South Gujarat Heavy Rainfall Zone, continue sowing of *rabi* gram at proper soil moisture condition, planting of sugarcane, transplanting of cabbage and cauliflower, harvesting of rice, ragi at physiological maturity and sundry the harvested rice to bring down the moisture content to 12-14 %.
  - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
  - Increase the green fodder quantity for animals, arrange adequate amount of fresh drinking water for cattle in Gujarat. Spray Deltamethrin or Amitraz @ 2 ml/litre of water for the control of tick and for prevention of foot & mouth disease in animals. Spray phenyl in the animal shed to avoid flies and mosquitoes.

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



*Groundnut*



*Cotton*



*Land preparation*



*Rice*

- **Realised Rainfall:** Rainfall occurred in Nicobar and South Andaman districts of Andaman & Nicobar Islands, South Sikkim district of Sikkim. Weather remained mainly dry over rest of the region.
- **Advisories:**
  - **West Bengal:**
    - Taking advantage of prevailing dry weather, continue harvesting of matured *Aman* rice in West Bengal.
    - In Old Alluvial Zone, continue land preparation and sowing of wheat, mustard, lentil and potato. Complete sowing of lentil within this week.
    - In Terai Zone and Old Alluvial Zone, continue nursery sowing of winter vegetables. Before sowing, undertake seed treatment with *Trichoderma viridae* @ 4g/kg seed.
    - In Hill Zone, undertake harvesting of rice and ginger. Continue transplanting of Cole crops.
    - In Laterite and Red soil Zone, undertake land preparation for sowing of wheat and potato after harvesting of *Aman* rice.
    - In New Alluvial Zone, undertake land preparation for sowing of mustard and planting of potato in harvested paddy fields. Undertake sowing under optimum moisture content in the soil by giving light irrigation.
    - In Laterite and Red soil Zone, in the present weather condition, there is chance of occurrence of leaf spot in chilli. Remove and destroy the affected plant parts and spray Mancozeb @ 0.25% twice at 10-15 days interval.
  - **Andaman and Nicobar Islands:**
    - In North, Middle and South Andaman, undertake nursery sowing of vegetables.
    - In North, Middle and South Andaman and Nicobar, apply 2.5 kg *Trichoderma viridae* along with 12.5 tones farm yard manure to the coconut plants.
  - **Odisha:**
    - In East and South Eastern Coastal Plain Zone, continue land preparation and sowing of *rabi* crops such as mustard, groundnut, Bengal gram sunflower etc., in fallow up-medium lands and nursery sowing of cole crops.

- In Western Undulating Zone, continue sowing of improved varieties of black gram vari. Sarala, Ujala, PU-30, T-9, Prasad, green gram varieties like Tarm-1, Dhauli, Durga, Kamdev Jyoti, PDM-54, PDM-11, Samrat, PM-1, PM-2 @ 6-8 kg/acre and cow pea vari. Utkala manika, Pusa Barsati and SEB- 2 @ 8kg/acre in fallow uplands.
- In North Central Plateau Zone, continue sowing of mustard under rainfed conditions. In Eastern Ghat High Land Zone and South Eastern Ghat Zone, this is the optimum time for sowing of horse gram (Kulthi), black gram (Biri) and green gram.
- In East and South Eastern Coastal Plain Zone and South Eastern Ghat Zone, humid and cloudy weather favours infestation of blast and Bacterial Leaf blight in rice. For control of blast, spray Beam @ 1 g and Hinosan @ 1.5 g in 2 litres of water twice at 15 days interval. For Bacterial Leaf blight, spray Copper Oxochloride @ 20g along with Plantomycine @ 10 g in 20 litres of water.
- In East and South Eastern Coastal Plain Zone, red hairy caterpillar and leaf minor has been found in groundnut. Spray DDVP @ 200 ml per acre for control of hairy caterpillar and spray Chloropyriphos @ 2 ml/litre of water to control leaf minor.
- In Western Undulating Zone, case worm and stem borer infestation is noticed in paddy crop at milking stage in some areas. Spray Triazophos or Monocrotophos or Profenophos @ 2ml/litre of water.
- In North Eastern Ghat Zone, rice crop has been affected by Bacterial Leaf Blight. Undertake spraying of Plantomycin @ 200 g or Streptocyclin @ 20 g in 200 litres of water per acre for control.
- **Bihar:**
  - In South Alluvial Plain Zone, complete planting of potato, continue field preparation for sowing of chickpea and lentil, continue sowing of toria & rai, complete the sowing of fodder crops like berseem, oats and lucern. Continue harvesting of matured rice crops.
  - In North East Alluvial Plain Zone, as dry weather would prevail, continue harvesting of paddy crop, dry it in the field for 2-3 days and thereafter threshing should be done. Continue transplanting of mature seedlings of cauliflower, cabbage, broccoli in raised bed, sowing of pulses, lentil, peas, rai, sunflower, maize, potato & fodder crops.
  - In North West Alluvial Plain Zone, continue land preparation for sowing of wheat and gram, continue planting of potato, continue sowing of *rabi* crops such as maize, garlic, pea, rajma. & gram. Undertake inter-cultural operations in vegetables and other crops, continue harvesting and threshing of rice crop and undertake thinning and weeding in mustard crop.
  - In North West Alluvial Plain Zone, present weather condition is conducive for the attack of borer/leaf cutting caterpillar in cauliflower, to control, use pheromone trap @ 3-4/acre. If insect population is above ETL, then, spraying of Spinosad @ 1 ml/4 litre of water is advised.
  - In North East Alluvial Plain Zone, present weather is conducive for attack of fruit fly infestation in Cucurbits. To control, use four Nomate cube Pheromone traps per acre or apply Monocrotophos @ 2 ml + 100g Jaggery (gur) per litre of water.
- **Jharkhand:**
  - In South Eastern Plateau Zone, continue sowing of *rabi* crops like- wheat, chickpea, mustard, lentil, linseed and sunflower. Continue nursery raising of onion & cultivation of vegetables like tomato, early cabbage, cauliflower & short duration French bean and leafy vegetables. Continue intercultural operation in horse gram, toria, pigeon pea, safflower, lobia, urad and moong bean and continue harvesting of matured medium and low land rice crop.
  - In North Eastern Plateau Zone, continue land preparation for cultivation of improved wheat variety under irrigated condition, undertake weeding and inter cultural operation in potato and continue transplanting of tomato, cabbage, cauliflower & brinjal. Continue sowing of improved varieties of toria, mustard and gram as single crop or intercropping with linseed or mustard. Undertake harvesting of matured rice crops.
  - In Western Plateau Zone, continue harvesting of rice ,complete sowing of lentil, continue land preparation for cultivation of gram, linseed, mustard ,rapeseed, barley, pea & rainfed wheat and continue transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato & brinjal, Continue sowing of radish, turnip, spinach, carrot, toria, green pea and complete planting of potato.
  - In Western Plateau Zone, present weather condition is conducive for attack of powdery mildew disease in green pea. To control, spray Kairathen @ 1 ml per litre of water or Sulfex @ 3 gm per litre of water.
  - In North Eastern Plateau Zone, present weather is conducive for the occurrence of hairy caterpillars in urad/ horse gram. To control, collect and destroy the egg and young larvae, by dusting 2% Methylparathion dust @ 25-30 kg/ha.
  - In South Eastern Plateau Zone, due to cool and clear sunny weather more attack of aphids in toria, to control, spray of Rogar (Dimethoate) @ 2ml or Monochrotophos @ 1 ml per litre of water.
  - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry:**
  - In Sub-Himalayan West Bengal & Bihar, provide concentrate feed to milch animals mixed with dry and green fodders to ensure rich diet having protein, carbohydrate, fat and vitamins.



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



*Cauliflower*



*Land preparation*



*Okra*



*Rice*

- **Realised Rainfall:** Weather remained dry over the region.

- **Advisories:**

- **Madhya Pradesh:**

- In Satpura Plateau Zone, continue field preparation and sowing of wheat, mustard and planting of sugarcane, potato and garlic under assured irrigation. Continue sowing of carrot and onion.
    - In Malwa Plateau Zone, continue sowing of wheat and transplanting of winter vegetables like, cauliflower, cabbage, tomato, chilli and brinjal, nursery preparation of improved varieties of onion crop, sowing of potato, pea, garlic and gram under irrigation. Undertake sowing of coriander.
    - In Kymore Plateau and Satpura Hill Zone, continue transplanting of cabbage and cauliflower and continue sowing of lentil, linseed, chickpea and green pea.
    - Continue sowing of pea, chickpea, lentil, transplanting of vegetables like brinjal, tomato, chilli, cauliflower and cabbage on raised bed and sowing of wheat in areas where irrigation facilities are available in Bundelkhand Zone. Undertake harvesting of matured rice.
    - Continue nursery preparation for onion and garlic and vegetables like tomato, chilli, brinjal, cabbage and cauliflower, sowing of green peas and planting of potato in Vindhya Plateau Zone. Continue land preparation for sowing of wheat.
    - Continue field preparation and sowing of wheat, gram and mustard, transplanting of vegetables like cauliflower, cabbage, tomato, chilli and brinjal, sowing of vegetable pea in Jhabua Hill Zone.
    - Continue planting of potato, sowing of wheat, mustard, gram and green pea in Grid Zone.
    - In Jhabua Hill Zone, present weather is congenial for incidence of shoot borer in ginger and turmeric. To control of shoot borer, spray Triazophos @ 2 ml/litre of water.

- **Chhattisgarh:**

- In North Hill Zone, continue raising seedlings of onion and sowing of gram, lentil, linseed, toria, mustard, pea, garlic and planting of potato and also complete harvesting of rice. Continue transplanting of winter vegetables. Undertake sowing of wheat under irrigated conditions.
    - In Plain Zone of Chhattisgarh, complete harvesting of rice. Continue sowing of gram, lentil, linseed and safflower. Continue sowing of French bean, round gourd and *rabi* vegetables.
    - Continue harvesting of rice in midland and lowland areas and sowing of gram, pulses, pea and safflower and nursery preparation for vegetables like cabbage, cauliflower, chilli, planting of potato and sowing of sweet potato in Bastar Plateau Zone. Continue sowing of wheat under irrigated conditions.
    - Suitable varieties are given in Annexure III.

- **Animal Husbandry**

- Vaccinate the goats for control of PPR Disease, keep goats in dry and shaded place, provide green fodder, fresh and clean water and undertake control measures for ecto parasite in Madhya Pradesh.

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



*Cotton*



*Land preparation*



*Maize*



*Cabbage*

- **Realised Rainfall:** Rainfall occurred in Baramulla and Kupwara districts of Jammu & Kashmir. Mainly dry weather prevailed over rest of the region.

- **Advisories:**

- As shallow to moderate fog would occur at isolated pockets of Punjab, Haryana, Chandigarh & Delhi and Uttar

Pradesh in the morning hours during next 2-3 days, monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures by contacting the nearest Agricultural University/College/KVK.

