



National Agromet Advisory Service Bulletin

Friday 14th August 2015
(For the period 14th to 18th August 2015)



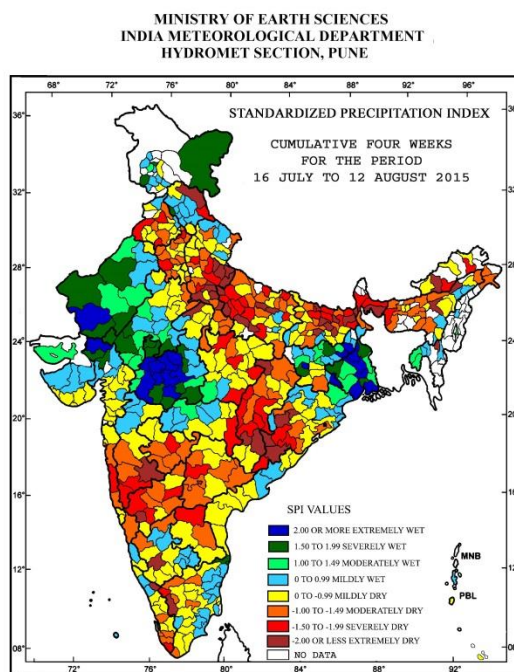
Issued by
National Agrometeorological Advisory Service Centre,
Agricultural Meteorology Division,
India Meteorological Department, Shivajinagar, Pune.



Monsoon Watch

- The southwest monsoon was active over Vidarbha, Coastal Andhra Pradesh and Telangana during past 24 hours ending at 0830 hours IST of yesterday.

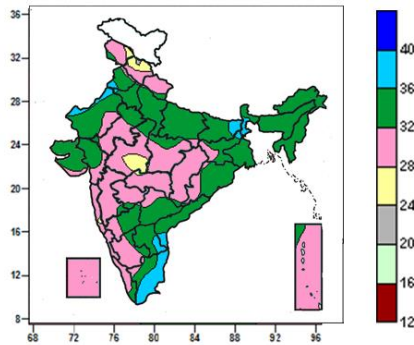
Standardised Precipitation Index Four Weekly for the Period 16th July to 12th August 2015



- Extremely/severely wet conditions experienced in many districts of West Bengal; few districts of Jharkhand, Rajasthan and Madhya Pradesh; Una district of Himachal Pradesh; Ladakh (Leh), Srinagar, Rajouri districts of Jammu & Kashmir; Mehsana, Patan districts of Gujarat Region; Chennai, Tiruvallur districts of TamilNadu.
- Extremely/Severely dry conditions experienced in few districts of Arunachal Pradesh, Bihar, Uttar Pradesh and Chhattisgarh; Lakhimpur, Nagaon, Dhubri districts of Assam; Cooch Behar, Darjeeling, Jalpaiguri districts of West Bengal; Kalahandi, Koraput, Malkangiri, Nawarangpur, Rayagada, Sonitpur districts of Odisha; Ferozepur, Jalandhar, Mansa districts of Punjab; Kinnaur, Lahaul & Spiti districts of Himachal Pradesh; Morena, Balaghat, Chhatarpur, Katni, Anuppur districts of Madhya Pradesh; Ratnagiri district of Konkan & Goa; Kolhapur, Sangli, Solapur, Parbhani, Gadchiroli districts of Maharashtra; Kurnool district of Andhra Pradesh; Medak district of Telangana; Coimbatore, Nilgiri districts of TamilNadu; Belgam, Dharwad, Gadag, Yadgir, Hassan districts of Karnataka; Trivandrum district of Kerala.
- Moderately dry conditions experienced in most districts of Meghalaya; many districts of Haryana and Telangana; few districts of Arunachal Pradesh, Assam, Uttar Pradesh, Konkan & Goa, Chhattisgarh and Karnataka; North Dinajpur, South Dinajpur districts of West Bengal; Bargarh, Gajapati, Khurda, Kandhamal districts of Odisha; West Singhbhum district of Jharkhand; East Champaran, Gaya, Jahanabad, Khagaria, Patna, Siwan, Supaul, Vaishali districts of Bihar; Pithoragarh, Garhwal Tehri districts of Uttarakhand; Hoshiarpur, Moga, Sangrur, Barnala districts of Punjab; Bharatpur, Dholpur districts of Rajasthan; Panna, Sidhi districts of Madhya Pradesh; Pune, Satara, Beed, Nanded, Osmanabad, Latur districts of Maharashtra; Cuddapah district of Andhra Pradesh; Dharmapuri, Kanyakumari, Karur districts of TamilNadu; Alappuzha, Ernakulam, Kollam, Pathanamthitta districts of Kerala.
- Rest of the country experienced moderately wet/mildly dry/wet conditions.

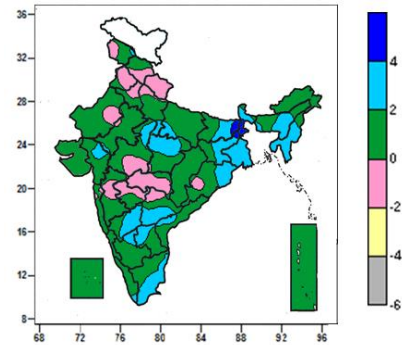
Contour maps for Mean Maximum and Minimum Temperature and their anomaly for the week ending on 12.08.2015

Actual Mean Maximum Temperature (°C) in India for the week ending 12.08.2015



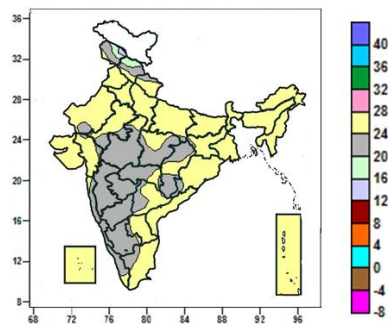
- Mean maximum temperature was between 36 to 40°C over many parts of Tamil Nadu, some parts of Sub-Himalayan West Bengal and isolated pockets of Punjab, West Rajasthan, Bihar, Jharkhand, Rayalaseema and Coastal Andhra Pradesh.
- It was below 36°C over remaining parts of the country.

Mean Maximum Temperature (°C) Anomaly in India for the week ending 12.08.2015



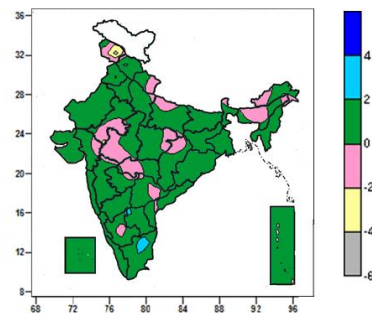
- Mean maximum temperature was above normal by 4°C over some parts of Sub-Himalayan West Bengal and isolated pockets of Jharkhand and Bihar.
- Mean maximum temperature were above normal by 2 to 4°C over Gangetic West Bengal, Manipur, Mizoram, Tripura, many parts of Sub-Himalayan West Bengal, Bihar, Jharkhand, North Interior Karnataka, some parts of Sikkim, Assam & Meghalaya, Madhya Pradesh, Telangana, Rayalaseema, Tamil Nadu and isolated pockets of Jammu & Kashmir, East Rajasthan, Uttar Pradesh, Gujarat Region, Odisha, Coastal Andhra Pradesh, South Interior Karnataka and Kerala.
- It was normal to near normal in remaining parts of the country.

Actual Mean Minimum Temperature (°C) in India for the week ending 12.08.2015



- Mean minimum temperature was 12 to 16°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was 16 to 20°C over some parts of Jammu & Kashmir and Himachal Pradesh.
- It was above 20°C over rest of the country.

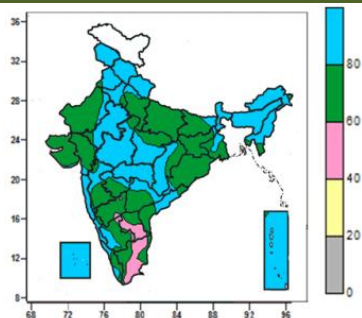
Mean Minimum Temperature (°C) Anomaly in India for the week ending 12.08.2015



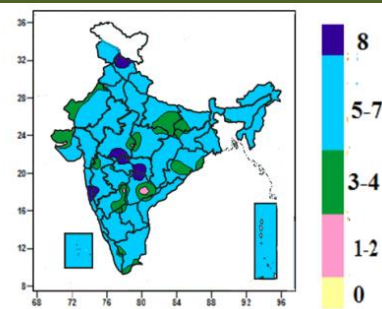
- Mean minimum temperature was above normal by 2 to 4°C over isolated pockets of Rayalaseema and Tamil Nadu.
- Mean minimum temperature was below normal by 4 to 6°C over isolated pockets of Jammu & Kashmir.
- Mean minimum temperature was below normal by 2 to 4°C over some parts of Jammu & Kashmir.
- 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 12.08.2015

Relative Humidity (%) over India for the week ending 12.08.2015



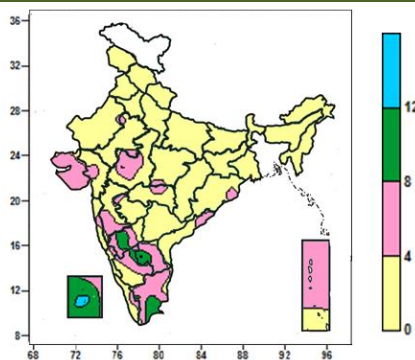
Cloud amount (okta) over India for the week ending 12.08.2015



- Mean Relative humidity was above 80% over Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Sikkim, Sub-Himalayan West Bengal, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Vidarbha, Konkan & Goa, Lakshadweep and Andaman & Nicobar Islands, many parts of Punjab, Haryana & Delhi, Mizoram, Tripura, East Rajasthan, Madhya Pradesh, Coastal Karnataka, Chhattisgarh, some parts of Gangetic West Bengal, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh, South Interior Karnataka, Telangana, Kerala and isolated pockets of West Uttar Pradesh, West Rajasthan, Bihar, Jharkhand, Odisha, Gujarat Region.
- Mean Relative humidity was 60 to 80% over East Uttar Pradesh, many parts of West Uttar Pradesh, West Rajasthan, Gujarat State, Bihar, Jharkhand, Gangetic West Bengal, Odisha, Madhya Maharashtra, Marathwada, Telangana, Interior Karnataka and Kerala, some parts of Mizoram, Tripura, Madhya Pradesh, Chhattisgarh, Coastal Andhra Pradesh, Rayalaseema and Tamil Nadu, isolated pockets of Punjab, Haryana & Delhi and East Rajasthan.
- It was 40 to 60 % over rest of the country.

