



National Agromet Advisory Service Bulletin

Friday 27th November 2015

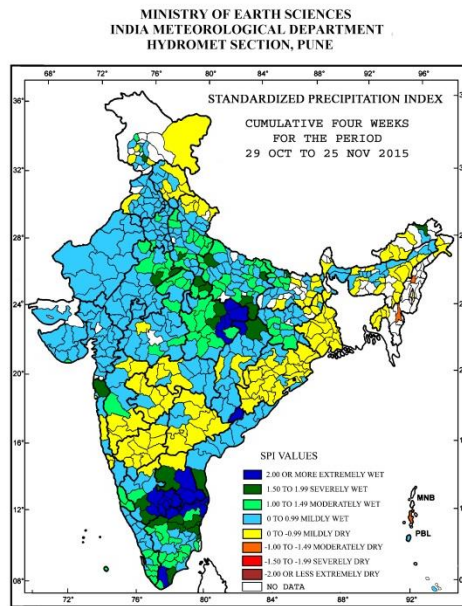
(For the period 27th November to 1st December 2015)



Issued by

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

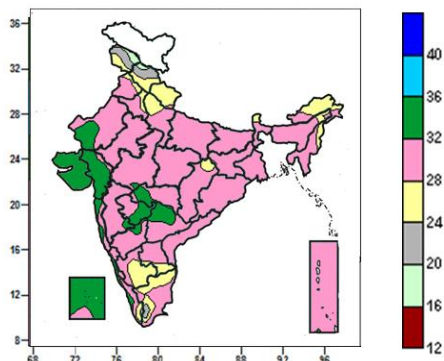
Standardised Precipitation Index Four Weekly for the Period 29th October to 25th November 2015



- Extremely/severely wet conditions experienced in few districts of Andhra Pradesh, Tamil Nadu & Puducherry; Karnataka Upper Siang district of Arunachal Pradesh; Malkangiri district of Odisha; Sitamarhi district of Bihar; Deoria, Hardoi, Mirzapur, Sonbhadra, Hamirpur, Mahamaya Nagar, Jalaun districts of Uttar Pradesh; Ramban district of Jammu & Kashmir; Sawai Madhopur, Dholpur districts of Rajasthan; Dindori, Katni, Rewa, Satna, Shahdol, Sidhi, Umaria, Singrauli districts of Madhya Pradesh; Thane district of Konkan & Goa; Koriya, Surguja districts of Chhattisgarh.
- Moderately dry conditions experienced in North & Middle Andaman district of Andaman & Nicobar Islands; Aizwal district of Mizoram; Kohima district of Nagaland.
- Rest of the country experienced moderately wet/mildly dry/wet condition.

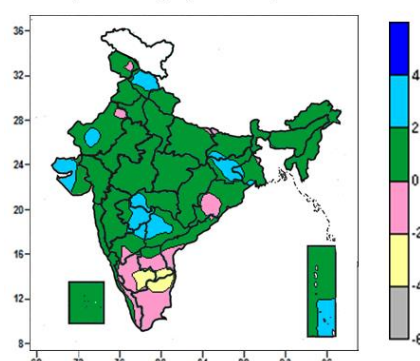
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 25.11.2015

Actual Mean Maximum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.11.2015



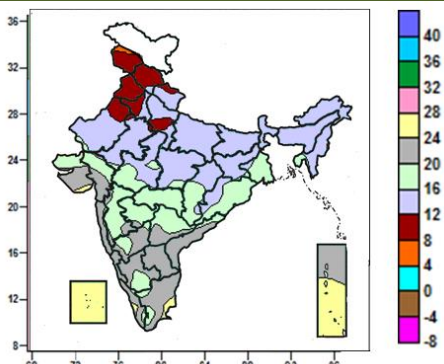
- Mean maximum temperature was between 28 to 36 $^{\circ}\text{C}$ over the country except Jammu & Kashmir, Himachal Pradesh, Uttarakhand, many parts of Arunachal Pradesh, South Interior Karnataka, some parts of Sikkim, West Uttar Pradesh, Rayalaseema, Tamil Nadu and isolated pockets of Punjab, Haryana, Delhi, Chhattisgarh, Assam, Nagaland, Rayalaseema and Kerala where it was between 16 and 28 $^{\circ}\text{C}$.

Mean Maximum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.11.2015



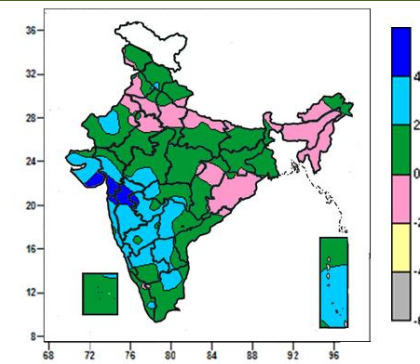
- Mean maximum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over many parts of Himachal Pradesh, Jharkhand, Saurashtra & Kutch, Marathwada, Telangana, some parts of Saurashtra, Vidarbha, West Rajasthan, Andaman & Nicobar Islands and isolated pockets of Bihar, Gangetic West Bengal and North Interior Karnataka.
- Mean maximum temperature was below normal by 2 to 4 $^{\circ}\text{C}$ over some parts of Tamil Nadu, South Interior Karnataka and isolated pockets of Rayalaseema.
- It was normal to near normal in remaining parts of the Country.

Actual Mean Minimum Temperature ($^{\circ}\text{C}$) in India for the week ending 25.11.2015



- Mean minimum temperature was between 4 to 8 $^{\circ}\text{C}$ over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was between 8 to 12 $^{\circ}\text{C}$ over Punjab, many parts of Jammu & Kashmir, Himachal Pradesh, Haryana, Delhi, some parts of West Uttar Pradesh, West Rajasthan and isolated pockets of Uttarakhand and East Rajasthan.
- It was between 12 to 16 $^{\circ}\text{C}$ over rest of the country except Gujarat, Maharashtra, Karnataka, Telangana, Andhra Pradesh, Tamil Nadu, Kerala, Lakshadweep, Andaman & Nicobar Islands, many parts of Gangetic West Bengal, Chhattisgarh, Odisha, some parts of Madhya Pradesh and isolated pockets of Rajasthan, Tripura where it was between 16 and 28 $^{\circ}\text{C}$.

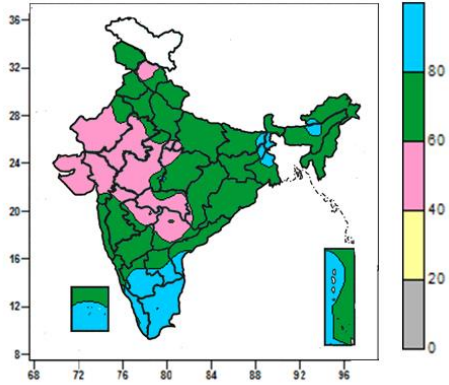
Mean Minimum Temperature ($^{\circ}\text{C}$) Anomaly in India for the week ending 25.11.2015



- Mean minimum temperature was above normal by 4 to 6 $^{\circ}\text{C}$ over some parts of Gujarat, Madhya Maharashtra and isolated pockets of Konkan, Marathwada.
- Mean minimum temperature was above normal by 2 to 4 $^{\circ}\text{C}$ over many parts of Gujarat, Konkan & Goa, Madhya Maharashtra, Marathwada, Telangana, Rayalaseema, Coastal & North Interior Karnataka, Andaman & Nicobar Islands, some parts of West Rajasthan, West Madhya Pradesh, Vidarbha, Tamil Nadu and isolated pockets of Himachal Pradesh, Kerala.
- It was normal to near normal in remaining parts of the country.

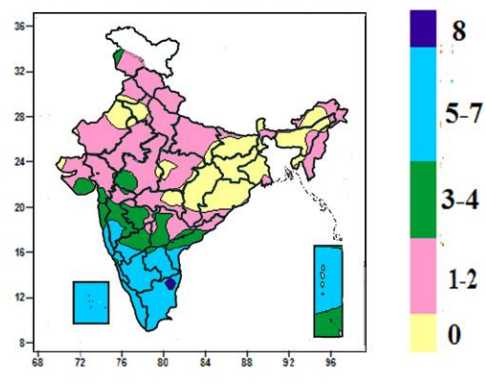
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 25.11.2015

Relative Humidity (%) over India for the week ending 25.11.2015



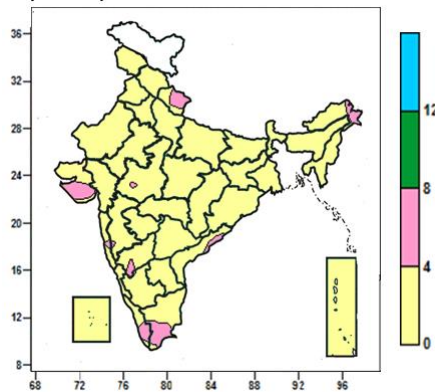
- Mean Relative humidity was above 80% over Tamil Nadu, Kerala, many parts of South Interior Karnataka, Lakshadweep, some parts of West Bengal, Coastal Andhra Pradesh, Rayalaseema, Andaman & Nicobar Islands and isolated pockets of Bihar, Jharkhand, Arunachal Pradesh and Assam.
- Mean Relative humidity was between 60 to 80% over rest of the country except many parts of Gujarat State, Rajasthan, West Madhya Pradesh, Marathwada, Vidarbha, Telangana, some parts of Himachal Pradesh, East Madhya Pradesh, Madhya Maharashtra and isolated pockets of Uttar Pradesh, Chhattisgarh where it was between 40 to 60%.

Cloud amount (okta) over India for the week ending 25.11.2015



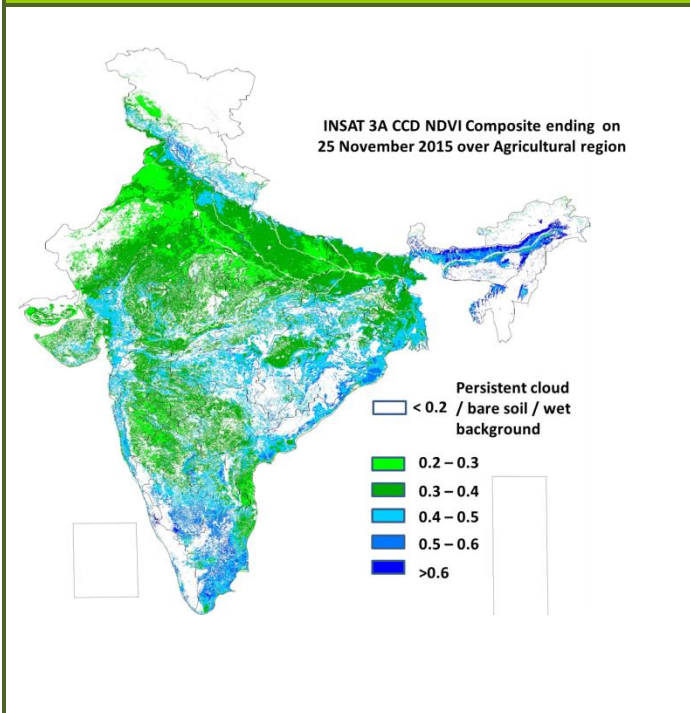
- Sky remained cloudy (8 okta) over isolated pockets of Tamil Nadu.
- Sky remained cloudy (5-7okta) over Goa, Coastal & South Interior Karnataka, Kerala and Lakshadweep, many parts of Rayalaseema, Tamil Nadu, Andaman & Nicobar Islands, some parts of Coastal Andhra Pradesh, Konkan, North Interior Karnataka and Madhya Maharashtra.
- Sky remained partly cloudy/mainly clear/clear sky (3 to 4/ 1 to 2/0 okta) over rest of the country.