▪ **Jammu & Kashmir:**

- In Sub Tropical Zone, continue sowing of mustard afterseed treatment with Captan or Thiram @ 3g/kg seed before sowing and land preparation for sowing of *rabi* pulses viz. pea, chickpea, lentil and early sowing of wheat, nursery raising of onion and planting of potato.
- In Valley Temperate Zone of Jammu & Kashmir, undertake sowing of leafy vegetables and planting of bulb crops. Continue sowing of wheat and oat, brown sarson, peas, pulses, lentil and berseem as fodder crops.
- In Intermediate Zone, continue sowing of wheat, oat higher Zones after current spells of heavy rain/snow and treat the seeds with Carboxin (Vitavax), Carbendazim (2g/kg seed) or Tebuconazole (1.25g/kg seed) for managing the seed borne disease like loose smut, flag smut and Karnal bunt before sowing. Undertake sowing of oat, mustard *rabi* pulses like pea and gram and also sowing of root crops like radish and turnip. Undertake transplanting of cabbage, cauliflower, knolkhol and onion, undertake weeding in all vegetable crops to avoid yield loss.
- In Cold Arid Zone, undertake direct seed sowing of spinach, turnip and radish in green houses. Undertake harvesting of Chinese cabbage, palak and lettuce in protected structures. Cover the trenches and low tunnels with polythene in the night to avoid loss due to sudden temperature dip below -9°C.
- In Sub Tropical Zone, due to congenial weather condition, there may be attack of flea beetle in toria. To control, spray Malathion 50 EC @ 0.05%

▪ **Uttarakhand:**

- In Bhabar and Tarai Zone, continue sowing of wheat, barley, oats, mustard and planting of potato and onion under optimum soil moisture and planting of Autumn sugarcane, garlic & vegetable pea. Temperature conditions are favourable for top dressing (1/2 kg Urea per Nali) in toria of 30 days duration after weeding & thinning operations.
- In Hill Zone, undertake harvesting of vegetable pea, continue sowing/transplanting of, radish, palak, methi, carriander, broccoli, cabbage, cauliflower, garlic, and toria. Also continue nursery sowing of onion, planting of potato. Undertake sowing of wheat, mustard, gram and lentil in unirrigated high hill region. Undertake harvesting of walnut and matured ginger.
- In Sub humid Sub tropic Zone, continue harvesting of matured rice crops and undertake land preparation and sowing of wheat, mustard, pea and lentil crops.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, complete sowing of gram and lentil, continue sowing of wheat, barley, gobhisarson and peas and transplanting of tomato in raised bed and cauliflower (early group & late group), cabbage, Knol Khol, Broccoli and Chinese cabbage and also continue direct sowing of radish, carrot, turnip, palak, methi in mid hill areas and planting of potato in lower and mid hills regions.
- In Mid Hills sub-Humid Zone, undertake harvesting of walnut, peacanut, kiwi and citrus fruits, In High Hill Temperate zone, continue harvesting of tomato, cabbage, cauliflower and apple.
- Under prevailing weather condition, there are chances of attack of cutworms in vegetables in Sub-Montane and Low Hills Sub-Tropical Zone. For control, spray Chlorpyrifos 20 EC @ 2.5 ml/litre of water. For the control of damping off disease in vegetable crops mix thoroughly Dithane M 45 dust @10-15 g in 1X 3metre beds.

▪ **Rajasthan:**

- In West Rajasthan, continue field preparation for sowing of wheat, continue sowing of gram, garlic, fenugreek, mustard, barley and fennel, onion, carrot, lucern, taramira. Continue sowing of cumin and isabgol, continue weeding and hoeing operations in mustard crop in Arid Western Plain Zone. Continue harvesting of guar and bajra crops and continue sowing of lucern, taramira in Transitional Plain Zone of Inland Drainage. Continue harvesting of sugarcane sown in February/March in Irrigated Northwestern Plain Zone.
- In East Rajasthan, continue sowing of gram, mustard, lentil, lucern and planting of potato in Flood Prone Eastern Plain Zone and sowing of chickpea, *rabi* maize in Southern Humid Plain Zone. Continue sowing of berseem, lucern, barley and fenugreek and continue field preparation for sowing of wheat in Semi-Arid Eastern Plain Zone and Flood Prone Eastern Plain Zone.
- Undertake sowing of wheat, barley, flax seeds and coriander in South-eastern Humid Plain Zone. Continue field preparation for sowing of wheat, barley, complete sowing of garlic, apply light irrigation in garlic, undertake nursery preparation of chilli, brinjal and tomato alongwith hoeing and weeding in vegetables in Sub Humid Southern Plain and Aravali Hill Zone.
- In Southern Humid Plain Zone, in the present weather, there are chances of attack of mealy bug on horticulture crops, spray Profenophos@ 1.25 litre/ha (add 1spoon washing powder as sticker).
- In Irrigated Northwestern Plain Zone, to prevent dropping of *kinnow* fruits due to rise in temperature in *kinnow* orchards, spray Propineb 70 WP @ 2 g /litre of water.
- In Flood Prone Eastern Plain Zone, there is a chance of incidence of leaf minor in mustard crop, spray the solution of Dimethoate 30 EC or Monocrotophos 1 litre dissolve in 600- 800 ml water to control.
- In Arid Western Plain Zone, due to prevailing weather, there is a chance of attack of saw fly/ painted bug in mustard, apply Methyl Parathion 2% or Malathion 5% dust @ 24 kg/ha during morning or evening time and

repeat after 15 days if required.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, continue sowing of wheat, gram, kabuli gram, mustard, radish, carrot, turnip, onion, tomato, planting of sugarcane under assured irrigation and wheat, raya, toria, gobhi sarson, pea, gram, potato, cabbage, radish, garlic as intercrops in sugarcane.
- In Western Zone of Punjab, undertake sowing of wheat, picking of cotton and picking should be done only after the full sunshine and kept in moisture free room/space. Continue nursery sowing of *rabi* onion, tomato and sowing of radish, turnip and carrot, land preparation for sowing of potato and transplanting of cauliflower, brinjal and cabbage.
- In Undulating Plain Zone of Punjab, continue sowing of wheat, raya, planting of fruit plants viz citrus, mango, litchi, guava, loquat, ber, amla and papaya. Complete planting of autumn sugarcane.
- In Central Plain Zone of Punjab, continue harvesting of early matured varieties of sugarcane like CoJ-64, CoJ-85 and Co 118. Continue sowing of wheat, gobi sarson, lentil, raya, gram, onion, pea, fodder crops lucerne, oats and senji.
- In Sub-Montane Undulating Zone of Punjab, continue sowing of raya, gobi sarson and taramira.
- In Western Zone of Haryana, continue field preparation for sowing of wheat, Bengal gram kabuli chana and vegetables like pea, potato, carrot and sowing of mustard and berseem, oat as fodder crops. Continue harvesting of matured early sown basmati rice. Complete picking of cotton after sunrise when dew is completely evaporated.
- In Eastern zone of Haryana, complete the picking of cotton and sowing of wheat and mustard.
- In Western Semi-Arid Zone of Delhi, continue sowing of wheat, gram, oat, lentil, early mustard and sowing of barseem for fodder. Continue sowing of *rabi* onion, sarson sag, spinach, coriander, fenugreek, turnip, radish, carrot, pea, transplanting of tomato, cabbage, broccoli and early cauliflower on ridges, planting winter sugarcane. Also continue sowing of garlic-G-1, 41, 50, 282 in raised bed.

▪ **Uttar Pradesh:**

- In Central Plain Zone, continue sowing of wheat, maize, autumn sugarcane, vegetable pea, garlic, barley, linseed, lentil, kabuli gram, toria, oat, gram, pea, mustard, pointed gourd, parval gourd, radish and planting of potato and turmeric, fenugreek, coriander, carrot, spinach, root beat. Continue planting of cabbage, capsicum, chilli, brinjal, tomato and cauliflower and sowing of *rabi* onion. Continue nursery sowing of autumn tomato. Continue sowing/transplanting of crops under assured irrigation.
- In Eastern Plain Zone, continue harvesting of matured rice and continue land preparation and sowing of wheat. Continue sowing of gram, lentil and mustard. Continue sowing of vegetable pea and toria and sowing of winter vegetables, fenugreek, coriander, garlic, carrot, radish, spinach and planting of potato.
- In Western Plain Zone, continue harvesting of matured rice. Continue sowing of wheat, linseed, gram, mustard, barseem and nursery sowing of tomato, cauliflower, onion, planting of autumn sugarcane and potato. Continue sowing of toria and transplanting of brinjal and tomato.
- In Bundelkhand Zone, continue sowing of linseed, flaxseed, mustard, pea, gram, lentil, jou and land preparation / sowing of wheat. Continue sowing of vegetable pea, palak, coriander, carrot, and planting/transplanting of cauliflower, cabbage, tomato, chilli and brinjal.
- In North Eastern Plain Zone, continue sowing of wheat, toria, mustard, pea, gram, *rabi* maize, potato, linseed and lentil under assured irrigation.
- In Eastern Plain Zone, under prevailing weather condition, there may be chances of attack of fruit borer in early variety of pigeon pea, for control, spray Imidacloprid @ 1ml/liter of water and dissolve in 800 litres of water per ha.
- Suitable varieties for sowing are given in Annexure III.

• **Horticulture**

- In Central Plain Zone of Uttar Pradesh, for control of fruit drop in ber, spray Superfix Hormone @ 1 ml per 4.5 litres of water.
- In Mid Hills Sub Humid Zone of Himachal Pradesh, undertake sowing of Alestomeria, nargis and china aster, undertake nursery preparation of medicinal plants viz., babuna, kaleri, sej, kangaroo, til pushpin and pyrethrum etc. Weather is conducive for infestation of woolly apple aphid in the apple trees. To control, apply Chlorpyrifos @ 400ml/200litre of water on the infested trees.
- In Mild Hills Sub Humid Zone of Himachal Pradesh, weather is conducive for infestation of root borer in the apple trees. To control, apply 0.05% Chlorpyrifos @ 5ml/litre of water on the infested trees.

• **Floriculture**

- Blue beetle attack is seen in roses and balsam in Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh. For control spray Cypermethrin @ 0.05 ml per litre of water.

• **Animal Husbandry**

- In Sub-Montane and Low Hills Sub-tropical Zone and Mid Hills Sub- Humid Zone of Himachal Pradesh, humid weather is conducive for ticks and mites attack on animals. For control, spray Butox @ 2ml per litre of water.

