



National Agromet Advisory Service Bulletin



Friday 23rd October 2015
(For the period 23rd to 27th October 2015)

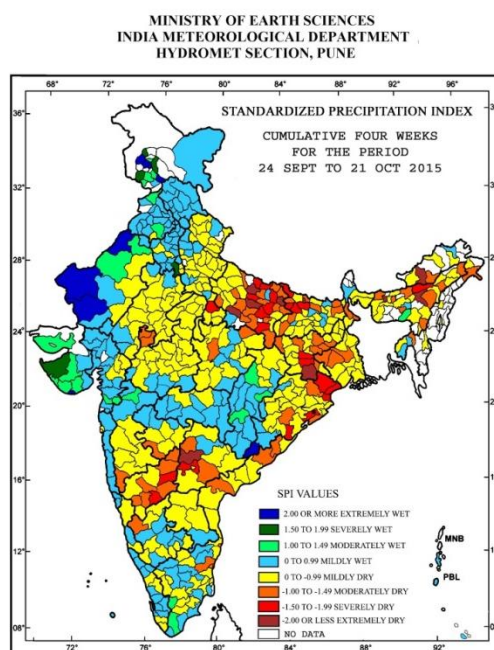


Issued by
National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.

Forecast Outlook for 2015 NE Monsoon Season (October–December) Rainfall over South Peninsula

- Season's rainfall for South Peninsula (Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, Kerala and south interior Karnataka), is most likely to be above normal (>111% of Long Period Average). The Long Period Average (LPA) of the North-East monsoon season rainfall for the south Peninsula for the base period 1951-2000 is 332.1mm.
- Season's rainfall for Tamil Nadu is most likely to be above normal (>112% of LPA). The LPA of the North-East monsoon season rainfall for the Tamil Nadu for the base period 1951-2000 is 438.2mm.
- The probability of above normal 2015 North-East monsoon season rainfall over south peninsula and over Tamil Nadu is 88% and 90% respectively.
- The conditions are becoming favourable for commencement of northeast monsoon rainfall over Tamilnadu & Kerala and adjoining areas of south Andhra Pradesh and Karnataka around 27th October.

Standardised Precipitation Index Four Weekly for the Period 24th September to 21st October 2015

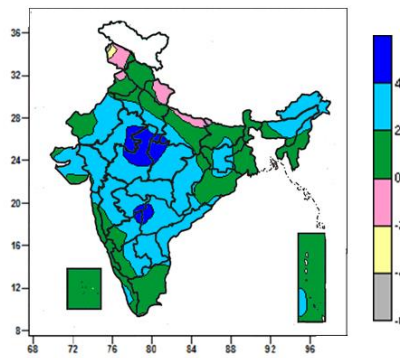
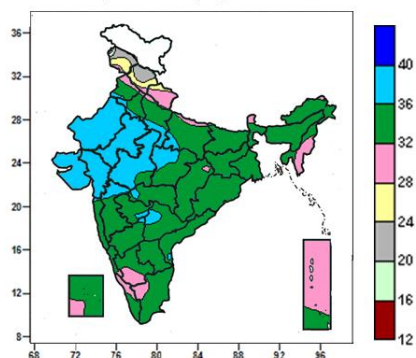


- Extremely/severely wet conditions experienced in few districts of Jammu & Kashmir; Saurashtra and Kutch Region; Malkangiri district of Odisha; Mewat district of Haryana; Barmer, Sri Ganganagar, Jaisalmer districts of Rajasthan.
- Extremely/Severely dry conditions experienced in East Kameng district of Arunachal Pradesh; Nagaon, Shonitpur, Bongaigaon districts of Assam; Balasore, Bhadrak, Gajapati, Khurda, Mayurbhanj districts of Odisha; Ranchi, West Singhbhum, Khunti districts of Jharkhand; West Champaran, Muzaffarpur, Saran, Sheohar, Siwan districts of Bihar; Azamgarh, Balrampur, Deoria, Faizabad, Fatehpur, Gonda, Gorakhpur, Jaunpur, Mirzapur, Siddharth Nagar, Sultanpur, Jalaun districts of Uttar Pradesh; Medak, Rangareddy districts of Telangana; Koppal, Yadgir districts of Karnataka.
- Moderately dry conditions experienced in few districts of Arunachal Pradesh, Assam, West Bengal, Jharkhand; Ri-Bhoi district of Meghalaya; North Tripura district of Tripura; Keonjhar, Kandhamal, Puri districts of Odisha; Araria, Bhojpur, Darbhanga, Gopalganj, Purnea, Rohtas, Sitamarhi districts of Bihar; Allahabad, Bahraich, Ballia, Basti, Kanpur Dehat, Kaushambi, Kushi Nagar, Lucknow, Mau, Maharajganj, Pratapgarh, Rae Bareilly, Sonbhadra, Varanasi districts of Uttar Pradesh; Mandsaur, Neemuch, Damoh, Rewa, Sidhi districts of Madhya Pradesh; Kolhapur, Osmanabad districts of Maharashtra; Guntur, Vishakhapatnam, Vizianagaram districts of Andhra Pradesh; Nalgonda, Nizamabad districts of Telangana; Viluppuram district of TamilNadu; Puducherry district of Puducherry; Bagalkote, Bidar, Dharwad, Gadag, Gulbarga, Raichur, Shimoga districts of Karnataka.
- Rest of the country experienced moderately wet/mildly dry/wet conditions.

Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 21.10.2015

Actual Mean Maximum Temperature (°C) in India for the week ending 21.10.2015

Mean Maximum Temperature (°C) Anomaly in India for the week ending 21.10.2015

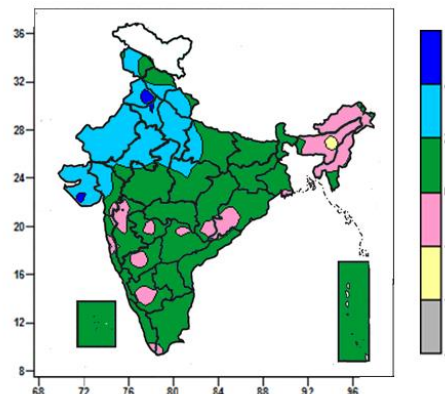
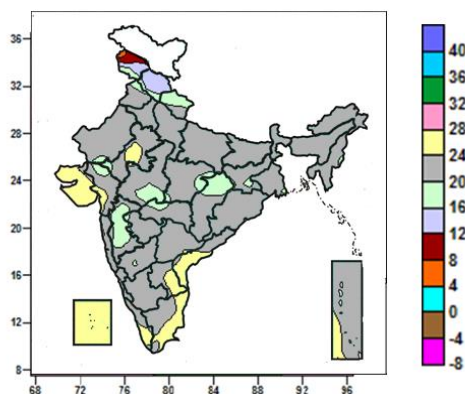


- Mean maximum temperature was between 36 to 40°C over Rajasthan and Gujarat, many parts of West Madhya Pradesh, some parts of Madhya Maharashtra, East Madhya Pradesh and isolated pockets of Punjab, Haryana, Uttar Pradesh, Vidarbha, Marathwada, North Interior Karnataka and Telangana.
- It was between 32 to 36°C over remaining parts of the country except Himachal Pradesh, Uttarakhand, Sikkim, Manipur, Mizoram, many parts of Jammu & Kashmir, Andaman & Nicobar Islands, some parts of West Uttar Pradesh, South Interior Karnataka, Tamil Nadu and Kerala and isolated pockets of Punjab, Haryana, East Uttar Pradesh, Chhattisgarh, Arunachal Pradesh and Lakshadweep where it was between 20 to 32°C.

- Mean maximum temperature was above normal by 4°C over some parts of Madhya Pradesh and isolated pockets of Uttar Pradesh, East Rajasthan, Telangana, Marathwada and North Interior Karnataka.
- Mean maximum temperature was above normal by 2 to 4°C over Arunachal Pradesh, Gujarat Region, Coastal Andhra Pradesh, Vidarbha, Rayalaseema, many parts of Jharkhand, Assam & Meghalaya, Nagaland, Rajasthan, Madhya Pradesh, Chhattisgarh, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Telangana, Interior Karnataka, some parts of Haryana & Delhi, Uttar Pradesh, Konkan and isolated pockets of Bihar, Gangetic West Bengal, Odisha, Kerala and Andaman & Nicobar Islands.
- Mean maximum temperature was below normal by 2 to 4°C over isolated pockets of Jammu & Kashmir.
- It was normal to near normal in remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 21.10.2015

Mean Minimum Temperature (°C) Anomaly in India for the week ending 21.10.2015

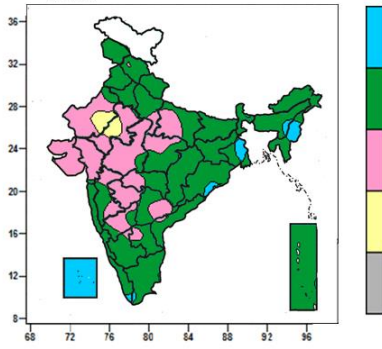
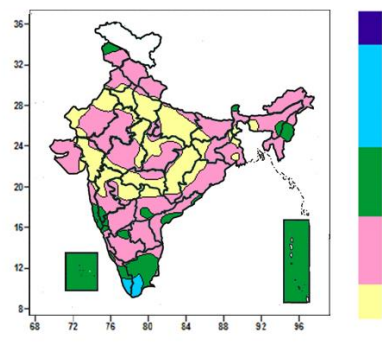


- Mean minimum temperature was 4 to 8°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was 8 to 12°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was 12 to 16°C over many parts of Himachal Pradesh, and some parts of Jammu & Kashmir.

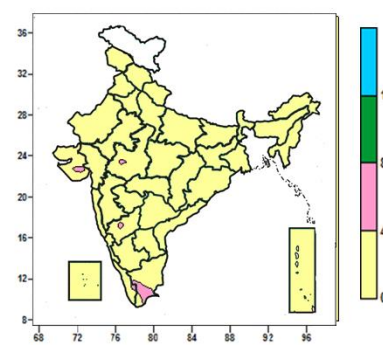
- Mean minimum temperature was above 4°C over some parts of Punjab and isolated pockets of Haryana, Saurashtra.
- Mean minimum temperature was above normal by 2 to 4°C over West Uttar Pradesh, West Rajasthan, many parts of Jammu & Kashmir, Uttarakhand, Haryana, Delhi, Punjab, East Rajasthan, Saurashtra

<ul style="list-style-type: none"> • Mean minimum temperature was 16 to 20⁰C over many parts of Madhya Maharashtra, Uttarakhand, some parts of Madhya Pradesh, Chhattisgarh, and isolated pockets of Rajasthan, Jammu & Kashmir, Himachal Pradesh, Gujarat region, Jharkhand, Vidarbha and North Interior Karnataka. • It was above 20 to 24⁰C over rest of the country except Lakshadweep, many parts of Saurashtra & Kutch, Coastal Andhra Pradesh, some parts of Rayalaseema, Tamil Nadu and isolated pockets of Kerala, Gujarat Region, East Rajasthan and Andaman & Nicobar Islands. 	<p>& Kutch, Gujarat region, some parts of Himachal Pradesh, East Uttar Pradesh, Madhya Pradesh.</p> <ul style="list-style-type: none"> • Mean minimum temperature was below normal by 2 to 4⁰C over some parts of Assam. • It was normal to near normal in remaining parts of the country.
---	---

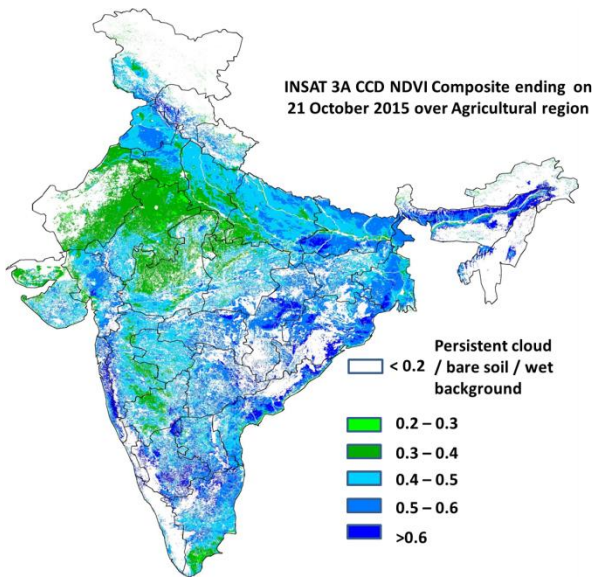
Contour maps for Relative Humidity, Cloud amount and Wind speed for the week ending on 21.10.2015

Relative Humidity (%) over India for the week ending 21.10.2015	Cloud amount (okta) over India for the week ending 21.10.2015
	
<ul style="list-style-type: none"> • Mean Relative humidity was above 80% over Lakshadweep, many parts of Manipur, some parts of Gangetic West Bengal and isolated pockets of Assam, Odisha, Tamil Nadu and Kerala. • Mean Relative humidity was 40 to 80% over rest of the country except some parts of Rajasthan where it was 20 to 40 %. 	<ul style="list-style-type: none"> • Sky remained cloudy (5-7okta) over some parts of Kerala and Tamil Nadu • 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 21.10.2015

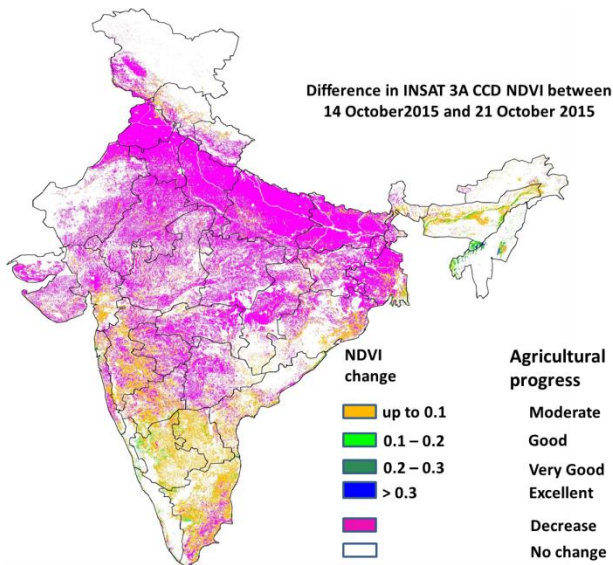

<ul style="list-style-type: none"> • Mean wind speed was 4 to 8 knots over some parts of Tamil Nadu and isolated pockets of Saurashtra, West Madhya Pradesh, North Interior Karnataka and Kerala. • It was less than 4 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 21st October 2015 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is very good (NDVI > 0.6) over some patches in Bihar, Chhattisgarh, Coastal Andhra Pradesh and Coastal Maharashtra. Agricultural vigour is good in northern Haryana, Punjab, Uttar Pradesh, Bihar, south-east Rajasthan, East Madhya Pradesh, Jharkhand, Odisha, West Bengal, Vidarbha, Marathwada, Gujarat, Telangana and remaining parts of Coastal Andhra Pradesh, where NDVI varies from 0.4 to 0.6. Agricultural growth was moderate 0.2 to 0.3 over most parts of West Rajasthan, West Madhya Pradesh, North Interior Karnataka and some patches in South Uttar Pradesh and East Rajasthan.