Wind speed (knots) over India for the week ending 25.11.2015



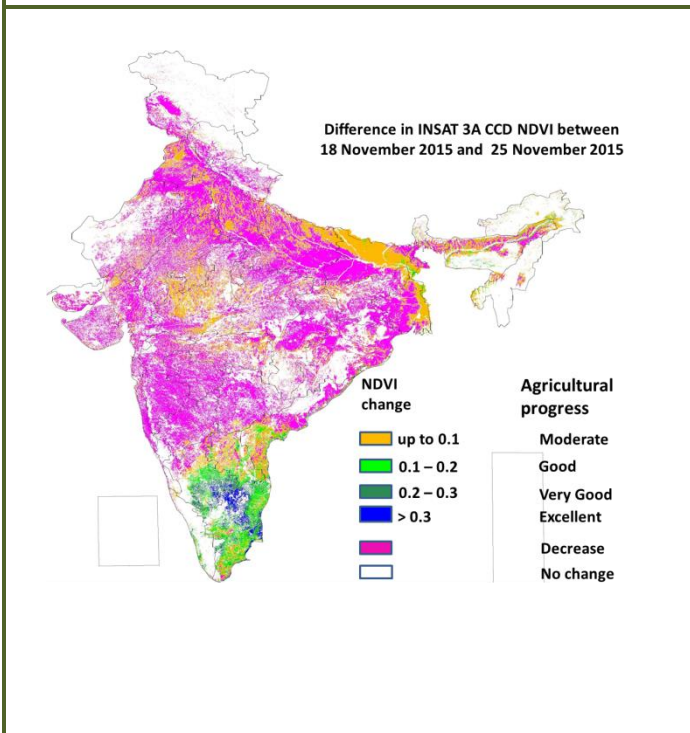
- Mean wind speed was 4 to 8 knots over many parts of Saurashtra, Uttarakhand, some parts of Tamil Nadu, Kerala and isolated pockets of West Uttar Pradesh, Arunachal Pradesh, West Madhya Pradesh, Konkan, Coastal Andhra Pradesh and North Interior Karnataka,.
- It was less than 4 knots over rest of the country.

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



- Agricultural vigour is good in some patches of Coastal and Western Andhra Pradesh, Odisha, West Bengal, Assam, Coastal Maharashtra, Vidarbha, East Madhya Pradesh, Gujarat, South 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 Northern part of Tamil Nadu.

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



- Decrease in NDVI was observed in East Uttar Pradesh, Bihar, West Bengal, Coastal Odisha, Andhara Pradesh, 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 Tami Nadu and South-eastern Karnataka. Excellent progress in NDVI (>0.3) was observed in North-western part of Tamil Nadu.

- INSAT 3A CCD NDVI composite maps for the week ending on 25th November 2015 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 2nd December 2015

- Meteorological subdivision wise detailed 5 day rainfall forecast is given below.
- Fog/dense fog would occur at isolated places over south Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura. Shallow to moderate fog would occur at isolated pockets of East Uttar Pradesh, Bihar and Sub-Himalayan West Bengal in the morning hours during next 2 days.
- No significant change in minimum temperature over plains of northwest and central India during next 2-3 days.

5 Day Rainfall Forecast (MID DAY) 27th November 2015

Met Sub-divisions	27 Nov	28 Nov	29 Nov	30 Nov	01 Dec
1. Andaman & Nicobar Islands	SCT	SCT	FWS	FWS	SCT
2. Arunachal Pradesh	ISOL	ISOL	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	ISOL	ISOL	ISOL
8. Jharkhand	DRY	DRY	DRY	DRY	DRY
9. Bihar	DRY	DRY	DRY	DRY	DRY
10. East Uttar Pradesh	DRY	DRY	DRY	ISOL	ISOL
11. West Uttar Pradesh	ISOL	DRY	DRY	ISOL	DRY
12. Uttarakhand	SCT	DRY	DRY	DRY	DRY
13. Haryana, Chd & Delhi	ISOL	DRY	DRY	ISOL	ISOL
14. Punjab	DRY	DRY	DRY	DRY	DRY
15. Himachal Pradesh	ISOL	DRY	DRY	DRY	DRY
16. Jammu & Kashmir	ISOL	DRY	DRY	DRY	DRY
17. West Rajasthan	DRY	DRY	DRY	DRY	DRY
18. East Rajasthan	DRY	ISOL	ISOL	ISOL	ISOL
19. West Madhya Pradesh	ISOL	ISOL	SCT	SCT	ISOL
20. East Madhya Pradesh	DRY	ISOL	ISOL	ISOL	ISOL
21. Gujrat Region	DRY	ISOL	ISOL	ISOL	ISOL
22. Saurashtra & Kutch	DRY	DRY	DRY	DRY	DRY
23. Konkan & Goa	DRY	DRY	ISOL	ISOL	ISOL
24. Madhya Maharashtra	DRY	DRY	ISOL	ISOL	ISOL
25. Marathawada	DRY	DRY	DRY	ISOL	ISOL
26. Vidharbha	DRY	DRY	ISOL	ISOL	ISOL
27. Chhattisgarh	DRY	DRY	ISOL	ISOL	ISOL
28. Coastal Andhra Pradesh	ISOL	SCT	FWS	FWS	SCT
29. Telangana	DRY	DRY	ISOL	SCT	ISOL
30. Rayalaseema	DRY	ISOL	FWS	FWS	ISOL
31. Tamilnadu & Puducherry	ISOL	FWS	WS	WS	SCT
32. Coastal Karnataka	DRY	DRY	ISOL	SCT	SCT
33. North Interior Karnataka	DRY	DRY	ISOL	ISOL	ISOL
34. South Interior Karnataka	DRY	ISOL	SCT	FWS	SCT
35. Kerala	ISOL	ISOL	SCT	FWS	FWS
36. Lakshadweep	ISOL	ISOL	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		

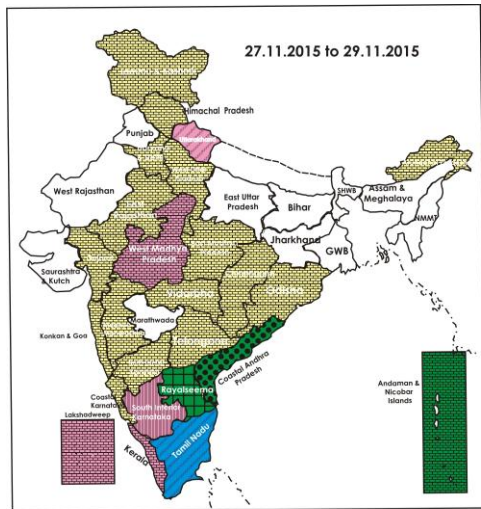
Weather Warning during next 5 days

- **27 November (Day 1):** No weather warning.
- **28 November (Day 2):** Heavy rain would occur at isolated places over coastal Tamilnadu & Pudducherry.
- **29 November (Day 3):** Heavy to very heavy rain would occur at isolated places over Tamilnadu & Pudducherry and heavy over south Coastal Andhra Pradesh and Rayalaseema.
- **30 November (Day 4):** Heavy rain would occur at isolated places over Tamilnadu & Pudducherry, south Coastal Andhra Pradesh and Rayalaseema.
- **01 December (Day 5):** No weather warning.

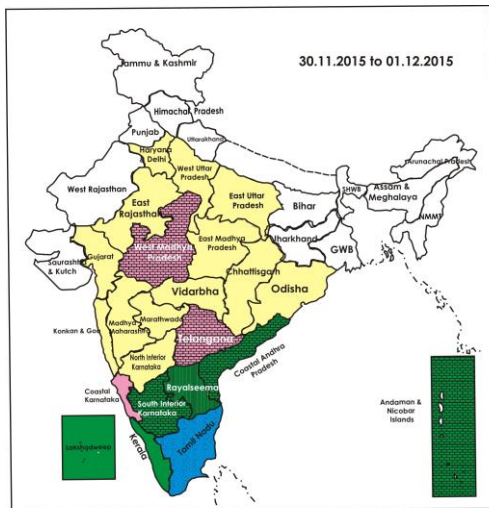
Weather Outlook for subsequent 2 days from 2nd to 4th December 2015

- Rain/thundershower would occur at a few places over south peninsular India and at isolated places over east India.
- Rain/thundershower would occur at isolated places over Nagaland, Manipur, Mizoram & Tripura.

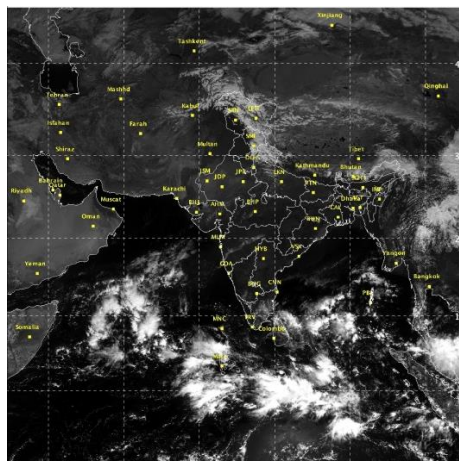
Weather Forecast Map (Valid upto 0830 hours of 2nd December, 2015)



- 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, 27.11.2015 0600 UTC



Salient Advisories

- As rain/thundershowers would occur at most/many places over **Tamil Nadu** from 28th to 30th November, at many places over **Coastal Andhra Pradesh** on 29th and 30th November; over **Rayalaseema** on 29th and 30th November & 1st December; over **Kerala** on 30th November & 01st December and over **South Interior Karnataka** on 30th November along with heavy/heavy to very heavy rainfall at isolated places over Tamil Nadu and Puducherry from 28th to 30th November and over Coastal Andhra Pradesh and Rayalaseema on 29th & 30th November, postpone intercultural operation and application of plant protection measures and fertilizers to the standing crops. 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 the Southern Zone of **Andhra Pradesh**, in **Nellore** and **Prakasam** 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 are advised to take the following remedial measures as follows:
 - Late *kharif* rice: The crop is at tillering to panicle initiation stage. Farmers are advised to drain out excess water from the fields. Apply booster dose of 25kg Urea+ 15kg MOP/acre after current spells of rain.
 - *Rabi* rice nurseries: Wherever nurseries are inundated, farmers are advised to drain out excess water from the field. If rice nurseries are damaged, resowing is advocated depending upon the damage. Farmers are advised to select among *rabi* rice varieties viz., MTU-1010, NLR- 34449 (Nellore mashuri), Somasila, Sravani, etc. for resowing.
 - Undertake *Rabi* groundnut sowings under optimum soil moisture, as there is chance of occurrence of seedling rot due to excess moisture.
- In Coastal Zone of **Andhra Pradesh**, drain out excess water from sugarcane fields wherever susceptible varieties viz., 81V48, 81A99 and Co 62175 are grown.
- Continue land preparation and sowing of second rice crop (Uma variety) and planting of winter season vegetables in the Problem Area Zone of **Kerala**. Undertake planting of Nendran bananas and continue sowing of *Mundakan* rice and 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 in Eastern Dry Zone.
- As Fog/dense fog would occur at isolated places over south **Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura** and shallow to moderate fog would occur at isolated pockets of **East Uttar Pradesh, Bihar and Sub-Himalayan West Bengal** in the morning hours during next 2 days, monitor potato, tomato and onion crops for early blight disease. If symptoms are noticed undertake plant protection measures.
- 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. Continue sowing of wheat in **Punjab, Haryana, Rajasthan, Madhya Pradesh, Gujarat, Bihar, Jharkhand, Uttar Pradesh** and **Himachal Pradesh** under assured irrigation.
- 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**.