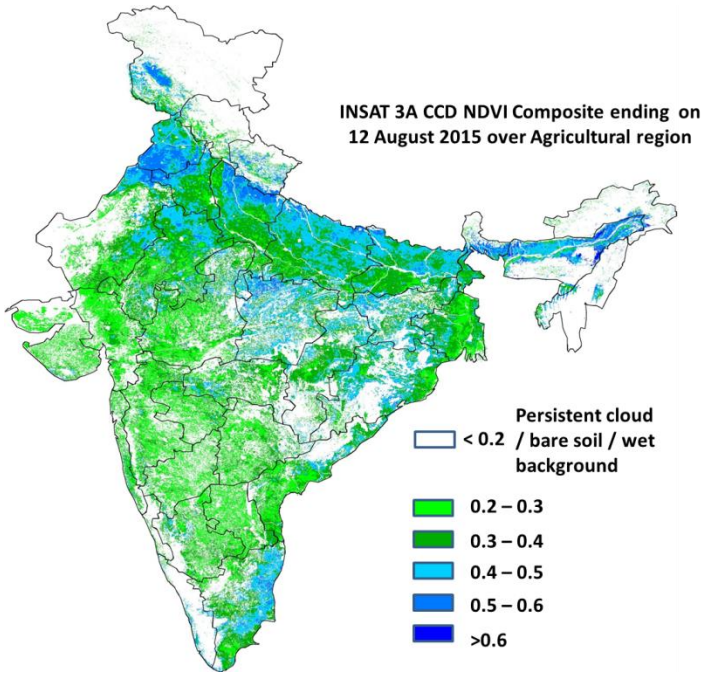
- Sky remained generally cloudy (8 okta) over some parts of Himachal Pradesh, isolated pockets of Jammu & Kashmir, West Madhya Pradesh, Vidarbha, Telangana, Konkan, Madhya Maharashtra.
- Sky remained generally cloudy (5-7 okta) over rest of the country except many parts of Kutch, some parts of East Uttar Pradesh, Bihar, Odisha, Telangana, North Interior Karnataka, isolated pockets of Jharkhand, Gujarat region, West Rajasthan, Madhya Pradesh, Madhya Maharashtra, Marathwada, South Interior Karnataka, Rayalaseema, Kerala and Tamil Nadu where it was partly cloudy/mainly clear (3 to 4/ 1 to 2 okta).

Wind speed (knots) over India for the week ending 12.08.2015



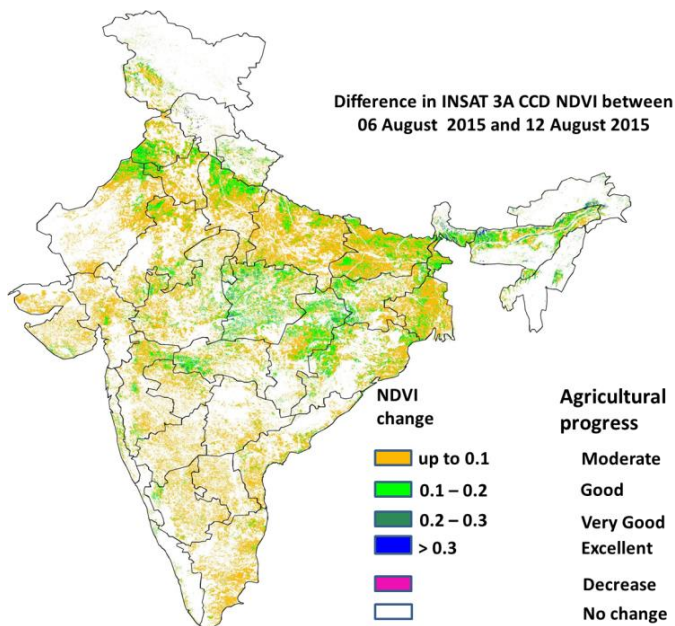
- Mean wind speed was more than 12 knots over isolated pockets of Lakshadweep.
- It was between 8 to 12 knots over many parts of Lakshadweep.
- It was less than 8 knots over rest of the country.

INSAT 3A CCD NDVI COMPOSITE ENDING ON 12th August 2015 OVER AGRICULTURAL REGION OF INDIA



- Agricultural vigour is very good in most parts of Punjab, some pockets of Haryana and Coastal Kerala, Northern parts of West and East Uttar Pradesh, East Rajasthan, East Madhya Pradesh, Coastal Andhra Pradesh, Jharkhand where NDVI varies from 0.4 to 0.6. Agricultural growth was good over most parts of Uttar Pradesh and Bihar and some parts of Punjab and Haryana, Vidarbha, Coastal Odisha (NDVI: 0.3-0.4). NDVI remains within the range of 0.2 to 0.3 over most parts of rest of India.

Difference in INSAT 3A CCD NDVI between 6th and 12th August 2015



- Good change in NDVI (0.1 - 0.2) was observed in Punjab, East Rajasthan, Coastal Odisha, West Madhya Pradesh, Vidarbha, West Uttar Pradesh and patches of West Bengal, East Uttar Pradesh and East Rajasthan. Moderate progress (up to 0.1) in NDVI was observed over some patches of Haryana, West Madhya Pradesh, Madhya Maharashtra, East Uttar Pradesh, West Rajasthan, Karnataka and Coastal Tamil Nadu.

- INSAT 3A CCD NDVI composite maps for the week ending on 12th August 2015 for different States are given below in Annexure II.

Weather Forecast for next 5 days valid upto 0830 hours of 19th August 2015

5 Day Rainfall Forecast (MORNING) 14th August 2015

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

% 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

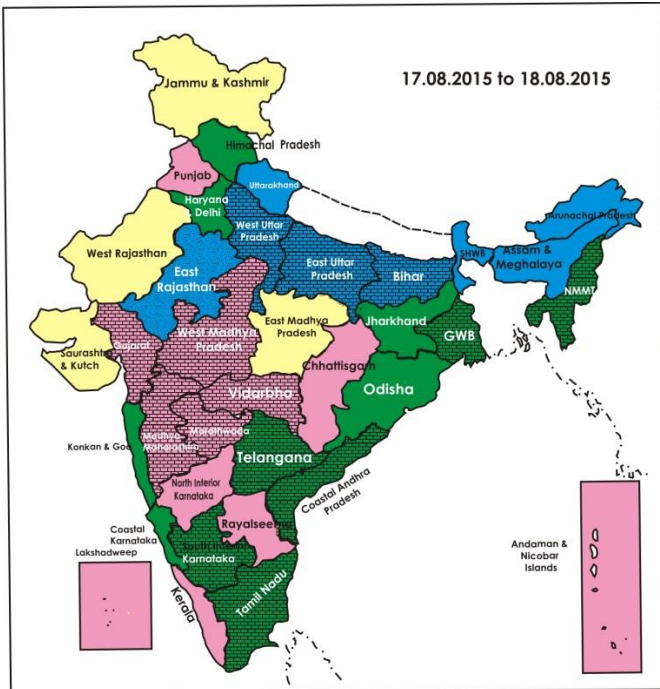
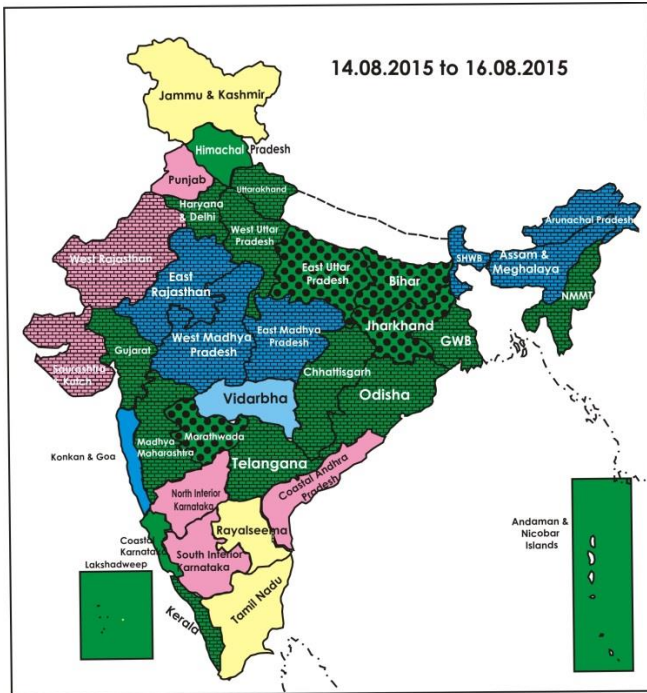
- **14 August (Day 1):** Heavy to very heavy rainfall would occur at isolated places over West Madhya Pradesh. Heavy rainfall would occur at isolated places over East Rajasthan, East Madhya Pradesh, Vidarbha, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Gujarat region and Madhya Maharashtra.
- **15 August (Day 2):** Heavy rainfall would occur at isolated places over East Rajasthan, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya and Gujarat region.
- **16 August (Day 3):** Heavy to very heavy rainfall would occur at isolated places over West Madhya Pradesh, Assam & Meghalaya, Arunachal Pradesh and Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over Uttarakhand, East Rajasthan and Bihar.
- **17 August (Day 4):** Heavy to very heavy rainfall would occur at isolated places over Assam & Meghalaya, Arunachal Pradesh and Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over Bihar and West Madhya Pradesh.
- **18 August (Day 5):** Heavy to very heavy rainfall would occur at a few places over Arunachal Pradesh,

Assam & Meghalaya and Sub-Himalayan West Bengal & Sikkim. Heavy rainfall would occur at isolated places over Nagaland, Manipur, Mizoram & Tripura and north Bihar.

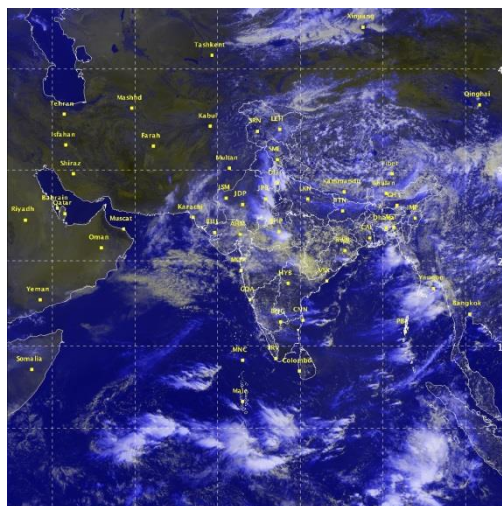
Weather Outlook for subsequent 2 days from 19th to 21st August 2015

- Rain/thundershowers would occur at most places with isolated heavy to very heavy falls over northeastern states. Isolated extremely heavy rainfall also likely over the region.
- Rain/thundershowers would occur at many places over western Himalayan region, northern plains, east & adjoining central and peninsular India.
- Rain/thundershowers would occur at isolated places over remaining parts of the country.