Difference in INSAT 3A CCD NDVI between 14th and 21st October 2015



- Decrease in NDVI values was observed in Punjab, Haryana, Uttar Pradesh, Bihar, Madhya Pradesh, West Bengal, Telangana, Vidarbha, Gujarat and Rajasthan. Moderate progress (up to 0.1) in NDVI was observed in Madhya Maharashtra, Karnataka, Tamil Nadu, Coastal Andhra Pradesh, patches in Kerala and Odisha.

- INSAT 3A CCD NDVI composite maps for the week ending on 21st October 2015 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 28th October 2015

- Minimum temperature would rise by 2-3°C over northwest and adjoining central India from tomorrow onwards.

5 Day Rainfall Forecast (MID DAY) 23rd October 2015

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

% 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		

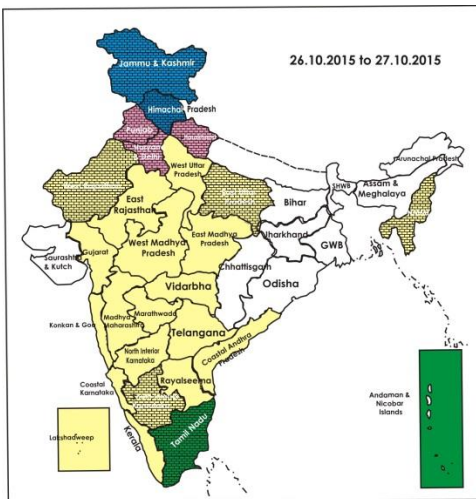
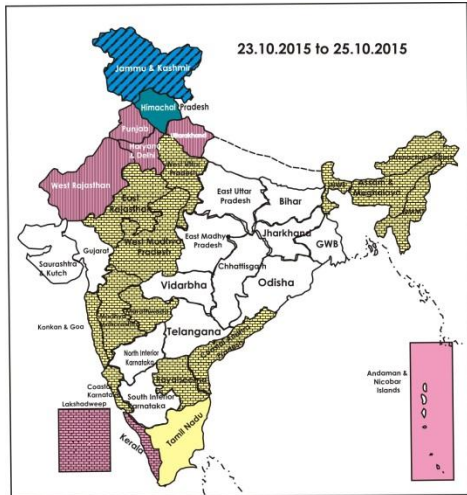
Weather Warning during next 5 days

- **23 October (Day 1):** No weather warning.
- **24 October (Day 2):** Heavy rain/snow would occur at isolated places over Jammu & Kashmir and Himachal Pradesh.
- **25 October (Day 3):** Heavy rain/snow would occur at a few places with isolated very heavy falls over Jammu & Kashmir. Heavy to very heavy rain/snow would occur at isolated places over Himachal Pradesh.
- **26 October (Day 4):** Heavy rain/snow would occur at a few places with isolated very heavy falls over Jammu & Kashmir. Heavy to very heavy rain/snow would occur at isolated places over Himachal Pradesh.
- **27 October (Day 5):** Heavy rainfall would occur at isolated places over coastal Tamilnadu.

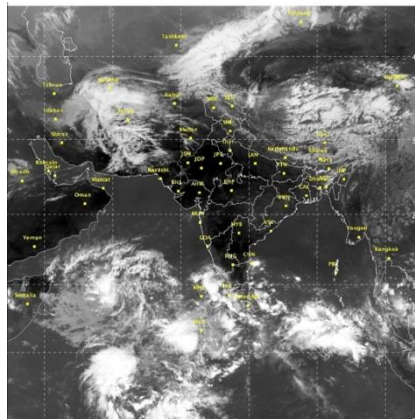
Weather Outlook for subsequent 2 days from 28th to 30th October 2015

- Under the influence of easterly wave, increase in rainfall activity over Tamilnadu and adjoining south peninsula from 27th onwards.
- Rain/thundershower would occur at isolated places over southeastern states and central India.

Weather Forecast Map (Valid upto 0830 hours of 28th October, 2015)



Satellite image dated, 23.10.2015 0630 UTC



Salient Advisories

- As rain/snow would occur at most/many places **Himachal Pradesh** and **Jammu & Kashmir** from 24th to 27th October along with heavy rain/snow at isolated/few places over **Jammu & Kashmir** and heavy to very heavy rain/snow at isolated places over **Himachal Pradesh** from 24th to 26th October, postpone irrigation, intercultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested produces at safer places. Provide adequate drainage in standing crop fields.
- In **Jammu & Kashmir**, undertake land preparation and sowing of *rabi* pulses viz. pea (var., AP-1, Bonnevillea, Rachna and Arkel); chickpea (var., K-468, Gourav); lentil (var., L-4147, L-9/12, PL-406), continue land preparation for sowing of wheat (PBW-175, PBW-396.RSP-81(Jitto) and nursery raising of onion in Sub Tropical Zone after current spells of heavy rain/snow.
- In **Himachal Pradesh**, in Sub-Montane and Low Hills Sub-Tropical Zone, undertake direct sowing of radish, turnip, carrot, fenugreek and early peas. Continue land preparation for sowing of wheat and gobhisarson after current spells of heavy rain/snow. Complete sowing of gram and lentil in lower region after current spells of heavy rain/snow.
- In **Kerala**, continue direct and nursery sowing of *Mundakan* rice, cultivation of Nendran banana and winter vegetables. Continue harvesting of *Viruppu* rice in Northern Zone in clear weather.
- In the Cauvery Delta Zone of **Tamil Nadu**, continue transplanting of *thaladi* rice and continue sowing of sorghum, maize, black gram, green gram and cotton in the South Zone. Undertake cultivation of multi-cut fodder sorghum (CoFS 29) in the North Western Zone. As rain is expected from 27th October, complete harvesting of *Kuruwai* rice by 26th October in Cauvery Delta Zone.
- In **Madhya Maharashtra** and **Marathwada**, continue sowing of *rabi* jowar, safflower and sunflower. Continue sowing of *rabi* safflower and sunflower in **Central Vidarbha** region with irrigation.
- 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 land preparation for sowing of wheat. In **South Interior Karnataka**, continue sowing of medium to short duration varieties of finger millet, maize, sunflower, Bengal gram, field bean, horse gram, niger and black gram in Eastern Dry Zone.
- Continue land preparation and sowing of Bengal gram in **Gujarat, Madhya Pradesh, Rajasthan, Punjab and Uttar Pradesh** and continue land preparation and sowing of mustard/rapeseed in **Assam & Meghalaya, Bihar, Jharkhand, Odisha, Rajasthan, Chhattisgarh, Uttar Pradesh, Uttarakhand and Madhya Pradesh** with irrigation facilities. Undertake land preparation for sowing of wheat in **Punjab and Himachal Pradesh**.
- As dry weather would prevail, apply irrigation and maintain water level of 5-7 cm in rice at flowering/grain formation stage in **Uttar Pradesh, Bihar, Jharkhand and East Madhya Pradesh**. Also apply irrigation in already sown toria in **Bihar and Uttar Pradesh**.
- Taking advantage of prevailing dry weather, undertake harvesting of matured *Aman* rice in Laterite and Red Soil Zone and New Alluvial Zone of **Gangetic West Bengal**.

Detailed Zonewise Agromet Advisories

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



Maize



Groundnut



Land preparation



Rice

- **Realised Rainfall:** Rainfall occurred in Alapuzha, Ernakulum, Kollam, Kottayam, Pathanamthitta and Thiruvananthapuram districts of Kerala; Kanyakumari, Karaikal, Tirunelveli and Toothukudi districts of Tamil Nadu; Udipi district of Coastal Karnataka; East Godavari district of Coastal Andhra Pradesh; Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Andhra Pradesh:**
 - In the Scarce Rainfall Zone, undertake land preparation for sowing of *rabi* groundnut under assured irrigation and

- continue sowing of safflower and bengal gram (desi and kabuli varieties).
- Prevailing weather conditions are congenial for incidence of stem borer and sheath blight in rice in the North Coastal Zone. To control, spray Acephate @ 1.5 g + Propiconazole @ 1.0 ml/litre of water.
- Prevailing weather conditions are congenial for incidence of tobacco caterpillar in groundnut in the Southern Zone. To control, spray Thiodicarb @ 1 g. or Novaluron @ 1 g/litre of water.
- Yellow mosaic virus transmitted by white fly was observed in green gram in almost all parts of Kurnool district. To control white flies, spray Monochrotophos @ 1.6 ml/lit or Dimethoate @ 2ml/litre of water.
- **Telangana:**
 - In the Southern Telangana Zone, continue sowing of *rabi* crops like maize, sorghum, groundnut and sunflower under irrigated dry conditions.
 - In the Northern Telangana Zone, continue sowing of maize (DHM 101, 103, 105, 107, 117) and cow pea (C 152 GC3 C0-4 CO-5). Provide two or three irrigations to *rabi* red gram at flowering and pod formation stage.
 - In the Northern Telangana Zone, incidence of flea beetles was noticed in green and black gram due to prevailing weather conditions. To control, spray Chlorpyrifos @ 2.5 ml/l or Acephate @ 1.5 g/litre of water or Monocrotophos @ 1.6 ml/litre of water if the incidence is severe.
 - In the Southern Telangana Zone, incidence of climbing cutworm and grain discoloration caused by panicle mite in association with sheath rot is noticed in rice. To control sheath rot, spray Propiconazole @ 1 ml + Dicofol @ 5 ml or Spiromesifen @ 1 ml per litre of water and spray Quinolphos @ 2ml + Dichlorvos @ 1 ml per litre of water during evening hours to control climbing cutworm.
- **Karnataka:**
 - Continue sowing of medium to short duration varieties of finger millet - Indaf-7, Indaf-9, Indaf-15, ML-365, maize – Deccan-103, Vijaya composite, NAH-1137 and Ganga-11, sunflower: Morden, KBSH-1, KBSH-41, KBSH-42, KBSH-44 and KBSH-53, Bengal gram: JJ-11, KAK-2 and Vishal, field bean: HA-3 and HA-4, horse gram: KBH-1 and PHG-9, niger: KBN-1, black gram: Rashmi in Eastern Dry Zone.
 - Continue sowing of sorghum (DSH-4, M-35-1, Muguthi, DSV-5), safflower (A-1), niger (No. 71, RCR-18) and undertake land preparation for sowing of wheat and planting of sugarcane after receipt of sufficient rainfall in North East Transition 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 land preparation for sowing of wheat.
 - Continue harvesting of maize in the and Hill Zone, soybean in North East Transition and North Transition Zone, maize and groundnut in Southern Transition Zone and bajra in the North East Dry Zone.
 - In North East Dry Zone, pod borer was noticed in the pigeon pea. To control, undertake spraying of Profenophos @ 2 ml or Thiodicarb @ 0.6gms or Methomy @ 1 0.6gms per litre of water.
- **Kerala:**
 - In the Southern Zone, undertake transplanting of *Mundakan* rice in Thiruvananthapuram district, continue nursery sowing of rice in Kollam district and planting of Nendran banana. Continue planting of Nendran banana and harvesting of *Virrippu* rice in clear weather in Northern Zone.
 - Continue sowing of *Mundakan* rice, cultivation of Nendran bananas and sowing of vegetables (tomato varieties like Sakthi, Mukthi, Anagha, brinjal varieties like Swetha, Haritha in bacterial wilt prone areas, bitter gourd, snake gourd and pumpkin) in the Central Zone. Undertake harvesting of rice in the Problem Area Zone.
 - Prevailing weather conditions are congenial for incidence of thread blight disease in nutmeg in the Problem Area Zone. Spray 1% Bordeaux mixture to manage the incidence on a non rainy day .
 - Prevailing weather conditions are congenial for incidence of aphids in vegetables in the Central Zone. To control, apply Quinalphos @ 2ml/litre of water on a non rainy day.
 - Prevailing weather conditions are congenial for incidence of white flies in cucurbits. Uproot and destroy the disease affected plants and spray 2% Neem oil- Garlic emulsion. In severe cases, apply Dimethoate 1.5 ml/litre of water in the Southern Zone on a non rainy day.
- **Tamil Nadu:**
 - In the Cauvery Delta Zone, continue transplanting of *thaladi* rice. As rain is expected from 27th October, complete harvesting of *Kuruvai* rice by 26th October.
 - Continue sowing of sorghum, maize, black gram, green gram and cotton in the South Zone.
 - In the Western Zone, leaf roller in transplanted samba rice and sucking pests like thrips, hopper and aphids in irrigated combodia cotton is observed due to dry spell and increase in maximum temperature. Spray Bacillus Thuringiensis @ 1 kg/ha or Dichlorovas 70 WSC @ 250 ml/ha in 500 litres of water to control leaf roller and Imidachlopid 200 sl @ 100 ml/ha dissolved in 500 litres of water or Neem oil 3 % thrice at fortnightly intervals.
 - Due to temperature fluctuation, continue spraying of Cymoxanil 8 % + Mancozeb 64 % @ 2 ml /litre of water to control late blight in potato in the High Altitude Hilly Zone.
 - 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.
- 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.
- Provide clean drinking water to poultry to avoid E.coli infection in the North Eastern Zone of Tamil Nadu.
- With rise in maximum and minimum temperature and decrease in evening relative humidity, provide dairy cows and poultry birds enough drinking water in the Western Zone.

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



Cauliflower



Land preparation



Okra



Rice

- **Realised Rainfall:** Rainfall occurred in Tawang district of Arunachal Pradesh; Dibrugarh and Sibsagar districts of Assam; Jaintia Hills district of Meghalaya; Dimapur, Kohima and Wokha districts of Nagaland and Dhalai district of Tripura. Weather remained mainly dry over rest of the region.