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



Maize



Groundnut



Land preparation/sowing



Rice

- **Realised Rainfall:** Rainfall occurred in Dakshin Kannada and Udupi district of Coastal Karnataka, all districts of South Interior Karnataka except Ballari, Chikkamagaluru, Davangere, Hassan, Kodagu and Shivamogga; all the districts of Tamilnadu except Tiruppur; all the districts of Kerala except Palakkad; East Godavari, Nellore and Prakasam districts of Coastal Andhra Pradesh; all districts of Rayalaseema except Kurnool. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/thundershowers would occur at most/many places over **Tamil Nadu** from 28th to 30th November, at many places over **Coastal Andhra Pradesh** on 29th and 30th November; over **Rayalaseema** on 29th and 30th November & 1st December; over **Kerala** on 30th November & 01st December and over **South Interior Karnataka** on 30th November along with heavy/heavy to very heavy rainfall at isolated places over Tamil Nadu and Puducherry from 28th to 30th November and over Coastal Andhra Pradesh and Rayalaseema on 29th & 30th November, postpone intercultural operation and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields.
 - **Tamil Nadu:**
 - 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 the Western Zone, due to continuous rainfall in the past week and also anticipated rain in the coming week, vegetative growth in mango tree must be stopped by providing drainage to individual trees and also by pruning new emerging vegetative growth. Provide drainage to samba transplanted rice crop anticipating rainfall in the coming five days. Postpone top dressing of nitrogen to next week of dry spell since flowering is anticipated in rice. Undertake sowing of bengal gram sowing in dry lands under optimum soil moisture condition. Provide drainage to encourage germination of the seeds sown, since rain is anticipated.
 - 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, continue direct sowing of rice using the realized rainfall.
 - In the Hill Zone, since continuous rain fall is expected, drainage facilities should be made in the field to drain excess water and to prevent disease due to continuous rain fall, drench the soil around the crops with Trichoderma @ 10 g/litre of water.
 - Prevailing weather with moderate cloud cover and humidity is congenial for incidence of semilooper in green gram in the South Zone. For control, spray Quinolphos 1 ml/litre of water after current spells of rain.
 - **Andhra Pradesh:**
 - In the Southern Zone of **Andhra Pradesh**, in **Nellore** and **Prakasam** 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 are advised to take the following remedial measures as follows:
 - Late *kharif* rice: The crop is at tillering to panicle initiation stage. Farmers are advised to drain out excess water from the fields. Apply booster dose of 25kg Urea+ 15kg MOP/acre after current spells of rain.
 - *Rabi* rice nurseries: Wherever nurseries are inundated, farmers are advised to drain out excess water from the field. If rice nurseries are damaged, resowing is advocated depending upon the damage. Farmers are advised to select among *rabi* rice varieties viz., MTU-1010, NLR- 34449 (Nellore mashuri), Somasila, Sravani, etc. for resowing.
 - Undertake *Rabi* groundnut sowings under optimum soil moisture, as there is chance of occurrence of seedling rot due to excess moisture.
 - In Coastal Zone of Andhra Pradesh, drain out excess water from sugarcane fields where susceptible varieties viz., 81V48, 81A99 and Co 62175 are grown.
 - In the Scarce Rainfall Zone, continue land preparation for sowing of Bengal gram (desi and kabuli varieties) and *rabi* groundnut. Undertake following special preventive measures in areas which have received rains in Anantapur district:

- Pomegranate: Drain out excess water from the fields. Bacterial leaf spot infected branches to be removed and applied with 10% Bordo mixture. Drenching the basin of the plant with copper Oxy Chloride 3 g/litre of water.
- Melons: Drain out the excess water from the fields. Apply the booster dose of urea @ 25 to 30 kg/acre to promote the growth after current spells of rain. Prevailing climate conditions are favourable for the incidence of the downy mildew disease, spray Macozeb @ 2g/litre of water + Crabendazim @ 2g/litre of water within 10 days.
- Tomato: Remove excess water from the fields. Stake the tomato plants. Harvest the ripened fruits immediately.
- Groundnut: Hand picking of the pods from halums followed by sun drying.
- Prevailing weather conditions are congenial for incidence of leaf neck blast and sheath blight in late *kharif* rice in the Southern Zone. Spray Trifloxi strobilin + Tebuconazole @ 0.4g/litre of water after current spells of rain.
- 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 after current spells of rain.
- **Telangana:**
- In the Southern Telangana Zone, continue sowing of *rabi* crops like maize, sorghum, groundnut and sunflower under irrigated conditions and nursery sowing of short duration varieties of rice upto 1st fortnight of December. Apply 2 kg urea for 200 m² nursery area at 10-15 days after sowing.
- In the Northern Telangana Zone, continue harvesting of rice and picking cotton in clear weather and sowing of sunflower and Bengal gram.
- In the Northern Telangana Zone, prevailing weather conditions are congenial for incidences of flea beetles in *rabi* red gram. Spray Chlorpyrifos @ 2.5 ml/litre of water or Acephate @ 1.5 g/litre of water or Monocrotophos @ 1.6 ml/litre of water, if the incidence is severe on a non rainy day.
- In the Southern Telangana Zone, incidence of grey mildew disease is noticed in cotton. To control, spray Wettable Sulphur @ 3g per litre of water on a non rainy day.
- **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.
- 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 after current spells of rain.
- 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 @ 1g/ litre of water or Tricyclozole @ 0.6 g/litre of water after current spells of rain.
- 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:**
- Undertake planting of Nendran bananas and continue sowing of *Mundakan* rice and cultivation of winter vegetables like cabbage and cauliflower in the Central 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 rice bug in rice (milky stage) in the Central Zone. Keep the field and bunds free of weeds and grasses and when the bug is seen in large numbers, apply one of the insecticides like Malathion 50% EC @ 2ml/litre of water or Sevin @ 50 WP @ 3-4 g/litre of water after current spells of rain.
- Intermittent rains and cloudy conditions are congenial for incidences of rice case worm and leaf roller in rice in the Southern Zone. As a control measure, drain water from fields. If the infestation is severe, apply 2 Kg. Carbaryl @ 50 WP, 80 g/10 cent after current spells of rain.
- 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.
- In the North western zone of Tamilnadu, due to rainfall, 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, due to continuous wet spell, undertake proper care to avoid protein and immunity deficiency induced bacterial and viral infection in livestock animals.

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



Greengram

Land preparation/sowing

Okra

Rice

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

- **Advisories:**

- As fog/dense fog would occur at isolated places over south Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura in the morning hours during next 2 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 Brahmaputra Valley Zone, continue sowing of rapeseed & mustard, 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. Undertake harvesting of *Sali* rice at the earliest.
- In Central Brahmaputra Valley Zone of Assam, continue nursery sowing of *boro* rice, sowing of wheat, *rabi* pulses, rapeseed & mustard, planting of potato, nursery sowing of cole crops and harvesting of matured *Sali* 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. Continue 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, bonneville etc.
- In Upper Brahmaputra 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, and planting of winter vegetables. Complete rapeseed & mustard.
- In Arunachal Pradesh, continue transplanting of 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, leaf folder and stem-borer infestation is observed in *Sali* rice at panicle emergence to milk/dough stage. For control spray 0.02% Chloropyrifos 20 EC or Quinalphos 25 EC @ 2.5ml per litre of water, if the pest population is above ETL.
- In Lower Brahmaputra 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 use sticker Triton (0.5ml/litre).
- In Upper Brahmaputra 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. Complete sowing of chickpea, lentil, linseed,

- mustard.
- In Tripura, complete sowing of sesame, mustard and lentil and continue planting of potato.
- 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 coucididal drops.
- **Fishery**
- In Lower and Central Bramhaputra 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/sowing

- **Realised Rainfall:** Rainfall occurred in Thane district of Konkan & Goa; Ahmednagar, Nashik and Pune districts of Madhya Maharashtra. Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, continue 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, considering the favourable temperature conditions, complete sowing of irrigated wheat and gram. Continue harvesting of late maturing rice variety. Continue picking of cotton in interval of 15-20 days. Dry the kapas and keep it in clean and dry place. Complete planting of pre-seasonal sugarcane with assured irrigation. Undertake planting of Banana by selecting among Srimanti, Grand Naine or Basrai variety.
 - In Marathwada, 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. Considering the water stress condition, apply micro irrigation like drip and sprinkler irrigation in orchards like banana, pomegranate, sweet lime and orange. Also apply mulch of crop residue.
 - In Vidarbha, 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 partly cloudy weather in Konkan region, there may be incidence of mango hoppers on new flush of mango; spray 25 % Cypermethrin @ 3 ml or 2.8 % Deltamethrin @ 9 ml per 10 litres of water.
 - Due to humid climatic conditions in Madhya Maharashtra, there may be incidence of downy mildew in cucumber and other vegetables; spray Copper oxychloride @ 25 g or Mancozeb 64% + Metalaxil 8% combined fungicide @ 20 g per 10 litres of water at an interval of 10-12 days.
 - **Gujarat:**
 - In South Gujarat Heavy Rainfall Zone, complete sowing of *rabi* gram and transplanting of cabbage and cauliflower at proper soil moisture condition. Complete the sowing of *rabi* crops like cumin in Bhal area, undertake picking of cotton during morning hours before evaporation of dew in Bhal and Coastal Zone.
 - Continue sowing of *rabi* crops like wheat, chickpea, onion, garlic, cumin, coriander in South Saurashtra Zone.

Continue sowing of potato, wheat amaranths and suva under assured water condition in North Gujarat Zone; sowing of wheat and cumin in Middle Gujarat Zone; sowing of wheat and gram in South Gujarat Zone.