Weather Forecast Map (Valid upto 0830 hours of 19th August, 2015)



Satellite image dated, 14.08.2015 0600 UTC



Salient Advisories

- In Coastal Saline Zone of **Gangetic West Bengal**, crop damage is reported in nursery/transplanted *Aman* rice fields due to flooding. In flood affected areas adopt the following contingency plan for rice:
 - In seed beds where seedlings are found fine, drain out of flood water and apply Urea @ 400g/kata and MOP @ 250g/kata. Also spray fungicide SAF in seed bed.
 - For nursery raising for flood affected areas, take short duration variety of rice, which will mature within 95 to 110 days (vari.MTU-1010, Gontra, IET 4786, GB-1, IR-36 etc.). Prepare nursery bed in the premises of residence or upland areas through dapog method (Spread two inches thick soil with high organic matter over polythene sheet and prepare seed-bed).
 - In the transplanted main fields where seedlings are fine, drain out of excess water and apply Urea @ 3.2 kg/bigha and MOP @ 2kg/bigha.
 - Remove the tillers from old seedbed and re-transplant in the main field with more depth of transplanting.
- In flood prone area of **Gangetic West Bengal** farmer who have not yet planted the rice crop are advised transplanting of submergence tolerant rice cultivar like Jaladhi, Jalashree and Plaban is advised.
- In **Manipur**, in flood affected areas, raise contingency rice nurseries with late variety RC Maniphou 7. Complete gap filling of rice seedlings immediately. Plant 4 to 5 old seedlings (40-45days old) per hill.
- In **Odisha**, in flood affected areas of Mayurbhanj, Keonjhar, Jajpur, Bhadrak and Balasore districts of Odisha where crop damage is noticed in rice, undertake direct sowing of sprouted rice seeds or transplanting with short duration varieties of rice like Khandagiri and Parijat.
- In North Gujarat and North West Zone of **Gujarat**, complete re-sowing of cluster bean (GC-2) and castor (GAUCH-2, GCH-4 and GCH-7) in flood affected areas and sowing in other areas; continue sowing of fodder sorghum (S-1049, GFS-4 and GFS-5) and fodder maize (African tall).
- In **Bihar**, undertake sowing of short duration varieties of pigeon pea, urad and planting of turmeric, ginger and yam in areas where normal sowing is not carried out due to deficient rainfall.
- In **North Interior Karnataka**, continue the following contingency measures to mitigate the moisture stress conditions:
 - In early sown long duration crops, thin out excess and weak seedlings by removing alternate rows where moisture stress is severe. Keep the crop fields free from weeds.
 - Apply mulch with crop residue to conserve the soil moisture.
 - Apply protective irrigation wherever moisture stress is prevailing.
 - Take up spraying of Potassium Nitrate @ 1% to already sown crops where slight soil moisture is available so as to induce drought resistance in the crops and to prevent wilting of crops.
 - In areas where sowing is yet to be done, fodder crops should be given preference and select short duration, drought resistant crops and variety.
- In Scarce Rainfall Zone of **Andhra Pradesh**, undertake sowing of horse gram, fodder jowar and bajra after receipt of sufficient rainfall. To avoid moisture stress in June sown groundnut and maize, provide supplementary irrigation from farm pond with sprinklers @ 20 mm (2 hrs) and continue spraying of 2% urea solution. Continue sowing of redgram in the rainfed tracts of Kurnool district and intercropping of korra + redgram @ 5:1 after receipt of sufficient rainfall.

- In **Telangana**, continue sowing of contingency crops like castor, red gram (medium duration varieties) and sunflower in Southern Telangana Zone and sowing of rainfed red gram PRG-158, Asha,LRG-41 varieties and red gram intercropped with jowar/bajra @1:2 ratio in the NorthernTelangana Zone utilising the realised and expected rainfall.
- In **Madhya Maharashtra**, apply protective irrigation during morning/evening hours for the crops/orchards under moisture stress in rainfall deficient districts like Sangli and Solapur or undertake light hoeing to create soil mulch to conserve soil moisture. Undertake sowing of sunflower + red gram (2:1), maize, French beans, coriander after receipt of sufficient rainfall. Complete transplanting of rice. Maintain 2-3 cm water level in rice field in Western ghats of Nasik, Pune and Kolhapur region.
- In **Marathwada**, undertake sowing of contingent crops like sesame and sunflower, intercropping of sunflower + bajra(2:1), fodder crops like maize (African Tall), sorghum (Phule Godhan, Phule Amruta and Ruchira) and pearl millet (Giant Bajra) in areas which received sufficient rainfall. Undertake compartmental bunding to conserve soil moisture wherever sowing is not carried out.
- In **Vidarbha**, drain out excess water from the fields wherever required. Undertake sowing of sunflower, red gram and coriander in rest parts of Vidarbha. Complete transplanting of rice in East Vidarbha on *vaspa* condition.

Detailed Zonewise Agromet Advisories

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



Sowing



Groundnut



Greengram



Rice transplanting

- **Realised Rainfall:** Rainfall occurred in all districts of Coastal Karnataka; Haveri and Kalaburgi districts of North Interior Karnataka, Chikkamagaluru, Kodagu and Shivamogga districts of South Interior Karnataka; all districts of Kerala except Thiruvananthapuram; all districts of Coastal Andhra Pradesh except Nellore and Prakasam; all districts of Telangana except Hyderabad. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Andhra Pradesh:**
 - In North Coastal Zone, continue land preparation for transplanting and nursery sowing of rice (medium and short duration varieties) utilizing the realized and expected rainfall.
 - Continue nursery sowing of short duration rice varieties using the realized rainfall in the Krishna Godavari Zone and continue sowing of irrigated dry rice (MTU-1006), maize and pulses (black gram, red gram and green gram).
 - Continue sowing of short duration varieties of rice like Pushkala, Srisatya, Pradyumna etc., using direct seeding method in deficit rainfall areas in the High Altitude Tribal Zone. Complete sowing of finger millet.
 - In Scarce Rainfall Zone, undertake sowing of horse gram, fodder jowar and bajra after receipt of sufficient rainfall. To avoid moisture stress in June sown groundnut and maize, provide supplementary irrigation from farm pond with sprinklers @ 20 mm (2 hrs) and continue spraying of 2% urea solution. Continue sowing of redgram in the rainfed tracts of Kurnool district and intercropping of korra + redgram @ 5:1 after receipt of sufficient rainfall.
 - Weevil attack in red gram, helicoverpa and leaf minor damage in groundnut is observed in the Scarce Rainfall Zone. For control of weevil attack, use 2% Methyl Parathion dust. Undertake spraying of Larvin @ 1.5 g/litre of water to control helicoverpa and Chloropyriphos @ 2ml/litre of water + Dichlorovas 1ml/litre of water to control leaf minor on a non rainy day.
 - Prevailing weather conditions are congenial for incidences of leaf webber and tikka disease in groundnut in the North Coastal Zone. To control, spray Monocrotophos @ 1.6 ml + Carbendazim @ 1.0 g/litre of water on a non rainy day.
 - Prevailing weather conditions are congenial for incidences of jassid incidence in vegetable crops like tomato, bhendi and green pea in the Southern Zone. To control, discard young stage larva's and egg's by 5% neem decoction spraying and if incidence is more, spray Thiodicarb @ 1g or Novuluran @ 1 ml/litre of water on a non rainy day.
 - **Telangana:**
 - In the Southern Telangana Zone, continue sowing of contingency crops like castor, red gram (medium duration varieties) and sunflower utilising the realised and expected rainfall.
 - Continue sowing of rainfed red gram PRG-158, Asha, LRG-41 varieties and red gram intercropped with jowar/bajra @1:2 ratio in the Northern Telangana Zone.

- In the Southern Telangana Zone, incidence of *Macrophomina* root rot disease is noticed in maize due to prevailing weather conditions. To control, soil drench with Carbendazim @ 1g per litre of water around the root zone of plant on a non rainy day.
- **Karnataka:**
 - Complete transplanting of rice in Coastal Karnataka and continue transplanting in Southern Transition Zone utilising the realised and expected rainfall.
 - In the Eastern Dry Zone, undertake intercultural operations to control the weeds and to increase the moisture availability to crops and undertake spraying of 2% potassium chloride for drought affected crops sown under double cropping system or early sown long duration crop. In areas where sowing is yet to be done, undertake sowing of ragi (GPU-28, HR-911), Sunflower(Morden, KBSH-1, KBSH-41, KBSH-42, KBSH-44 and KBSH-53), Maize(Deccan-103, Vijaya composite and Ganga-11), Cowpea(C-152, KM-5 and PKB-4 for vegetable purpose).
 - In the North East Transition Zone, in areas where sowing is yet to be done, undertake sowing of fodder crops like fodder sorghum, maize, bajra and cowpea after receipt of rainfall.
 - Undertake planting of sugarcane and transplanting of rice in the Southern Dry Zone.
 - In the North East Dry Zone, continue sowing of sunflower at wider spacing of 90 x 20 cm.
 - In Dry regions of North Interior Karnataka, continue the following contingency measures to mitigate the moisture stress conditions:
 - In early sown long duration crops, thin out excess and weak seedlings by removing alternate rows where moisture stress is severe. Keep the crop fields free from weeds.
 - Apply mulch with crop residue to conserve the soil moisture.
 - Apply protective irrigation wherever moisture stress is prevailing.
 - Take up spraying of Potassium Nitrate 1 % to already sown crops where slight soil moisture is available so as to induce drought resistance in the crops and to prevent wilting of crops.
 - In areas where sowing is yet to be done, fodder crops should be given preference and select short duration, drought resistant crops and variety.
 - Take up sowing of crops in wider rows to overcome moisture stress.
 - Incidences of aphid and thrips were noticed in blackgram and green gram in the North East Transition Zone. To control, spray Methyl parathion 50 EC @ 1 ml or Dimethoate 30 EC @ 1.7 ml per litre of water on a non rainy day.
- **Kerala:**
 - Continue planting of rooted cuttings of pepper in the Problem Area Zone. Avoid water stagnation in pepper fields.
 - Undertake planting of rubber seedlings in Pathanamthitta district in the Southern Zone.
 - Prevailing weather conditions are congenial for incidence of sigatoka disease and pseudo stem weevil in banana (bunching stage) in the Problem Area Zone. Spray Tilt @ 1ml/litre of water to control sigatoka disease and apply Quinalphos @ 0.05% or Chlorpyrifos @ 2ml/litre of water to control pseudo stem weevil after current spells of rain.
 - Prevailing high relative humidity is congenial for incidence of rice bug in rice in the Central Zone and Southern Zone. Apply fish amino acid @ 20ml/litre of water. If pest attack is severe, spray Cypermethrin @ 1ml/litre of water either before 9 am or after 3 pm after current spells of rain.
 - Prevailing weather conditions are congenial for leaf folder attack in rice in the Northern Zone. Unfold the leaves by rolling thorny wires/twigs over the canopy in the initial stages and spray Carbaryl 85MS @ 4g/litre of water if the attack is severe after current spells of rain.
- **Tamil Nadu:**
 - In the Cauvery Delta Zone, continue land preparation for nursery sowing of *Samba* rice varieties (CR 1009 and ADT 50) and undertake two sprays of Groundnuts Rich @ 2.0kg/acre in 200 litres of water at 35 & 45 DAS in groundnut crop to increase flower retention, pod filling and to induce drought tolerance in Karur district.
 - Continue nursery preparation for sowing of rice in the North Eastern Zone.
 - Undertake cultivation of sorghum and continue cultivation of groundnut in the North Western Zone.
 - Continue land preparation for irrigated winter Cambodia cotton and irrigated maize and sowing of gourds in the Western Zone.
 - Partly cloudy weather is congenial for incidence of fruit borer in tomato in the South Zone. For control, spray Chlorpyrifos @ 1.5 litre/ha on a non rainy day.
 - Suitable varieties for sowing are given in Annexure III.
- **Animal Husbandry**
 - Prevailing weather conditions are congenial for Enterotoxaemia in livestock in Northern Telangana and sheep pox in sheep in Southern Telangana. To prevent the diseases, vaccinate the animals.



Sowing

Banana

Okra

Rice transplanting

- **Realised Rainfall:** Rainfall occurred in Changlang, Lower Dibang Valley, Papumpara, Tawang, Upper Siang and West Kameng districts of Arunachal Pradesh; Barpeta, Cachar, Dhubri, Dibrugarh, Goalpara, Golghat, Hailakandi, Jorhat, Karbi Anglong, Karimganj, Kokrajhar, Lakhimpur, Morigaon, N.C.Hills, Nalbari, Sonitpur, Sibsagar, Tinsukia and Udalgiri districts of Assam; East Khasi Hills, Ri-Bhoi, South Garo Hills, West Garo Hills and West Khasi Hills districts of Meghalaya; Aizwal, Saiha and Serchhip districts of Mizoram; Imphal East and Imphal West districts of Manipur; Dimapur, Kohima and Mokokchung districts of Nagaland and all districts of Tripura except West Tripura. Weather remained mainly dry over rest of the region.