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



## Annexure I

### Week by week Rainfall Distribution

Sub-Divisions	04.11.15		11.11.15		18.11.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
<b>Arunachal Pradesh</b>						
Anjaw	**	**	**	**	**	**
Changlang	0.4	-97	11.4	-40	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	9.6	28	24.8	134	4.1	37
Kurung Kumey	**	**	**	**	**	**
Lohit	0.0	-100	20.4	168	0.0	-100
Lower Dibang Valley	1.8	-80	116.7	443	8.2	41
Lower Subansari	**	**	**	**	**	**
Papumpara	4.2	-79	1.3	-80	4.6	-6
Tawang	**	**	5.0	-63	4.0	-49
Tirap	1.4	-88	2.4	-77	0.0	-100
Upper Siang	28.8	138	40.4	0	35.4	421
Upper Subansari	0.0	-100	2.6	-51	7.6	38
West Kameng	4.2	-49	2.2	-84	0.0	-100
West Siang	**	**	**	**	**	**
<b>Assam&amp;Meghalaya</b>						
<b>Assam</b>						
Baksa	1.6	-62	0.0	-100	0.0	-100
Barpeta	14.9	254	6.6	-35	1.4	-55
Bongaigaon	16.4	178	10.2	32	2.0	43
Cachar	6.2	-63	0.0	-100	0.0	-100
Chirang	8.2	39	4.0	-48	10.4	643
Darrang	**	**	**	**	**	**
Dhemaji	**	**	0.0	-100	0.0	-100
Dhubri	4.3	-53	9.6	129	0.0	-100
Dibrugarh	15.5	39	10.6	49	3.5	-14
Goalpara	0.0	-100	0.0	-100	0.0	-100
Golghat	9.0	-34	4.9	-29	0.0	-100
Hailakandi	14.9	10	0.0	-100	0.0	-100
Jorhat	13.5	11	0.5	-95	2.0	-51
Kamrup(Rural)	14.4	55	0.0	-100	0.0	-100
Kamrup(Metro)	2.6	-72	0.0	-100	0.0	-100
Karbi Anglong	3.3	-26	12.4	58	0.0	-100
Karimganj	20.0	-11	0.0	-100	0.0	-100
Kokrajhar	4.4	-44	0.0	-100	4.3	47
Lakhimpur	12.7	31	3.1	-55	7.3	77
Morigaon	13.2	67	0.0	-100	0.0	-100
N.C.Hills	24.7	-59	0.0	-100	0.0	-100
Nowgong	1.9	-72	4.9	-50	0.0	-100
Nalbari	7.3	-25	1.5	-81	0.6	-90

Sonitpur	13.3	64	11.3	94	2.0	-50
Sibsagar	4.7	-73	1.7	-56	0.0	-100
Tinsukia	3.9	-67	12.0	107	4.7	47
Udalgiri	19.0	192	1.9	-56	0.6	-80
<b>Meghalaya</b>						
East Garo Hills	13.4	26	0.0	-100	0.0	-100
East Khasi Hills	7.8	-62	1.1	-93	0.0	-100
Jaintia Hills	**	**	0.0	-100	0.0	-100
Ribhoi	41.0	719	6.3	5	0.0	-100
South Garo Hills	**	**	**	**	**	**
West Garo Hills	3.0	-41	0.0	-100	0.4	-90
West Khasi Hills	**	**	0.0	-100	0.0	-100
<b>NMMT</b>						
<b>Mizoram</b>			**	**		
Aizwal	4.8	-85	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	**	**	**	**	**	**
Serchhip	3.0	-81	0.0	-100	**	**
<b>Manipur</b>						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	11.8	-54	0.0	-100	0.0	-100
Imphal west	2.6	-91	0.0	-100	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	**	**	0.0	-100
Ukhrul	**	**	**	**	**	**
<b>Nagaland</b>						
Dimapur	19.8	50	0.9	-97	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	2.4	-85	0.0	-100	0.0	-100
Longleng	**	**	**	**	**	**
Mokokchung	**	**	0.0	-100	0.0	-100
Mon	**	**	**	**	**	**
Paran	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	**	**	0.0	-100	0.0	-100
Zunheboto	**	**	**	**	**	**
<b>Tripura</b>						
Dhalai	3.2	-87	0.0	-100	0.0	-100
NorthTripura	11.4	-48	0.0	-100	0.0	-100
SouthTripura	4.5	-80	0.0	-100	0.0	-100
West Tripura	0.2	-99	0.0	-100	0.0	-100

<b>Himachal Pradesh</b>						
Bilaspur	0.2	-94	0.0	-100	0.0	-100
Chamba	0.0	-100	21.9	811	0.6	-78
Hamirpur	0.0	-100	1.7	43	0.0	-100
Kangra	0.0	-100	6.8	258	0.0	-100
Kinnaur	0.0	-100	2.9	7	0.0	-100
Kullu	0.0	-100	18.4	319	0.0	-100
Lahaul and Spiti	0.0	-100	14.0	164	1.8	-51
Mandi	0.1	-97	3.0	13	0.0	-100
Shimla	1.2	-68	1.8	-43	0.0	-100
Sirmaur	0.0	-100	0.5	-75	0.0	-100
Solan	0.0	-100	0.9	-57	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
<b>Punjab</b>						
Amritsar	0.0	-100	4.7	325	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	2.7	1233	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	2.2	96	0.0	-100
Hoshiarpur	0.0	-100	0.1	-63	0.0	-100
Jalandhar	0.0	-100	7.0	438	0.0	-100
Kapurthala	0.0	-100	9.7	1290	0.0	-100
Ludhiana	0.0	-100	6.7	509	0.0	-100
Mansa	0.0	-100	1.8	192	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	-98	0.0	-100	0.0	-100
Ropar	0.0	-100	4.1	153	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	0.0	-100	1.2	140	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
<b>Haryana,Chd,Delhi</b>						
<b>Haryana</b>						
Ambala	0.0	-100	0.6	-73	0.3	-47
Bhiwani	1.0	11	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	5.0	115	0.2	-47
Jhajar	2.8	133	0.0	-100	0.0	-100
Jind	1.5	-12	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	1.8	-27	0.5	67	0.0	-57
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	7.2	552	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	0.9	125	0.0	-100
Panipat	0.8	-46	0.0	-100	0.0	-100
Rewari	4.6	411	1.1	163	0.0	-100
Rohtak	3.3	63	0.0	-100	0.0	-100
Sirsa	0.0	-100	5.0	317	0.0	-100
Sonepat	0.0	-100	0.6	-73	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
<b>Delhi</b>						
Central Delhi	**	**	1.0	67	0.0	-100
East Delhi	**	**	0.0	-100	0.0	-100
New Delhi	0.0	-100	1.2	103	0.0	-100
North Delhi	0.0	-100	2.6	333	0.0	-100
North East Delhi	**	**	1.0	67	0.0	-100
North West Delhi	**	**	1.0	67	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	3.2	433	0.0	-100
West Delhi	**	**	1.0	67	0.0	-100
<b>Jammu &amp; Kashmir</b>						
Anantnag	2.6	-70	21.7	164	10.1	44
Badgam	8.2	-23	9.6	91	2.4	-59
Bandipore	**	**	**	**	**	**
Baramula	10.9	-26	33.2	463	23.2	257
Doda	0.0	-100	17.6	171	4.2	-52
Ganderbal	11.8	79	33.0	408	7.8	53
Jammu	2.9	21	8.2	641	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	1.2	-8	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	5.6	-35	31.6	285	2.6	-63
Kupwara	23.3	108	47.5	296	30.3	131
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	0.0	-100	**	**
Pulwama	5.9	11	23.7	541	2.7	-52
Rajouri	0.0	-100	23.2	200	0.0	-100
Ramban	7.9	21	31.5	384	7.5	-15
Reasi	5.6	51	12.3	356	1.9	-56
Samba	0.0	-100	2.4	118	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	12.4	87	55.8	758	2.9	-43
Udhampur	1.6	-57	14.6	441	1.8	-58
<b>East Madhya Pradesh</b>						
Anuppur	27.0	1826	0.0	-100	0.0	-100
Balaghat	7.0	340	0.0	-100	0.0	-100
Chhatarpur	14.6	713	9.3	322	0.0	-100
Chindwara	25.6	574	0.7	-80	0.0	-100
Damoh	36.5	836	0.0	-100	0.0	-100

Dindori	96.7	2586	0.0	-100	0.0	-100
Jabalpur	23.5	804	0.0	-100	0.0	-100
Katni	38.2	1058	0.0	-100	0.0	-100
Mandla	17.7	609	0.0	-100	0.0	-100
Narsingpur	31.2	767	0.0	-100	0.0	-100
Panna	14.8	573	3.5	150	0.0	-100
Rewa	54.4	2265	0.0	-100	0.0	-100
Sagar	15.4	451	0.0	-100	0.0	-100
Satna	34.4	2763	4.9	88	0.0	-100
Seoni	23.9	647	0.0	-100	0.0	-100
Shahdol	48.0	2724	0.0	-100	0.0	-100
Sidhi	84.2	5163	0.0	-100	0.0	-100
Singrauli	52.0	25900	0.0	-100	0.0	-100
Tikamgarh	4.5	650	0.0	-100	0.0	-100
Umaria	46.4	2478	0.0	-100	0.0	-100
<b>West Madhya Pradesh</b>						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	14.5	200	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	9.5	187	0.0	-100	0.0	-100
Bhind	4.5	305	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	3.0	-38	1.0	-76	0.0	-100
Datia	7.1	607	0.0	-100	0.0	-100
Dewas	**	**	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.7	-36	0.0	-100	0.0	-100
Gwalior	15.4	923	0.0	-100	0.0	-100
Harda	3.7	367	0.0	-100	0.0	-100
Hosangabad	24.6	748	0.0	-100	0.0	-100
Indore	0.7	-83	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	15.0	369	0.0	-100	0.0	-100
Khargone	7.1	342	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	13.6	3287	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	3.5	169	0.0	-100	0.0	-100
Rajgarh	1.6	-13	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.6	-63	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	15.0	2900	0.0	-100	0.0	-100
Shivpuri	8.3	725	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	6.4	436	1.6	-55	0.0	-100
<b>Chhattisgarh</b>						