- Complete sowing of wheat, chickpea, onion, carrot and pea (for vegetable purpose), cumin, coriander under irrigation in North Saurashtra Zone.
- In North West Zone, continue sowing of gram; undertake sowing of wheat; continue sowing of lucerne and sowing/transplanting of cabbage, cauliflower, brinjal, onion, carrot and radish under irrigation.
- Yellowing of leaves due to stem (clove) rot is observed in garlic in North Saurashtra Zone; drenching of Tebuconazole 10 ml/10 litres of water is advised.
- Prevailing temperature conditions are favorable for outbreak of thrips in castor in Middle Gujarat Zone, in castor and fennel in North Gujarat Zone and in castor and chilli, tomato; spray Quinalfos 25 E.C. @ 20 ml or Mithyl-o-Dematone 25 E.C. or Dimethoate 30 E.C. @ 10 ml/10 litres of water.
- Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
- Provide 6-8 kg good quality dry roughage with 15-20 kg green fodder to the animals in Gujarat.

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



Groundnut



Cotton



Land preparation/sowing



Rice

- **Realised Rainfall:** Rainfall occurred in Nicobar and South Andaman districts of Andaman & Nicobar Islands. Weather remained dry over rest of the region.
- **Advisories:**
 - As shallow to moderate fog would occur at isolated pockets of Bihar and Sub-Himalayan West Bengal & Sikkim in the morning hours during next 2 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.
 - **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 planting of potato.
 - In Terai Zone, undertake land preparation and sowing of wheat, mustard, potato, lentil and continue harvesting of rice.
 - In Old Alluvial Zone, complete harvesting of rice and prepare the land for *rabi* crops. Continue land preparation and sowing of wheat, lentil, garlic and planting of potato.
 - In Hill Zone, continue harvesting of ginger. Complete transplanting of Cole crops. Undertake land preparation for sowing of mustard.
 - In Laterite and Red soil Zone, continue sowing of wheat, mustard and planting of potato.
 - In New Alluvial Zone, continue 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. Undertake land preparation and collect seedling for late varieties of cauliflower and cabbage and also harvesting of rice.
 - **Andaman and Nicobar Islands:**
 - As rain/thundershowers would occur at many places over Andaman & Nicobar Islands on 29th and 30th November, postpone intercultural operation and application of plant protection measures and fertilizers to the standing crops.
 - In North, Middle and South Andaman, undertake nursery sowing and transplanting of vegetables.
 - **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 Oxychloride @ 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 to control.
- In North Eastern Ghat Zone, rice crop has been affected by Bacterial Leaf Blight. To control spraying of Plantomycin @ 200 g or Streptocyclin @ 20 g in 200 litres of water per acre.
- In East and South Eastern Coastal Plain Zone, the prevailing cloudy weather may aggravate the infestation of aphid in pulses and powdery mildew in pulses and cole crops. Spray 5 ml Imidachloprid or 20 ml Metacystox per 10 litre of water to control aphid and spray 50 g Sulfex per 10 litre water to control powdery mildew.
- In East and South Eastern Coastal Plain Zone, the current temperature and weather is optimum for planting of potato, sowing of wheat. Complete sowing of rabi pulses by the end of November.
- In North Central Plateau Zone, the falling temperature is very much suitable for sowing of wheat, so prepare the land. Complete sowing pulses like green gram, black gram.
- **Bihar:**
 - In South Alluvial Plain Zone, complete planting of potato, continue field preparation for sowing of chickpea and lentil, continue sowing of rai, complete the sowing of fodder crops like berseem, oats and lucern. Continue harvesting of matured rice crops.
 - In North East Alluvial Plain Zone, complete 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, continue 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, complete the sowing of pea crop & lentil crops, continue planting of potato, continue sowing of rabi crops such as maize, garlic, rajma. & gram. Continue inter-cultural operations in vegetables and other crops, complete harvesting and threshing of rice 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 and 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, continue weeding and inter cultural operation in potato Continue sowing of improved varieties of toria, mustard and gram as single crop or intercropping with linseed or mustard. Continue harvesting of matured rice crops. undertake raising of improved seedling varieties of onion & growing of fodder crops like berseem and oat. Undertake transplanting of tomato, cabbage, cauliflower & brinjal.
 - 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 .
 - 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 North Eastern Plateau Zone, present weather is conducive for the occurrence of mustard aphid which transmits viral disease causes leafcurling, to control, spray Methyl Dematone or Emidachloprid @ 1.5 to 2 ml/litre of water solution in 15 days interval.
 - In South Eastern Plateau Zone, Due to cloudy weather, infestation of early and late blight intensity will become more prominent in potato crops.to control, spray, Krilaksil or Ridomil chemical@ 1.5g per liter of water on a non rainy day.
 - 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, fats and vitamins.

- In Sub-Himalayan West Bengal & Bihar, low temperature condition may adversely affect the milk production and performance of domestic animals. Farmers are advised to give protein enriched feed to the animals and do not keep the animal in the open during night hours.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Land preparation/sowing



Okra



Rice

- **Realised Rainfall:** Weather remained mainly dry/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. Undertake transplanting of vegetables.
- 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. Continue 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 wheat, gram and onion in Nimar Valley Zone and continue sowing of wheat and gram in Central Narmada Valley Zone.
- 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. Continue 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 sowing of wheat.
- Continue 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 Malwa Plateau Zone, due to humid weather condition there may be chances of incidence of whitefly and thrips, spray neem oil @ 5 ml/litre of water on a non rainy day.

- **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. Continue 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/sowing



Maize



Cabbage

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

- **Advisories:**

- **Jammu & Kashmir:**

- In Sub Tropical Zone, continue sowing of lentil after seed treatment with Captan or Thiram @ 2g/kg seed before sowing and undertake mid and late season pea varieties viz P-88, P-89, Matar Ageta. Complete sowing of wheat 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. Continue sowing of mustard, rabi pulses like pea and gram and also sowing of root crops like radish and turnip. Complete transplanting of cabbage, cauliflower, knolkhol and onion, undertake weeding in all vegetable crops to avoid yield loss.

- **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, continue 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, continue sowing of wheat, barley, gobhisarson and peas and transplanting of tomato in raised bed and cauliflower (early group & late group), cabbage, Knolkhol, 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. Complete sowing of gram and lentil in lower areas. Undertake gardening cleaning and, skiffing, Training and pruning work in tea.
 - In Mid Hills sub-Humid Zone, undertake transplanting of onion, and harvesting of ginger, continue harvesting of walnut, peacanut, kiwi and citrus fruits. Complete sowing of pea, palak, raddish and turnip by month of November. 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 3 metre beds.

- **Rajasthan:**

- In West Rajasthan, continue sowing of wheat and barley, continue sowing of gram, garlic, fenugreek, mustard, and fennel, onion, carrot, lucern, taramirawhen average daily temperature remains between 20–25 °C. Apply irrigation in carrot, onion and garlic. Continue sowing of cumin and isabgol, continue weeding and hoeing operations in mustard crop in Arid Western Plain Zone. Continue sowing of lucern, taramira in Transitional Plain Zone of Inland Drainage. Continue sowing of wheat, gram and barley, continue harvesting of sugarcane sown in February/March in Irrigated Northwestern Plain Zone.
 - In East Rajasthan, continue sowing of wheat, barley, 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, mustard, cumin and fenugreek and continue sowing of wheat in Semi-Arid Eastern Plain Zone.
 - Continue sowing of wheat, barley, flax seeds and coriander in South-eastern Humid Plain Zone. Undertake sowing of wheat, barley and opium, apply irrigation in mustard and gram, complete sowing of gram, apply light irrigation

in garlic, continue nursery preparation of chilli, brinjal and tomato along with 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 1 spoon washing powder as sticker) and due to slight increase in day temperature there may be attack of pod borer in gram, to control spray Acephate 75sp @ 650g/ha on a non rainy day.
- 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 and due to prevailing weather there may be attack of painted bug/saw fly on mustard crop in Arid Western Zone also, to control spray Malathion (50 EC) @ 1ml /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 Sub Humid Southern Plain and Aravali Hill Zone, there is a chance of incidence of bagrada in late sown mustard, dust Methyl Parathion @ 25 kg/ha to control on a non rainy day.

▪ **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, gobhisarson, 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, gobisarson, lentil, raya, gram, onion, pea, fodder crops lucerne, oats and senji.
- In Sub-Montane Undulating Zone of Punjab, continue sowing of raya, gobisarson and taramira.
- In Western Zone of Haryana, continue field preparation for sowing of wheat, Bengal gram kabulichana 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, turmeric, fenugreek, coriander, carrot, spinach, root beat. Complete planting of potato and continue planting of cabbage, capsicum, chilli, brinjal, tomato and cauliflower. Continue sowing of *rabi* onion. Continue nursery sowing of autumn tomato. Continue sowing/ transplanting of crops under assured irrigation. Irrigate wheat, winter sugarcane, oat, barley crops.
- 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 and early matured variety of sugarcane. 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 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 Central Plain Zone, under prevailing weather condition, there may be chances of attack of hairy caterpillar, in toria, for control, spray Malathion 50 EC @ 1.5 litre in 500 to 600 litres of water per ha.
- Suitable varieties are given in Annexure III.

• **Horticulture**

- In Central Plain Zone of Uttar Pradesh, under prevailing weather condition, there may be chances of attack of burn shoot gull maker insects in Anola, for control, spray Dimethoate @ 2 ml per litre of water and Mancozeb @ 2 g per litre of water.

- 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, continue 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**
- Undertake nursery preparation of winter flowers in polyhouses. 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	11.11.15		18.11.15		25.11.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	11.4	-40	0.0	-100	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	0.0	-100	0.0	-100	0.0	-100
East Siang	24.8	134	4.1	37	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	20.4	168	0.0	-100	0.0	-100
Lower Dibang Valley	116.7	443	8.2	41	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpara	1.3	-80	4.6	-6	0.0	-100
Tawang	5.0	-63	4.0	-49	0.0	-100
Tirap	2.4	-77	0.0	-100	0.0	-100
Upper Siang	40.4	0	35.4	421	3.6	-85
Upper Subansari	2.6	-51	7.6	38	0.0	-100
West Kameng	2.2	-84	0.0	-100	0.0	-100
West Siang	**	**	**	**	**	**
Assam&Meghalaya						
Assam						
Baksa	0.0	-100	0.0	-100	0.0	-100
Barpeta	6.6	-35	1.4	-55	0.0	-100
Bongaigaon	10.2	32	2.0	43	0.0	-100
Cachar	0.0	-100	0.0	-100	0.0	-100
Chirang	4.0	-48	10.4	643	0.0	-100
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	0.0	-100	0.0	-100
Dhubri	9.6	129	0.0	-100	0.0	-100
Dibrugarh	10.6	49	3.5	-14	0.0	-100
Goalpara	0.0	-100	0.0	-100	0.0	-100