• **Advisories:**

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

- In North Bank Plain Zone of Assam, farmers in flood affected areas are advised to collect short duration HYV rice varieties like Luit, Kapili, Kolong, Dishang etc. These varieties can be transplanted or sown upto 1st week of September. Transplant long duration cultivars like Monohar *Sali* and Gitesh with 60 days seedlings. Continue sowing of *kharif* sesame and radish.
- In Hill Zone, complete transplanting of rice. Continue sowing of sesame and undertake sowing of green gram and black gram after current spells of heavy rain. Provide adequate drainage in early sown crop fields.
- In Lower Bramhaputra Valley Zone of Assam, continue normal transplanting of *Sali* rice (July-August) with 2-3 seedlings per hill for all varieties. Undertake replanting of dead hills within 7-10 days of transplanting with seedlings of same age. Undertake nursery bed preparation for finger millet and winter vegetables and undertake sowing of green gram and black gram after current spells of heavy rain.
- In North Bank Plain Zone and Central Bramhaputra Valley Zone of Assam, complete harvesting and retting of *Capsularis* jute at pre-flowering stage (120 days after sowing) and early and timely sown *olitorius* jute. Continue sowing of *kharif* pulses like black gram/green gram, nursery raising of cole crops and early radish after current spells of heavy rain.
- In Meghalaya, maintain a water level of 3-5 cm in the rice field. Continue sowing of pea, red gram, black gram, green gram after current spells of heavy rain. Remove excess water and maintain proper drainage facilities in the field of ginger/turmeric crop fields.
- In Lower Bramhaputra Valley Zone, North Bank Plain Zone and Hill Zone of Assam, due to cloudy and humid weather there is chance of attack of rice hispa in *Sali* rice. Spray Chloropyriphos 20EC (0.02%) or Quinalphos @ 2 teaspoon/5 litre of water after current spells of rain.
- In Arunachal Pradesh, due to humid and cloudy weather, there is chance of attack of army worm in maize and stink bug in soybean. Spray Quinalphos 25 EC @ 2ml/litre of water against army worm and spray Deltamethrin @ 4ml/10 litre against stink bug infestation after current spells of rain.
- In Meghalaya, due to humid weather, there is chance of attack of aphid/leaf miner, leaf spot in groundnut. Spray Phosphamidon 100 EC @ 0.5 ml/litre of water against aphid/leaf miner and Carbendazim (0.05%) + Mancozeb (0.2%) against leaf spot to control the attack after current spells of rain.

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

- In Manipur, in flood affected areas, raise contingency rice nurseries with late variety RC Maniphou 7. Complete gap filling of rice seedlings immediately. Plant 4 to 5 old seedlings (40-45days old) per hill. Undertake sowing of onion in the upland areas.
- In Mizoram, if sowing of rice is delayed, continue sowing of short duration varieties of rice.
- In Nagaland, maintain good drainage in the fields of ginger to avoid rhizome rot. Carry out weeding in groundnut after current spells of rain.
- In Tripura, avoid flooding or excess moisture in SRI fields of *Aman* rice.
- In Manipur, due to humid and cloudy weather, there is chance of attack of stem borer in *kharif* rice and tikka disease in groundnut. Spray Chlorantraliniprol 23.5% @ 40 ml/ha for control of stem borer and spray Carbendazim @ 0.5g/ litre of water to control tikka disease after current spells of rain.
- In Tripura, cloudy and humid weather is favourable for attack of yellow stem borer in *Aman* rice and Gandhi Bug in *Aus* rice. To manage the attack, spray Imidachlopid @ 2.0 ml per litre of water against yellow stem borer and Cypermethrin @ 1ml per litre of water against Gandhi Bug after current spells of rain.
- Suitable varieties are given in Annexure III.

- **Animal Husbandry**

- In Assam, carried out vaccination (RDF1) against Ranikhet disease in one week old chicks and against Gamboro disease in two weeks old chicks.

WEST INDIA [GOA, MAHARASHTRA, GUJARAT]



Banana

Sugarcane

Rice

Sowing

- **Realised Rainfall:** Rainfall occurred in all districts of Konkan & Goa; Jalgaon and Kolhapur districts of Madhya Maharashtra; Aurangabad, Hingoli, Jalna, Nanded and Osmanabad districts of Marathwada; all districts of Vidarbha. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **Maharashtra:**
 - In Konkan, proper drainage should be arranged in bhendi and guar crop fields to avoid water stagnation. Continue sowing of vegetable crops like cucumber, snake gourd and ridge gourd with improved varieties on raised beds. Complete transplanting of *kharif* rice in the main field. Maintain water level upto 5 cm in transplanted rice fields at vegetative stage. Complete transplanting of ragi. Apply second dose of nitrogenous fertilizers i.e. 800 gms of urea per 0.25 hectare area with intercultural operations for Nagli crop and first one third dose of urea @ 720 to 870 gms per 0.25 hectare area to vegetable crops after current spells of rain.
 - In Madhya Maharashtra, apply protective irrigation during morning/evening hours for the crops/orchards under moisture stress in rainfall deficient districts like Sangli and Solapur or undertake light hoeing to create soil mulch to conserve soil moisture. Undertake sowing of sunflower + red gram (2:1), maize, French beans, coriander after receipt of sufficient rainfall. Complete transplanting of rice. Maintain 2-3 cm water level in rice field in Western ghats of Nasik, Pune and Kolhapur region. Undertake intercultural operations in late sown jowar crop. Undertake sowing of fodder crops like sorghum (Ruchira, Phule Amruta, Phule Godhan), maize (African Tall, Karveer, Rajshree) and pearl millet (Nutrifed). Undertake intercropping of onion and *adsali* sugarcane depending on availability of water in Ahmednagar, Pune, Satara and Sangli districts. Undertake compartmental bunding to conserve soil moisture wherever sowing is not yet carried out.
 - In Marathwada, undertake sowing of contingent crops like sesame and sunflower, intercropping of sunflower + bajra(2:1), fodder crops like maize (African Tall), sorghum (Phule Godhan, Phule Amruta and Ruchira) and pearl millet (Giant Bajra) in areas which received sufficient rainfall. Undertake compartmental bunding to conserve soil moisture wherever sowing is not carried out. Continue weeding in cotton, soybean and red gram fields.
 - In Vidarbha, drain out excess water from the fields wherever required. Undertake sowing of sunflower, red gram and coriander in rest parts of Vidarbha. Complete transplanting of rice in East Vidarbha on *vaspa* condition. To increase yield of late sown soybean, harvest rain water by preparing furrows after every 3 rows of soybean in 30 days old crop.
 - Due to humid and rainy weather conditions in Konkan region, there may be incidence of anthracnose on new flush of mango; spray Propineb @ 20 g or Carbendazim @ 10 g per 10 litres of water on a non rainy day.
 - **Gujarat:**
 - In North Gujarat Zone and North West Zone, complete re-sowing of cluster bean (GC-2) and castor (GAUCH-2, GCH-4 and GCH-7) in flood affected areas and sowing in other areas; continue sowing of fodder sorghum (S-1049, GFS-4 and GFS-5) and fodder maize (African tall); complete transplanting of fennel, brinjal, tomato, chillies and other vegetables and continue plantation of sapling of different fruit crops (lemon, pomegranate, sapota and mango). Carry out hand weeding and intercultural operations in standing crops maize and pearl millet in North Gujarat Zone and in cotton, pulses and vegetable crops in North West Zone.
 - In North and South Saurashtra Zone, carry out intercultural operations and weeding operation in standing crops like cotton, pigeon pea, groundnut etc. to conserve soil moisture at vapsa condition.
 - In Bhal and Coastal Zone, continue sowing of castor (hybrid varieties like GAUCH-2, GCH-4 and GCH-7), cluster bean (GC 2) and sorghum (S-1049, GFS-4 and GFS-5) at vapsa condition and transplanting of brinjal, tomato and chilli. Undertake plantation of sapling of different fruit crops (lemon, pomegranate, sapota).
 - In South Gujarat Heavy Rainfall Zone, carry out gap filling in transplanted rice; maintain 2-3 cm water level in already transplanted rice fields. Complete sowing of castor in South Gujarat Zone.
 - Due to cloudy weather, thrips infestation in cotton is observed above ETL in North Saurashtra Zone; spray Fipronil @ 20 ml in 10 litres of water or Profenophos @ 20 ml in 10 litres of water for control on a non rainy day.

- Due to cloudy and humid weather there is chance of infestation of *heliopsis* in pulses in North Gujarat Zone; for control, spray Endoxacarp 0.015 % @ 5ml in 10 litres of water or Quinalphos 25 EC @ 20ml in 10 liters of water or Renaxypyr 3 ml in 10 litres of water after current spells of rain.
- There is chance of attack of pink bollworm in cotton in Middle Gujarat Zone due to cloudy weather condition; spray Carbaryl 50% WTP @ 40 g in 10 litres of water after current spells of rain.
- **Animal Husbandry**
- In Gujarat, keep animal sheds dry and clean to avoid flies and mosquitoes.