Bastar	9.9	60	0.0	-100	0.2	-88
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	6.4	64	0.0	-100	0.0	-100
Dantewara	0.0	-100	0.0	-100	8.1	1250
Dhamtari	8.6	514	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
Jashpuranagar	22.1	401	0.0	-100	0.0	-100
Kanker	1.3	-70	0.0	-100	0.0	-100
Korba	9.0	190	0.0	-100	0.0	-100
Koriya	53.2	3225	0.0	-100	0.0	-100
Kawardha	1.2	-65	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	3.6	-45	0.0	-100	0.0	-100
Raigarh	5.7	112	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	31.7	1074	0.0	-100	0.0	-100
<b>East Uttar Pradesh</b>						
Allahabad	19.9	284	0.0	-100	0.0	-100
Ambedkar Nagar	18.0	718	0.0	-100	0.0	-100
Azamgarh	3.9	17	0.0	-100	0.0	-100
Bahraich	0.5	-48	0.0	-100	0.0	-100
Ballia	6.8	94	0.0	-100	0.0	-100
Balrampur	0.3	-73	0.0	-100	0.0	-100
Banda	9.0	1020	0.0	-100	0.0	-100
Barabanki	1.3	-11	0.0	-100	0.0	-100
Basti	1.1	13	0.0	-100	0.0	-100
Chandauli	8.2	156	0.0	-100	0.0	-100
Deoria	21.5	877	0.0	-100	0.0	-100
Faizabad	0.3	-63	0.0	-100	0.0	-100
Farrukhabad	8.5	611	0.0	-100	0.0	-100
Fatehpur	4.8	269	2.7	281	0.0	-100
Gazipur	22.4	523	1.3	-63	0.0	-100
Gonda	0.0	-100	0.0	-100	0.0	-100
Gorakhpur	1.1	-68	0.0	-100	0.0	-100
Hardoi	11.5	1053	0.0	-100	0.0	-100
Jaunpur	3.9	19	0.0	-100	0.0	-100
Kannauj	10.5	1212	0.0	-100	0.0	-100
Kanpur City	5.8	429	0.0	-100	0.0	-100
Kanpur Dehat	11.2	1772	0.0	-100	0.0	-100
Kaushambi	6.1	144	0.0	-100	0.0	-100
Kheri	4.7	567	0.0	-100	0.0	-100
Kushi nagar	1.0	-71	0.0	-100	0.0	-100
Lucknow	0.8	-41	0.0	-100	0.0	-100
Maharajganj	13.5	650	0.0	-100	0.0	-100
Mau	5.0	47	0.0	-100	0.0	-100
Mirzapur	35.5	1084	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100

RaiBareilly	4.7	847	0.0	-100	0.0	-100
Sahuji Maharajnagar	11.6	263	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	2.0	-37	0.0	-100	0.0	-100
Shrawasti	0.0	-100	0.0	-100	0.0	-100
Sidharthnagar	5.5	447	0.0	-100	0.0	-100
Sitapur	0.0	-100	0.0	-100	0.0	-100
Sonbhadra	25.4	1850	0.8	-64	0.0	-100
Sultanpur	1.2	23	1.3	33	0.0	-100
Unnao	0.8	-25	0.0	-100	0.0	-100
Varanasi	22.4	505	0.0	-100	0.0	-100
<b>West Uttar Pradesh</b>						
Agra	12.3	1950	0.0	-100	0.0	-100
Aligarh	9.9	2383	0.0	-100	0.0	-100
Auraiya	3.7	23	0.0	-100	0.0	-100
Badaun	0.2	-86	0.0	-100	0.0	-100
Baghpat	0.0	-100	2.8	300	0.0	-100
Bareilly	5.1	237	1.4	356	0.0	-100
Bijnor	1.0	-63	4.5	543	0.0	-100
Bulandsahar	4.9	308	0.0	-100	0.0	-100
Etah	8.3	1289	0.0	-100	0.0	-100
Etawah	2.8	29	0.0	-100	0.0	-100
Firozabad	1.1	1000	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	1.9	131	0.0	-100
Hamirpur	9.8	3150	0.0	-100	0.0	-100
Jalaun	18.3	1937	0.0	-100	0.0	-100
Jhansi	9.5	960	6.2	129	0.0	-100
Jotiba Phule Nagar	0.0	-100	2.5	108	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	1.0	100	0.0	-100	0.0	-100
Mahamaya Nagar	11.0	109900	0.0	-100	0.0	-100
Mahoba	12.6	4100	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	0.3	-92	4.6	561	0.0	-100
Moradabad	8.0	283	5.2	478	0.0	-100
Muzaffarnagar	0.0	-100	10.1	1343	0.0	-100
Pilibhit	7.8	169	1.1	-21	0.0	-100
Rampur	5.0	66	5.9	2867	0.0	-100
Saharanpur	7.3	47	10.0	1329	0.0	-100
Shahjahanpur	6.9	200	0.0	-100	0.0	-100
<b>Uttarakhand</b>						
Almora	0.8	-78	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	1.7	-57	0.0	-100	0.0	-100
Champawat	8.8	82	3.5	150	0.0	-100
Dehradun	0.0	-100	1.1	-52	0.0	-100



Garhwal Pauri	0.0	-100	0.1	-95	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100
Haridwar	3.2	23	3.7	640	0.0	-100
Nainital	3.0	-9	5.3	194	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	0.0	-100
Rudraprayag	0.9	-79	0.0	-100	0.0	-100
Udham Sing Nagar	2.5	32	1.3	-7	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
<b>Bihar</b>						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	0.0	-100	**	**
Aurangabad	2.9	-1	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	3.7	83	0.0	-100	0.0	-100
Bhagalpur	0.5	-90	0.0	-100	0.0	-100
Bhojpur	2.5	19	0.0	-100	0.0	-100
Buxar	6.3	117	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	9.8	389	0.0	-100	0.0	-100
Gaya	0.8	-65	0.0	-100	0.0	-100
Gopalganj	22.7	809	0.0	-100	0.0	-100
Jahanabad	0.7	-12	**	**	**	**
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	0.8	-79	**	**	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	**	**	**	**
Monghyar	0.4	-88	0.0	-100	0.0	-100
Muzaffarpur	9.6	199	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	8.3	263	0.0	-100	0.0	-100
Purnea	0.5	-76	0.0	-100	0.0	-100
Rohtas	9.3	415	0.0	-100	0.0	-100
Saharsha	0.0	-100	**	**	**	**
Samstipur	0.0	-100	0.0	-100	0.0	-100
Saran	3.6	30	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	**	**	0.0	-100
Sitamarhi	12.4	359	0.0	-100	0.0	-100
Siwan	1.1	-57	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	10.8	315	0.0	-100	0.0	-100
West Champaran	10.9	241	0.0	-100	0.0	-100
<b>Jharkhand</b>						
Bokaro	8.6	87	0.0	-100	0.0	-100

Chatra	1.3	-30	0.0	-100	0.0	-100
Deoghar	1.2	-82	0.0	-100	0.0	-100
Dhanbad	4.6	-30	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singhbhum	24.1	372	0.0	-100	0.0	-100
Garhwa	9.5	252	0.0	-100	0.0	-100
Giridih	4.0	0	0.0	-100	0.0	-100
Godda	1.7	-44	0.0	-100	0.0	-100
Gumla	35.6	401	0.0	-100	0.0	-100
Hazaribagh	12.5	399	0.0	-100	0.0	-100
Jamtara	2.3	-80	0.0	-100	0.0	-100
Khunti	12.0	107	0.0	-100	0.0	-100
Koderrna	0.7	-85	0.0	-100	0.0	-100
Latehar	19.8	631	0.0	-100	0.0	-100
Lohardagga	20.1	457	0.0	-100	0.0	-100
Pakur	8.9	20	0.0	-100	0.0	-100
Palamau	7.0	190	0.0	-100	0.0	-100
Ramgarh	13.6	325	0.0	-100	0.0	-100
Ranchi	27.3	284	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	9.4	203	0.0	-100	0.0	-100
Simdega	25.3	449	0.0	-100	0.0	-100
West Singhbhum	37.0	1132	0.0	-100	0.0	-100
<b>East Rajasthan</b>						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	4.5	353	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	13.1	3175	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	13.3	2122	0.0	-100	0.0	-100
Dholpur	15.3	15186	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	12.2	1431	0.1	-89	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	4.1	195	4.8	1496	0.0	-100
Karauli	10.6	2557	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	21.0	20900	0.0	-100	0.0	-100
Sikar	5.9	318	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.7	260	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
<b>West Rajasthan</b>						
Barmer	0.0	-100	0.0	-100	0.0	-100

Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.1	-71	0.0	-100
Hanumangarh	0.0	-100	1.0	900	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
<b>Gujarat Region</b>						
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	0.0	-100	**	**	**	**
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
<b>S K &amp; Diu region</b>						
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
<b>Maharashtra</b>						
<b>Konkan &amp; Goa</b>						
Mumbai City	0.0	-100	0.0	-100	0.0	-100
Mumbai Suburban	0.0	-100	0.0	-100	0.0	-100
North Goa	5.3	-60	4.5	-62	0.0	-100
Raigad	0.0	-100	0.0	-100	0.0	-100
Ratnagiri	0.1	-98	5.0	-35	0.0	-100
Sindhudurg	42.2	314	6.1	-36	0.0	-100



South Goa	1.9	-85	13.7	41	0.0	-100
Thane	0.0	-100	0.0	-100	0.0	-100
<b>Madhya Maharashtra</b>						
Ahmednagar	0.0	-100	0.0	-100	0.0	-100
Dhule	0.0	-100	0.0	-100	0.0	-100
Jalgaon	1.9	-42	0.0	-100	0.0	-100
Kolhapur	0.0	-100	2.5	-71	0.0	-100
Nandurbar	0.0	-100	0.0	-100	0.0	-100
Nasik	0.0	-100	0.0	-100	0.0	-100
Pune	0.0	-100	0.0	-100	0.0	-100
Sangli	4.2	-42	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
<b>Marathwada</b>						
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Beed	0.0	-100	0.0	-100	0.0	-100
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	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
<b>Vidarbha</b>						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.9	-58	0.0	-100	0.0	-100
Bhandara	1.4	-54	0.0	-100	0.0	-100
Buldhana	1.6	-53	0.0	-100	0.0	-100
Chandrapur	6.8	197	0.0	-100	0.0	-100
Gadchiroli	17.7	321	0.0	-100	0.0	-100
Gondia	2.8	0	0.0	-100	0.0	-100
Nagpur	12.9	329	0.0	-100	0.0	-100
Wardha	7.8	100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	1.9	-54	0.0	-100	0.0	-100
<b>Odisha</b>						
Angul	0.2	-98	0.0	-100	0.0	-100
Balasore	0.9	-97	0.0	-100	0.0	-99
Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	11.3	-66	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	5.9	-78	0.0	-100	0.0	-99
Deogarh	5.0	-15	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	15.2	-53	0.0	-100	9.4	-21
Ganjam	28.3	-34	0.0	-99	5.1	-49
Jagatsingpur	22.8	-53	0.0	-100	3.7	-73
Jajpur	3.4	-85	0.0	-100	0.0	-100
Jharsuguda	2.9	-41	0.0	-100	0.0	-100