- **Advisories:**

- **Assam, Meghalaya & Arunachal Pradesh:**

- In Hill Zone of Assam, continue planting of winter vegetables and nursery sowing of carrot, French bean and onion.
- In Lower Brahmaputra Valley Zone, continue land preparation for nursery sowing of cabbage, cauliflower, carrot, tomato and knol khol and planting of potato and coconut. Also continue land preparation for buckwheat, rapeseed & mustard.
- In Barak Valley Zone, undertake nursery bed preparation for cauliflower, cabbage, knol khol and land preparation for planting of potato.
- In Central Brahmaputra Valley Zone of Assam, continue land preparation for sowing of *rabi* pulses/oilseeds and nursery sowing of winter brinjal and cole crops. Undertake land preparation for wheat.
- 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. Farmers are also advised to adopt relay cropping with pea of suitable varieties of pea such as T-136, Bonneville etc. in the rice field 20-25 days before harvesting the *sali* paddy.
- In Upper Brahmaputra Valley Zone of Assam, continue seedbed preparation of brinjal. Undertake land preparation for sowing of early potato in upland area.
- In Arunachal Pradesh, continue land preparation for sowing of pea and nursery sowing of cole crops.
- In Meghalaya, continue sowing of rapeseed and mustard, pea, carrot and radish, nursery preparation of cabbage, cauliflower and broccoli and sowing of pea in high altitude regions. Undertake land preparation and planting of potato in mid to low altitude regions.
- In Hill Zone of Assam, due to cloudy and humid weather there is chance of attack of *blast* and *rice bug* in *Sali* rice. Spray Carbendazim @ 1g/litre at tillering stage and spray Ediphenphos @ 1ml/litre at panicle initiation stage and control rice bug at boot leaf to heading stage, apply Malathion 5% dust @ 20kg per hectare. Also spray Copper Oxochloride @ 0.3% at an interval of 7-10 days, alternatively spray Carbendazim @0.05% at an interval of 12-15 days against cercospora leaf spot in green gram and black gram.
- In Lower Brahmaputra Valley Zone of Assam, due to hot humid weather there is chance of attack of rice bug in *Sali* rice at booting stage. To control, apply Malathion 5% dust @ 3Kg per bigha.
- In Barak Valley Zone, due to humid weather there is chance of attack of sheath blight in *Sali* rice. Spray Bavistin @ 1gm/litre of water against sheath blight.
- In Central Brahmaputra Valley Zone, in prevailing weather condition Gundhi bug infestation is observed in rice at panicle emergence stage which may be controlled by applying Malathion 5% dust @ 20 kg/ha. Also apply Decis 2.8 EC @ 1 ml/litre in fair weather to control the fruit and shoot borer in brinjal.
- In North Bank Plain Zone, due to humid weather, at panicle initiation, milky and dough stage of *Sali* paddy, farmers may take plant protection measure against gundhi bug based on ETL. Apply Malathion 5% dust @ 20 kg/ha to control rice bug infestation in *Sali* rice.
- In Arunachal Pradesh, due to humid and cloudy weather, there is chance of attack of blast/bacterial leaf blight in normal rice. Spray Copper fungicide (Blitox 0.3%) alternately with Streptocycline (250 ppm) against

blast/bacterial leaf blight.

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

- In Manipur, continue nursery raising of cabbage and cauliflower and continue land preparation for transplanting of onion and planting of potato. Continue harvesting of soybean/groundnut.
 - In Mizoram, continue nursery sowing of early cole crops. Continue sowing of pea, mustard and toria.
 - In Nagaland, continue harvesting of *jhum* rice, groundnut, chilli and maize. Continue nursery preparation for vegetables like cabbage, cauliflower, knolkhol, broccoli, radish, tomato.
 - In Tripura, continue land preparation for sowing of sesame and potato and harvesting of *Aman* rice. Apply mulching in between rows of early cauliflower, radish, brinjal, bitter gourd & pointed gourd to retain moisture.
 - In Manipur, there is chance of attack of bacterial leaf blight/ blast in *kharif* rice at milky/dough to grain filling stage. Spray Copper fungicide (Blitox 0.3%) alternately with Streptocycline (250ppm) to control leaf blight and spray with Tricyclazole 75 WP @ 9g/15 litre water or Propiconazole 25 EC @ 15 ml/15 litre water or Carbendazim 50 WP @ 15g/15 litre water to control blast.
 - Suitable varieties are given in Annexure III.
- **Animal Husbandry**
- In Tripura, the present weather condition is favorable for infestation of round worm, flukes and tapeworms in cattle. De-worming may be done under recommendation and supervision of authorized practitioner.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Cotton



Sugarcane



Rice



Land preparation

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

• **Advisories:**

▪ **Maharashtra:**

- In Konkan, continue harvesting of early matured rice. Maintain water level of 8-10 cm in rice fields at flowering/grain formation stage. Undertake weeding and earthing up operations around the newly planted fruit crops like mango and cashew. Undertake weeding in vegetable nursery like chilli and brinjal
- In Madhya Maharashtra, apply irrigation to vegetable crops, adsali sugarcane and orchards like banana, grapes and pomogranate. Maintain 8-10 cm water level in rice fields in Western ghat region of Nasik, Pune and Kolhapur districts. Undertake harvesting of early matured rice. Continue transplanting of onion seedling for *rabi* onion. Continue sowing of rainfed wheat with residual soil moisture. Continue sowing of *rabi* jowar, safflower, gram and sunflower under optimum soil moisture conditions. Continue October pruning in grapes for proper fruit setting. Continue first picking of cotton when 30-35% of bolls are opened.
- In Madhya Maharashtra and Marathwada, complete harvesting of *kharif* green gram, black gram and bajra.
- In Marathwada, to minimize the water loss, apply drip irrigation instead of flood irrigation to sugarcane and banana orchards. Also apply irrigation to vegetable crops. Continue sowing of rainfed wheat and sowing of *rabi* jowar, safflower, sunflower, gram and fodder crops like jowar with irrigation. Also undertake intercropping of safflower+gram (6:3, 3:3, 2:4), linseed+gram (6:3, 4:2, 3:3) and gram+sunflower(3:3). Continue harvesting of soybean.
- In Vidarbha, apply irrigation to vegetable crops and orchards like orange and sweet lime. Also apply irrigation to sugarcane in Central Vidarbha region. Continue sowing of rainfed wheat with residual soil moisture. Maintain 8-10 cm water level in rice fields wherever the crops are at flowering/grain formation stage. Continue harvesting of already matured soybean and groundnut. Continue sowing of *rabi* safflower and gram in Central Vidarbha region with irrigation after harvesting of black gram.
- Due to cloudy weather in Konkan region, there may be attack of leaf eating caterpillar on new flush of mango; spray Dimethoate 25 EC @ 12 ml per 10 litres of water.
- Due to prevailing humid weather in morning in Western Scarcity zone, there may be incidence of blight in onion; spray Profenofos 10 ml or Fipronil 15 ml per 10 liters of water.

▪ **Gujarat:**

- Continue sowing of sweet corn and planting of sugarcane in South Gujarat Zone.
- In North West Zone, continue land preparation for sowing of *rabi* crops; plan for sowing of *rabi* crops as per availability of irrigation water and continue harvesting/threshing/grading of pulse crops and picking of matured cotton bolls.
- Continue sowing of onion, chickpea, mustard, garlic, carrot and pea (for vegetable purpose) in North Saurashtra

Zone. Undertake harvesting of groundnut in South Saurashtra Zone.

- In Bhal and Coastal Zone, taking advantage of dry weather and clear sky conditions, complete harvesting / threshing of pearl millet, green gram, cowpea and sesame; plan for sowing of *rabi* crops like wheat, chickpea, sorghum, mustard and also fodder crops. As rice is in reproductive stage, maintain water level of 5-7 cm in rice fields. Continue harvesting of rice and groundnut at physiological maturity in Middle Gujarat Zone.
- Complete harvesting of matured groundnut, sesame and picking of matured cotton bolls and continue weeding in orchards in North Gujarat Zone. Under high temperature forecast (38-39°C), apply irrigation at regular intervals in cotton for development of new bolls.
- In South Gujarat Heavy Rainfall Zone, continue planting of sugarcane, transplanting of cabbage and cauliflower, harvesting of rice, ragi at physiological maturity. If yellowing of leaves is observed in vegetables, spray mixture @ 40 g Ferrous Sulphate + 20 g Zinc Sulphate + 10g Boric acid in 10 litres of lime water; spray of Imidacloprid @ 2.8 ml/10 litres water on mango tree trunk to control mango hopper is advised as precaution.
- Present high temperature and low humidity favors infestation of jassid and white fly in castor and also infestation of thrips, jassid and mealy bug in cotton in Bhal and Coastal Zone; spray Imidacloprid 17.8 % @ 5 ml or Thiomethoxam 6 g in 10 litres of water for control.
- Suitable varieties for sowing are given in Annexure III.

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



Groundnut



Cotton



Land preparation



Rice

- **Realised Rainfall:** Rainfall occurred in Nicobar district of Andaman & Nicobar Islands; East Midnapore district of Gangetic West Bengal; Malda district of Sub-Himalayan West Bengal; Sahibganj district of Jharkhand; (Bihar) Weather remained mainly dry/dry over rest of the region.
- **Advisories:**
 - **West Bengal:**
 - Taking advantage of prevailing dry weather, undertake harvesting of matured *Aman* rice in Laterite and Red Soil Zone and New Alluvial Zone of Gangetic West Bengal.
 - In Coastal Saline Zone, undertake transplanting of winter vegetables (cabbage, cauliflower, Tomato) in the main field and land preparation for sowing of early mustard.
 - In Old Alluvial Zone, continue sowing of lentil and transplanting of early cauliflower and cabbage in the main field. Before transplanting, the pits for transplanting should be filled with *Trichoderma viridae* + *Pseudomonas fluorescence* mixed with well rotten FYM.
 - In Hill Zone, continue land preparation for transplanting of cole crops and undertake harvesting of matured soybean.
 - In Laterite and Red soil Zone, undertake harvesting the matured paddy as early as possible.
 - In Coastal Saline Zone, due to high humidity, there may be BPH attack in rice at panicle initiation stage and attack of leaf eating caterpillar in black gram. To control BPH, spray Acephate@1g/liter of water and control caterpillar, Spray Chlorpyrifos@1.5ml/litre of water.
 - In Hill Zone, there may be attack of blast disease in rice at panicle initiation stage. To control, spray Tricyclazole 75% WP @ 2.5 g/litre of water.
 - In New Alluvial Zone, under hot and humid situation attack of white fly may be found leading to the spread of yellow mosaic virus in bhindi at fruiting stage and attack of sheath blight may be found in rice at panicle initiation stage. To control white fly, spray Difenthiuron @ 0.75g per litre of water and spray Carbendazim @1.5 gm/litre of water to control sheath blight.
 - **Andaman and Nicobar Islands:**
 - In North, Middle and South Andaman, continue harvesting the early sown rice. There is chance of attack of Gandhi bug in late sown rice, Spray Monocrotophos @ 2 ml/litre of water for control on a non rainy day.
 - **Odisha:**
 - In East and South Eastern Coastal Plain Zone, complete planting of papaya. Continue harvesting of matured *kharif* green gram and black gram.
 - 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, it is optimum time for 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 @ 20 g 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, sucking pests like aphids and jassids may infest the cotton crop during boll formation stage. Spray neem oil @ 3ml/litre of water. If the infestation of sucking pests is more, spray Imidacloprid @ 1ml mixing in 4litres of water or Thiometaxom @5g/15litres of water on a non rainy day. Also *spodoptera* moth noticed in fields. Fix pheromone trap with spodo lure to catch the adult male @ 2nos per acre.
- In Eastern Ghat High Land Zone, at present paddy crop is mostly in grain filling stage, which is highly favourable for infection of blast disease. Monitoring at 2-3 days interval is advised. If symptoms are noticed, spraying of Bavastin @1g / litre of water is recommended.
- In East and South Eastern Coastal Plain Zone and North Eastern Ghat Zone, whiteant attack has been found on groundnut crop in low rainfall areas. Go for soil drenching with 2 ml Chlorpyriphos in each litre water thoroughly. Also red hairy caterpillar has been found in groundnut. Spray 10-12 kg Chlorpyriphos dust or spray 200 ml DDVP per acre.
- In North Eastern Ghat Zone, swarming caterpillar has been found in rice. Spray Chlorpyriphos 400 ml in 200 litre water per acre during afternoon hours. High humidity and cloudy weather favours the infestation of blast. To control, spray Beam @ 1 g and Hinosan @ 1.5 g in 2 litres of water twice at 15 days interval.
- **Bihar:**
 - In North East Alluvial Plain Zone, undertake land preparation for sowing of lentil, peas, rai, sarson, sunflower and maize, continue transplanting of mature seedlings of cauliflower ,cabbage, broccoli and tomato in raised bed and continue planting of early potato. Apply irrigation in early sown toria and in late sown rice.
 - In North West Alluvial Plain Zone, undertake land preparation for sowing of *rabi* crops such as garlic, lentil, pea, coriander, sunflower & rajma, undertake harvesting & threshing of rice. Also undertake weeding in pigeon pea & vegetables crops.
 - 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 shoot borer in sugarcane crops, to control, spray with Chlorpyriphos 20EC @ 3ml/litre of water.
 - In North East Alluvial Plain Zone, due to humid weather, there is chance of attack of brown plant hopper in rice. To control, spray Imidacloprid 17.8% SL @ 0.5ml/litre of water during evening hours.
 - In North West Alluvial Plain Zone, present weather is conducive for the occurrence of viral infection in tomato & chilli crops. Infected plant should be uprooted and buried in the soil and undertake spraying of Imidacloprid @0.3ml/litre of water.
- **Jharkhand:**
 - In South Eastern Plateau Zone, undertake harvesting of timely sown groundnut, urd, moong bean & direct seeded early paddy crops. Continue land preparation for cultivation of short duration of early potato, undertake nursery raising of onion, continue cultivation of vegetables like tomato, early cabbage, cauliflower & short duration French bean and leafy vegetables. Continue intercultural operation in standing crops like horse gram, safflower, lobia, urad and moong bean.
 - In North Eastern Plateau Zone, complete sowing of early potato and green peas and transplanting of tomato, cabbage, cauliflower & brinjal. Farmers are advised to maintain 5-7cm water in the rice fields. Continue harvesting of maize crop. Undertake sowing of improved varieties of toria and mustard.
 - In Western Plateau Zone, continue land preparation for cultivation of gram, linseed, mustard & rapeseed, transplanting of winter vegetables like cauliflower, cabbage, chilli, tomato & brinjal, Farmers are advised to apply irrigation in rice crops in case of deficient soil moisture. Continue sowing of radish, turnip, spinach, carrot & continue sowing of toria, green pea and planting of potato.
 - In North Eastern Plateau Zone, present weather is conducive for the occurrence of Gundhi bug in rice crop, to control, Quinalphos 1.5% dust @ 25 kg ha-1 or spraying of Quinalphos 25 EC @1.5 litre/500 litre of water.
 - In South Eastern Plateau Zone, present weather is conducive for the occurrence of YVM in okra, to control, spray Imidacloprid @ 0.5 ml per liter of water at an interval of 10-15 days.
 - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
 - In Sub-Himalayan West Bengal & Bihar, provide concentrate feed to milch animals mixed with dry and green fodders to ensure rich diet having protein, carbohydrate, fat and vitamins.