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



Groundnut

Cotton

Sowing

Rice transplanting

- **Realised Rainfall:** Rainfall occurred in all districts of Andaman & Nicobar Islands; Kolkata and West Midnapore districts of Gangetic West Bengal; all districts of Sub-Himalayan West Bengal & Sikkim except Malda, South Dinajpur and West Sikkim; all districts of Bihar except Arwal, Aurangabad, Banka, Begusarai, Bhagalpur, Buxar, Gaya, Jahanabad, Lakhisarai, Monghyr, Nalanda, Patna, Purnea, Rohtas, Sheikhpura and Sitamarhi; Godda and Gumla districts of Jharkhand; Ganjam, Jagatsinghpur, Koraput, Malkangiri, Nawpara, Nawrangpur and Puri districts of Odisha. Weather remained mainly dry over rest of the region.
- **Advisories:**
 - **West Bengal:**
 - In **Coastal Saline Zone**, crop damage is reported in nursery/transplanted *Aman* rice fields due to flooding. In flood affected areas adopt the following contingency plan for rice:
 - In seed beds where seedlings are found fine, drain out of flood water and apply Urea @ 400g/kata and MOP @ 250g/kata. Also spray fungicide SAF in seed bed.
 - For nursery raising for flood affected areas, take short duration variety of rice, which will mature within 95 to 110 days (vari.MTU-1010, Gontra, IET 4786, GB-1, IR-36 etc.). Prepare nursery bed in the premises of residence or upland areas through dapog method (Spread two inches thick soil with high organic matter over polythene sheet and prepare seed-bed).
 - In the transplanted main fields where seedlings are fine, drain out of excess water and apply Urea @ 3.2 kg/bigha and MOP @ 2kg/bigha.
 - Remove the tillers from old seedbed and re-transplant in the main field with more depth of transplanting.
 - In flood prone area of Gangetic West Bengal farmers who have not yet planted the rice crop are advised transplanting of submergence tolerant rice cultivar like Jaladhi, Jalashree and Plaban is advised.
 - In Old Alluvial Zone and Terai Zone, continue transplanting of rice. Continue harvesting and retting of jute.
 - In Hill Zone, continue transplanting of *Aman* rice and apply top dressing of Nitrogen fertilizer at the rate of 20 kg/ha at 21 days after transplanting. Undertake gap filling in soybean after current spells of heavy rain.
 - In New Alluvial Zone, due to cloudy weather condition and high temperature fungal and bacterial diseases are prevalent in maize. For fungal attack, spray Mancozeb @ 2.5 gm/litre of water and in case of bacterial rot, spray Streptocycline @ 0.1 gm/litre of water after current spells of rain.
 - **Andaman and Nicobar Islands:**
 - In Nicobar, continue sowing seeds of pumpkin, snake gourd and bottle gourd after applying 4 to 5 kg of compost.
 - In North and Middle and South Andaman, continue transplanting of rice.
 - **Odisha:**
 - In flood affected areas of Mayurbhanj, Keonjhar, Jajpur, Bhadrak and Balasore districts of Odisha where crop damage is noticed in rice, undertake direct sowing of sprouted rice seeds or transplanting with short duration varieties of rice like Khandagiri and Parijat.
 - In East and South Eastern Coastal Plain Zone, continue direct seeding of rice in medium and deep low lands and transplanting of rice in medium land after recession of flood water. If seedlings are not ready for transplanting, then go for SRI method of rice cultivation in medium lands, for which only 10 to 12 days is required for raising seedlings. In uplands, complete sowing of green gram, black gram, ragi and sesame.
 - In North Eastern Ghat Zone, continue sowing of groundnut, sesame and ragi.
 - In North Central Plateau Zone, continue sowing of green gram, black gram and cowpea.
 - In North Eastern Coastal Plain Zone, swarming caterpillar is a major problem in rice in flood affected areas. To control, spray Chloropyriphos50%+Cypermethrin50% @ 2ml/litre of water. Spray Methomyl 40% SP @1.5g / litre

of water on bunds or apply Chloropyriphos dust @ 25kg/ha on bunds during afternoon hours after current spells of rain.

- In Eastern Ghat High Land Zone, constant monitoring is advised in ladyfinger, brinjal and chilli crops against attack of mite and jassids. To control mite, spray Phosmite @ 2 ml per liter of water and spraying of Dimethoate 30 EC @ 2 ml/litre of water is advised against jassids after current spells of rain.
- In North Central Plateau Zone, white ant attack has been found in groundnut in low rainfall areas. Undertake soil drenching with Chloropyriphos @ 2 ml /litre of water after current spells of rain.

▪ **Bihar:**

- In Bihar, undertake sowing of short duration varieties of pigeon pea, urad and planting of turmeric, ginger and yam in areas where normal sowing is not carried out due to deficient rainfall.
- In North West Alluvial Plain Zone, complete transplanting of 22-25 days old paddy seedlings, continue nursery sowing of brinjal, tomato, chilli and onion, sowing of cluster bean, bitter gourd and radish and sowing of sesame, sunflower. Complete sowing of all varieties of pigeon pea in the upland areas.
- In North East Alluvial Plain Zone, continue plantation of horticulture crops like mango, litchi, guava & papaya and continue transplanting of chilli, tomato and cauliflower in raised bed.
- In South Bihar Alluvial Zone, complete transplanting of *kharif* onion and long/medium duration rice varieties which are 21-25 days old. complete nursery sowing of early brinjal, chilli, and cauliflower, continue planting of mango, litchi, guava and papaya plants in already made pits and continue sowing of para grass in low land and hybrid napier grass in uplands.
- In North West Alluvial Plain Zone, present weather is conducive for the occurrence of jassids in ladyfinger and cucurbitaceous crop. To control, spray Dimethoate 30 EC @ 2 ml/litre of water after current spells of rain.

▪ **Jharkhand:**

- In South Eastern Plateau Zone, complete transplanting of medium and low land rice by 15th August, continue transplanting of finger millet and complete sowing of maize, arhar green gram, black gram, urad, groundnut, soybean, sesame and rainy season vegetables. Undertake cultivation of upland spices, yam & forage crops like jowar & maize.
- In North Eastern Plateau Zone, continue transplanting of medium and low land rice, sowing of urad, til & sweet potato and nursery raising of tomato, cabbage and cauliflower.
- In Western Plateau Zone, continue nursery raising of upland rice, transplanting of rice of medium duration, sowing of arhar, urad and mung, til and complete transplanting of finger millet.
- In South Eastern Plateau Zone, present weather is conducive for the occurrence of leaf folder and hairy caterpillar in groundnut, to control, spray Chlorpyriphos @ 1 ml per litre of water mixing Teepol @ 0.5 ml per litre of water after current spells of rain.
- In North Eastern Plateau Zone, present weather is conducive for the occurrence of blast & yellow spot disease in rice. To control, spray Carbendazim 0.1% or Tricyclazole (75 WP) 0.06% per litre of water after current spells of rain.
- In Western Plateau Zone, prevailing weather is conducive for the attack of leaf spot/Tikka disease in groundnut, to control, spray Endofil M-45 (5 gm) + Bavistin (1 gm) in 4 litre of water after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

• **Animal Husbandry**

- In West Bengal, keep animal sheds dry and clean and avoid water stagnation in and around the cattle sheds.

CENTRAL INDIA [M.P., CHHATTISGARH]



Rice



Greengram



Okra



Soybean

- **Realised Rainfall:** Rainfall occurred in all districts of East Madhya Pradesh except Anuppur, Chhatarpur, Shahdol, Sidhi, Singrauli and Tikamgarh; all districts of West Madhya Pradesh except Alirajpur, Dhar, Gwalior, Jhabua and Morena; all districts of Chhattisgarh except Bilaspur, Dhamtari, Janjgir, Jashpur, Korba, Koriya, Mahasamund and Raipur.

• **Advisories:**

▪ **Madhya Pradesh:**

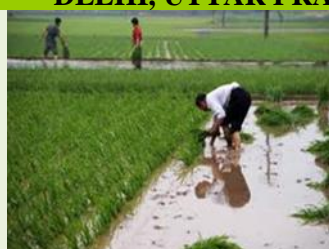
- Continue sowing of kodo millet and little millet in Satpura Plateau Zone and plantation of fruit saplings in Malwa Plateau Zone after current spells of heavy rain.
- As rain/thundershowers would occur at most/many places over Madhya Pradesh from 14th to 16th August along with heavy to very heavy rainfall at isolated places over West Madhya Pradesh, postpone irrigation, intercultural operations and application of plant protection measures and fertilizers to the standing crops. Provide adequate drainage in standing crop fields to avoid water stagnation.

- Due to cloudy weather there are chances of attack of sucking pest in vegetables in Vindhya Plateau Zone, Spray Thiamethoxam @ 0.35 gram per litre of water after current spells of rain.
- Due to cloudy weather there are chances of incidence of yellow mosaic in urad and soybean in Bundelkhand Zone, spray Methyl Demeton @ 2 ml per litre of water after current spells of rain.
- Due to cloudy weather there are chances of attack of white fly in okra and chilli in Kymore Plateau and Satpura Hill Zone, spray Dimethoate 30 EC @ 700-750 ml/hectare after current spells of rain.
- **Chhattisgarh:**
 - Continue planting horticultural crops like papaya, mango, guava etc. in North Hill Zone and Plain Zone.
 - In Plain Zone of Chhattisgarh, complete transplanting of rice and maintain water level upto 5cm in transplanted rice fields.
 - Undertake field preparation for sowing of niger, horse gram, black gram and green gram in Bastar Plateau Zone.
 - Due to cloudy weather there are chances of leaf spot disease in vegetables in Plain Zone, spray Copper fungicide @ 3 gram/litre of water or Clorotheloni @ 2 gram/litre of water on a non rainy day.
 - Suitable varieties are given in Annexure III.
- **Animal Husbandry**
 - Keep cattle indoors during heavy rainfall period in West Madhya Pradesh.
 - Keep animal sheds clean and dry in Chhattisgarh.

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



Cotton



Rice transplanting



Sowing



Cabbage

- **Realised Rainfall:** Rainfall occurred in all district of Delhi; all districts of Himachal Pradesh except Kinnaur and Lahaul & Spiti; Jammu, Kathua, Rajouri, Reasi, Samba and Udhampur districts of Jammu & Kashmir; Ambala, Chandigarh, Faridabad, Gurgaon, Jhajjar, Karnal, Kurukshetra, Mahendragarh, Mewat, Panchkula, Rewari, Rohtak, Sonapat and Yamunanagar districts of Haryana; Fatehgarh Saheb, Gurdaspur, Hoshiarpur, Ludhiana, Nawanshahar, Patiala, Ropar and Mohali districts of Punjab; all districts of East Rajasthan except Bhilwara, Pratapgarh, Sikar and Sirohi; all districts of East Uttar Pradesh except Allahabad, Ambedkar Nagar, Barabanki, Faizabad, Fatehpur, Hardoi, Kannauj, Kanpur Dehat, Kaushambi, Kushi Nagar, Lucknow, Mau, Mirzapur, Rai Bareilly, Sahuji Maharaj Nagar, Sant Kabir Nagar, Sant Ravidas Nagar, Siddharth Nagar, Sonbhadra, Sultanpur, Unnao, Varanasi; all districts of West Uttar Pradesh except Auraiya, Etah, Lalitpur, Mahamaya Nagar, Mahoba, Mainpuri, Pilibhit, Rampur, Shahjahanpur; all districts of Uttarakhand. Weather remained mainly dry over rest of the region.

- **Advisories:**

- **Jammu & Kashmir:**

- In Sub-tropical Zone, undertake applications of 2nd dose of nitrogenous fertilizer as top dressing in normal transplanted rice crop if the crop is 25-30 days old.
- In Intermediate Zone and Valley temperate Zone, undertake weed control at 30-35 days after transplanting of rice. Apply Bispyrebac @ 1.5gm/kanal in 25 litre of water as post emergence herbicide.
- In Cold Arid Zone of Jammu & Kashmir, undertake hoeing and weeding in vegetables crops.
- In Sub-tropical Zone & Intermediate Zone of Jammu & Kashmir, due to cloudy and humid weather condition, there may be attack of blast and brown spot in rice. To control blast, spray Tricyclozole @ 0.06% and to control brown spot, spray Mancozeb @ 0.25%.

- **Uttarakhand:**

- Due to heavy rains, 10-20% damage in vegetables is reported in Hill Zone of Uttarakhand. Undertake resowing of peas with short duration varieties like VL-Matar and Arkel.
- In Bhabar and Tarai Zone of Uttarakhand, continue sowing of moong (Pant moong-2, Pant moong-4, Pant moong-5 & Narendra moong-1), sesame (Type-4, Type-12, Type-13 & Type-78) & pearl millets.
- In Hill Zone, continue sowing of maize crops var. maize-9, Kanchan, Navin, Bhavetha, V.L. maize 16 and V.L maize 88.
- In Hill Zone of Uttarakhand, due to high humidity, there may be attack of fruit borer in brinjal and tomato crops. To control, spray Neem oil @ 20 -25ml in 5 litres of water after current spells of rain.
- In Bhabar and Tarai Zone of Uttarakhand, due to high humidity, there may be attack of blight disease in tomato and capsicum, to control spray Indophil M-45 @ 2.5 g dissolved in one litre of water after current spells of rain.
- Due to rise in temperature during the week, there are more chances of attack of stem borer in rice in Bhabar and Tarai

Zone. Broadcast Phipronil-0.3 GR @10kg or Cartap-4GR @ 8 kg per acre after current spells of rain.