Kalahandi	0.6	-89	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	24.7	-34	0.0	-100	0.0	-100
Keonjhar	0.4	-97	0.0	-100	0.0	-100
Khurda	5.4	-83	0.0	-100	0.3	-95
Koraput	4.4	-74	0.0	-100	11.9	13
Malkangiri	109.0	1085	1.0	-71	12.2	352
Mayurbhanj	2.5	-85	0.0	-100	0.0	-100
Nawapara	0.6	-89	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	7.3	-78	0.0	-100	0.0	-100
Puri	43.6	49	0.0	-100	5.5	-36
Rayagada	5.3	-70	0.0	-100	5.2	37
Sambalpur	1.0	-84	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	5.5	98	0.0	-100	0.0	-100
<b>West Bengal &amp; Andaman Nicobar Islands</b>						
<b>A &amp; N ISLAND</b>						
Nicobar	46.6	-38	125.0	72	84.1	13
North & Middle Andaman	14.8	-72	27.0	-56	13.6	-75
South Andaman	76.1	24	47.4	-31	51.7	-28
<b>GWB</b>						
Bankura	4.5	-29	0.0	-100	0.0	-100
Birbhum	1.9	-86	2.3	-61	0.0	-100
Burdwan	0.4	-95	0.0	-100	0.0	-100
East Midnapore	11.4	-57	0.0	-100	0.0	-100
Hooghly	0.0	-100	0.1	-99	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100
Murshidabad	7.8	-40	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	4.1	-70	0.0	-100	0.0	-100
Purulia	8.6	3	0.4	-94	0.0	-100
24 Pargana (S)	4.2	-88	0.0	-100	0.1	-99
West Midnapore	0.0	-100	0.0	-100	0.0	-100
<b>SHWB &amp; Sikkim</b>						
Cooch Behar	11.6	111	2.2	-72	0.0	-100
Darjeeling	3.6	-62	1.6	-56	0.0	-100
East Sikkim	15.7	84	24.4	481	15.8	158
Jalpaiguri	10.7	95	10.2	64	9.1	75
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	0.0	-100	**	**	**	**
North Sikkim	43.4	193	14.4	7	1.2	-90
South Dinajpur	17.3	104	0.0	-100	0.0	-100
South Sikkim	3.0	-65	2.4	-43	24.6	303
West Sikkim	**	**	0.0	-100	1.0	-92
<b>Karnataka</b>						
<b>Coastal Karnataka</b>			7.8	-73		






Dakshina Kannada	124.5	289	14.2	-45	7.7	-63
Udupi	88.9	184	13.9	2	31.8	96
Uttara Kannada	37.8	159			0.2	-99
<b>N I Karnataka</b>						
Bagalkote	0.4	-96	0.0	-100	0.0	-100
Belagavi	2.3	-80	1.4	-84	0.0	-100
Bidar	24.1	198	0.0	-100	0.0	-100
Dharwad	6.5	-42	3.3	-73	0.0	-100
Gadag	3.3	-66	0.0	-100	0.0	-100
Haveri	15.3	35	10.3	-24	0.4	-98
Kalaburgi	0.1	-99	0.0	-100	0.0	-100
Koppal	0.0	-100	0.0	-100	0.0	-100
Raichur	0.2	-98	0.2	-96	0.0	-100
Vijayapura	0.0	-100	0.0	-100	0.0	-100
Yadgir	0.0	-100	0.0	-100	0.0	-100
<b>S I Karnataka</b>						
Ballari	0.3	-97	0.0	-100	1.2	-86
Bangalore Rural	74.7	199	64.3	318	28.9	170
Bangalore Urban	76.6	230	94.8	496	29.9	179
Chamarajanagar	40.3	56	110.5	507	23.8	91
Chikaballapur	79.0	206	75.0	436	72.0	586
Chikkamagaluru	98.9	371	12.6	-35	4.9	-68
Chitradurga	30.1	114	1.6	-84	6.8	-34
Davangere	42.7	181	7.1	-43	0.0	-100
Hassan	85.3	308	43.6	119	10.3	-11
Kodagu	59.8	121	20.0	-19	33.3	147
Kolar	64.9	153	86.7	470	102.5	707
Mandya	88.5	299	86.0	473	6.7	-26
Mysuru	54.1	179	59.1	305	19.7	93
Ramanagara	66.7	171	75.1	384	10.9	7
Shivamogga	65.6	433	10.6	-21	0.0	-100
Tumakuru	82.5	323	28.3	105	25.0	157
<b>Kerala</b>						
Alappuzha	61.9	-18	59.1	8	43.2	7
Kannur	73.2	66	28.0	10	22.7	21
Ernakulam	71.3	15	153.7	256	29.7	-5
Idukki	74.1	7	88.5	66	58.8	71
Kasaragod	50.3	22	17.4	-36	7.1	-62
Kollam	147.2	58	103.7	55	76.3	41
Kottayam	83.5	14	102.7	78	16.9	-50
Kozhikode	42.3	-26	106.2	179	30.4	0
Malappuram	71.6	21	113.7	209	33.2	-1
Palakkad	51.1	-21	121.0	191	21.5	-16
Pathanamthitta	78.1	-2	187.4	202	81.8	51
Thiruvananthapuram	148.0	94	102.9	87	57.6	36
Thrissur	36.6	-41	104.0	143	18.5	-33
Wayanad	69.1	134	13.4	-60	29.9	64
<b>Tamil Nadu</b>						
Ariyalur	27.6	-41	106.9	72	65.9	37



Chennai	133.6	56	239.0	170	449.9	329
Coimbatore	72.2	73	62.7	55	32.3	22
Cuddalore	37.7	-44	378.2	355	134.5	93
Dharmapuri	32.9	-4	168.6	494	31.5	46
Dindigul	59.4	27	64.4	32	70.9	101
Erode	52.3	43	130.5	261	6.5	-71
Kanchipuram	97.3	38	249.1	233	452.3	656
Kanyakumari	178.0	168	65.8	0	46.6	-3
Karikal	82.0	-25	305.3	84	160.7	81
Karur	62.5	82	85.3	135	30.7	20
Krishnagiri	30.8	0	167.7	695	40.8	155
Madurai	59.0	8	52.0	8	78.7	186
Nagapattinam	93.4	12	334.8	188	174.4	90
Namakkal	26.2	-18	82.6	168	8.0	-64
Nilgiris	78.0	51	89.6	53	31.1	-22
Perambalur	15.1	-65	142.2	269	34.8	-3
Puducherry	46.7	-52	231.3	141	195.0	205
Pudukottai	58.4	58	51.2	29	61.2	93
Ramanathapuram	80.0	35	59.8	3	63.9	90
Salem	19.5	-48	174.4	411	23.2	-19
Sivaganga	68.9	47	55.6	16	59.8	134
Thanjavur	53.0	-3	95.5	54	60.4	48
Theni	64.0	31	40.3	-5	41.7	45
Tirunelveli	154.5	156	118.6	89	74.2	58
Tirupur	48.5	35	84.1	124	53.9	114
Tiruvallur	91.1	25	225.3	236	414.0	515
Tiruvannamalai	20.6	-54	92.6	105	125.1	190
Tiruvarur	68.7	10	138.7	70	92.6	45
Toothukudi	99.6	92	85.4	54	82.9	108
Trichy	32.4	-14	66.0	61	30.9	1
Vellore	52.7	48	161.5	361	189.4	572
Villupuram	38.2	-20	203.0	284	133.4	208
Virudhunagar	64.5	16	27.6	-44	93.3	157
<b>Andhra Pradesh</b>						
<b>Coastal Andhra Pradesh</b>						
East Godavari	19.2	-32	7.1	-57	70.1	474
Guntur	0.4	-99	7.7	-66	64.0	305
Krishna	2.9	-90	12.4	-39	74.9	569
Nellore	39.6	-56	247.0	239	295.2	316
Prakasam	11.1	-76	10.5	-66	58.1	108
Sirkakulam	53.4	41	0.0	-100	13.0	28
Visakhapatnam	77.3	264	2.5	-83	39.3	254
Vizianagram	24.5	20	2.0	-85	13.2	76
West Godavari	8.7	-67	13.2	-30	60.9	387
<b>Rayalaseema</b>						
Anantapur	28.9	84	28.2	156	34.2	327
Chittoor	78.3	77	188.2	450	189.5	414
Cuddapah	21.5	-27	123.0	478	152.0	754
Kurnool	1.8	-85	0.5	-93	5.8	-13

<b>Telangana</b>						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.0	-100
Karimnagar	5.5	-44	0.0	-100	0.0	-100
Khammam	0.2	-98	0.0	-100	8.1	225
Mehabubnagar	3.9	-56	0.0	-100	0.3	-94
Medak	23.2	172	0.0	-100	0.0	-100
Nalgonda	0.0	-100	0.0	-100	5.1	-20
Nizamabad	12.8	49	0.0	-100	0.0	-100
Rangareddy	1.2	-86	0.0	-100	0.0	-100
Warangal	0.3	-97	0.0	-100	0.4	-89

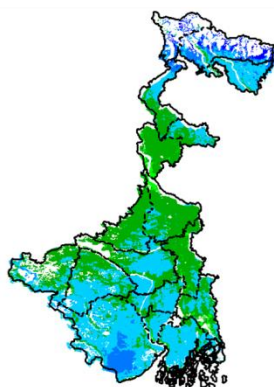
### Legends

	(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

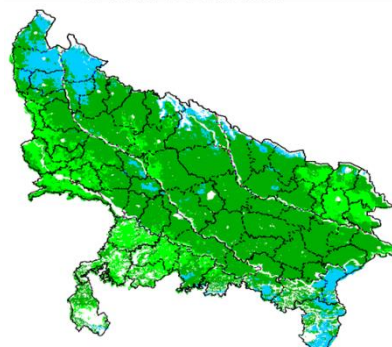
#### INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON 18<sup>th</sup> November 2015 FOR DIFFERENT STATES

##### West Bengal



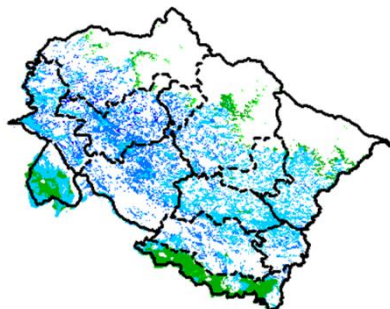
Agricultural vigour is good in all parts of West Bengal where NDVI varying from 0.4-0.6, whereas few patches in North and Central part show moderate values of NDVI (0.2-0.4).

##### Uttar Pradesh



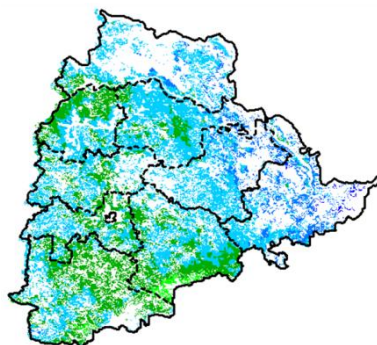
Agricultural vigour is moderate over the entire state of Uttar Pradesh where NDVI value varies from 0.2 -0.4. whereas few patches in north-eastern part shows higher values of NDVI (0.4-0.6)

##### Uttarakhand



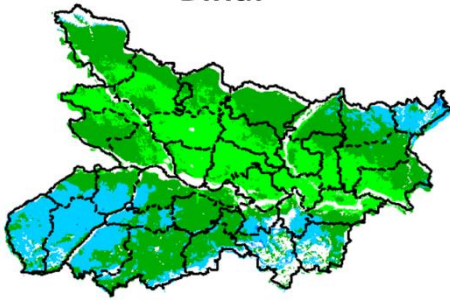
Agriculture vigour is good over entire state of Uttarakhand with NDVI value varies from 0.4-0.6. whereas few patches in south-east part shows moderate values of NDVI (0.3 - 0.4).