Golghat	4.9	-29	0.0	-100	0.0	-100
Hailakandi	0.0	-100	0.0	-100	0.0	-100
Jorhat	0.5	-95	2.0	-51	0.0	-100
Kamrup(Rural)	0.0	-100	0.0	-100	0.0	-100
Kamrup(Metro)	0.0	-100	0.0	-100	0.0	-100
Karbi Anglong	12.4	58	0.0	-100	0.0	-100
Karimganj	0.0	-100	0.0	-100	0.0	-100
Kokrajhar	0.0	-100	4.3	47	0.0	-100
Lakhimpur	3.1	-55	7.3	77	0.0	-100
Morigaon	0.0	-100	0.0	-100	0.0	-100
N.C.Hills	0.0	-100	0.0	-100	0.0	-100
Nowgong	4.9	-50	0.0	-100	0.0	-100
Nalbari	1.5	-81	0.6	-90	0.0	-100
Sonitpur	11.3	94	2.0	-50	0.0	-100
Sibsagar	1.7	-56	0.0	-100	0.0	-100
Tinsukia	12.0	107	4.7	47	0.0	-100
Udalgiri	1.9	-56	0.6	-80	0.0	-100
Meghalaya						
East Garo Hills	0.0	-100	0.0	-100	0.0	-100
East Khasi Hills	1.1	-93	0.0	-100	0.0	-100
Jaintia Hills	0.0	-100	0.0	-100	0.0	-100
Ribhoi	6.3	5	0.0	-100	0.0	-100
South Garo Hills	**	**	**	**	**	**
West Garo Hills	0.0	-100	0.4	-90	0.0	-100
West Khasi Hills	0.0	-100	0.0	-100	0.0	-100
NMMT						
Mizoram	**	**				
Aizwal	0.0	-100	0.0	-100	0.0	-100
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	**	**	**	**	**	**
Serchhip	0.0	-100	**	**	**	**
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	0.0	-100	0.0	-100	0.0	-100
Imphal west	0.0	-100	0.0	-100	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	**	**	0.0	-100	0.0	-100
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	0.9	-97	0.0	-100	0.0	-100
Kephire	**	**	**	**	**	**
Kohima	0.0	-100	0.0	-100	0.0	-100

Longleng	**	**	**	**	**	**
Mokokchung	0.0	-100	0.0	-100	0.0	-100
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	0.0	-100	0.0	-100	0.0	-100
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	0.0	-100	0.0	-100	0.0	-100
NorthTripura	0.0	-100	0.0	-100	0.0	-100
SouthTripura	0.0	-100	0.0	-100	0.0	-100
West Tripura	0.0	-100	0.0	-100	0.0	-100
Himachal Pradesh						
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Chamba	21.9	811	0.6	-78	0.0	-100
Hamirpur	1.7	43	0.0	-100	0.0	-100
Kangra	6.8	258	0.0	-100	0.0	-100
Kinnaur	2.9	7	0.0	-100	0.0	-100
Kullu	18.4	319	0.0	-100	0.0	-100
Lahaul and Spiti	14.0	164	1.8	-51	0.0	-100
Mandi	3.0	13	0.0	-100	0.0	-100
Shimla	1.8	-43	0.0	-100	0.0	-100
Sirmaur	0.5	-75	0.0	-100	0.0	-100
Solan	0.9	-57	0.0	-100	0.0	-100
Una	0.0	-100	0.0	-100	0.0	-100
Punjab						
Amritsar	4.7	325	0.0	-100	0.0	-100
Barnala	0.0	-100	0.0	-100	0.0	-100
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	2.7	1233	0.0	-100	0.0	-100
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	2.2	96	0.0	-100	0.0	-100
Hoshiarpur	0.1	-63	0.0	-100	0.0	-100
Jalandhar	7.0	438	0.0	-100	0.0	-100
Kapurthala	9.7	1290	0.0	-100	0.0	-100
Ludhiana	6.7	509	0.0	-100	0.0	-100
Mansa	1.8	192	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	0.0	-100
Patiala	0.0	-100	0.0	-100	0.0	-100
Ropar	4.1	153	0.0	-100	0.0	-100
Sangrur	0.0	-100	0.0	-100	0.0	-100
Mohali	1.2	140	0.0	-100	0.0	-100
TarnTaran	0.0	-100	0.0	-100	0.0	-100
Haryana,Chd,Delhi						
Haryana						

Ambala	0.6	-73	0.3	-47	0.0	-100
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	0.0	-100
Faridabad	0.0	-100	0.0	-100	0.0	-100
Fatehabad	0.0	-100	0.0	-100	0.0	-100
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	5.0	115	0.2	-47	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	0.0	-100
Katihah	0.0	-100	0.0	-100	0.0	-100
Karnal	0.5	67	0.0	-57	0.0	-100
Kurukshetra	0.0	-100	0.0	-100	0.0	-100
Mahendragarh	0.0	-100	0.0	-100	0.0	-100
Mewat	0.0	-100	0.0	-100	0.0	-100
Palwal	0.0	-100	0.0	-100	0.0	-100
Panchkkula	0.9	125	0.0	-100	0.0	-100
Panipat	0.0	-100	0.0	-100	0.0	-100
Rewari	1.1	163	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	0.0	-100
Sirsa	5.0	317	0.0	-100	0.0	-100
Sonepat	0.6	-73	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
Delhi						
Central Delhi	1.0	67	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	0.0	-100
New Delhi	1.2	103	0.0	-100	0.0	-100
North Delhi	2.6	333	0.0	-100	0.0	-100
North East Delhi	1.0	67	0.0	-100	0.0	-100
North West Delhi	1.0	67	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	3.2	433	0.0	-100	0.0	-100
West Delhi	1.0	67	0.0	-100	0.0	-100
Jammu & Kashmir						
Anantnag	21.7	164	10.1	44	0.0	-100
Badgam	9.6	91	2.4	-59	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	33.2	463	23.2	257	0.0	-100
Doda	17.6	171	4.2	-52	0.0	-100
Ganderbal	33.0	408	7.8	53	0.0	-100
Jammu	8.2	641	0.0	-100	0.0	-100
Kargil	**	**	**	**	**	**
Kathua	1.2	-8	0.0	-100	0.0	-100
Kistwar	**	**	**	**	**	**
Kulgam	31.6	285	2.6	-63	0.0	-100
Kupwara	47.5	296	30.3	131	0.0	-100
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	0.0	-100	**	**	**	**
Pulwama	23.7	541	2.7	-52	0.0	-100
Rajouri	23.2	200	0.0	-100	0.0	-100

Ramban	31.5	384	7.5	-15	0.0	-100
Reasi	12.3	356	1.9	-56	0.0	-100
Samba	2.4	118	0.0	-100	0.0	-100
Shopian	**	**	**	**	**	**
Srinagar	55.8	758	2.9	-43	0.0	-100
Udhampur	14.6	441	1.8	-58	0.0	-100
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.0	-100
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	9.3	322	0.0	-100	0.0	-100
Chindwara	0.7	-80	0.0	-100	0.0	-100
Damoh	0.0	-100	0.0	-100	0.0	-100
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	3.5	150	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	4.9	88	0.0	-100	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umariya	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	11.1	185
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.7	-63
Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	1.0	-76	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	1.5	-41
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100
Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100

Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	1.6	-55	0.0	-100	0.0	-100
Chhattisgarh						
Bastar	0.0	-100	0.2	-88	0.0	-100
Bijapur	0.0	-100	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	0.0	-100
Dantewara	0.0	-100	8.1	1250	0.0	-100
Dhamtari	0.0	-100	0.0	-100	0.0	-100
Durg	0.0	-100	0.0	-100	0.0	-100
Janjgir	0.0	-100	0.0	-100	0.0	-100
Jashpurnagar	0.0	-100	0.0	-100	0.0	-100
Kanker	0.0	-100	0.0	-100	0.0	-100
Korba	0.0	-100	0.0	-100	0.0	-100
Koriya	0.0	-100	0.0	-100	0.0	-100
Kawardha	0.0	-100	0.0	-100	0.0	-100
Mahasumund	0.0	-100	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	0.0	-100	0.0	-100	0.0	-100
Raipur	0.0	-100	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	**	**
Ambedkar Nagar	0.0	-100	0.0	-100	**	**
Azamgarh	0.0	-100	0.0	-100	**	**
Bahraich	0.0	-100	0.0	-100	**	**
Ballia	0.0	-100	0.0	-100	**	**
Balrampur	0.0	-100	0.0	-100	**	**
Banda	0.0	-100	0.0	-100	**	**
Barabanki	0.0	-100	0.0	-100	**	**
Basti	0.0	-100	0.0	-100	**	**
Chandauli	0.0	-100	0.0	-100	**	**
Deoria	0.0	-100	0.0	-100	**	**
Faizabad	0.0	-100	0.0	-100	**	**
Farrukhabad	0.0	-100	0.0	-100	**	**
Fatehpur	2.7	281	0.0	-100	**	**
Gazipur	1.3	-63	0.0	-100	**	**
Gonda	0.0	-100	0.0	-100	**	**
Gorakhpur	0.0	-100	0.0	-100	**	**
Hardoi	0.0	-100	0.0	-100	**	**

Jaunpur	0.0	-100	0.0	-100	**	**
Kannauj	0.0	-100	0.0	-100	**	**
Kanpur City	0.0	-100	0.0	-100	**	**
Kanpur Dehat	0.0	-100	0.0	-100	**	**
Kaushambi	0.0	-100	0.0	-100	**	**
Kheri	0.0	-100	0.0	-100	**	**
Kushi nagar	0.0	-100	0.0	-100	**	**
Lucknow	0.0	-100	0.0	-100	**	**
Maharajganj	0.0	-100	0.0	-100	**	**
Mau	0.0	-100	0.0	-100	**	**
Mirzapur	0.0	-100	0.0	-100	**	**
Pratapgarh	0.0	-100	0.0	-100	**	**
RaiBareilly	0.0	-100	0.0	-100	**	**
Sahuji Maharajnagar	0.0	-100	0.0	-100	**	**
Sant Kabirnagar	0.0	-100	0.0	-100	**	**
Sant Ravidas Nagar	0.0	-100	0.0	-100	**	**
Shrawasti	0.0	-100	0.0	-100	**	**
Sidharthnagar	0.0	-100	0.0	-100	**	**
Sitapur	0.0	-100	0.0	-100	**	**
Sonbhadra	0.8	-64	0.0	-100	**	**
Sultanpur	1.3	33	0.0	-100	**	**
Unnao	0.0	-100	0.0	-100	**	**
Varanasi	0.0	-100	0.0	-100	**	**
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	**	**
Aligarh	0.0	-100	0.0	-100	**	**
Auraiya	0.0	-100	0.0	-100	**	**
Badaun	0.0	-100	0.0	-100	**	**
Baghpat	2.8	300	0.0	-100	**	**
Bareilly	1.4	356	0.0	-100	**	**
Bijnor	4.5	543	0.0	-100	**	**
Bulandsahar	0.0	-100	0.0	-100	**	**
Etah	0.0	-100	0.0	-100	**	**
Etawah	0.0	-100	0.0	-100	**	**
Firozabad	0.0	-100	0.0	-100	**	**
GBNagar	0.0	-100	0.0	-100	**	**
Ghaziabad	1.9	131	0.0	-100	**	**
Hamirpur	0.0	-100	0.0	-100	**	**
Jalaun	0.0	-100	0.0	-100	**	**
Jhansi	6.2	129	0.0	-100	**	**
Jotiba Phule Nagar	2.5	108	0.0	-100	**	**
Kanshiramnagar	0.0	-100	0.0	-100	**	**
Lalitpur	0.0	-100	0.0	-100	**	**
Mahamaya Nagar	0.0	-100	0.0	-100	**	**
Mahoba	0.0	-100	0.0	-100	**	**
Mainpuri	0.0	-100	0.0	-100	**	**
Mathura	0.0	-100	0.0	-100	**	**
Meerut	4.6	561	0.0	-100	**	**