▪ **Himachal Pradesh:**

- In Sub-Montane and Low Hills Sub-Tropical Zone, continue nursery sowing of mid season cauliflower and cabbage in poly house in mid hill and lower region and transplanting of ageti cauliflower and cabbage in fields. Continue transplanting of rice, tomato, brinjal, capsicum, chilli and direct sowing of okra and sowing of radish and turnip in lower rainfed areas.
- In Mild Hills sub-Humid Zone, continue transplanting of cole crops in the field at a distance of 60 x 45cm. Undertake nursery sowing of cabbage, sowing of *kharif* onion, carrot and radish in lower regions. Undertake sowing of French bean in middle region.
- Under humid weather condition, there are chances of incidence of blast and hispa in rice in mid hills region of Sub-Montane and Low Hills Sub-Tropical Zone. For control of blast, spray Bavistin @ 0.01 or Beam 75 WP @ 0.06% and repeat at 10-15 days interval and for rice hispa, spray Cypermethrin 10EC @ 1ml or Chlorpyrifos 20 EC @ 2.5ml per litre of water after current spells of rain.
- Under humid weather condition, there are chances of incidence of leaf spot and fruit rot diseases in tomato, brinjal, capsicum and chilli in Sub-Montane and Low Hills Sub-Tropical Zone. Spray Ridomil MZ or Indofil M-45 @ 2.5 g per litre of water after current spells of rain.
- Under cloudy and humid weather condition, there are chances of attack of mites on apple in Mild Hills Sub-Humid Zone. Spray Majestic @ 50 ml per 200 litres of water after current spells of rain.

▪ **Rajasthan:**

- In Arid Western Plain Zone, continue sowing of short duration and drought tolerant varieties of pulses, pearl millet, moth bean and cluster. Use improved short duration varieties of bajra, moong, moth, til and guar for sowing and pearl millet and sorghum for fodder purpose. Undertake thinning and by gap filling operation in standing crops.
- In Southeastern Humid Plain Zone, continue transplanting of rice and sowing of improved varieties of green gram and black gram.
- In Transitional Plain Zone of Inland Drainage, continue sowing of improved varieties of guar, green gram, cowpea, moth, sesame and pearl millet.
- In Southern Humid Plain Zone, in the prevailing cloudy and humid weather, there is chance of incidence of jassids in cotton. Spray Imidacloprid 17.8 SL @ 200ml/ha. For control of semi-looper, stem fly or girdle beetle in soybean, spray Triazophos 40EC or Profenophos 50 EC @ 1.25 litre or Dimethoate 30 EC @ 1 litre per hectare after current spells of rain.
- Under humid and cloudy weather condition there are chances of increase in tikka disease in groundnut in Arid Western Plain Zone. Spray Dithane M 45 @ 25 kg in 1000 litres of water per ha. on a non rainy day.
- In Irrigated Northwestern Plain Zone, under cloudy and humid weather condition, there are chances of attack of spotted bollworm in *desi* cotton. For control, spray Fenvalerate or Indascarb @ 1ml per litre of water. In cotton and guar, there are chances of attack of jassids or thrips, spray Triazophos 2.5 ml or Acitamidiprid @ 0.4 g per litre of water on a non rainy day.

▪ **Punjab, Haryana and Delhi:**

- In Central Plain Zone of Punjab, continue sowing of maize and planting of papaya and in Western Zone of Punjab, continue transplanting of brinjal in raised beds.
- In Undulating Plain Zone of Punjab, continue transplanting of tomato, onion and chilli on ridge and drain out the excess water from vegetable crop fields.
- In Central Plain Zone and Western Plain Zone of Punjab, undertake the sowing of fodder crops maize + cowpea, sorghum + guar.
- In Central Plain, Western Plain and Undulating Plain Zone of Punjab, continue planting of fruit plants viz citrus, mango, litchi, guava, loquat, ber, amla and papaya.
- In Western Plain Zone of Punjab, drain out excess water from maize to keep stalk rot under control.
- In Western Zone of Haryana, continue transplanting of tomato, onion chilli and early cauliflower on ridge and transplanting of rice utilising the realised rainfall. Undertake planting of fruits crops like acid lime, mango, jack fruit and jamun.
- In Western Semi-Arid Zone of Delhi, continue transplanting of *kharif* onion, chilli, brinjal, tomato and early cauliflower on ridges. Continue sowing of green gram, black gram, radish, coriander, spinach. Undertake sowing of sweet corn and baby corn in this week and short varieties of urad and moong.
- Due to humid weather conditions there may be increase in population of sucking pests in cotton in Western Semi-Arid Zone of Delhi. Install pest specific pheromone traps in the fields. If sucking pest's population is above ETL, spray Imidacloprid 17.8 % SC @ 1.0 ml/3 litre of water after current spells of rain.
- Incidence of sheath blight is noticed in rice crop in Western Zone of Punjab, spray Folicur 25 EC (Tebuconazole) @ 200 ml or Tilt 25 EC (Propiconazole) @ 200ml in 200 litres of water/acre. Also due to partly cloudy weather, white fly and jassid may occur in cotton, if reaches ETL level then spray Oberon @ 200ml/acre for white fly and 80g/acre Ulala for the management of Jassid. Apply the pesticides on a non rainy day.
- In Western Zone of Haryana, due to high humidity level there may be changes of white fly and sucking pest infestation in cotton crop. Monitor the crops and if the insect populations are above ETL, undertake plant protection measures after current spells of rain.

▪ **Uttar Pradesh:**

- In Central Plain Zone, continue transplanting of rice upto 20 - 22nd August and undertake direct sowing of short duration varieties of rice after 22nd August in Allahabad, Fatehpur, Pratapgarh, Chitrakut and Kaushambi districts. Undertake nursery sowing of capsicum and cauliflower and planting of potato. In other districts of Central Plain Zone, complete transplanting of rice and sowing of bajra, green gram, black gram and sesame, nursery sowing of tomato. Undertake transplanting of brinjal and chilli, sowing of cucurbitious crops. Continue planting of mango, banana, papaya, guava and lime.
- In North Eastern Plain Zone, continue sowing of sesame, black gram, groundnut, sweet potato, long duration varieties of pigeonpea, intercropping of pigeon pea with sesame, black gram, green gram or lobia and transplanting of brinjal, tomato and mid duration cauliflower.
- In Bundelkhand Zone, continue transplanting of rice, sowing of short duration varieties of bajra(hybrid), pigeon pea, black gram, green gram and sesame. Continue nursery sowing of early cauliflower, tomato, chilli and brinjal.
- In Eastern and Western Plain Zone, continue transplanting of scented Basmati rice, sowing of short duration varieties of urad and moong where normal sowing was not done earlier. Also continue sowing of long duration varieties of pigeon pea (planting distance of 60-75cm) and planting of banana.
- In Central Plain Zone, due to humid weather condition, there are chances of incidence yellow mosaic in maize and soybean. Spray Dimethoate 20 EC @ 1 litre in 1000 litres of water after current spells of rain.
- Due to humid weather condition, there is chance of incidence of black rot disease in mango in Central Plain Zone. Spray Blitox @ 3g per litre of water after current spells of rain.
- Suitable varieties for sowing are given in Annexure III.

• **Horticulture**

- In Uttar Pradesh, undertake planting of mango, litchi, papaya, guava, ber and *aonla*.
- In Flood Prone Eastern Plain Zone and Semi Arid Eastern Plain Zone of Rajasthan, undertake planting of guava, pomegranate, lime, *aonla*, ber and papaya.
- In Mid Hills Sub-Humid Zone and Mild Hills Sub-Humid Zone of Himachal Pradesh, due to humid weather condition, there is chance of incidence of scab in apple orchards. Spray Myclobutanil @ 80g per 200 litres of water after current spells of rain.

• **Floriculture**

- In Sub-Montane and Low Hills Sub-Tropical zone of Himachal Pradesh, due to humid weather condition blue beetle attack is seen in balsam, zenia, cleome and rose, spray Cypermethrin 20 ml in 10 litres of water. For control of Mite in carnation, spray Omite or Pyromite @ 1ml per litre of water or Dicofol @ 2ml per litre of water. For control of blight in marigold, spray Bavistin @ 2 g per litre of water after current spells of rain.

• **Animal Husbandry**

- In Sub-Montane and Low Hills Sub Humid Zone of Himachal Pradesh, weather is conducive for the attack of pink eye disease in new born calves. For control, prepare the solution of 1% boric acid in boiled water and wash eyes at regular interval of three hours.

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

Annexure I

Week by week Rainfall Distribution

Sub-Divisions	29.07.15		05.08.15		12.08.15	
	Actual (mm)	% dep.	Actual (mm)	% dep.	Actual (mm)	% dep.
Arunachal Pradesh						
Anjaw	**	**	**	**	**	**
Changlang	44.1	-59	88.2	63	98.2	61
Dibang Valley	**	**	**	**	**	**
East Kameng	26.4	-68	9.6	-82	2.8	-95
East Siang	127.4	-41	161.4	-16	26.7	-83
Kurung Kumey	**	**	**	**	**	**
Lohit	84.7	-50	87.1	-8	13.8	-84
Lower Dibang Valley	126.2	105	20.8	-40	120.8	376
Lower Subansari	**	**	**	**	**	**
Papumpara	60.1	-46	16.9	-85	101.0	-15
Tawang	41.0	-71	58.0	-55	49.0	-69
Tirap	85.6	-60	48.2	-56	21.8	-78
Upper Siang	0.0	-100	35.6	-60	35.6	-53
Upper Subansari	25.6	-40	24.4	-6	12.2	-68
West Kameng	8.4	-94	11.6	-91	151.2	-3
West Siang	30.0	-80	30.0	-34	12.0	-79
Assam&Meghalaya						
Assam						
Baksa	75.4	-50	13.7	-87	17.7	-82
Barpeta	56.1	-60	54.4	-47	46.9	-52
Bongaigaon	9.2	-90	80.2	-4	14.6	-83
Cachar	70.2	-40	46.3	-55	136.7	9
Chirang	88.4	-40	61.2	-27	29.8	-65
Darrang	**	**	**	**	**	**
Dhemaji	125.0	0	39.0	-58	24.0	-81
Dhubri	22.6	-80	15.7	-83	70.6	-11
Dibrugarh	115.4	0	63.1	-28	41.3	-58
Goalpara	62.5	-40	6.6	-90	68.8	4
Golghat	80.4	20	37.9	-15	51.5	-27
Hailakandi	17.5	-80	79.8	-16	202.0	107
Jorhat	122.4	50	95.7	26	63.7	-29
Kamrup(Rural)	78.6	30	0.4	-99	8.7	-83
Kamrup(Metro)	39.1	-30	8.0	-85	24.8	-52
Karbi Anglong	22.2	-70	15.5	-73	63.6	19
Karimganj	112.4	-30	74.8	-23	241.5	127
Kokrajhar	82.7	-50	88.7	-44	43.0	-72
Lakhimpur	75.1	-40	34.1	-63	58.9	-54
Morigaon	78.4	-10	21.8	-70	71.8	-4
N.C.Hills	46.8	-30	38.9	43	66.3	20
Nowgong	37.3	-50	8.5	-87	14.0	-78
Nalbari	102.0	0	28.0	-63	56.2	-15
Sonitpur	26.1	-70	8.3	-87	75.9	-2
Sibsagar	146.2	60	92.7	30	63.5	-31