##### Telangana



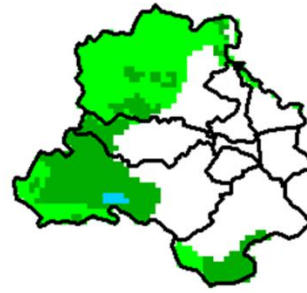
Agriculture vigour is good over many parts of Telangana (NDVI 0.4-0.6). Except in few patches in the southern part where, NDVI vary from 0.2-0.4.

### Bihar



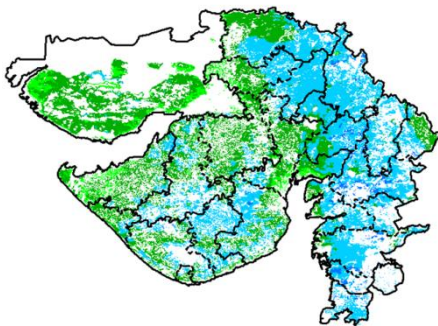
Southern and Northern part of Bihar shows comparatively a high value 0.4-0.6 of NDVI, whereas NDVI varies from 0.3-0.4 over the central parts of the state

### Delhi



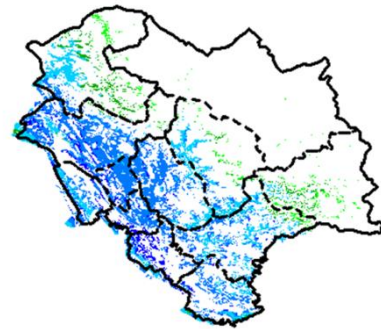
Agriculture vigour is moderate all over Delhi where NDVI value lies between 0.2-0.3.

### Gujarat



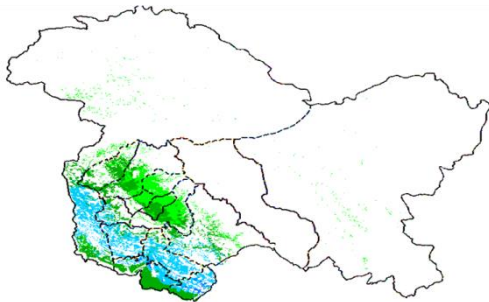
Agriculture vigour is normal in Kutch whereas, good agricultural vigour is observed over Gujarat and Saurashtra region where NDVI value lies between 0.4-0.5.

### Himachal Pradesh



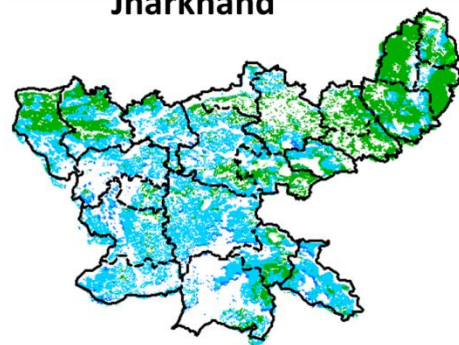
Agriculture vigour is very good over Himachal Pradesh where NDVI values are 0.4-0.6, except few patches in east shows normal values of NDVI (0.2 – 0.3).

### Jammu & Kashmir



Agriculture vigour is good over patches in south-western part Jammu and Kashmir where NDVI value vary in between 0.4-0.6 whereas rest of the part shows normal values of NDVI (0.2 – 0.4).

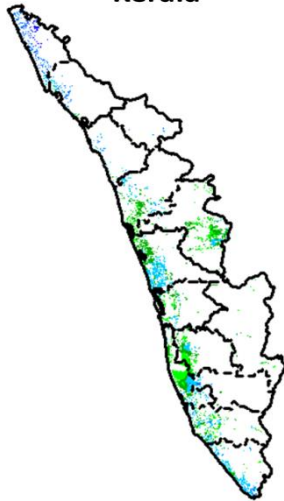
### Jharkhand



Agriculture vigour is good over entire state of Jharkhand, NDVI value varies from 0.4 - 0.5. Except for few patches in north western and eastern region.

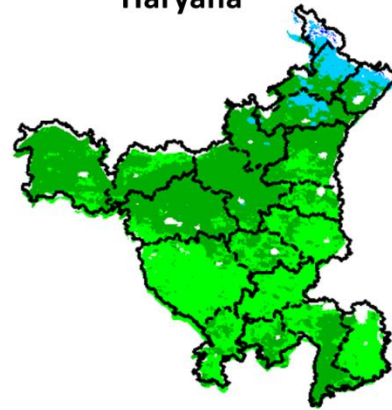


### Kerala



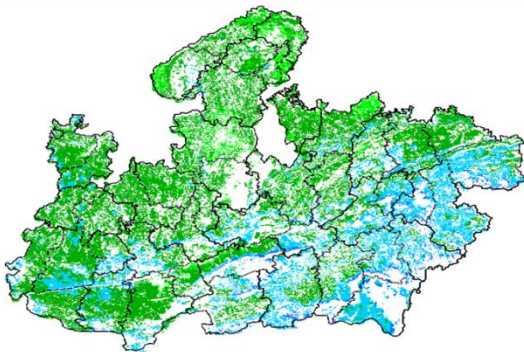
Agriculture vigour is moderate over central and southern Kerala where NDVI value lies between 0.2 – 0.4 whereas northern coast showing higher values of NDVI (0.4 – 0.5 ).

### Haryana



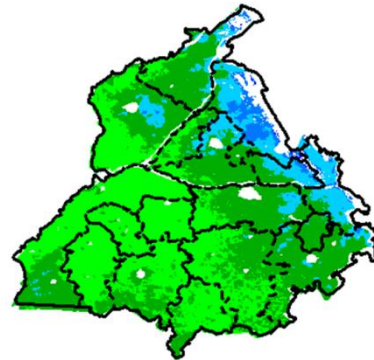
Agriculture vigour is moderate over the state of Haryana. NDVI values vary between 0.2-0.4. North eastern part of state showing NDVI values between 0.4 – 0.5.

### Madhya Pradesh



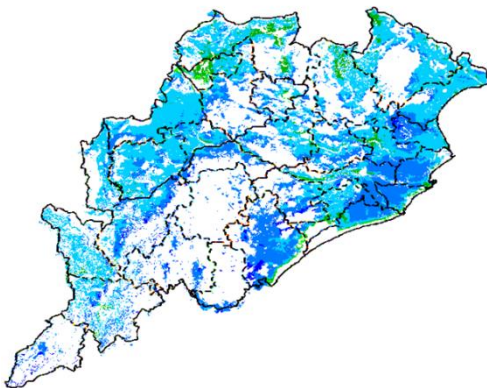
Agriculture vigour is good over southern and eastern part of Madhya Pradesh. NDVI varies from 0.4-0.5 and rest of the part shows moderate values of NDVI (0.2 – 0.4).

### Punjab



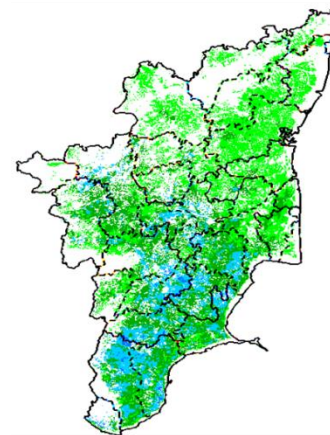
Agricultural vigour is good over north eastern part of Punjab, showing NDVI values between 0.4 - 0.6, whereas moderate values of are NDVI observed in remaining parts of the state.

### Odisha



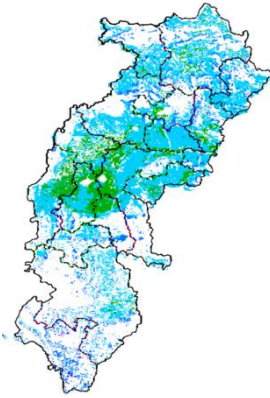
Agricultural vigour is good over entire state of Odisha with NDVI value ranging between 0.4 – 0.6.

### Tamil Nadu



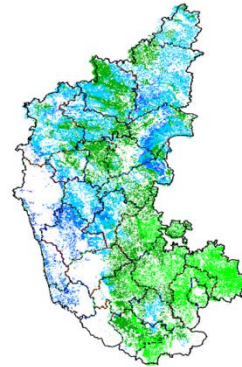
Agricultural vigour is moderate over Tamil Nadu with NDVI values varying from 0.2 - 0.4 whereas good values of NDVI (0.4 – 0.5) are observed in patches in southern part of the state.

### Chhattisgarh



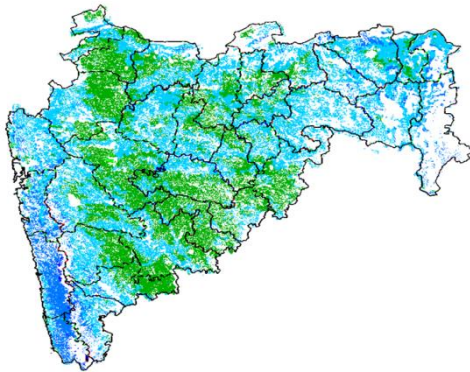
Agriculture vigour is good over entire state of Chhattisgarh where NDVI value are between 0.4-0.5 except few patches in central part shows moderate values of NDVI.

### Karnataka



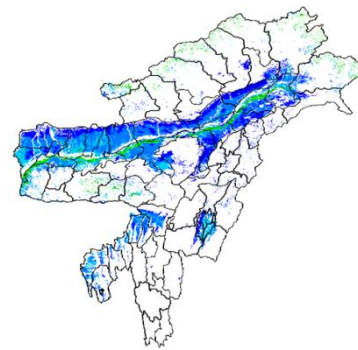
The agriculture vigor is good over the entire state. Higher values of NDVI are observed in interior, southern and eastern part of the State (NDVI 0.4-0.6) whereas few patches in south east show normal NDVI.

### Maharashtra



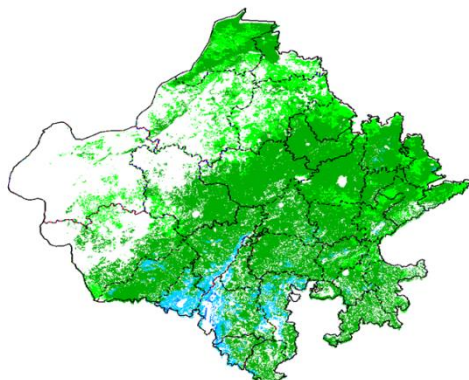
Agricultural vigour is very good over Coastal Maharashtra region with NDVI values from 0.4-0.6, whereas NDVI is good over other parts of Maharashtra, (0.4-0.5). Whereas, few patches in Marathwada and Madhya Maharashtra show moderate values of NDVI (0.2-0.4).