CENTRAL INDIA [M.P., CHHATTISGARH]



Cauliflower



Land preparation



Okra



Rice

- **Realised Rainfall:** Rainfall occurred in Kowardha district of Chhattisgarh. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Madhya Pradesh:**
 - Continue land preparation and sowing of mustard, nursery preparation for onion and garlic and planting of potato in Satpura Plateau Zone. Continue transplanting of vegetables like capsicum, brinjal, chilli and tomato and harvesting of kodo millet and little millet.
 - In Malwa Plateau Zone continue harvesting of matured soybean and maize. Continue field preparation for sowing of potato, pea and garlic, sowing of gram and nursery preparation for onion. Undertake transplanting of winter vegetables.
 - Continue sowing of toria, sweet corn and fodder crops like berseem and harvesting of matured sesame, moong and urad in Kymore Plateau and Satpura Hill Zone. Also continue nursery preparation for cabbage and cauliflower. Maintain optimum water level in late sown rice. Continue sowing of lentil, linseed and green pea.
 - Continue field preparation and sowing of pea, chickpea, lentil and transplanting of vegetables like brinjal, tomato, chilli, cauliflower and cabbage on raised bed in Bundelkhand Zone. Continue harvesting of matured soybean and undertake sowing of gram and mustard in Nimar Valley Zone.
 - Continue nursery preparation for onion and garlic and vegetables like tomato, chilli, brinjal, cabbage and cauliflower in Vindhya Plateau Zone. Also continue sowing of green peas and planting of potato.
 - Continue harvesting of matured black gram, soybean and matured cobs of maize and picking of matured okra, chilli, brinjal and tomato in Jhabua Hill Zone. Continue sowing of vegetable pea. Apply irrigation in cotton under moisture stress condition. Continue field preparation and sowing of gram and mustard.
 - Continue field preparation for planting of potato in Grid Zone. Continue sowing of mustard, gram and green pea under optimum temperature conditions.
 - There may be attack of pod borer in red gram at pod filling stage in Kymore Plateau and Satpura Hill Zone, spray Trizophos 40 EC @ 800 ml/ha or Chlorpyrifos 20 EC @ 1.5 ml/ha.
 - Suitable varieties are given in Annexure III.
 - **Chhattisgarh:**
 - In North Hill Zone, continue land preparation and sowing of gram, lentil, linseed, toria, mustard, potato and pea and harvesting of matured rice.
 - In Plain Zone of Chhattisgarh, continue harvesting of matured green gram and black gram and nursery preparation for cauliflower, cabbage, onion and capsicum. Complete sowing of toria and continue planting of onion and winter sugarcane. Undertake sowing of gram.
 - Continue nursery preparation for vegetables like cabbage, cauliflower, chilli, planting of potato and sowing of sweet potato in Bastar Plateau Zone. Continue harvesting of rice in midland and lowland areas and sowing of gram, pulses, pea and safflower.
 - In the prevailing weather, there are chances of attack of stem borer in rice in North Hill Zone, spray Carbofuran @ 33 kg/ha.
- **Animal Husbandry**
 - Vaccinate animals against foot and mouth disease in Madhya Pradesh. Provide concentrate feed to milch animals by mixing dry and green fodder enriched with protein, carbohydrate, fat, vitamins etc. in Chhattisgarh.

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



Cotton

Land preparation

Maize

Cabbage

- **Realised Rainfall:** Rainfall occurred in all districts of Jammu & Kashmir except Ganderbal, Ladakh (Leh) and Samba; Mandi district of Himachal Pradesh; Bageshwar and Pithoragarh districts of Uttarakhand; Barnala district of Punjab. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - As rain/snow would occur at most/many places **Himachal Pradesh** and **Jammu & Kashmir** from 24th to 27th October along with heavy rain/snow at isolated/few places over **Jammu & Kashmir** and heavy to very heavy rain/snow at isolated places over **Himachal Pradesh** from 24th to 26th October, postpone irrigation, inter-cultural operation and application of plant protection measures and fertilizers to the standing crops. Harvest the matured crop immediately and store the harvested produces at safer places. Provide adequate drainage in standing crop fields.
 - **Jammu & Kashmir:**
 - In Sub Tropical Zone, undertake land preparation and sowing of rabi pulses viz. pea (var., AP-1, Bonnevillea, Rachna and Arkel); Chickpe (var., K-468, Gourav); Lentil (var., L-4147, L-9/12, PL-406) and continue land preparation for early sowing of wheat (PBW-175, PBW-396.RSP-81(Jitto) and continue nursery raising of onion after current spells of heavy rain.
 - In Valley Temperate Zone of Jammu & Kashmir, undertake sowing of *rabi* crops like brown sarson, lentil and berseem.
 - In Cold Arid Zone, continue sowing of garlic (var. Parvati) should be done in trenches, low tunnels. Also undertake direct sowing of spinach, turnip & radish in greenhouses and transplanting spinach beet.
 - In Intermediate Zone, continue land preparation for sowing of wheat and oat. Complete sowing of toria with gobi sarson as intercrop, sowing of fodder barseem after harvesting of rice, maize and mash.
 - In Sub Tropical Zone, due to cloudy weather condition there may be attack of saw fly in toria. To control, spray Cypermethrin @ 1ml/litre of water after current spells of rain.
 - **Uttarakhand:**
 - In Bhabar and Tarai Zone, temperature conditions are favourable for sowing of onion, coriander, spinach, radish, fenugreek etc. and continue planting of Autumn sugarcane (varieties Co-238, Co-241, Co Pant 3220, Co Pant 84211, COS-8436, COS-88230 etc.), garlic & vegetable pea.
 - In Hill Zone, undertake sowing of garlic, onion, planting of potato and continue sowing of vegetable pea and toria.
 - In Sub humid Sub tropic Zone, due to dry weather condition, there may be attack of brown plant hopper on rice, to control spray Carbaryl 50% WP @ 1500gm/ha.
 - **Himachal Pradesh:**
 - In Sub-Montane and Low Hills Sub-Tropical Zone, undertake direct sowing of radish, turnip, carrot and fenugreek, continue land preparation for sowing of wheat, gobhisarson and peas after current spells of heavy rain. Complete sowing of gram and lentil in lower region after current spells of heavy rain.
 - In Sub-Montane and Low Hills Sub-Tropical Zone, undertake transplanting of tomato in raised bed and cauliflower (early group), continue nursery sowing cauliflower (late group), cabbage, KnolKhol, Broccoli and Chinese cabbage and direct sowing of radish, carrot, turnip, palak and methiin mid hill areas, planting of potato in lower and mid hills regions and planting of onion bulbs after current spells of heavy rain.
 - In Mid Hills sub-Humid Zone, continue nursery sowing of cauliflower, cabbage (Pride of India, golden achor and hybrid), sowing of carrot and cruciferous vegetables (at a distance of 30x10cm), early variety of pea (at a distance of 30x10cm). Undertake transplanting of early variety of cauliflower at a distance of 45x30cm and of onion at a distance of 15x10cm after current spells of heavy rain. Undertake harvesting of tomato, cucumber and capsicum in higher region immediately.
 - Under prevailing weather condition, there are chances of attack of cutworms in vegetables in Sub-Montane and Low Hills Sub-Tropical Zone. For control, spray Chlorpyrifos 20 EC @ 2.5 ml/litre of water. For the control of damping off disease in vegetable crops mix thoroughly Dithane M 45 dust @ 10-15 g in 1X 3metre beds after current spells of rain.
 - Under prevailing weather condition, there are chances of incidence of fruit rot and leaf spot disease in tomato and

capsicum in Mid Hills Sub-Humid Zone. Spray Ridomil gold @ 25g or Streptocyclin@1g or Blitox @ 30g per 10 litres of water after current spells of rain.

▪ **Rajasthan:**

- In West Rajasthan, undertake sowing of gram, garlic, continue sowing of mustard, barley and fennel, onion, carrot, lucern and taramira in Arid Western Plain Zone and continue land preparation for sowing oats and Berseem for green fodder. Continue harvesting of guar and bajra crops in Transitional Plain Zone of Inland Drainage.
- In East Rajasthan, continue sowing of gram and mustard, undertake sowing of lentil, mustard, nursery preparation for late sown cauliflower in Flood Prone Eastern Plain Zone. Continue harvesting of urad, soybean and maize, land preparation for sowing of maize and also apply irrigation in rice, sugarcane and vegetable crops in Southern and South-eastern Humid Plain Zone. Continue harvesting of green gram, groundnut and soybean in Sub Humid Southern Plain and Aravali Hill Zone. Continue sowing of early pea and radish. Apply irrigation to vegetable crops in Semi-Arid Eastern Plain Zone.
- In Transitional Plain Zone of Inland drainage, due to rise in temperature there are chances of attack of sucking pest in cotton, spray Monocrotophos 36 SL @1.0 litre/ha.
- In Irrigated Northwestern Plain Zone, to prevent dropping of *kinnow* fruits due to rise in temperature, spray Propineb 70 WP @ 2 g /litre of water in *kinnow* orchards.
- In Southern Humid Plain Zone of Rajasthan, due to rise in temperature, there are chances of attack of sucking pests in cotton, spray Imidacloprid 17.8 SL @ 200ml/ha.

▪ **Punjab, Haryana and Delhi:**

- In Western Plain Zone of Punjab, undertake land preparation for sowing of wheat. Continue sowing of gram, kabuli gram, mustard, radish, carrot, turnip. Continue planting of sugarcane and sowing of toria, gobhisarson, pea, gram, potato, cabbage, radish, garlic as intercrops in sugarcane.
- In Central Plain Zone of Punjab, undertake land preparation for sowing of wheat, lentil. Continue sowing of raya, gram, onion, pea, fodder crops, lucerne, oats and senji.
- In Undulating Plain Zone of Punjab, complete planting of autumn sugarcane, continue planting of fruit plants viz citrus, mango, litchi, guava, loquat, ber, amla and papaya.
- In Sub-Montane Undulating Zone of Punjab, continue sowing of raya, gobisarson, taramira.
- In Western Zone of Haryana, continue picking of early sown cotton crop after the sunrise, when dew is complete evaporated. Continue harvesting of guar and bajra. Continue field preparation for sowing of mustard, oats, berseem and gram.
- In Eastern zone of Haryana, undertake sowing of berseem fodder, apply irrigation in late sown basmati rice and sugarcane. Undertake harvesting of matured early sown basmati rice.
- In Western Semi-Arid Zone of Delhi, undertake harvesting of paddy, continue transplanting of tomato, cabbage, broccoli and early cauliflower on ridges. Continue sowing of sarson sag, spinach, coriander, fenugreek, turnip, radish, carrot and undertake sowing of pea and late wheat. Continue planting of early potato, winter sugarcane. Undertake sowing of early mustard in prepared fields with varieties Pusa Sarson-25, Pusa Sarson-26, PusaAgni, PusaTaraka and PusaMahak and sowing of garlic in raised bed
- In Western Semi-Arid Zone of Delhi, false smut may appear in rice in present weather conditions. Symptoms include increase in grains size with brown colored fungus inside. Spraying of Blitox 50 @ 500 g per hectare at 10 days interval (2-3 times) is advised. Also monitor cucurbitaceous crops against attack of fruit fly, use Methyl Eugenol trap and bait trap (mixing jaggary 10 % with Malathion 0.1 % and putting at different corners of the field).
- In Central Plain Zone of Punjab, there may be attack of jassid and white fly in pulses, for control spray Thiamethoxam 25 WG @ 40 g or Trizophos 40 EC @ 600 ml in 80-100 litres of water/acre on a non rainy day .
- In Western Zone of Haryana, weather conditions are favourable for neck blast in rice. Monitor the crop. If infestation is noticed, spray Sivik@ 120 g or Beam with 200 liter water per acre. Monitor late sown American & Desi cotton crops to infestation of whitefly and sucking pests, if infestation occurs then spray Dimethoate 30 E.C.@ 300 ml/Metasystoc 25 EC and one liter neem based insecticide (Neembicidine/Achuk) with 250 litre water on a non rainy day.

▪ **Uttar Pradesh:**

- In Central Plain Zone, continue harvesting of matured urad, moong, sesame, rice and maize. Continue sowing of barley, linseed, lentil, kabuli gram, toria, Bengal gram, pea, mustard, berseem, pointed gourd, parwal gourd, radish, fenugreek, coriander, carrot and spinach and planting of potato and autumn sugarcane,. Continue nursery sowing of improved varieties of cabbage, nursery sowing/transplanting of capsicum, chilli, brinjal, tomato and cauliflower.
- In Eastern Plain Zone, continue sowing of mustard. Continue sowing of pea and toria and sowing of winter vegetables, fenugreek, coriander, garlic, carrot, radish, spinach and planting of potato. Continue transplanting of cauliflower (60x60cm), brinjal, cabbage, chilli and tomato (75x60cm). Continue planting of sweet potato and parval(1.25x1.25m).
- In Western Plain Zone, continue sowing of 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 harvesting of matured urad, moong, soybean and groundnut. Continue land preparation for sowing of wheat. Continue sowing of linseed, mustard, pea, gram, lentil and transplanting of cauliflower, cabbage, tomato, chilli and brinjal.
- In Central Plain Zone, under prevailing weather condition, there may be chances of attack of gundhi bug in rice at flowering stage, for control, spray Malathion 5% EC @ 25-30 kg per ha.
- Suitable varieties for sowing are given in Annexure III.
- **Horticulture**
 - In Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh, weather is conducive for the attack of leaf minor in new growth of citrus. For its control, spray Matasystox or Malathion @ 10 ml per 10 litres of water after current spells of rain.
- **Floriculture**
 - Blue beetle attack is seen in roses and balsam in Sub Montane and Low Hills Sub Humid Zone of Himachal Pradesh. For control spray Cypermethrin @ 0.05 ml per litre of water after current spells of rain.
- **Animal Husbandry**
 - In Sub-Montane and Low Hills Sub-tropical 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	07.10.15		14.10.15		21.10.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	0.2	-99	37.8	-41	0.0	-100
Dibang Valley	**	**	**	**	**	**
East Kameng	2.4	-92	0.0	-100	0.0	-100
East Siang	0.0	-100	7.4	-82	0.0	-100
Kurung Kumey	**	**	**	**	**	**
Lohit	2.5	-97	51.5	50	4.2	-88
Lower Dibang Valley	0.0	-100	79.2	89	0.0	-100
Lower Subansari	**	**	**	**	**	**
Papumpara	0.5	-99	59.0	-10	4.4	-93
Tawang	13.0	-86	16.0	-78	26.0	-44
Tirap	13.4	-87	70.4	64	3.8	-92
Upper Siang	3.0	-96	42.8	-38	1.2	-98
Upper Subansari	19.8	49	24.0	11	0.0	-100
West Kameng	65.0	-28	62.8	-13	0.0	-100
West Siang	**	**	**	**	**	**
Assam&Meghalaya						
Assam						
Baksa	0.3	-99	43.8	-4	0.7	-98
Barpeta	6.9	-86	19.2	-58	0.0	-100
Bongaigaon	0.0	-100	5.4	-90	0.0	-100
Cachar	20.0	-71	72.4	43	0.0	-100
Chirang	1.2	-98	34.8	-34	4.2	-88
Darrang	**	**	**	**	**	**
Dhemaji	0.0	-100	4.0	-90	**	**
Dhubri	0.1	-99	3.8	-91	0.0	-100