Moradabad	5.2	478	0.0	-100	**	**
Muzzaffarnagar	10.1	1343	0.0	-100	**	**
Pilibhit	1.1	-21	0.0	-100	**	**
Rampur	5.9	2867	0.0	-100	**	**
Saharanpur	10.0	1329	0.0	-100	**	**
Shahjahanpur	0.0	-100	0.0	-100	**	**
Uttarakhand						
Almora	0.0	-100	0.0	-100	0.0	-100
Bageshwar	0.0	-100	0.0	-100	0.0	-100
Chamoli	0.0	-100	0.0	-100	0.0	-100
Champawat	3.5	150	0.0	-100	0.0	-100
Dehradun	1.1	-52	0.0	-100	0.0	-100
Garhwal Pauri	0.1	-95	0.0	-100	0.0	-100
Garhwal Tehri	0.0	-100	0.0	-100	0.0	-100
Haridwar	3.7	640	0.0	-100	0.0	-100
Nainital	5.3	194	0.0	-100	0.0	-100
Pithorgarh	0.0	-100	0.0	-100	0.0	-100
Rudraprayag	0.0	-100	0.0	-100	0.0	-100
Udham Sing Nagar	1.3	-7	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.0	-100	0.0	-100
Bihar						
Araria	0.0	-100	0.0	-100	0.0	-100
Arwal	0.0	-100	**	**	**	**
Aurangabad	0.0	-100	0.0	-100	**	**
Banka	0.0	-100	0.0	-100	0.0	-100
Begusarai	0.0	-100	0.0	-100	**	**
Bhabua	0.0	-100	0.0	-100	**	**
Bhagalpur	0.0	-100	0.0	-100	0.0	-100
Bhojpur	0.0	-100	0.0	-100	0.0	-100
Buxar	0.0	-100	0.0	-100	0.0	-100
Darbhanga	0.0	-100	0.0	-100	0.0	-100
East Champaran	0.0	-100	0.0	-100	0.0	-100
Gaya	0.0	-100	0.0	-100	0.0	-100
Gopalganj	0.0	-100	0.0	-100	0.0	-100
Jahanabad	**	**	**	**	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Kathihar	**	**	0.0	-100	0.0	-100
Khagadia	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	**	**	**	**	**	**
Monghyar	0.0	-100	0.0	-100	**	**
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	**	**
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.0	-100	0.0	-100
Purnea	0.0	-100	0.0	-100	0.0	-100
Rohtas	0.0	-100	0.0	-100	0.0	-100

Saharsha	**	**	**	**	**	**
Samstipur	0.0	-100	0.0	-100	**	**
Saran	0.0	-100	0.0	-100	0.0	-100
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	**	**	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.0	-100	0.0	-100	0.0	-100
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	0.0	-100	0.0	-100
Jharkhand						
Bokaro	0.0	-100	0.0	-100	0.0	-100
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	0.0	-100	0.0	-100	0.0	-100
Dhanbad	0.0	-100	0.0	-100	0.0	-100
Dumka	0.0	-100	0.0	-100	0.0	-100
East Singbhum	0.0	-100	0.0	-100	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.0	-100	0.0	-100	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	0.0	-100	0.0	-100	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.0	-100	0.0	-100	**	**
Khunti	0.0	-100	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	0.0	-100
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	0.0	-100	0.0	-100
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	0.0	-100	0.0	-100
Ranchi	0.0	-100	0.0	-100	0.0	-100
Sahebganj	0.0	-100	0.0	-100	0.0	-100
Saraikela	0.0	-100	0.0	-100	0.0	-100
Simdega	0.0	-100	0.0	-100	0.0	-100
West Singbhum	0.0	-100	0.0	-100	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100
Jaipur	0.1	-89	0.0	-100	0.0	-100
Jhalawar	0.0	-100	0.0	-100	0.0	-100

Jhunjhunu	4.8	1496	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.0	-100
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.1	-71	0.0	-100	0.0	-100
Hanumangarh	1.0	900	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	2.1	-64
Broach	0.0	-100	0.0	-100	0.0	-100
DNH	**	**	**	**	**	**
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	**	**	0.0	-100	**	**
Dangs	0.0	-100	0.0	-100	8.5	39
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	0.4	-92
Valsad	0.0	-100	0.0	-100	0.0	-100
S K & Diu region						
Amreli	0.0	-100	0.0	-100	2.5	-6
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	1.9	-25
Kutch	0.0	-100	0.0	-100	0.0	-100

Porbandar	0.0	-100	0.0	-100	0.0	-100
Rajkot	0.0	-100	0.0	-100	0.0	-100
Surendranagar	0.0	-100	0.0	-100	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	0.0	-100	0.0	-100	1.5	-17
Mumbai Suburban	0.0	-100	0.0	-100	1.6	-11
North Goa	4.5	-62	0.0	-100	0.6	-89
Raigad	0.0	-100	0.0	-100	16.5	345
Ratnagiri	5.0	-35	0.0	-100	9.1	74
Sindhudurg	6.1	-36	0.0	-100	6.1	1
South Goa	13.7	41	0.0	-100	1.4	-77
Thane	0.0	-100	0.0	-100	49.4	1957
Madhya Maharashtra						
Ahmednagar	0.0	-100	0.0	-100	22.7	392
Dhule	0.0	-100	0.0	-100	0.5	-90
Jalgaon	0.0	-100	0.0	-100	1.9	-69
Kolhapur	2.5	-71	0.0	-100	0.9	-87
Nandurbar	0.0	-100	0.0	-100	1.0	-73
Nasik	0.0	-100	0.0	-100	24.3	334
Pune	0.0	-100	0.0	-100	48.8	857
Sangli	0.0	-100	0.0	-100	1.5	-74
Satara	0.0	-100	0.0	-100	15.0	114
Solapur	0.0	-100	0.0	-100	4.3	3
Marathwada						
Aurangabad	0.0	-100	0.0	-100	2.6	-54
Beed	0.0	-100	0.0	-100	18.6	221
Hingoli	0.0	-100	0.0	-100	0.0	-100
Jalna	0.0	-100	0.0	-100	1.6	-77
Latur	0.0	-100	0.0	-100	3.3	-30
Nanded	0.0	-100	0.0	-100	0.0	-100
Usmanabad	0.0	-100	0.0	-100	6.7	103
Parbhani	0.0	-100	0.0	-100	0.0	-100
Vidarbha						
Akola	0.0	-100	0.0	-100	0.0	-100
Amraoti	0.0	-100	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	0.0	-100	0.0	-100	0.0	-100
Chandrapur	0.0	-100	0.0	-100	0.0	-100
Gadchiroli	0.0	-100	0.0	-100	0.0	-100
Gondia	0.0	-100	0.0	-100	0.0	-100
Nagpur	0.0	-100	0.0	-100	0.0	-100
Wardha	0.0	-100	0.0	-100	0.0	-100
Washim	0.0	-100	0.0	-100	0.0	-100
Yeotmal	0.0	-100	0.0	-100	0.0	-100
Odisha						
Angul	0.0	-100	0.0	-100	0.0	-100
Balasore	0.0	-100	0.0	-99	0.0	-100

Bargarh	0.0	-100	0.0	-100	0.0	-100
Bhadrak	0.0	-100	0.0	-100	0.0	-100
Bolangir	0.0	-100	0.0	-100	0.0	-100
Boudh	0.0	-100	0.0	-100	0.0	-100
Cuttack	0.0	-100	0.0	-99	0.0	-100
Deogarh	0.0	-100	0.0	-100	0.0	-100
Dhenkanal	0.0	-100	0.0	-100	0.0	-100
Gajapati	0.0	-100	9.4	-21	0.0	-100
Ganjam	0.0	-99	5.1	-49	0.0	-100
Jagatsingpur	0.0	-100	3.7	-73	0.0	-100
Jajpur	0.0	-100	0.0	-100	0.0	-100
Jharsuguda	0.0	-100	0.0	-100	0.0	-100
Kalahandi	0.0	-100	0.0	-100	0.0	-100
Kandhamal	0.0	-100	0.0	-100	0.0	-100
Kendrapara	0.0	-100	0.0	-100	0.0	-100
Keonjhar	0.0	-100	0.0	-100	0.0	-100
Khurda	0.0	-100	0.3	-95	0.0	-100
Koraput	0.0	-100	11.9	13	0.0	-100
Malkangiri	1.0	-71	12.2	352	0.0	-100
Mayurbhanj	0.0	-100	0.0	-100	0.0	-100
Nawapara	0.0	-100	0.0	-100	0.0	-100
Nawarangpur	0.0	-100	0.0	-100	0.0	-100
Nayagarh	0.0	-100	0.0	-100	0.0	-100
Puri	0.0	-100	5.5	-36	0.2	-97
Rayagada	0.0	-100	5.2	37	0.0	-100
Sambalpur	0.0	-100	0.0	-100	0.0	-100
Sonepur	0.0	-100	0.0	-100	0.0	-100
Sundargarh	0.0	-100	0.0	-100	0.0	-100
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	125.0	72	84.1	13	63.6	-20
North & Middle Andaman	27.0	-56	13.6	-75	11.0	-70
South Andaman	47.4	-31	51.7	-28	58.8	-14
GWB						
Bankura	0.0	-100	0.0	-100	0.0	-100
Birbhum	2.3	-61	0.0	-100	0.0	-100
Burdwan	0.0	-100	0.0	-100	0.0	-100
East Midnapore	0.0	-100	0.0	-100	0.0	-100
Hooghly	0.1	-99	0.0	-100	0.0	-100
Howrah	0.0	-100	0.0	-100	0.0	-100
Kolkata	0.0	-100	0.0	-100	0.0	-100
Murshidabad	0.0	-100	0.0	-100	0.0	-100
Nadia	0.0	-100	0.0	-100	0.0	-100
24 Pargana (N)	0.0	-100	0.0	-100	0.0	-100
Purulia	0.4	-94	0.0	-100	0.0	-100
24 Pargana (S)	0.0	-100	0.1	-99	0.5	-91
West Midnapore	0.0	-100	0.0	-100	0.0	-100
SHWB & Sikkim						