### North East Region



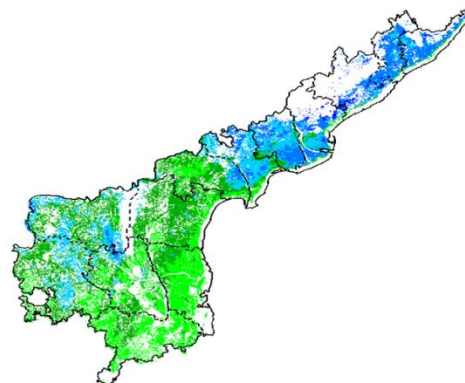
Agriculture vigour is very good in North-East states where NDVI varies from 0.4-0.6.

### Rajasthan

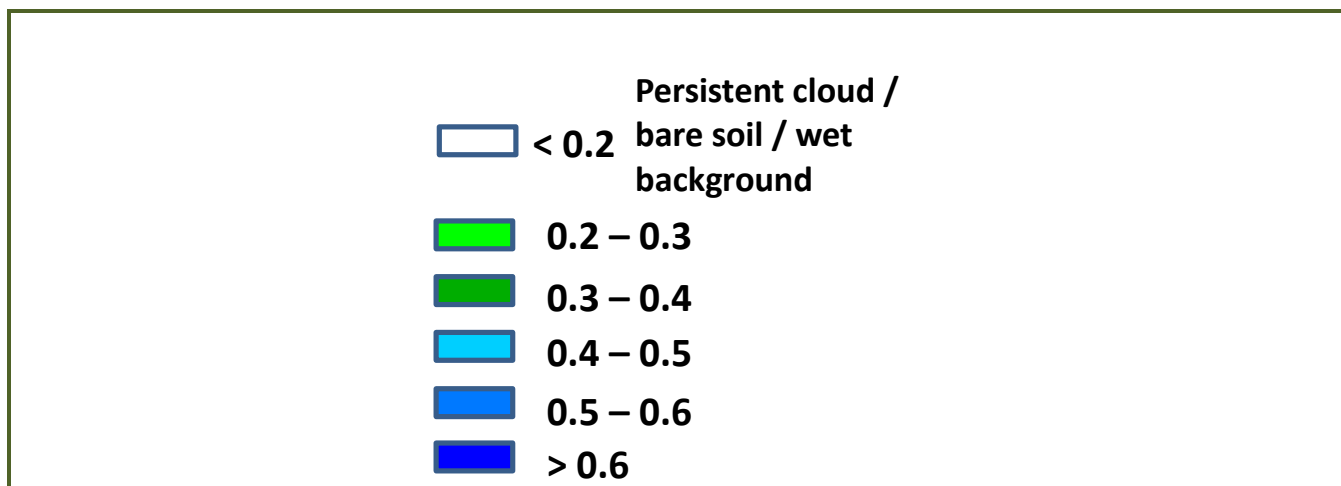


Agriculture vigour is good (0.4-0.6) in some patches over southern part of Rajasthan whereas moderate values of NDVI are observed over the entire state (0.2-0.4).

### Andhra Pradesh



Agriculture vigour is good in northern and western Andhra Pradesh where NDVI vary between 0.4-0.6. Whereas, southern part shows normal values of NDVI (0.2-0.3).



### Annexure III

#### List of varieties

##### North Inerior Karnataka

**Pearl millet:** ICTP 8203 and ICMV 221

**Horse gram :**KBH-1, PHG-9

**Rabi sorghum :**Maldandi and Mugati

**Bengal gram:** JJ-11, KAK-2 and Vishal, JG-11, Annigeri-1

**Chickpea:** A-1, JG-11, Jaki-9218

**Safflower:** A-1

**Ragi:** Indaf-7, 9 and 15

**Sunflower:** Morden, KBSH-1, KBSH-41, KBSH-42, KBSH-44 and KBSH-53.

**Maize:** Deccan-103, Vijaya composite and Ganga-11

**Cowpea:** TVX-944, KBC-1 , KM-8 and PKB-4 (vegetable purpose)

**Field bean :** HA-1,3 and 4

**Horse gram :**KBH-1, PHG-9

##### 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)

##### Kerala

**Rice:** Mundakan

**Banana:**Nendran

##### Telangana

**Rabi red gram:**(LRG 41, ICPL 87119, MRG 66, ICPL 85063, WRG 27,

MRG 1004, WRG 53, WRG-65)

**Greengram:**(MGG-295, MGG-348, MGG-347 WGG-2, WGG-37, LGG-460, TM-96-2)

**Black gram:**(LBG-20 (Teja) , LBG-623, WBG-26 (Usha), PBG-1, LBG-752, MBG-207,PU 31)

##### Assam

**Early cauliflower:** Pusa Katki, Pusa Deepali and Early Kunwari.

**Mid cauliflower :**Pusa Snowball.

**Brinjal :** Pusa Kranti, Pusa Purple Long, Pusa Purple Cluster, Pusa Bhairav, JC-2, BWR-12.

**Califlower :**Japanese, Pusa synthetic, Pusa snowball and Main Crop Patna.

**Cabbage:** Golden Acre, Pride of India, Pusa Mukta.

**Tomato :** Punjab Chhuhara, S-12, Punjab Kesri, Pusa Early Dwarf, Sioux,Pusa Ruby, VC- 48-1, Arka Abha (BWR-1), Arka Alok (BWR-5), BT-1, Bilahi-1, Bilahi-2.

**Potato :**Kufri Chandramukhi, Kufri Jyoti, Kufri Megha, Kufri Badshah, Kufri Sindhuri.

**Broccoli :** Early Danish Giant, De Cicco Green Bud, Sparton Early, Coastal and Atlantic.

**Black gram :** KU 301, USJD 113, PU 19, T-9, T-27, Pant U-19, T-122, Saonia mah.

**Green gram :** Pratap, SG 21-5, T-44, Kopergaon, K-851, ML-56, ML-131,SG-1 (Pratap).

**Kharifsesame :** Gauri, Madhabi, ST-1683, Punjab Til No.1.

**Radish :**Pusa Desi, Pusa Chetki, Pusa Himani.

**Knolkhol:** White Vienna, Purple Vienna.

**Carrot :**Nantes, Pusa Kesar.

**Onion** :Pusa Red, Pusa Ratnar, Pusa white (Round), Pusa white (Flat), N-53, Agrifound Light Red, Punjab Red Round, Pusa Madhuri, Arka Niketan.

### Meghalaya

**Cauliflower:** Meghalaya Local.

**Cabbage** : Meghalaya: H-139, Pride of India.

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

**French bean** : Naga Local.

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

**Broccoli** : Puspa, Aiswarya.

**Carrot** : New Karoda, Nantesh.

**Radish** : Local genotype.

**Mustard** : Varuna, Krishna, TM 4; Rapeseed- M 27, TS 38, TR 48, TR 67.

### Manipur

**Cauliflower:** White shot, adopt White flash.

**Cabbage:** Rareball.

**French bean** : Pant Anupam, Anupam, Tangkhul Hawaii (local).

**Pea:** Arkel or Azad.

**Onion** : Nasik Red.

### West Bengal:

**Mango:** Himsagar, Mallicka, Langra

**Guava:** Safeda, L-49

**Coconut:** Eastcoastal, Hazari

**Banana** :- Mortoman, Chapa, Kathali, Singapuri,

**Mustard:-** Agrani(B-54), Panchali (T.W.C.-3), B-9, Rai-5 and Bhagirothi (R.W.-351).

### Bihar

**Potato:** KufriJyoti,Kufri Ashoka,Pukharaj

**Toria:** R.A.U.T.S.17, Panchali,P.T.303

**Rapeseed:** RAUTS-17, Panchali,PT-303 ,Bhawani

**Pulses:** K-75,PL77,KLS-218

**Lentil:** BR-25,Pant L 406,Malika,Arun

**Rai:** Varuna pusa,Kranti

**Maize:** Dhml17,Shaktiman-1,Dewki&Lakshmi

**Kidney Pea:** PDR-14,IIDR 96-4,IIPR 98-5

**Rai:** Varuna,Pusabold,Kranti

**Sarson:** RajendraSarson,Swarna

**Peas:** Ratna,Apnahrabajan Malbai mater15

**Garlic:** Jamuna Safed-2(G-50),Jamuna safed-3(G-282) Jamuna-4(G-323)

### Jharkhand

**Lentil:** P.L.-406, P.L.-639, K.L.S -218,K-75

**Barley:** Jyoti,Ratna,D.L.-36,B.R.-32

**Linseed:** Sweta,Shubhra, T-397

**Mustard:** Panchali, Bhavani, Pusa Jaikisan, Sivani, Varuna& Kranti

**Toria:** BR-23,T.-9,P.T.-303

**Chick Pea:** Birsa chana-3,B.G.-372,256,K WR-108

**Field Pea:** Rachna,DDR-23, Swarnrekha

**Onion:** N-53,Pusa red,Arka nketan, Arka kalian

**Gram:** KAK-2, ICC-2,Pusa 256, Pusa-372

### Odisha:

**Mango:** Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika, Ratna, Ramkella, Alphonso and Keshar, etc.

**Cashewnut:** Vengrulla-1.4, BPP-4, Bhubaneswar-1, VRI-2, Hybrid 2-17

**Green gram:**K 851, PDM 11, PDM 54, OUM 115.

**Black gram:**T 9, PU 11, PU 19 and PU 30.

**Horse gram:** Urmi.

### Jammu & Kashmir

**Cabbage:** Golden Acre, Pride of India and PusaMukta.

**Cauliflower:** Giant Snow Ball, Pant Gobh 2 & 3 and Pusa Synthetic.

**Pea** : AP-1, Bonnevillea, Rachna and Arkel);

**Chickpea** : K-468, Gourav);



**Lentil** : L-4147, L-9/12, PL-406)  
**Wheat** : PBW-175, PBW-396, RSP-81(Jitto)  
**Mustard** : Pusa Bold, RSPR-01, RSPR-03, Kranti.