Dibrugarh	20.4	-61	60.5	72	42.9	61
Goalpara	9.9	-82	18.8	-67	0.0	-100
Golghat	23.6	-16	41.3	27	12.3	-32
Hailakandi	43.7	-20	58.3	9	0.0	-100
Jorhat	26.4	-41	43.8	36	3.6	-83
Kamrup(Rural)	15.3	-56	16.1	-45	0.0	-100
Kamrup(Metro)	18.2	-47	41.1	40	1.6	-94
Karbi Anglong	9.4	-72	54.4	124	0.9	-97
Karimganj	60.7	-36	98.5	18	0.0	-100
Kokrajhar	13.8	-66	0.1	-99	0.1	-99
Lakhimpur	5.4	-89	34.7	-16	1.8	-94
Morigaon	53.6	137	13.6	-72	0.4	-99
N.C.Hills	5.1	-87	17.4	-42	0.0	-100
Nowgong	7.8	-81	3.3	-89	1.0	-96
Nalbari	2.4	-95	24.0	-11	0.0	-100
Sonitpur	7.9	-75	18.0	-46	1.2	-95
Sibsagar	0.3	-99	35.6	66	49.1	128
Tinsukia	17.1	-60	46.9	86	6.0	-82
Udalgiri	1.6	-96	16.3	-34	0.5	-97
Meghalaya						
East Garo Hills	58.4	-28	28.8	-4	0.0	-100
East Khasi Hills	19.6	-81	47.5	-41	13.9	-71
Jaintia Hills	42.0	-81	15.0	-89	23.0	-78
Ribhoi	10.1	-65	23.7	-25	6.7	-86
South Garo Hills	**	**	**	**	**	**
West Garo Hills	0.0	-100	9.8	-77	0.0	-100
West Khasi Hills	38.0	-25	96.0	7	8.0	-77
NMMT						
Mizoram						
Aizwal	113.5	17	125.5	91	1.9	-95
Champhai	**	**	**	**	**	**
Kolasib	**	**	**	**	**	**
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	**	**	**	**	**	**
Serchhip	68.2	11	71.4	78	**	**
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	15.3	-67	89.4	104	6.0	-57
Imphal west	0.0	-100	35.2	-4	0.0	-100
Senapati	**	**	**	**	**	**
Tamenglong	**	**	**	**	**	**
Thoubal	4.0	-87	58.0	148	0.0	-100
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	17.4	-66	56.6	17	21.7	133

Kephire	**	**	**	**	**	**
Kohima	21.4	-49	49.4	43	60.8	163
Longleng	**	**	**	**	**	**
Mokokchung	5.0	-93	26.0	9	3.0	-88
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	**	**	68.0	94	23.0	-3
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	29.4	-53	54.3	12	26.1	-17
NorthTripura	12.3	-78	48.8	-13	1.4	-95
SouthTripura	34.6	-36	91.5	63	1.5	-95
West Tripura	35.0	-40	37.5	-33	3.9	-84
Himachal Pradesh						
Bilaspur	0.0	-100	0.0	-100	4.4	-18
Chamba	0.0	-100	0.0	-100	18.2	107
Hamirpur	0.0	-100	0.0	-100	7.4	41
Kangra	0.0	-100	1.3	-90	15.5	253
Kinnaur	0.0	-100	0.0	-100	4.5	-43
Kullu	0.0	-100	0.0	-100	11.5	-2
Lahaul and Spiti	0.0	-100	0.0	-100	2.7	-70
Mandi	0.0	-100	0.6	-94	20.1	204
Shimla	0.0	-100	0.0	-100	9.3	21
Sirmaur	0.0	-100	0.0	-100	2.6	-52
Solan	0.0	-100	0.0	-100	11.0	44
Una	0.0	-100	0.0	-100	12.7	430
Punjab						
Amritsar	0.0	-100	0.0	-100	11.3	151
Barnala	0.0	-100	0.0	-100	20.5	1608
Bhatinda	0.0	-100	0.0	-100	0.0	-100
Faridkot	0.0	-100	0.0	-100	0.0	-100
Fatehgarh Saheb	0.0	-100	0.0	-100	2.5	25
Ferozpur	0.0	-100	0.0	-100	0.0	-100
Gurdaspur	0.0	-100	0.0	-100	14.3	285
Hoshiarpur	0.0	-100	0.0	-100	3.3	6
Jalandhar	0.0	-100	0.0	-100	3.0	100
Kapurthala	0.0	-100	0.0	-100	0.0	-100
Ludhiana	0.0	-100	0.0	-100	3.3	-11
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	0.0	-100	0.0	-100
Muktesar	0.0	-100	0.0	-100	0.0	-100
Nawashahar	0.0	-100	0.0	-100	5.9	48
Patiala	0.0	-100	0.0	-100	2.0	-47
Ropar	0.0	-100	0.0	-100	6.0	30
Sangrur	0.0	-100	0.0	-100	0.4	-83
Mohali	0.0	-100	0.0	-100	2.0	-57
TarnTaran	0.0	-100	0.0	-100	0.0	-100

Haryana,Chd,Delhi						
Haryana						
Ambala	0.0	-100	0.0	-100	2.6	-40
Bhiwani	0.0	-100	0.0	-100	0.0	-100
Chandigarh	0.0	-100	0.0	-100	4.1	27
Faridabad	0.0	-100	0.0	-100	2.3	50
Fatehabad	0.0	-100	0.0	-100	1.3	-60
Gurgaon	0.0	-100	0.0	-100	0.0	-100
Hissar	0.0	-100	0.0	-100	0.0	-100
Jhajar	0.0	-100	0.0	-100	0.0	-100
Jind	0.0	-100	0.0	-100	1.7	-51
Katihah	0.0	-100	0.0	-100	2.7	-5
Karnal	0.0	-100	0.0	-100	1.7	-49
Kurukshetra	0.0	-100	0.0	-100	4.0	8
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	5.3	209
Panchkkula	0.0	-100	0.0	-100	2.5	-51
Panipat	0.0	-100	0.0	-100	3.6	12
Rewari	0.0	-100	0.0	-100	0.0	-100
Rohtak	0.0	-100	0.0	-100	3.2	-3
Sirsa	0.0	-100	0.0	-100	0.0	-100
Sonepat	0.0	-100	0.0	-100	0.0	-100
Yamunanagar	0.0	-100	0.0	-100	0.0	-100
Delhi						
Central Delhi	0.0	-100	0.0	-100	0.0	-100
East Delhi	0.0	-100	0.0	-100	1.0	-58
New Delhi	0.0	-100	0.0	-100	0.1	-94
North Delhi	0.0	-100	0.0	-100	0.3	-90
North East Delhi	0.0	-100	0.0	-100	0.0	-100
North West Delhi	0.0	-100	0.0	-100	0.0	-100
South Delhi	0.0	-100	0.0	-100	0.0	-100
South West Delhi	0.0	-100	0.0	-100	0.4	-85
West Delhi	0.0	-100	0.0	-100	0.0	-100
Jammu & Kashmir						
Anantnag	0.7	-87	0.0	-100	53.6	476
Badgam	0.0	-100	0.0	-100	39.4	861
Bandipore	**	**	**	**	**	**
Baramula	0.0	-100	0.0	-100	72.5	383
Doda	0.0	-100	0.0	-100	27.8	181
Ganderbal	0.0	-100	0.0	-100	17.2	153
Jammu	0.0	-100	0.0	-100	33.8	1888
Kargil	**	**	**	**	**	**
Kathua	0.0	-100	1.2	-87	23.6	11700
Kistwar	**	**	**	**	**	**
Kulgam	0.0	-100	0.0	-100	37.7	305
Kupwara	0.4	-96	1.2	-90	78.7	584
Ladakh(Leh)	0.0	-100	0.0	-100	0.0	-100
Poonch	**	**	**	**	**	**

Pulwama	0.0	-100	0.0	-100	39.1	574
Rajouri	0.0	-100	0.0	-100	47.8	5875
Ramban	0.0	-100	0.0	-100	67.5	582
Reasi	0.0	-100	0.0	-100	51.0	1033
Samba	0.0	-100	0.0	-100	16.8	888
Shopian	**	**	**	**	**	**
Srinagar	0.6	-90	0.0	-100	45.3	566
Udhampur	0.0	-100	0.0	-100	21.2	371
East Madhya Pradesh						
Anuppur	0.0	-100	0.0	-100	0.6	-90
Balaghat	0.0	-100	0.0	-100	0.0	-100
Chhatarpur	0.0	-100	0.0	-100	0.0	-100
Chindwara	0.0	-100	0.0	-100	0.8	-83
Damoh	0.0	-100	0.0	-100	0.3	-92
Dindori	0.0	-100	0.0	-100	0.0	-100
Jabalpur	0.0	-100	0.0	-100	0.0	-100
Katni	0.0	-100	0.0	-100	0.0	-100
Mandla	0.0	-100	0.0	-100	0.0	-100
Narsingpur	0.0	-100	0.0	-100	0.0	-100
Panna	0.0	-100	0.0	-100	0.0	-100
Rewa	0.0	-100	0.0	-100	0.0	-100
Sagar	0.0	-100	0.0	-100	0.0	-100
Satna	0.0	-100	0.6	-93	0.0	-100
Seoni	0.0	-100	0.0	-100	0.0	-100
Shahdol	0.0	-100	0.0	-100	0.0	-100
Sidhi	0.0	-100	0.0	-100	0.0	-100
Singrauli	0.0	-100	0.0	-100	0.0	-100
Tikamgarh	0.0	-100	0.0	-100	0.0	-100
Umaria	0.0	-100	0.0	-100	0.0	-100
West Madhya Pradesh						
Agar	0.0	-100	0.0	-100	0.0	-100
Alirajpur	0.0	-100	0.0	-100	0.0	-100
Asoknagar	0.0	-100	0.0	-100	0.0	-100
Badwani	0.0	-100	0.0	-100	0.0	-100
Betul	0.0	-100	0.0	-100	0.0	-100
Bhind	0.0	-100	0.0	-100	0.0	-100
Bhopal	0.0	-100	0.0	-100	0.0	-100
Burhanpur	0.0	-100	0.0	-100	0.0	-100
Datia	0.0	-100	0.0	-100	0.0	-100
Dewas	0.0	-100	0.0	-100	0.0	-100
Dhar	0.0	-100	0.0	-100	0.0	-100
Guna	0.0	-100	0.0	-100	0.0	-100
Gwalior	0.0	-100	0.0	-100	0.0	-100
Harda	0.0	-100	0.0	-100	0.0	-100
Hosangabad	0.0	-100	0.0	-100	0.0	-100
Indore	0.0	-100	0.0	-100	0.0	-100
Jhabua	0.0	-100	0.0	-100	0.0	-100
Khandwa	0.0	-100	0.0	-100	0.0	-100

Khargone	0.0	-100	0.0	-100	0.0	-100
Mandsaur	0.0	-100	0.0	-100	0.0	-100
Morena	0.0	-100	0.0	-100	0.0	-100
Neemuch	0.0	-100	0.0	-100	0.0	-100
Raisen	0.0	-100	0.0	-100	0.0	-100
Rajgarh	0.0	-100	0.0	-100	0.0	-100
Ratlam	0.0	-100	0.0	-100	0.0	-100
Sehore	0.0	-100	0.0	-100	0.0	-100
Shajapur	0.0	-100	0.0	-100	0.0	-100
Sheopur Kalani	0.0	-100	0.0	-100	0.0	-100
Shivpuri	0.0	-100	0.0	-100	0.0	-100
Ujjain	0.0	-100	0.0	-100	0.0	-100
Vidisha	0.0	-100	0.0	-100	0.0	-100
Chhattisgarh						
Bastar	10.5	-68	0.1	-99	0.0	-100
Bijapur	12.3	-67	0.0	-100	0.0	-100
Bilaspur	0.0	-100	0.0	-100	3.5	-64
Dantewara	27.1	-25	0.0	-100	4.0	-77
Dhamtari	1.8	-93	0.0	-100	3.6	-63
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	11.6	7
Kanker	3.0	-88	0.0	-100	7.6	-45
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	20.4	196
Mahasumund	4.6	-75	0.0	-100	0.0	-100
Narayanpur	0.0	-100	0.0	-100	0.0	-100
Raigarh	6.0	-64	0.0	-100	8.6	-2
Raipur	1.9	-91	0.0	-100	0.0	-100
Rajandgaon	0.0	-100	0.0	-100	0.0	-100
Surguja	0.0	-100	0.0	-100	0.0	-100
East Uttar Pradesh						
Allahabad	0.0	-100	0.0	-100	0.0	-100
Ambedkar Nagar	0.0	-100	0.0	-100	0.0	-100
Azamgarh	0.0	-100	0.0	-100	0.0	-100
Bahraich	0.0	-100	26.5	42	12.7	135
Ballia	0.0	-100	0.0	-100	3.1	-59
Balrampur	0.0	-100	0.2	-99	3.3	-66
Banda	0.0	-100	0.0	-100	0.0	-100
Barabanki	0.0	-100	0.0	-100	0.0	-100
Basti	0.0	-100	2.1	-87	4.9	-35
Chandauli	0.0	-100	0.0	-100	0.0	-100
Deoria	0.0	-100	0.0	-100	0.0	-100
Faizabad	0.0	-100	0.3	-98	0.0	-100
Farrukhabad	0.0	-100	0.0	-100	0.0	-100
Fatehpur	0.0	-100	0.0	-100	0.0	-100
Gazipur	0.0	-100	0.1	-99	0.0	-100
Gonda	0.0	-100	4.8	-74	0.0	-100