Tinsukia	96.1	-20	65.9	-23	34.7	-61
Udalgiri	36.0	-40	2.8	-96	42.1	-33
Meghalaya						
East Garo Hills	58.0	-51	62.0	-45	0.0	-100
East Khasi Hills	228.0	-25	138.6	-48	48.1	-74
Jaintia Hills	56.0	-84	80.0	-68	29.0	-84
Ribhoi	31.8	66	29.0	-67	79.3	-17
South Garo Hills	104.0	-9	32.0	-68	119.0	56
West Garo Hills	58.6	-49	5.2	-95	100.6	32
West Khasi Hills	70.0	-72	21.0	-86	91.0	-30
NMMT						
Mizoram						
Aizwal	70.2	-30	41.7	-60	84.2	-20
Champhai	**	**	**	**	**	**
Kolasib	41.0	-60	24.0	-77	6.0	-94
Lawngtlai	**	**	**	**	**	**
Lunglei	**	**	**	**	**	**
Mamit	**	**	**	**	**	**
Saiha	69.0	-39	42.0	-53	32.0	-59
Serchhip	148.2	20	105.4	18	46.8	-48
Manipur						
Bishnupur	**	**	**	**	**	**
Chandel	**	**	**	**	**	**
Churachandpur	**	**	**	**	**	**
Imphal east	53.5	-22	140.1	182	70.5	-8
Imphal west	8.4	-84	21.1	-54	151.1	106
Senapati	**	**	**	**	**	**
Tamenglong	49.0	13	**	**	**	**
Thoubal	**	**	101.0	123	12.0	-72
Ukhrul	**	**	**	**	**	**
Nagaland						
Dimapur	22.1	-54	24.2	-48	39.6	-51
Kephire	**	**	**	**	**	**
Kohima	47.6	-49	46.2	-40	126.6	40
Longleng	**	**	**	**	**	**
Mokokchung	33.0	-50	48.0	-51	51.0	-55
Mon	**	**	**	**	**	**
Paren	**	**	**	**	**	**
Phek	**	**	**	**	**	**
Tuensang	**	**	**	**	**	**
Wokha	**	**	**	**	**	**
Zunheboto	**	**	**	**	**	**
Tripura						
Dhalai	30.4	-62	94.8	6	43.5	-39
North Tripura	45.2	-49	100.6	38	63.5	-30
South Tripura	285.2	192	97.2	-9	30.3	-57
West Tripura	104.0	18	73.5	-4	14.5	-77
Himachal Pradesh						
Bilaspur	46.7	-41	17.0	-79	156.6	81
Chamba	69.0	-56	51.3	-61	95.9	-33
Hamirpur	71.7	-31	54.2	-45	254.2	175

Kangra	156.4	-3	158.9	-3	292.9	67
Kinnaur	1.1	-94	6.7	-59	2.9	-86
Kullu	60.8	42	27.4	-41	50.8	17
Lahaul and Spiti	3.9	-91	8.5	-75	0.0	-100
Mandi	133.0	15	85.3	-23	201.8	107
Shimla	82.1	50	40.1	-25	84.4	81
Sirmaur	49.1	-61	97.8	-20	124.9	3
Solan	49.2	-40	46.0	-46	121.2	39
Una	115.5	64	83.7	6	264.5	251
Punjab						
Amritsar	11.4	-79	13.7	-76	9.8	-80
Barnala	1.0	-97	14.5	-47	24.0	-23
Bhatinda	19.3	-35	35.0	-7	28.7	9
Faridkot	23.5	0	14.0	-53	25.0	-6
Fatehgarh Sahib	1.0	-98	3.0	-94	42.6	-20
Ferozpur	4.2	-86	11.1	-70	0.6	-98
Gurdaspur	83.0	0	53.0	-37	119.3	25
Hoshiarpur	22.8	-62	2.9	-96	73.8	4
Jalandhar	12.8	-75	5.1	-89	16.1	-69
Kapurthala	38.6	5	15.4	-60	7.7	-79
Ludhiana	2.5	-94	3.8	-92	57.6	18
Mansa	0.0	-100	0.0	-100	0.0	-100
Moga	0.0	-100	14.0	-55	15.6	-60
Muktesar	27.5	17	33.5	22	16.5	-35
Nawashahar	3.4	-95	6.4	-91	52.9	-19
Patiala	1.1	-98	9.1	-85	47.6	-18
Ropar	33.0	-52	17.2	-79	89.7	47
Sangrur	0.0	-100	13.4	-66	28.5	-21
Mohali	19.3	-68	7.7	-87	87.5	62
TarnTaran	28.3	-21	17.3	-52	1.0	-96
Haryana,Chd,Delhi						
Haryana						
Ambala	9.3	-87	12.1	-84	58.8	-31
Bhiwani	0.5	-99	3.0	-89	16.3	-52
Chandigarh	34.0	-48	8.8	-88	50.0	-39
Faridabad	1.3	-97	53.0	-12	44.4	-14
Fatehabad	0.0	-100	11.9	-58	0.5	-98
Gurgaon	1.0	-97	2.8	-93	71.2	45
Hissar	0.5	-98	5.3	-81	16.9	-36
Jhajar	1.7	-96	7.7	-79	42.2	18
Jind	0.0	-100	5.6	-85	23.3	-20
Katihah	0.4	-99	2.9	-91	21.4	-32
Karnal	0.0	-100	8.3	-81	39.0	-16
Kurukshetra	0.0	-100	7.8	-83	58.7	37
Mahendragarh	0.0	-100	1.8	-95	35.1	-12
Mewat	0.0	-100	3.0	-93	47.0	-8
Palwal	0.0	-100	20.0	-50	15.8	-61
Panchkkula	15.2	-81	30.0	-66	78.5	-9
Panipat	3.4	-90	4.6	-91	25.2	-44
Rewari	1.3	-96	16.0	-66	44.4	-6
Rohtak	0.5	-99	2.0	-95	36.3	-35

Sirsa	27.0	9	10.2	-45	10.6	-41
Sonepat	0.8	-98	5.1	-90	35.4	-24
Yamunanagar	12.1	-85	41.4	-48	81.0	14
Delhi						
Central Delhi	7.0	-87	5.0	-92	105.0	61
East Delhi	0.0	-100	76.0	17	115.0	76
New Delhi	12.1	-77	4.0	-94	97.4	49
North Delhi	0.0	-100	26.2	-60	139.0	113
North East Delhi	4.0	-92	23.0	-65	45.0	-31
North West Delhi	12.5	-76	11.5	-82	173.5	165
South Delhi	22.5	-57	1.7	-97	274.4	320
South West Delhi	3.3	-94	14.8	-77	125.4	92
West Delhi	4.0	-92	11.0	-83	103.0	57
Jammu & Kashmir						
Anantnag	15.5	-33	18.6	-4	2.1	-90
Badgam	51.7	153	21.5	56	0.0	-100
Bandipore	**	**	**	**	**	**
Baramula	41.1	104	24.6	11	0.6	-98
Doda	45.2	47	32.2	1	2.0	-92
Ganderbal	18.9	15	27.1	58	0.5	-97
Jammu	119.3	24	17.8	-81	118.0	18
Kargil	**	**	**	**	**	**
Kathua	141.7	22	42.8	-63	216.3	100
Kistwar	**	**	**	**	**	**
Kulgam	8.8	-62	6.3	-68	0.0	-100
Kupwara	54.6	144	39.6	148	5.4	-72
Ladakh(Leh)	4.5	97	26.7	1237	0.0	-100
Poonch	**	**	**	**	**	**
Pulwama	32.8	75	17.0	-8	0.0	-100
Rajouri	154.6	122	14.0	-81	50.0	-22
Ramban	45.3	47	22.6	-29	11.2	-57
Reasi	75.7	-48	102.9	-39	267.2	107
Samba	103.8	7	30.7	-67	81.8	-18
Shopian	**	**	**	**	**	**
Srinagar	35.5	116	80.7	372	0.0	-100
Udhampur	26.8	-82	73.2	-57	191.1	48
East Madhya Pradesh						
Anuppur	44.2	-45	67.3	-25	21.7	-76
Balaghat	34.9	-68	102.6	-1	42.6	-59
Chhatarpur	25.2	-66	31.4	-66	10.0	-90
Chindwara	67.7	17	155.5	103	128.0	127
Damoh	22.5	-73	79.5	-33	51.5	-47
Dindori	79.5	-2	124.4	27	37.4	-63
Jabalpur	80.2	1	139.9	27	48.0	-51
Katni	8.7	-88	50.9	-57	38.6	-58
Mandla	47.5	-53	156.9	52	40.1	-62
Narsingpur	56.7	-32	117.2	21	50.6	-41
Panna	25.5	-66	45.7	-53	38.2	-64
Rewa	19.2	-75	52.7	-36	45.0	-45
Sagar	63.4	-14	65.4	-45	61.5	-36
Satna	34.6	-52	81.1	-8	70.6	-21

Seoni	49.3	-40	130.4	54	83.3	16
Shahdol	48.8	-23	90.6	7	22.0	-76
Sidhi	46.2	-37	65.8	-10	0.0	-100
Singrauli	22.8	-69	134.0	96	24.0	-61
Tikamgarh	43.0	-32	21.0	-71	28.0	-69
Umariya	23.6	-64	131.4	34	32.7	-65
West Madhya Pradesh						
Agar	550.0	250	49.6	-57	212.8	71
Alirajpur	343.0	417	18.5	-73	4.9	-91
Asoknagar	75.3	4	53.5	-30	73.5	1
Badwani	75.1	62	71.5	51	42.1	-10
Betul	79.7	13	232.8	171	89.9	33
Bhind	11.3	-79	8.0	-84	73.9	-3
Bhopal	193.1	101	97.1	11	80.2	4
Burhanpur	60.3	-6	140.3	122	103.2	71
Datia	25.4	-54	1.3	-98	41.3	-48
Dewas	198.8	132	127.1	44	152.7	118
Dhar	228.3	226	98.5	33	17.3	-71
Guna	121.6	43	50.9	-41	40.8	-50
Gwalior	42.6	-33	1.8	-97	29.1	-65
Harda	133.6	51	256.1	166	179.0	116
Hosangabad	121.9	27	176.0	40	81.7	-20
Indore	213.8	187	206.0	193	43.1	-31
Jhabua	335.5	495	25.4	-62	8.9	-85
Khandwa	92.8	45	219.2	169	146.3	120
Khargone	81.2	39	135.7	100	92.5	74
Mandsaur	338.7	335	15.8	-81	71.6	13
Morena	10.1	-85	2.0	-97	17.1	-77
Neemuch	299.1	286	19.8	-71	52.4	-9
Raisen	159.7	60	63.5	-35	113.3	25
Rajgarh	365.5	349	68.9	-26	66.4	-10
Ratlam	614.4	605	61.5	-32	31.4	-50
Sehore	147.7	56	82.3	-23	69.0	-13
Shajapur	299.0	240	95.0	-3	161.5	142
Sheopur Kalani	88.5	22	12.5	-77	107.0	42
Shivpuri	48.1	-29	53.8	-23	95.7	25
Ujjain	410.1	411	94.2	19	66.0	11
Vidisha	161.4	79	34.3	-64	64.7	-17
Chhattisgarh						
Bastar	16.1	-80	4.0	-96	35.2	-58
Bijapur	140.2	14	52.9	-59	64.8	-51
Bilaspur	67.7	-14	91.7	15	27.2	-67
Dantewara	32.2	-64	13.7	-86	116.6	14
Dhamtari	25.7	-69	13.8	-84	15.0	-78
Durg	28.2	-59	50.9	-36	60.9	-20
Janjgir	86.0	2	106.1	8	9.7	-91
Jashpurnagar	92.3	-12	95.7	4	12.4	-88
Kanker	29.5	-69	21.5	-83	79.2	-8
Korba	80.1	0	150.5	28	17.1	-84
Koriya	27.6	-66	51.1	-41	4.0	-96
Kawardha	20.7	-69	19.7	-71	58.9	-10