### Uttarakhand

**Sugarcane: varieties** Co-238, Co-241, Co Pant 3220, Co Pant 84211, COS-8436, COS-88230 etc. and medium to late sown varieties like Co Pant 90223, Co Pant-96219, COS-97222, COS-767, COS-1148  
**Barley** : Jyoti, Vijaya, or Jagrati  
**Oat** : UPO-50, UPO-212, JHO-822, Kent

### Himachal Pradesh

**Wheat:**Hs-277, HPW-251 and VL-616  
**Cauliflower:** snowball and Giant snowball.  
**Radish:**Japanese white, Chinese pink and mino early white  
**Turnip:** PTWG-1  
**Carrot:**Pusakesar  
**Fenugreek** :I.C. 74, kasoori.  
**Peas** :Mater ageta-6 (early variety).  
**Cabbage:**Pride of India, golden achor and hybrid

### East Uttar Pradesh

**Sorghum:** Pusa chari-23, SSG-98-8MFSH-3, Pant-5 and MP chari  
**Lobia:** Russian Joint , UPC-5286, UPC-5287, NP-3, Bundhel lobia-2, UPC-9202 and UPC-4200  
**Sugarcane:** coj-64, cos-96268, cos-98231, cos-767, cos-84, cos-32, copant-84212, Ko.Sha.-88230, 95255, Ko.Sha.-95436, 01235.  
**Tomato:** pusa early, pusa ruby, HS 101.  
**Cauliflower:** pusa Dipali.  
**Pearl Millet:** Raj WCC-75, ICMB-155, Pusa-322,23, ICMH-451.  
**Seasame:** T-4,78, Shekhar, Pragati, Tarun.  
**Pigeon Pea:**Bahar, Narendra Arhar-1, Azad, Pusa-9.  
**Jute:** Jute Reshma, NDC (2007), NDC-2028, NDC-9102.  
**Okra:** PusaSawani, VarsaUphar, Azad kranti.  
**Brinjal:** Pant Samrat, Pant Rituraj, Pusa hybrid-6.  
**Guava:**Sardar( Lucknow-49).  
**Kabuli gram:** chamatkar, Puse-1003, Subhra  
**Pea:** Rachna, Pantmatar-5, Aparna, Malviya Matar-2, Malviya Matar-15, Shikha and Sapna.  
**Cabbage:** Japani, Pusa Dieepali, Pusa Kartiki  
**Toria:** TA-9, Bhawani, PT-30 and PT-507  
**Potato:** Kufri Chandramukhi, Kufri Sadabahar, Kufri Ashoka

### West Uttar Pradesh

**Ladies finger:**VRO-6, VRO-5.  
**Pigeon pea:**T-21, UPAS 120.  
**Cotton:** H777, Dhanalakshami, HD107.  
**For fodder Jowar:** JS 120, Lobia 88.  
**gram:** P.D.G.-3, G.P.F.-2, C-235, Gourav, KGD-1168, JG-16, Avrodhi  
**sugarcane:**ko.sha 88230, ko.sha 8436, ko 0238, ko.sha 07250 or U.P. 0512.  
**barseem:** V.L.1,V.L.10, maskavi, jai.  
**onion:**pusa red, pusa white.  
**Mustard:** Varuna, Narendra-Rai 8501, Rohoni (timely sowing), Aashirwaad and Vardan (late sowing), Vaibhav, Maya.  
**Jou:**Manjula, Jagruti, Gitanjali.  
**Pea:** Azad P-3, Jai, Indra, Prakash.  
**Lentil:** KLB-320, K-75, DPL-62.  
**Linseed:**Padmini, Sharda, Laxmi.

### Punjab

**Sugarcane:** CoJ-85, CoJ-83, CoJ-64 (early maturing), COH-119, CoJ-88, CoS-8436 for and CoJ-89,CO118, COJ85, COJ64.  
**Rice:** Pusa-44, T.R-112 and T.R-113.  
**Onion:** Punjab Naroya, Punjab White and PRO 6.  
**Pea:** Punjab 89 and MithiPhali, Matar Ageta-7, Arkel and Matar Ageta-6.  
**Gram** : PDG-4, PDG-3, GPF-2, PBG 5 and PBG-1, PBG-7.  
**Kabuli gram** (L 552, L 550 & BG-1053)  
**Mustard:** PBR 357, RLC-1, PBR-210, RLM-619, PBR-91, PBR-97, RLC-1, PBR 210 and PBR 91,  
Gobhi sarson GSC-7, GSC-6, GSL-1, GSL-2, Hyola (PAC-401), African sarson PC-5.  
**Radish:** Punjab Pasand and Japanese white.  
**Turnip:** L-1.  
**Carrot:** Punjab Black Beauty, Punjab Carrot Red and PC-34.

### Delhi

**Mustard:** Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, Pusa Taraka and Pusa Mahak, Pusa Jai Kisan, Pusa Jagannath, Pusa Sarson-25, Pusa Sarson-26, Pusa Agrni, Pusa Taraka, Pusa Mahak. Pusa Saag-1; Bathua- Pusa Bathua-1

**Radish:** Pusa Chetki.

**Spinach:** Pusa Bharti.

**Amaranth:** Pusalal Chaulai, Pusa Kiran.

**Ladyfinger:** Pusa A-4.

**early potato:** Kufri Badshah, Kufri Surya.

**Pea:** Pusa Pragati, Arkel

**Carrot:** Pusa Rudhira-;

**Radish:** Japani White, Hill queen, French Radish;

**Spinach:** All Green, Pusa Bharti;

**Fenugreek:** Pusa Kasuri;

**Coriander:** Pant Haritama, Hybrids;

**Turnip:** Pusa Swati, Local Red variety

### East Rajasthan

**Radish:** Pusa Chetki, Japanese white & hill queen.

**Carrot:** Pusa Keshar

**Cowpea:** Short dur C-152, RS-9, FS-68, RC-19 and RC-101, C-152, RS-9.

**Mustard:** Pusa Jai Kisan (Bio-902), PR-15 (Kranti), T-59 (Varuna), Giriraj, RGN-73, Bio-902 (Pusa Jaikisan), RH-9304 (Vasundhara), RH-9802 (Swarn Jyoti), RH-8812 (Laxmi), RB-50.

**Gram:** RSG-888 (Anubhav), CSJD-884 (Aakash), RSG-44, Pusa-209, C-235, H-208, Pratap raj chana, RSG-888, Dahod yellow, ICCV-10 and Pratap Chana-1.

**Cauliflower:** Pusa snow ball K-1, Hisar-1, Dania and Selection-7

**Onion:** Punjab safed goal, Udaipur 102, nasik red.

### West Rajasthan

**Cowpea:** RC-19, RC-101, RCP-27.

**Mustard:** Pusa Jai Kisan, RH-30, RH-8812, Pusa Gold and PR-15, RGN-13, 73, 268226, 48, Laxmi, Bio-902, T-59, Pusa bold, Arawali and RGN-48 and late sown RGN145, 236.

**Gram:** GNG-469, 466, GNG-663, RSG-888, RSG-44, RSG-945, RSG-807, GNG-1581 and C-235, GNG-1466, 236.

**Oat :** OS 6, OS 9

**Berseem:** BL 10, BL 22

**Cauliflower:** Pusa snow ball K-1, Hisar-1, Dania and Selection-7

**Radish:** (Pusa Rashmi).

**Carrot:** Pusa Keshar

### Madhya Maharashtra

**Rabi jowar:** Selection-3, Phule Mauli, Phule Chitra, Phule Mauli, Maldandi- 35-1, Phule Vasudha, Phule Yashoda, C.S.V.-22, Phule Yashoda, Phule Vasudha, C.S.V. 22.

**Gram** Vijay, Vishal, Digvijay

**Safflower** Bhima, Phule Kusuma, Sharada, Girna or D.S.H. 129

**Wheat:** NIAW-301 (Trimbak), NIAW-917 (Tapowan), NIDW-295 (Godavari), Late sowing- NIDW-15 (Panchavati), Irrigated- NIAW-34.

### Marathwada

**Rabi jowar:** Selection 3, Phule Malauli, Phule Anuradhada, Phule Vasudha, Phule Yeshodha, Parbhani Moti, CSV-22, PKV-Kranti, CSH-15, CSH-19.

**Safflower:** Shardha, Parbhani-12, Parbhani-40, Nari-6, Annegiri-1, Phule Kusum.

**Gram:** BDN-9-3, BDNG-979, Vishwas, Phule G-12, Vijay, Vishal, Digvijay.

**Fodder jowar:** Ruchira R-4-11, Nilva, MP chari, Pusa Chari, IS 4776, SG-14, MKV Chari.

### Vidarbha

**Gram:** Saki 9516, Hirva chafa, Vijay, ICCV-10.

**Wheat:** N 59, NI 5439, AKDW 299716, MACS 1967

### Gujarat

**Wheat:** GW 496, GW 273, GW 173, GW 1 (unirrigated), Lok-1, GW-366, GW- 190.

**Chickpea:** Gujarat chana-2 (unirrigated), Gujarat Gram-1, Gujarat Gram-3 (irrigated), Dahod Pila, ICC-4.

**Mustard:** Varuna, Gujarat Mustard 1, 2, 3 (in high temperature), 4.

**Garlic:** Gujarat Garlic-3, 4 or Local.

**Pea (vegetable):** Pusa Pragati, Pusa Rudhira.

**Onion:** Junagadh local (pili patti), Talaja red, Agri found dark red, Pusa White flat, Pusa Red, Nashik Lal, N 53 & H 48.

**Cumin:** Guj. Cumin- 2 and 4.

**Coriander:** Guj. Cor. -1 & 2.

**Carrot:** Patan Local, Pusa Kesar and Pusa Chamdagni.

**Raddish:** Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi, Pusa Chetaki.

**Cabbage:** Kranti, Golden Acaire Pride of India, Coppin Market.

**Cauliflower:** Pusa Early, Pusa Dipali, Pusa Kartiki, Early Kuvari for early maturity and for medium duration select the Pusa synthetic, Early Snowball, Snowball.

**Brinjal:** Guj. Brinjal 6, P.L.R. 1, Junagadh Lambagoal, Mahicco-11, 16.

**Fennel:** Gujarat fennel-2, 11 and 12.

**Madhya Pradesh:**

**Wheat:** JW 1203, JW1215, HI 1544 (Irrigated).

JW 3288, JW 3211, JW 3020, HI 1531(1 or 2 irrigation).

JW 3288, JW 3173 (non irrigated).

**Gram:** JG 130, JG 11, JG 315, JG 16.

**Chickpea:** KAK 2, JGK 1.

**Lentil:** RVL 31, JL 2.

**Mustard:** RVM 2, RGN 73, Pusa Jai Kisan.

**Chhattisgarh:**

**Wheat:**Lok-1, W.H. 147, Kanchan & Raj(irrigated).

C 308, Sujata, H.W. 2004, Ratan, H.I.-8627 & H.I. 1531 (Partially irrigated).

**Linseed:**R.L.C. 92 (Indira Alsi), Dipika (R.L.C.-78), Indira Alsi (R.L.C.-81), Kartika (R.L.C.-76), Jawahar 552 (R.L.C.-552), Kiran (R.L.C.-6).

**Safflower:** J.S.F.-1, J.S.I-7, J.S.H.-129.