Gorakhpur	0.0	-100	5.9	-72	0.9	-92
Hardoi	0.0	-100	0.0	-100	1.4	-70
Jaunpur	0.0	-100	0.0	-100	0.0	-100
Kannauj	0.0	-100	0.0	-100	1.3	-75
Kanpur City	0.0	-100	0.0	-100	0.1	-98
Kanpur Dehat	0.0	-100	0.0	-100	1.1	-75
Kaushambi	0.0	-100	0.0	-100	0.0	-100
Kheri	0.0	-100	0.0	-100	0.0	-100
Kushi nagar	0.0	-100	7.5	-63	0.0	-100
Lucknow	0.0	-100	0.0	-100	0.0	-100
Maharajganj	0.0	-100	38.8	62	0.0	-100
Mau	0.0	-100	0.0	-100	0.0	-100
Mirzapur	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
RaiBareilly	0.0	-100	0.0	-100	0.0	-100
Sahuji Maharajnagar	0.0	-100	0.0	-100	0.0	-100
Sant Kabirnagar	0.0	-100	0.0	-100	0.0	-100
Sant Ravidas Nagar	0.0	-100	0.0	-100	0.0	-100
Shrawasti	0.0	-100	18.0	-3	6.3	17
Sidharthnagar	0.0	-100	5.0	-71	1.0	-87
Sitapur	0.0	-100	0.0	-100	0.3	-96
Sonbhadra	0.0	-100	0.0	-100	0.0	-100
Sultanpur	0.0	-100	0.0	-100	0.0	-100
Unnao	0.0	-100	0.0	-100	0.0	-100
Varanasi	0.0	-100	0.0	-100	0.0	-100
West Uttar Pradesh						
Agra	0.0	-100	0.0	-100	0.4	-94
Aligarh	0.0	-100	0.0	-100	5.3	32
Auraiya	0.0	-100	0.0	-100	0.0	-100
Badaun	0.0	-100	0.0	-100	0.0	-100
Baghpat	0.0	-100	0.0	-100	0.9	-10
Bareilly	0.0	-100	0.0	-100	0.0	-100
Bijnor	0.0	-100	1.5	-89	0.0	-100
Bulandsahar	0.0	-100	0.0	-100	1.6	-59
Etah	0.0	-100	0.0	-100	0.0	-100
Etawah	0.0	-100	0.0	-100	0.0	-100
Firozabad	0.0	-100	0.0	-100	0.0	-100
GBNagar	0.0	-100	0.0	-100	0.0	-100
Ghaziabad	0.0	-100	0.0	-100	2.7	23
Hamirpur	0.0	-100	0.0	-100	0.0	-100
Jalaun	0.0	-100	0.0	-100	0.0	-100
Jhansi	0.0	-100	0.0	-100	0.0	-100
Jotiba Phule Nagar	0.0	-100	0.0	-100	0.0	-100
Kanshiramnagar	0.0	-100	0.0	-100	0.0	-100
Lalitpur	0.0	-100	0.0	-100	0.0	-100
Mahamaya Nagar	0.0	-100	0.0	-100	1.5	-62
Mahoba	0.0	-100	0.0	-100	0.0	-100
Mainpuri	0.0	-100	0.0	-100	0.0	-100

Mathura	0.0	-100	0.0	-100	0.5	-62
Meerut	0.0	-100	0.0	-100	0.5	-83
Moradabad	0.0	-100	0.0	-100	0.0	-100
Muzzaffarnagar	0.0	-100	0.0	-100	2.0	-9
Pilibhit	0.0	-100	0.0	-100	0.0	-100
Rampur	0.0	-100	0.0	-100	0.0	-100
Saharanpur	0.0	-100	0.0	-100	0.0	-100
Shahjahanpur	0.0	-100	0.0	-100	0.8	-81
Uttarakhand						
Almora	0.0	-100	0.0	-100	13.2	132
Bageshwar	0.0	-100	0.0	-100	23.5	312
Chamoli	0.0	-100	7.3	-54	7.5	-17
Champawat	0.0	-100	4.5	-87	0.0	-100
Dehradun	0.0	-100	6.4	-73	10.1	60
Garhwal Pauri	0.0	-100	9.0	-64	5.0	4
Garhwal Tehri	0.0	-100	0.0	-100	5.2	-39
Haridwar	0.0	-100	12.0	-15	0.2	-94
Nainital	0.0	-100	17.5	-48	11.2	7
Pithorgarh	0.0	-100	1.3	-95	22.0	136
Rudraprayag	0.0	-100	0.0	-100	13.6	156
Udham Sing Nagar	0.0	-100	0.0	-100	0.0	-100
Uttarkashi	0.0	-100	0.5	-98	9.8	71
Bihar						
Araria	0.0	-100	0.0	-100	2.0	-89
Arwal	0.0	-100	0.0	-100	0.0	-100
Aurangabad	0.0	-100	0.0	-100	0.0	-100
Banka	3.4	-93	0.0	-100	7.9	-30
Begusarai	0.0	-100	0.0	-100	0.0	-100
Bhabua	0.0	-100	0.0	-100	0.0	-100
Bhagalpur	0.0	-100	2.8	-88	8.1	-53
Bhojpur	0.0	-100	0.0	-100	5.1	-9
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	11.9	5	0.0	-100
Jahanabad	0.0	-100	0.0	-100	0.0	-100
Jamui	0.0	-100	0.0	-100	0.0	-100
Katihar	0.0	-100	12.5	-33	0.0	-100
Khagadia	0.0	-100	0.0	-100	0.0	-100
Kishanganj	0.2	-99	0.0	-100	0.0	-100
Lakhisarai	0.8	-98	0.0	-100	0.0	-100
Madhepura	0.0	-100	0.0	-100	1.3	-88
Madhubani	0.0	-100	0.0	-100	0.3	-98
Monghyar	0.0	-100	0.0	-100	0.0	-100
Muzaffarpur	0.0	-100	0.0	-100	0.0	-100
Nalanda	0.0	-100	0.0	-100	0.0	-100
Nawada	0.0	-100	0.0	-100	0.0	-100
Patna	0.0	-100	0.6	-95	0.5	-94

Purnea	6.8	-86	15.9	-3	0.2	-99
Rohtas	0.0	-100	0.0	-100	0.0	-100
Saharsha	0.0	-100	0.0	-100	0.0	-100
Samstipur	0.0	-100	0.0	-100	2.2	-39
Saran	0.0	-100	1.1	-89	5.0	-50
Sheikpura	0.0	-100	0.0	-100	0.0	-100
Sheohar	0.0	-100	0.0	-100	0.0	-100
Sitamarhi	0.0	-100	0.0	-100	0.0	-100
Siwan	0.0	-100	0.0	-100	0.0	-100
Supaul	0.5	-99	0.0	-100	12.7	-12
Vaishali	0.0	-100	0.0	-100	0.0	-100
West Champaran	0.0	-100	35.2	92	6.3	-42
Jharkhand						
Bokaro	5.1	-86	0.0	-100	0.2	-98
Chatra	0.0	-100	0.0	-100	0.0	-100
Deoghar	6.2	-82	0.0	-100	0.0	-100
Dhanbad	3.1	-93	0.5	-97	0.0	-100
Dumka	0.0	-100	2.1	-92	3.2	-79
East Singbhum	2.5	-91	7.7	-53	0.0	-100
Garhwa	0.0	-100	0.0	-100	0.0	-100
Giridih	0.2	-99	2.9	-81	0.0	-100
Godda	0.0	-100	0.0	-100	0.0	-100
Gumla	4.1	-83	1.4	-94	0.0	-100
Hazaribagh	0.0	-100	0.0	-100	0.0	-100
Jamtara	0.8	-99	3.4	-85	0.6	-97
Khunti	6.5	-77	0.0	-100	0.0	-100
Koderrna	0.0	-100	0.0	-100	0.0	-100
Latehar	0.0	-100	0.0	-100	3.2	-68
Lohardagga	0.0	-100	0.0	-100	0.0	-100
Pakur	0.0	-100	4.9	-88	18.3	-29
Palamau	0.0	-100	0.0	-100	0.0	-100
Ramgarh	0.0	-100	31.4	105	1.0	-92
Ranchi	3.0	-90	7.8	-55	1.8	-89
Sahebganj	0.0	-100	0.0	-100	22.0	79
Saraikela	4.2	-84	0.0	-100	0.0	-100
Simdega	4.6	-81	0.0	-100	0.8	-93
West Singbhum	2.4	-90	1.8	-90	0.0	-100
East Rajasthan						
Ajmer	0.0	-100	0.0	-100	0.0	-100
Alwar	0.0	-100	0.0	-100	0.0	-100
Banswara	0.0	-100	0.0	-100	0.0	-100
Baran	0.0	-100	0.0	-100	0.0	-100
Bharatpur	0.0	-100	0.0	-100	0.0	-100
Bhilwara	0.0	-100	0.0	-100	0.0	-100
Bundi	0.0	-100	0.0	-100	0.0	-100
Chittorgarh	0.0	-100	0.0	-100	0.0	-100
Dausa	0.0	-100	0.0	-100	0.0	-100
Dholpur	0.0	-100	0.0	-100	0.0	-100
Dungarpur	0.0	-100	0.0	-100	0.0	-100

Jaipur	0.0	-100	0.0	-100	0.3	-61
Jhalawar	0.0	-100	0.0	-100	0.0	-100
Jhunjhunu	0.0	-100	0.0	-100	0.0	-100
Karauli	0.0	-100	0.0	-100	0.0	-100
Kota	0.0	-100	0.0	-100	0.0	-100
Pratapgarh	0.0	-100	0.0	-100	0.0	-100
Rajsamand	0.0	-100	0.0	-100	0.0	-100
Sawai Madhopur	0.0	-100	0.0	-100	0.0	-100
Sikar	0.0	-100	0.0	-100	0.0	-100
Sirohi	0.0	-100	0.0	-100	0.0	-100
Tonk	0.0	-100	0.0	-100	0.1	-90
Udaipur	0.0	-100	0.0	-100	0.0	-100
West Rajasthan						
Barmer	0.0	-100	0.0	-100	0.0	-100
Bikaner	0.0	-100	0.0	-100	0.0	-100
Churu	0.0	-100	0.0	-100	0.0	-100
Hanumangarh	0.0	-100	0.0	-100	0.0	-100
Jaisalmer	0.0	-100	0.0	-100	0.0	-100
Jalore	0.0	-100	0.0	-100	0.0	-100
Jodhpur	0.0	-100	0.0	-100	0.0	-100
Nagaur	0.0	-100	0.0	-100	0.0	-100
Pali	0.0	-100	0.0	-100	0.0	-100
Sri Ganganagar	0.0	-100	0.0	-100	0.0	-100
Gujarat Region						
Ahmedabad	0.0	-100	0.0	-100	0.0	-100
Anand	0.0	-100	0.0	-100	0.0	-100
Banaskantha	0.0	-100	0.0	-100	0.0	-100
Baroda	0.0	-100	0.0	-100	0.0	-100
Broach	0.0	-100	1.6	-83	0.0	-100
DNH	10.6	-4	6.7	-57	0.0	-100
Dahod	0.0	-100	0.0	-100	0.0	-100
Daman	1.0	-91	0.0	-100	0.0	-100
Dangs	21.5	-15	34.0	89	0.0	-100
Gandhinagar	0.0	-100	0.0	-100	0.0	-100
Kheda	0.0	-100	0.0	-100	0.0	-100
Mehsana	0.0	-100	0.0	-100	0.0	-100
Narmada	0.0	-100	0.0	-100	0.0	-100
Navsari	0.5	-97	4.0	-74	0.3	-93
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	0.6	-96	0.0	-99	0.0	-100
Tapi	0.0	-100	0.0	-100	0.0	-100
Valsad	3.8	-82	11.8	-32	0.0	-100
S K & Diu region						
Amreli	1.2	-85	1.3	-79	1.2	-61
Bhavnagar	0.0	-100	0.0	-100	0.2	-94
Diu	0.0	-100	0.0	-100	0.0	-100
Jamnagar	0.0	-100	4.8	98	5.6	-14

Junagarh	0.0	-100	6.2	0	0.0	-100
Kutch	0.0	-100	0.0	-100	3.9	-29
Porbandar	0.0	-100	0.0	-100	1.0	-80
Rajkot	0.0	-100	0.8	-86	1.6	-62
Surendranagar	0.0	-100	2.7	-21	0.0	-100
Maharashtra						
Konkan & Goa						
Mumbai City	73.1	102	0.2	-99	0.0	-100
Mumbai Suburban	22.5	-38	8.1	-69	0.0	-100
North Goa	110.8	69	14.3	-61	10.2	-63
Raigad	83.0	69	20.0	-47	0.0	-100
Ratnagiri	108.7	73	17.6	-54	3.3	-86
Sindhudurg	88.5	55	14.4	-60	9.1	-66
South Goa	52.6	-2	26.5	-18	6.2	-80
Thane	42.6	29	16.8	-43	0.0	-100
Madhya Maharashtra						
Ahmednagar	36.6	43	0.4	-98	0.0	-100
Dhule	1.4	-92	2.0	-87	0.0	-100
Jalgaon	0.0	-100	0.4	-97	0.0	-100
Kolhapur	60.6	26	5.1	-83	1.5	-94
Nandurbar	0.0	-100	0.7	-96	0.0	-100
Nasik	17.8	-33	11.1	-43	0.1	-99
Pune	61.3	89	16.7	-28	0.0	-100
Sangli	70.0	67	2.9	-90	0.8	-95
Satara	72.3	99	11.6	-49	0.1	-99
Solapur	61.3	82	4.8	-81	0.1	-99
Marathwada						
Aurangabad	14.9	-14	0.5	-98	0.0	-100
Beed	22.2	4	0.2	-99	0.0	-100
Hingoli	6.8	-70	0.0	-100	0.0	-100
Jalna	11.9	-34	0.0	-100	0.0	-100
Latur	29.0	-4	8.2	-59	0.0	-100
Nanded	5.8	-80	0.4	-97	0.0	-100
Usmanabad	42.5	46	3.9	-82	0.0	-100
Parbhani	9.8	-63	0.0	-99	0.0	-100
Vidarbha						
Akola	6.6	-68	0.0	-100	0.0	-100
Amraoti	0.7	-97	0.0	-100	0.0	-100
Bhandara	0.0	-100	0.0	-100	0.0	-100
Buldhana	2.3	-87	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	1.3	-95	0.0	-100	0.0	-100
Nagpur	0.1	-99	0.0	-100	0.0	-100
Wardha	0.9	-96	0.0	-100	0.0	-100
Washim	3.4	-84	0.0	-100	0.0	-100
Yeotmal	0.1	-99	0.0	-100	0.0	-100
Odisha						