Cooch Behar	2.2	-72	0.0	-100	0.0	-100
Darjeeling	1.6	-56	0.0	-100	0.0	-100
East Sikkim	24.4	481	15.8	158	0.0	-100
Jalpaiguri	10.2	64	9.1	75	0.0	-100
Malda	0.0	-100	0.0	-100	0.0	-100
North Dinajpur	**	**	**	**	**	**
North Sikkim	14.4	7	1.2	-90	0.0	-100
South Dinajpur	0.0	-100	0.0	-100	0.0	-100
South Sikkim	2.4	-43	24.6	303	0.0	-100
West Sikkim	0.0	-100	1.0	-92	0.0	-100
Karnataka						
Coastal Karnataka						
Dakshina Kannada	7.8	-73	7.7	-63	35.3	120
Udupi	14.2	-45	31.8	96	76.3	437
Uttara Kannada	13.9	2	0.2	-99	11.9	58
N I Karnataka						
Bagalkote	0.0	-100	0.0	-100	3.3	6
Belagavi	1.4	-84	0.0	-100	3.5	-25
Bidar	0.0	-100	0.0	-100	0.0	-100
Dharwad	3.3	-73	0.0	-100	5.6	-21
Gadag	0.0	-100	0.0	-100	8.7	88
Haveri	10.3	-24	0.4	-98	2.5	-65
Kalaburgi	0.0	-100	0.0	-100	0.5	-87
Koppal	0.0	-100	0.0	-100	3.8	52
Raichur	0.2	-96	0.0	-100	2.6	-15
Vijayapura	0.0	-100	0.0	-100	10.1	215
Yadgir	0.0	-100	0.0	-100	0.1	-98
S I Karnataka						
Ballari	0.0	-100	1.2	-86	4.6	34
Bangalore Rural	64.3	318	28.9	170	27.4	188
Bangalore Urban	94.8	496	29.9	179	38.2	235
Chamarajanagar	110.5	507	23.8	91	26.6	63
Chikaballapur	75.0	436	72.0	586	71.8	590
Chikkamagaluru	12.6	-35	4.9	-68	19.1	54
Chitradurga	1.6	-84	6.8	-34	22.4	386
Davangere	7.1	-43	0.0	-100	7.6	18
Hassan	43.6	119	10.3	-11	19.3	62
Kodagu	20.0	-19	33.3	147	14.2	-24
Kolar	86.7	470	102.5	707	79.3	520
Mandya	86.0	473	6.7	-26	22.5	105
Mysuru	59.1	305	19.7	93	21.0	58
Ramanagara	75.1	384	10.9	7	27.0	176
Shivamogga	10.6	-21	0.0	-100	9.5	11
Tumakuru	28.3	105	25.0	157	43.5	373
Kerala						
Alappuzha	59.1	8	43.2	7	45.5	27
Kannur	28.0	10	22.7	21	52.6	180
Ernakulam	153.7	256	29.7	-5	72.3	135
Idukki	88.5	66	58.8	71	58.5	92

Kasaragod	17.4	-36	7.1	-62	30.5	82
Kollam	103.7	55	76.3	41	28.8	-17
Kottayam	102.7	78	16.9	-50	29.9	-6
Kozhikode	106.2	179	30.4	0	28.8	32
Malappuram	113.7	209	33.2	-1	32.6	24
Palakkad	121.0	191	21.5	-16	9.3	-67
Pathanamthitta	187.4	202	81.8	51	52.5	41
Thiruvananthapuram	102.9	87	57.6	36	56.2	88
Thrissur	104.0	143	18.5	-33	38.7	35
Wayanad	13.4	-60	29.9	64	23.0	4
Tamil Nadu						
Ariyalur	106.9	72	65.9	37	114.2	160
Chennai	239.0	170	449.9	329	217.5	165
Coimbatore	62.7	55	32.3	22	36.3	46
Cuddalore	378.2	355	134.5	93	152.3	146
Dharmapuri	168.6	494	31.5	46	54.1	140
Dindigul	64.4	32	70.9	101	63.2	96
Erode	130.5	261	6.5	-71	22.7	10
Kanchipuram	249.1	233	452.3	656	238.6	258
Kanyakumari	65.8	0	46.6	-3	52.0	49
Karikal	305.3	84	160.7	81	234.3	137
Karur	85.3	135	30.7	20	30.0	18
Krishnagiri	167.7	695	40.8	155	48.8	171
Madurai	52.0	8	78.7	186	60.5	125
Nagapattinam	334.8	188	174.4	90	172.2	84
Namakkal	82.6	168	8.0	-64	26.6	42
Nilgiris	89.6	53	31.1	-22	125.7	256
Perambalur	142.2	269	34.8	-3	77.3	125
Puducherry	231.3	141	195.0	205	297.2	192
Pudukottai	51.2	29	61.2	93	76.2	103
Ramanathapuram	59.8	3	63.9	90	55.2	54
Salem	174.4	411	23.2	-19	56.6	119
Sivaganga	55.6	16	59.8	134	67.0	149
Thanjavur	95.5	54	60.4	48	100.1	85
Theni	40.3	-5	41.7	45	99.8	291
Tirunelveli	118.6	89	74.2	58	195.3	410
Tirupur	84.1	124	53.9	114	16.8	-27
Tiruvallur	225.3	236	414.0	515	180.1	230
Tiruvannamalai	92.6	105	125.1	190	77.1	116
Tiruvarur	138.7	70	92.6	45	134.0	77
Toothukudi	85.4	54	82.9	108	106.9	187
Trichy	66.0	61	30.9	1	61.9	87
Vellore	161.5	361	189.4	572	118.8	318
Villupuram	203.0	284	133.4	208	126.1	181
Virudhunagar	27.6	-44	93.3	157	92.3	172
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	7.1	-57	70.1	474	20.3	50

Guntur	7.7	-66	64.0	305	6.5	-53
Krishna	12.4	-39	74.9	569	7.2	-42
Nellore	247.0	239	295.2	316	126.8	127
Prakasam	10.5	-66	58.1	108	41.6	106
Sirkakulam	0.0	-100	13.0	28	0.0	-99
Visakhapatnam	2.5	-83	39.3	254	6.7	-50
Vizianagram	2.0	-85	13.2	76	0.0	-100
West Godavari	13.2	-30	60.9	387	13.6	17
Rayalaseema						
Anantapur	28.2	156	34.2	327	30.1	491
Chittoor	188.2	450	189.5	414	125.9	375
Cuddapah	123.0	478	152.0	754	79.9	501
Kurnool	0.5	-93	5.8	-13	5.8	61
Telangana						
Adilabad	0.0	-100	0.0	-100	0.0	-100
Hyderabad	0.0	-100	0.0	-100	0.5	-83
Karimnagar	0.0	-100	0.0	-100	0.0	-100
Khammam	0.0	-100	8.1	225	0.0	-99
Mehabubnagar	0.0	-100	0.3	-94	0.0	-100
Medak	0.0	-100	0.0	-100	0.0	-100
Nalgonda	0.0	-100	5.1	-20	1.4	-66
Nizamabad	0.0	-100	0.0	-100	0.0	-98
Rangareddy	0.0	-100	0.0	-100	0.1	-96
Warangal	0.0	-100	0.4	-89	0.0	-100

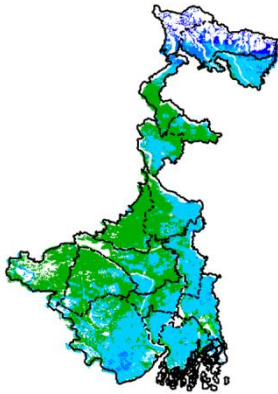
Legends

	(20% or more) excess rainfall		(-60 to -99 %) scanty rainfall
	(-19 to +19%) normal rainfall		(-100%) no rainfall
	(-20 to -59%) deficient rainfall	**	Data not available

Annexure II

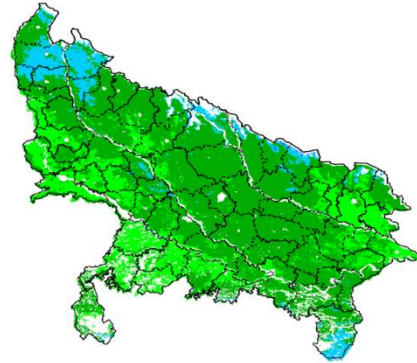
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
25th November 2015 FOR DIFFERENT STATES**

West Bengal



Agriculture vigour is good in South-eastern and Northern part of West Bengal where NDVI varying from 0.4-0.6, whereas few patches in West and Central part show moderate values of NDVI (0.2-0.4).

Uttar Pradesh



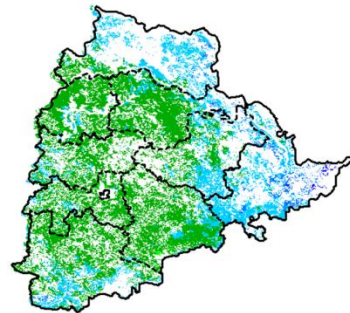
Agriculture vigour is moderate over the entire state of Uttar Pradesh where NDVI value varies from 0.2-0.4. whereas few patches in north-eastern part shows higher values of NDVI (0.4-0.6)

Uttarakhand



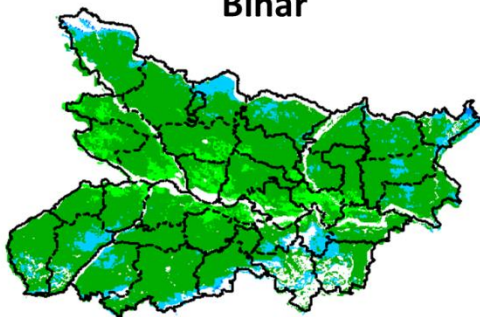
Agriculture vigour is good over entire state of Uttarakhand with NDVI value varies from 0.4-0.5. whereas few patches in south-east part shows moderate values of NDVI (0.3 - 0.4).

Telangana



Agriculture vigour is good over North and Eastern part of Telangana (NDVI 0.4-0.6). Rest of the part shows moderate values of NDVI (0.3-0.4)

Bihar



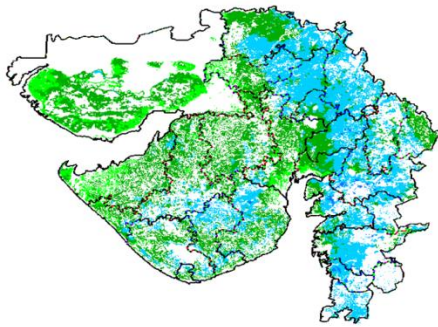
Agriculture vigour is moderate all over Bihar where NDVI value lies between 0.2-0.4. Except few patches over Southern part of the state show good values of NDVI (0.4-0.5).

Delhi



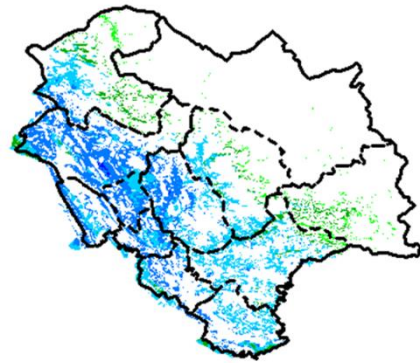
Agriculture vigour is moderate all over Delhi where NDVI value lies between 0.2-0.3.