Angul	12.2	-53	3.3	-85	3.1	-90
Balasore	8.3	-87	5.4	-89	10.1	-70
Bargarh	0.4	-98	0.3	-98	0.2	-99
Bhadrak	10.1	-74	12.1	-72	0.1	-99
Bolangir	2.2	-91	0.0	-100	0.3	-98
Boudh	1.1	-97	0.0	-100	0.0	-100
Cuttack	23.0	-45	10.2	-66	6.7	-78
Deogarh	4.6	-77	0.4	-97	2.7	-78
Dhenkanal	14.1	-60	12.9	-54	2.4	-92
Gajapati	26.0	-46	1.5	-96	11.0	-73
Ganjam	18.4	-67	9.5	-79	12.2	-77
Jagatsingpur	41.8	15	24.2	-33	14.3	-67
Jajpur	14.6	-65	3.3	-91	3.0	-91
Jharsuguda	0.3	-98	0.0	-100	0.0	-100
Kalahandi	3.3	-90	0.0	-100	0.0	-100
Kandhamal	0.3	-99	0.0	-100	2.7	-89
Kendrapara	40.8	-26	30.5	-44	0.0	-100
Keonjhar	12.4	-64	5.4	-80	16.3	-49
Khurda	16.6	-69	6.6	-85	7.2	-79
Koraput	33.4	-34	0.0	-100	1.6	-95
Malkangiri	12.0	-70	4.0	-87	0.0	-100
Mayurbhanj	8.1	-81	5.7	-78	5.5	-80
Nawapara	1.0	-96	0.4	-96	0.0	-100
Nawarangpur	13.0	-68	0.0	-100	0.0	-100
Nayagarh	28.0	-44	0.0	-100	8.5	-70
Puri	8.1	-85	12.9	-71	2.4	-94
Rayagada	10.3	-71	0.0	-100	9.4	-68
Sambalpur	0.5	-97	3.6	-75	0.4	-97
Sonepur	0.0	-100	1.3	-88	0.0	-100
Sundargarh	0.0	-100	1.2	-91	2.5	-78
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	84.3	-6	28.1	-63	20.9	-70
North & Middle Andaman	107.3	12	72.9	18	3.2	-93
South Andaman	152.3	66	52.5	-30	14.3	-73
GWB						
Bankura	0.0	-100	6.0	-71	0.0	-100
Birbhum	5.8	-86	9.4	-60	3.1	-85
Burdwan	1.0	-98	22.5	0	2.5	-87
East Midnapore	16.6	-77	2.4	-95	26.3	-4
Hooghly	0.7	-98	26.4	10	9.1	-47
Howrah	41.0	21	2.3	-92	2.3	-89
Kolkata	61.7	11	31.5	-16	5.3	-82
Murshidabad	9.7	-83	22.9	-21	18.2	-22
Nadia	15.0	-58	28.8	6	2.3	-85
24 Pargana (N)	12.7	-72	7.0	-74	10.7	-57
Purulia	2.9	-92	10.5	-50	2.7	-87
24 Pargana (S)	11.8	-84	10.3	-81	5.9	-83

West Midnapore	5.3	-88	25.7	19	0.0	-100
SHWB & Sikkim						
Cooch Behar	0.0	-100	34.8	-4	0.0	-100
Darjeeling	15.3	-73	17.8	-34	5.5	-77
East Sikkim	68.5	24	2.3	-96	10.7	-27
Jalpaiguri	35.7	-46	19.0	-58	3.2	-91
Malda	1.5	-97	0.8	-97	39.0	152
North Dinajpur	0.0	-100	0.0	-100	0.0	-100
North Sikkim	47.7	-53	4.3	-95	8.4	-79
South Dinajpur	0.0	-100	6.0	-82	5.1	-56
South Sikkim	51.5	-7	9.1	-86	6.9	-53
West Sikkim	37.0	-64	8.0	-90	4.0	-90
Karnataka						
Coastal Karnataka						
Dakshina Kannada	135.3	93	39.9	-28	10.1	-79
Udupi	161.0	118	18.0	-62	22.1	-47
Uttara Kannada	80.6	45	15.0	-57	3.8	-87
NI Karnataka						
Bagalkote	61.2	46	5.5	-79	0.0	-100
Belagavi	74.2	78	4.3	-83	0.0	-100
Bidar	21.2	-35	4.8	-78	0.0	-100
Dharwad	55.4	41	27.7	-4	1.8	-93
Gadag	54.2	29	42.7	42	0.0	-100
Haveri	79.9	136	8.1	-74	0.0	-100
Kalaburgi	24.9	-42	4.5	-79	0.0	-100
Koppal	23.0	-39	18.0	-31	0.0	-100
Raichur	50.7	23	2.6	-91	2.1	-88
Vijayapura	63.1	49	1.2	-95	0.0	-100
Yadgir	28.9	-34	0.2	-99	0.0	-100
SI Karnataka						
Ballari	61.0	52	44.1	71	0.6	-97
Bangalore Rural	68.3	9	31.2	-20	0.0	-100
Bangalore Urban	82.8	46	15.7	-57	0.0	-100
Chamarajanagar	59.2	43	39.1	7	0.0	-100
Chikaballapur	108.8	106	3.7	-90	1.7	-94
Chikkamagaluru	98.7	104	13.1	-64	2.2	-94
Chitradurga	96.5	146	33.0	14	0.0	-100
Davangere	61.3	50	28.6	-2	0.0	-100
Hassan	46.3	15	15.9	-58	0.0	-100
Kodagu	57.5	4	32.5	-34	3.8	-91
Kolar	65.3	36	2.4	-93	0.0	-100
Mandya	54.1	26	34.7	-12	0.0	-100
Mysuru	47.1	25	20.8	-47	0.0	-100
Ramanagara	55.2	-1	20.1	-54	0.0	-100
Shivamogga	73.2	63	13.0	-59	0.0	-100
Tumakuru	103.6	104	25.7	-27	0.0	-100
Kerala						
Alappuzha	95.4	26	106.4	39	30.1	-57
Kannur	156.9	166	136.4	150	4.4	-90

Ernakulam	158.6	133	90.3	32	43.0	-33
Idukki	101.1	31	70.9	-17	16.9	-80
Kasaragod	152.0	130	101.4	67	7.6	-79
Kollam	79.1	10	151.3	72	21.6	-74
Kottayam	107.4	47	103.8	37	42.9	-30
Kozhikode	148.9	148	164.7	154	0.1	-99
Malappuram	99.9	66	137.8	89	10.5	-86
Palakkad	58.7	11	50.0	-18	8.6	-87
Pathanamthitta	110.2	49	104.5	28	79.7	-1
Thiruvananthapuram	37.9	-18	150.3	141	22.7	-68
Thrissur	128.3	77	100.3	58	14.4	-80
Wayanad	68.6	47	50.0	-1	3.4	-93
Tamil Nadu						
Ariyalur	71.1	58	33.8	-8	2.8	-94
Chennai	27.7	-33	52.8	60	0.1	-99
Coimbatore	27.0	9	41.1	36	8.2	-79
Cuddalore	44.1	17	15.6	-59	16.9	-72
Dharmapuri	64.3	27	44.2	8	1.5	-96
Dindigul	31.1	-13	57.5	41	5.9	-89
Erode	45.7	33	45.6	44	19.4	-53
Kanchipuram	88.1	132	38.7	14	2.0	-97
Kanyakumari	25.2	-32	131.9	194	85.3	31
Karikal	29.0	-5	0.0	-100	23.4	-64
Karur	18.9	-38	58.7	81	3.2	-92
Krishnagiri	87.7	65	35.7	-7	0.0	-100
Madurai	16.2	-59	37.2	-15	19.5	-67
Nagapattinam	50.8	42	0.4	-99	17.6	-77
Namakkal	40.3	16	43.8	16	14.7	-64
Nilgiris	69.9	65	45.6	7	9.7	-82
Perambalur	67.1	84	72.4	50	0.8	-98
Puducherry	9.8	-76	21.3	-41	1.5	-97
Pudukottai	86.9	167	39.7	29	16.4	-65
Ramanathapuram	37.1	73	22.6	-27	13.0	-77
Salem	63.3	37	60.1	40	14.2	-70
Sivaganga	37.1	20	6.9	-83	12.3	-77
Thanjavur	67.0	86	39.5	26	2.2	-96
Theni	39.3	68	10.7	-70	12.9	-72
Tirunelveli	18.1	11	45.0	58	57.2	32
Tirupur	12.1	-60	40.4	37	10.6	-74
Tiruvallur	66.1	64	71.0	118	1.1	-98
Tiruvannamalai	84.7	91	31.8	-24	6.8	-85
Tiruvarur	84.5	160	32.5	5	9.3	-85
Toothukudi	9.7	-39	9.7	-65	45.2	-4
Trichy	69.3	74	73.6	89	3.2	-93
Vellore	72.2	65	54.9	54	0.5	-99
Villupuram	32.0	-23	30.4	-11	2.0	-96
Virudhunagar	27.8	-1	37.3	1	15.7	-69
Andhra Pradesh						

Coastal Andhra Pradesh						
East Godavari	44.8	-21	3.0	-94	20.3	-56
Guntur	24.9	-37	0.8	-97	3.7	-90
Krishna	35.6	-20	0.3	-99	5.2	-88
Nellore	55.8	46	11.9	-62	0.0	-100
Prakasam	47.2	6	5.0	-83	0.0	-100
Sirkakulam	32.1	-46	4.1	-91	10.5	-80
Visakhapatnam	20.9	-68	4.0	-91	16.1	-66
Vizianagram	37.9	-30	3.5	-92	14.2	-72
West Godavari	57.7	3	0.0	-100	13.7	-70
Royalaseema						
Anantapur	53.2	26	42.1	56	0.0	-100
Chittoor	85.0	96	66.0	101	0.9	-97
Cuddapah	47.8	23	41.9	52	0.0	-100
Kurnool	27.2	-29	10.2	-55	0.2	-99
Telangana						
Adilabad	5.0	-82	0.0	-100	0.0	-100
Hyderabad	48.9	73	28.0	23	0.8	-96
Karimnagar	7.8	-74	0.0	-100	0.0	-100
Khammam	12.6	-68	0.0	-100	1.6	-92
Mehabubnagar	33.7	1	1.4	-93	0.0	-100
Medak	3.4	-89	0.7	-96	0.0	-100
Nalgonda	25.9	-30	3.0	-88	0.2	-99
Nizamabad	13.6	-59	0.9	-93	0.0	-100
Rangareddy	14.3	-58	5.2	-77	0.3	-98
Warangal	19.9	-37	0.0	-100	1.8	-90

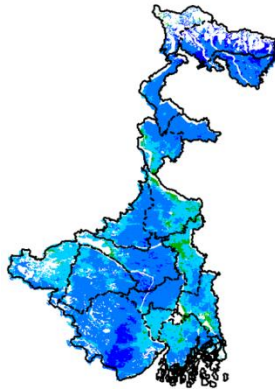
Legends

	(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

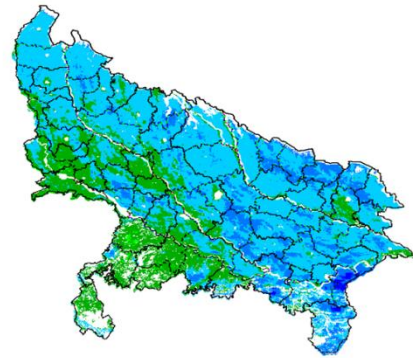
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
21st October 2015 FOR DIFFERENT STATES**

West Bengal



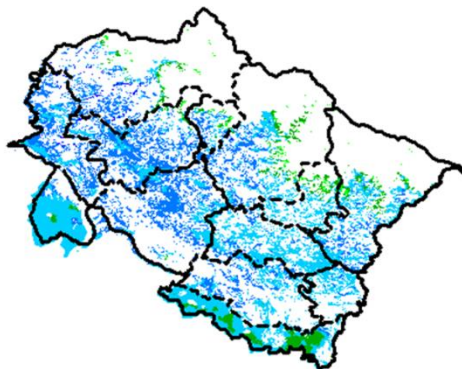
Agricultural vigour is good in all parts of West Bengal where NDVI varying from 0.4-0.6, whereas few patches in North and central part shows higher values of NDVI (>0.6).

Uttar Pradesh



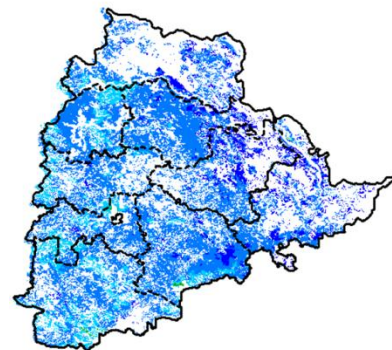
Agricultural vigour is good over the entire state of Uttar Pradesh where NDVI value varies from 0.4 - 0.6. whereas in southern part NDVI values are normal (0.3-0.4)

Uttarakhand



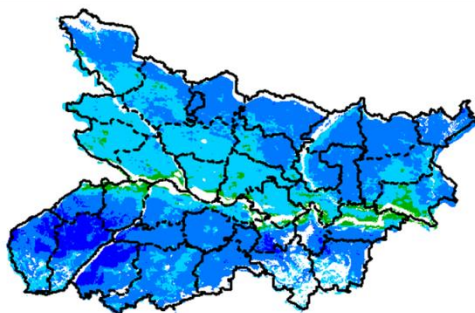
Agriculture vigour is good over entire state of Uttarakhand with NDVI value varies from 0.5-0.6. whereas few patches in south-east part shows moderate values of NDVI (0.3 - 0.4).

Telangana



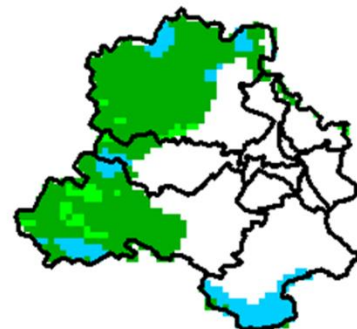
Agriculture vigour is very good over entire sate of Telangana whereas northern and eastern regions shows increase in NDVI (>6).

Bihar



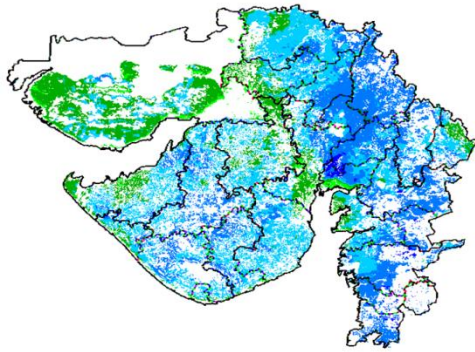
South-eastern part of Bihar shows comparatively a high value (>0.6) of NDVI, whereas NDVI varies from 0.4-0.6 over the remaining parts of the state.

Delhi



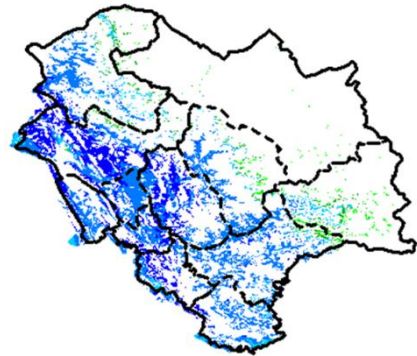
Agriculture vigour is moderate all over Delhi where NDVI value lies between 0.3-0.5.

Gujarat



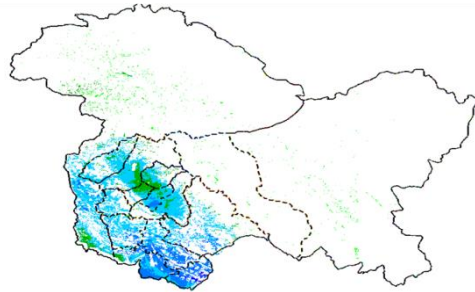
Agriculture vigour is normal in some patches Kutch region whereas, good agricultural vigour is observed over Gujarat and Saurashtra region where NDVI value lies between 0.4-0.6.

Himachal Pradesh



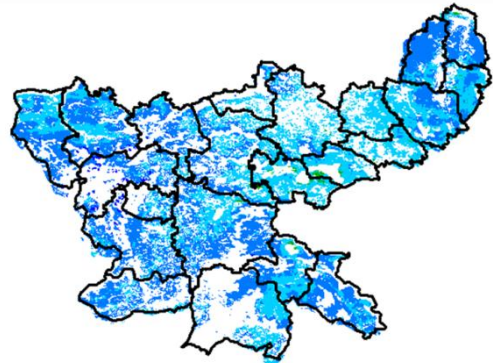
Agriculture vigour is very good over Himachal Pradesh where NDVI values are > 0.6 except few patches in east shows normal values of NDVI (0.2 – 0.3)

Jammu & Kashmir



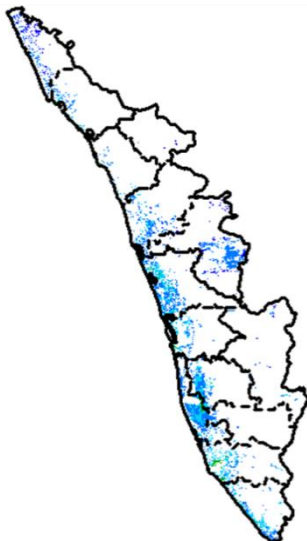
Agriculture vigour is good all over Jammu and Kashmir. NDVI value varies in between 0.4-0.6 in south western parts.

Jharkhand



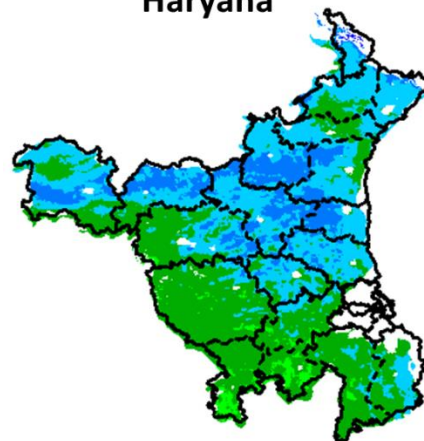
Agriculture vigour is good over entire state of Jharkhand, NDVI value varies from 0.4 - 0.6.

Kerala



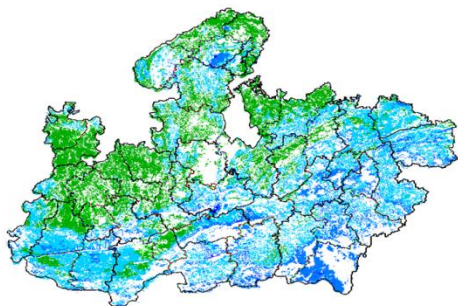
Agriculture vigour is good all over Kerala where NDVI value lies between 0.3 – 0.5 southern coast showing normal values of NDVI (0.2 – 0.3).

Haryana



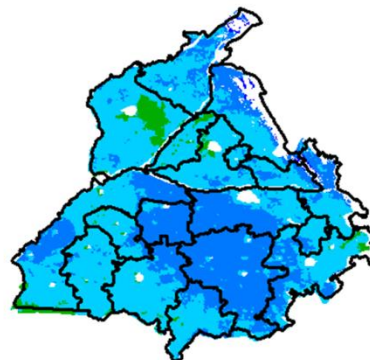
Agriculture vigour is good over central and northern part of the Haryana. NDVI values vary between 0.4-0.6. Southern part of state showing normal NDVI values between 0.3 – 0.4.

Madhya Pradesh



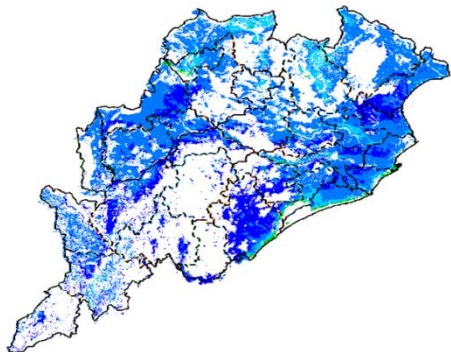
Agriculture vigour is good over southern and eastern part of Madhya Pradesh. NDVI varies from 0.4-0.6 and north-eastern, northern side shows normal values of NDVI (0.2 – 0.4).

Punjab



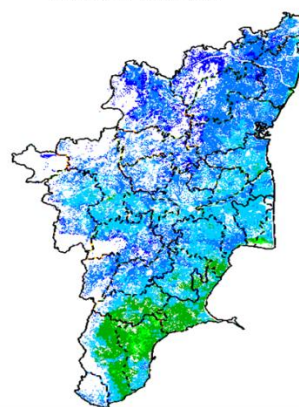
Agricultural vigour is good over entire state of Punjab, showing NDVI value between 0.5 - 0.6.

Odisha



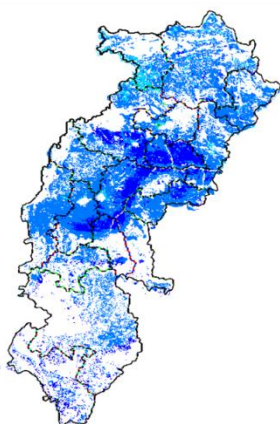
Agricultural vigour is very good over entire state of Odisha with NDVI value ranging between 0.4 – 0.6 and greater than 6 in eastern and western part of the state.

Tamil Nadu



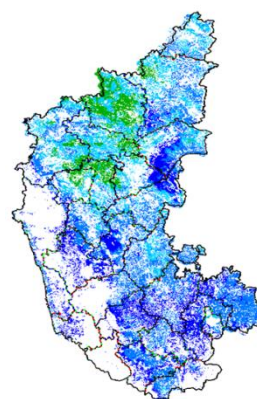
Agricultural vigour is good over Tamil Nadu with NDVI values varying from 0.4 - 0.6 whereas normal values of NDVI (0.2 – 0.3) are observed in southern part of the state

Chhattisgarh



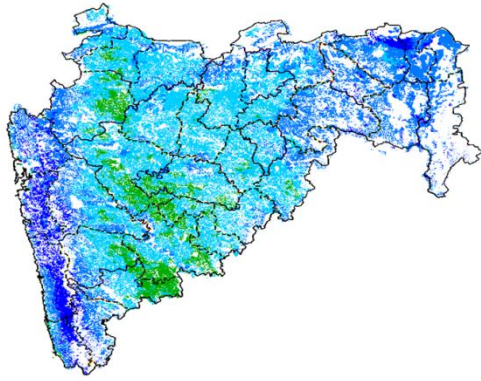
Agriculture vigour is very good entire state of Chhattisgarh where central part shows higher values of NDVI (>6).

Karnataka



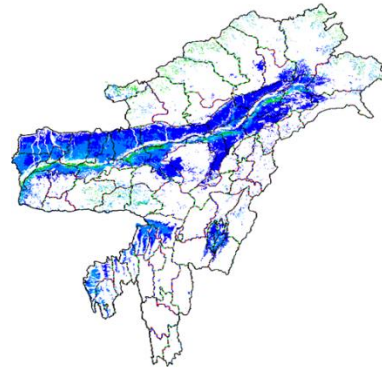
The agriculture vigor is good over the entire state. Higher values of NDVI are observed in southern and eastern part of the State (>6) whereas few patches in north-west shows normal values of NDVI.

Maharashtra



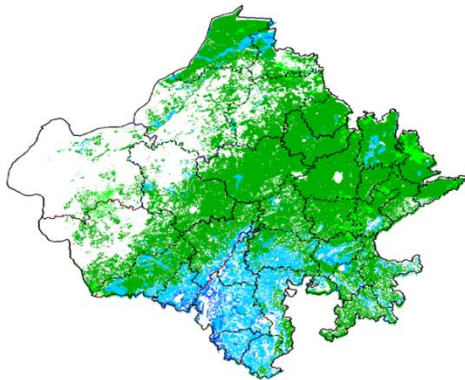
Agricultural vigour is very good over Vidharbha and Western Maharashtra region with NDVI values greater than 0.6, whereas NDVI is good over other parts of Maharashtra, (0.4 – 0.5). Few patches in Marathwada region show normal values of NDVI (0.2-0.4).

North East Region



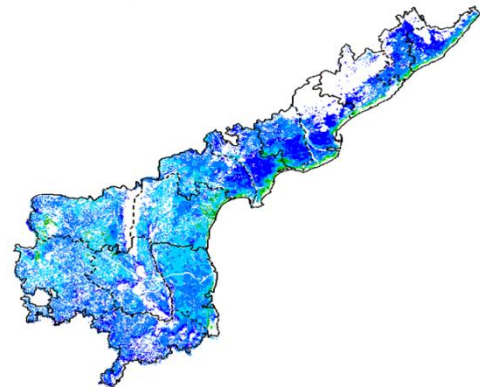
Agriculture vigour is very good in North-East states which covers valley part of Assam and Manipur where NDVI values are greater than 6 whereas, agricultural vigour is normal(0.2-0.4) in the northern and eastern states of North-East.

Rajasthan



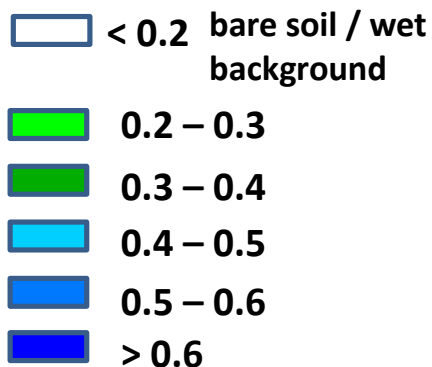
Agriculture vigour is good (0.4-0.6) over southern part of Rajasthan whereas moderate values of NDVI are observed over the entire state (0.2-0.4).

Andhra Pradesh



Agriculture vigour is good over entire state of Andhra Pradesh between 0.4-0.5. Increase values of NDVI observed in central part of the state (>6) whereas costal part shows normal values of NDVI (0.2-0.3).

Persistent cloud /



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

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

Safflower: A-1

Ragi: Indaf-7, 9 and 15

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

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

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

Field bean : HA-1,3 and 4

Horse gram :KBH-1, PHG-9

Tamil Nadu

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

Kerala

Rice: Mundakan

Banana:Nendran

Telangana

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

MRG 1004, WRG 53, WRG-65)

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

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

Assam

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

Mid cauliflower :Pusa Snowball.

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

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

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

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

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

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

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

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

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

Radish :Pusa Desi, Pusa Chetki, Pusa Himani.

Knolkhol: White Vienna, Purple Vienna.

Carrot :Nantes, Pusa Kesar.

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

Meghalaya

Cauliflower:Meghalaya Local.

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

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

French bean :Naga Local.

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

Broccoli :Puspa, Aiswarya.

Mustard : Varuna, Krishna, TM 4;

Rapeseed :M 27, TS 38, TR 48, TR 67.

Carrot : New Karoda, Nantesh.

Radish :Local genotype.

Manipur

Cauliflower: White shot, adopt White flash.

West Bengal

Dry Seeded rice: Sabita Foundation, Swarna sub-1 certified, IR-64, Hira T.L.

Mango: Himsagar, Mallicka, Langra.

Guava: Safeda, L-49.

Coconut: Eastcoastal, Hazari.

Banana: Mortoman, Chapa, Kathali, Singapuri.

Bihar

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

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

Gourd:Rajendra Parwal-1, Rajendra Parwal,FP-1,FP-3.

Radish: Pusa Chateki, PusaHimani, Pusa Rashmi.

Tomato: Swarn Lalima, Arka abha.

Cabbage:Pride of India,Golden Acer, Pusa mukta.

Jharkhand

Linseed: Sweta,Shubhra, T-397.

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

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

Kulti: Madhu,BirsaKulthi-1, B.R-10.

Niger: Birsa niger-1,Birsa niger-2,Pooja -1.

Potato: Kufri Ashoka,Kufri Kanchan.

Tomato: Swarna Sampda, Pusa hybrid-1, BT-12.

Cabbage: Golden Acre,Pride of India, Early Drum Head.

Cauliflower: Pusa Depali, Pusa ketki,kumara.

Custard apple: Arka Sahan.

Bananna: BehulaRobusta, G-9.

Papaya: Pusa dwarf,Kurghoney dew.

Odisha

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 Pusa Mukta.

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

Uttarakhand

Garlic: Yamuna Safed-1, 2, pant Lohit, Agreefound Parvati etc.

Pea: Pant Subjee Matar-3, Ajad Mater-1, Ajad Mater-1 or Arkil etc.

Sugarcane: 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.

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, PusaAgnri, PusaTaraka and PusaMahak, Pusa Jai Kisan, Pusa Jagannath, Pusa Sarson-25, Pusa Sarson-26, Pusa Agni, 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 andSelection-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: (PusaRashmi).

Carrot: PusaKeshar

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.

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.

Gujarat

Chickpea: Gujarat chana-2 (unirrigated), Gujarat chana-3 (irrigated).

Mustard: Varuna, Gujarat rai-3.

Garlic: Gujarat Garlic-4 or Local.

Pea and Carrot (vegetable): Pusa Pragati, Pusa Rudhira, Pusa Kesar.

Onion:Junagadh local (pili patti), Talaja red, Agri found dark red, Pusa White flat.

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, JG 218, JG 6, KAK 2, JGK 1, JG-12, JG-63.

Lentil: RVL 31, JL 2.

Garlic: G 282 and G 223.

Green pea: Arkil, Jawahar Matar 3 & 4.

Mustard: RVM -2, RGN-73 and Pusa Jay Kisan.