Gujarat



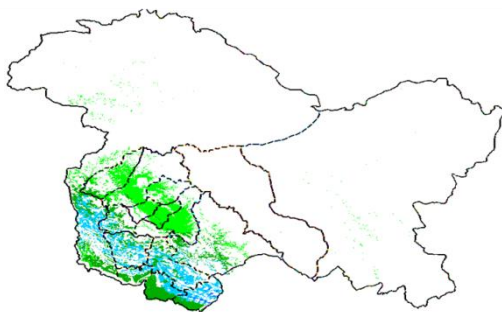
Agriculture vigour is normal in Kutch and Saurashtra whereas, good agricultural vigour is observed over Gujarat and region where NDVI value lies between 0.4-0.5.

Himachal Pradesh



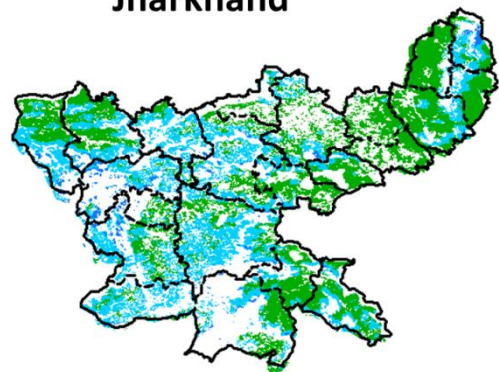
Agriculture vigour is good over Himachal Pradesh where NDVI values are 0.4-0.6, except few patches in east shows normal values of NDVI (0.2 – 0.3)

Jammu & Kashmir



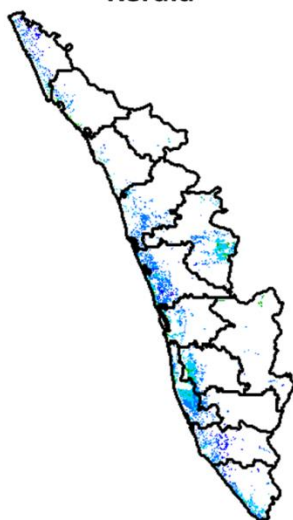
Agriculture vigour is good over patches in south-western part Jammu and Kashmir where NDVI value vary in between 0.4-0.6 whereas rest of the part shows normal values of NDVI (0.2 – 0.4).

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 where NDVI is moderate (0.3-0.4).

Kerala



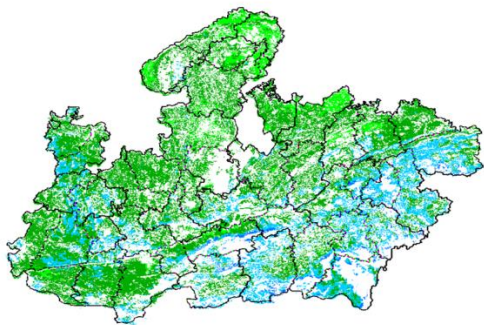
Agriculture vigour is good over central and southern Kerala where NDVI value lies between 0.4 – 0.5 whereas northern coast showing higher values of NDVI (0.5 – 0.6).

Haryana



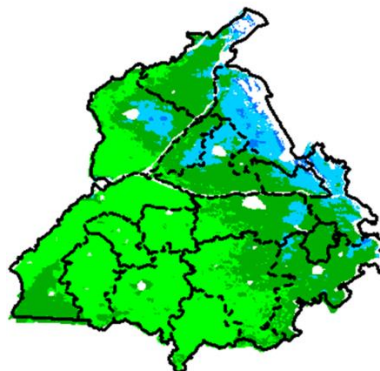
Agriculture vigour is good over North-eastern part of the Haryana. Whereas Normal values of NDVI are observed over remaining part of the state (0.2-0.4).

Madhya Pradesh



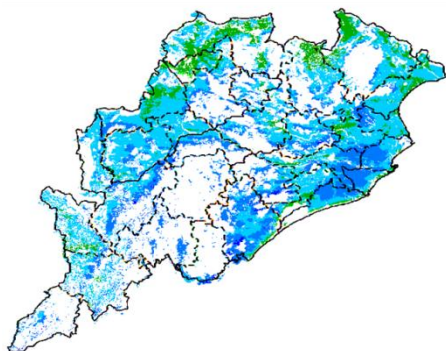
Agriculture vigour is good over southern and eastern part of Madhya Pradesh. NDVI varies from 0.4-0.5 and rest of the part shows moderate values of NDVI (0.2 – 0.4).

Punjab



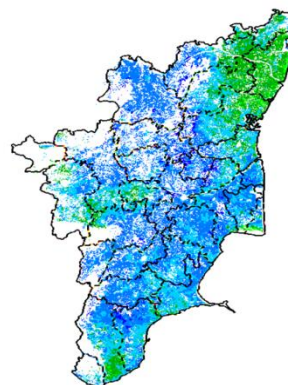
Agricultural vigour is good over north eastern part of Punjab, showing NDVI values between 0.4 - 0.6, whereas moderate values of are NDVI observed in remaining parts of the state.

Odisha



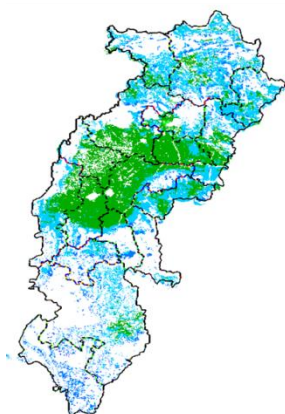
Agricultural vigour is good over entire state of Odisha with NDVI value ranging between 0.4 – 0.6.

Tamil Nadu



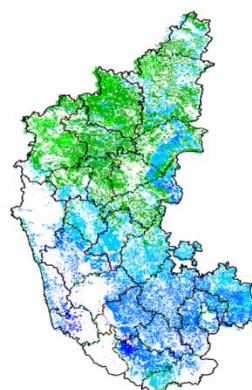
Agricultural vigour is very good over Tamil Nadu with NDVI values varying from 0.5-0.6, whereas normal values of NDVI (0.2 – 0.4) are observed Northern part of the state.

Chhattisgarh



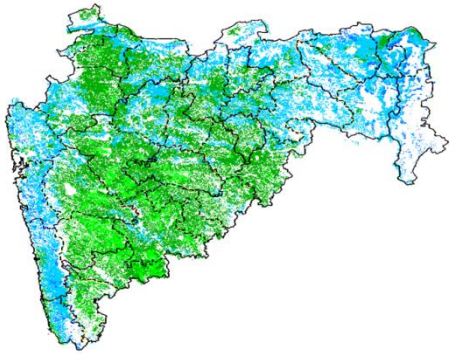
Agriculture vigour is good over entire state of Chhattisgarh where NDVI value are between 0.4-0.5 except few patches in central part shows moderate values of NDVI.

Karnataka



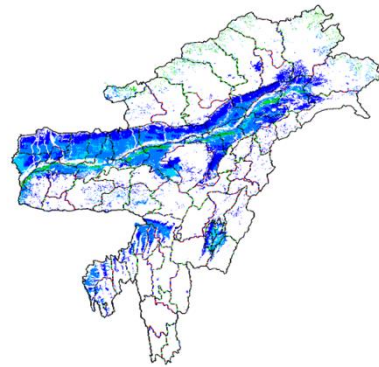
The agriculture vigor is good over the entire state. Higher values of NDVI are observed in interior, southern and eastern part of the State (NDVI 0.4-0.6) whereas few patches in south east show normal NDVI.

Maharashtra



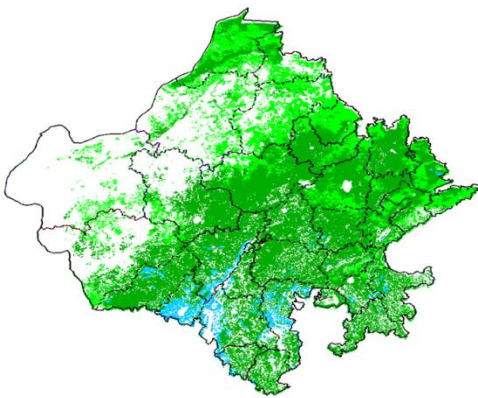
Agricultural vigour is good over Coastal Maharashtra and Vidarbha region with NDVI values from 0.4-0.6; whereas Moderate values of NDVI are observe over Madhya Maharashtra and Marathwada region (0.2-0.4).

North East Region



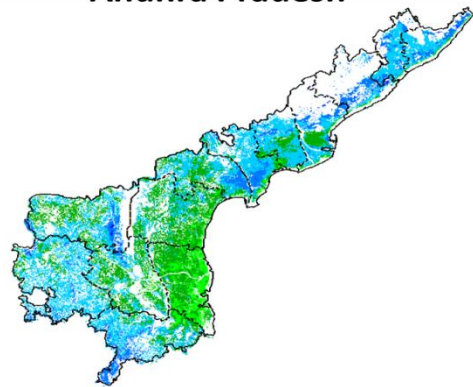
Agriculture vigour is very good in North-East states where NDVI varies from 0.4-0.6.

Rajasthan

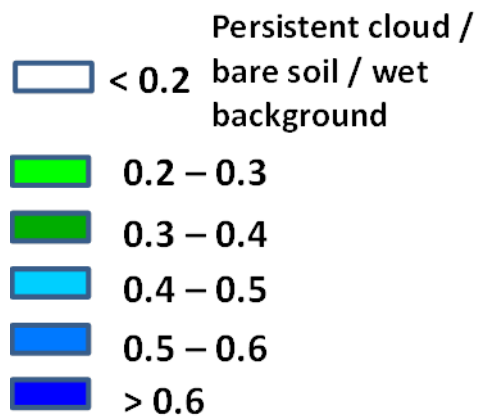


Agriculture vigour is good (0.4-0.6) in some patches over southern part of Rajasthan whereas moderate values of NDVI are observed over the entire state (0.2-0.4).

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 Interior 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 Chuhara, 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 Bhagiroti (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,Apnahaarbajan 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, ICCC-2,Pusa 256, Pusa-372

Odisha:

Mango: Baiganpalli, Totapuri, Bombay green, Suvarnarekha, Neelam, Himsagar,, Langra, Dusheri, Amrapalli, Mallika, Ratna, Ramkella, Alphanso 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, PusaAgrni, PusaTaraka and PusaMahak, 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: PusaChetki.
Spinach: PusaBharti.
Amaranths: PusalalChaulai, PusaKiran.
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: PusaChetki, Japanese white & hill queen.
Carrot: PusaKeshar
Cowpea: Short durC-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 (PusaJaikisan), RH-9304 (Vasundhara), RH-9802 (SwarnJyoti), 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: PusaJai 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.

Radish: Pusa Hemadri, White ICL, Japanees White, Pusa Rashmi, Pusa Chetaki.

Cabbage: Kranti, Golden Acaire Pride of India, Coppen Market.

Cauliflower: Pusa Early, Pusa Dipali, Pusa Kartiki, Early Kuvvari 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.