Mahasumund	48.8	-41	103.2	14	18.6	-74
Narayanpur	22.2	-77	6.4	-94	65.7	-38
Raigarh	63.1	-18	189.6	109	43.2	-48
Raipur	58.9	-21	50.4	-35	28.7	-63
Rajandgaon	34.7	-60	33.7	-61	51.1	-32
Surguja	31.1	-66	69.2	-23	62.8	-34
East Uttar Pradesh						
Allahabad	19.8	-67	33.5	-42	5.3	-93
Ambedkar Nagar	4.0	-95	0.0	-100	8.0	-89
Azamgarh	11.4	-83	69.1	2	99.8	37
Bahraich	27.6	-64	35.8	-47	65.5	2
Ballia	10.2	-83	27.4	-53	58.3	-15
Balrampur	0.6	-99	38.5	-46	35.0	-52
Banda	28.8	-51	3.0	-96	49.2	-45
Barabanki	14.0	-79	68.0	-2	19.3	-70
Basti	2.8	-96	44.1	-36	55.8	-14
Chandauli	1.4	-98	33.2	-39	35.6	-53
Deoria	11.5	-85	42.5	-36	32.5	-52
Faizabad	3.0	-96	32.3	-60	17.9	-74
Farrukhabad	2.5	-96	3.9	-92	30.1	-63
Fatehpur	5.9	-90	0.0	-100	0.5	-99
Gazipur	17.8	-70	30.8	-58	108.8	28
Gonda	4.8	-94	54.4	-35	50.8	-31
Gorakhpur	7.1	-92	119.4	35	40.3	-59
Hardoi	19.8	-67	24.0	-55	13.6	-79
Jaunpur	15.5	-73	52.6	4	61.9	-15
Kannauj	18.9	-70	3.5	-94	11.0	-86
Kanpur City	4.9	-92	10.5	-79	35.9	-51
Kanpur Dehat	5.8	-92	1.6	-97	25.8	-69
Kaushambi	15.6	-72	0.0	-100	12.6	-84
Kheri	11.1	-84	39.0	-44	35.9	-44
Kushi nagar	1.0	-99	14.5	-82	23.6	-70
Lucknow	16.4	-74	13.9	-76	20.6	-68
Maharajganj	29.0	-69	21.5	-74	44.8	-45
Mau	1.0	-99	26.5	-60	28.0	-61
Mirzapur	21.0	-67	73.7	17	0.3	-99
Pratapgarh	33.7	-47	41.7	-28	43.3	-42
RaiBareilly	6.6	-88	4.0	-92	14.9	-78
Sahuji Maharajnagar	12.0	-78	0.0	-100	11.5	-85
Sant Kabirnagar	3.0	-96	17.0	-77	21.0	-69
Sant Ravidas Nagar	5.0	-93	63.0	15	3.0	-96
Shrawasti	0.3	-99	32.8	-52	43.9	-32
Sidharthnagar	36.3	-57	117.6	62	20.2	-73
Sitapur	15.5	-77	45.9	-5	37.5	-45
Sonbhadra	32.8	-47	76.1	8	7.3	-90
Sultanpur	19.3	-69	43.3	-25	18.4	-73
Unnao	21.3	-63	2.5	-96	20.3	-74
Varanasi	64.3	2	67.9	18	18.5	-73
West Uttar Pradesh						
Agra	2.6	-95	5.9	-90	34.7	-55
Aligarh	5.9	-89	3.0	-96	73.2	19

Auraiya	15.9	-74	0.0	-100	15.6	-79
Badaun	2.2	-97	7.4	-90	57.8	-16
Baghpat	0.0	-100	12.1	-78	61.3	14
Bareilly	5.6	-93	38.3	-49	36.4	-50
Bijnor	1.7	-98	88.1	6	53.9	-33
Bulandsahar	5.6	-89	1.8	-97	84.2	51
Etah	22.7	-52	0.0	-100	17.1	-74
Etawah	8.7	-85	0.0	-100	60.3	-30
Firozabad	23.1	-47	0.0	-100	33.4	-50
GBNagar	0.0	-100	6.0	-89	73.0	13
Ghaziabad	0.0	-100	5.2	-92	56.6	-9
Hamirpur	31.5	-53	6.7	-90	50.5	-47
Jalaun	17.1	-70	0.0	-100	42.0	-58
Jhansi	22.7	-66	4.0	-94	65.6	-27
Jotiba Phule Nagar	3.5	-95	0.5	-99	74.0	3
Kanshiramnagar	1.0	-98	0.0	-100	31.0	-51
Lalitpur	34.0	-61	35.5	-50	27.5	-74
Mahamaya Nagar	17.0	-69	0.0	-100	26.5	-60
Mahoba	81.4	41	5.6	-92	0.0	-100
Mainpuri	6.5	-88	0.0	-100	25.8	-64
Mathura	1.0	-98	6.6	-87	70.8	19
Meerut	0.2	-99	4.1	-95	49.2	-32
Moradabad	0.7	-99	33.6	-56	57.9	-28
Muzzaffarnagar	0.0	-100	7.1	-90	72.4	3
Pilibhit	7.2	-92	36.8	-57	20.9	-73
Rampur	0.7	-99	25.3	-66	15.6	-81
Saharanpur	0.0	-100	26.2	-64	138.2	98
Shahjahanpur	3.7	-95	34.2	-48	8.4	-89
Uttarakhand						
Almora	17.6	-79	50.6	-26	54.5	-20
Bageshwar	81.6	-2	59.6	-13	86.5	27
Chamoli	66.0	-4	42.4	-51	105.1	17
Champawat	58.5	-48	89.0	-9	118.5	22
Dehradun	101.3	-40	124.9	-29	166.0	-4
Garhwal Pauri	21.0	-81	100.4	-20	115.7	5
Garhwal Tehri	53.2	-41	23.5	-78	116.6	27
Haridwar	23.8	-72	134.0	48	44.4	-54
Nainital	37.3	-69	130.1	8	154.8	63
Pithorgarh	50.0	-66	68.8	-50	71.9	-43
Rudraprayag	136.6	-12	59.0	-63	123.3	-21
Udham Sing Nagar	10.3	-90	70.4	-17	85.9	0
Uttarkashi	124.4	38	57.3	-43	133.2	36
Bihar						
Araria	26.5	-74	7.4	-92	56.0	-25
Arwal	33.7	-39	8.7	-82	13.2	-78
Aurangabad	52.6	-22	58.4	14	7.2	-87
Banka	59.8	13	82.3	29	15.8	-69
Begusarai	5.3	-90	7.1	-91	14.6	-71
Bhabua	34.9	-51	54.0	-19	36.1	-50
Bhagalpur	38.0	-35	32.0	-55	10.5	-79
Bhojpur	65.4	-12	35.8	-46	73.7	43

Buxar	52.6	-7	129.8	138	28.2	-55
Darbhanga	5.0	-93	9.6	-86	55.9	-8
East Champaran	3.5	-96	5.2	-93	138.4	138
Gaya	26.5	-62	61.0	-3	19.9	-68
Gopalganj	7.2	-89	39.5	-39	79.1	24
Jahanabad	34.9	-33	43.0	-33	7.4	-87
Jamui	38.9	-38	56.2	-5	33.2	-44
Kathihar	21.8	-69	17.9	-76	33.2	-38
Khagadia	18.1	-66	28.9	-65	39.3	-33
Kishanganj	37.9	-66	9.8	-91	56.8	-46
Lakhisarai	40.3	-41	39.1	-43	6.5	-89
Madhepura	10.7	-86	12.9	-81	84.5	32
Madhubani	7.4	-91	19.7	-71	52.5	-18
Monghyar	0.0	-100	28.0	-59	15.2	-74
Muzaffarpur	1.2	-98	7.3	-89	44.9	-27
Nalanda	7.4	-89	31.2	-45	16.3	-74
Nawada	22.3	-59	140.4	118	57.7	-17
Patna	64.1	-6	12.8	-79	11.8	-80
Purnea	18.8	-77	3.5	-96	9.2	-87
Rohtas	59.5	-15	94.2	47	7.4	-88
Saharsha	22.1	-79	13.0	-83	32.2	-68
Samstipur	10.1	-85	15.4	-76	36.8	-43
Saran	23.2	-68	30.8	-52	100.2	62
Sheikpura	67.3	22	51.1	-9	3.1	-94
Sheohar	0.0	-100	18.6	-74	66.6	4
Sitamarhi	13.7	-87	15.0	-79	24.0	-63
Siwan	12.9	-84	24.1	-59	66.3	-3
Supaul	8.4	-89	6.1	-89	58.3	10
Vaishali	2.1	-98	6.3	-91	63.4	-5
West Champaran	22.0	-82	25.3	-67	91.7	36
Jharkhand						
Bokaro	95.9	30	143.6	79	0.0	-100
Chatra	32.4	-55	117.9	81	11.0	-86
Deoghar	96.0	45	169.7	183	0.6	-99
Dhanbad	129.3	60	135.8	63	0.1	-99
Dumka	178.2	139	265.8	288	18.6	-73
East Singbhum	353.9	458	81.4	0	17.9	-78
Garhwa	30.8	-60	39.6	-50	**	**
Giridih	141.9	68	204.8	207	0.5	-99
Godda	77.3	23	46.0	-18	44.1	-11
Gumla	154.0	65	147.4	93	40.4	-51
Hazaribagh	32.0	-58	210.1	211	3.1	-96
Jamtara	159.9	112	221.8	188	4.0	-95
Khunti	47.9	-47	105.0	26	4.5	-95
Koderna	39.1	-16	139.6	133	13.4	-80
Latehar	45.9	-54	172.2	149	1.5	-98
Lohardagga	98.1	23	226.0	163	3.0	-96
Pakur	93.1	15	136.8	90	2.4	-97
Palamau	45.6	-39	82.0	17	5.0	-93
Ramgarh	82.4	6	178.4	132	0.6	-99
Ranchi	19.7	-75	168.7	121	1.8	-98

Sahebganj	43.2	-51	59.2	-8	0.0	-100
Saraikela	193.4	171	67.5	-22	7.8	-90
Simdega	104.8	-6	131.1	35	4.9	-95
West Singbhum	81.4	18	37.9	-56	0.0	-100
East Rajasthan						
Ajmer	100.9	146	29.1	-17	69.3	104
Alwar	8.2	-84	13.5	-73	76.1	37
Banswara	314.6	322	31.1	-63	40.4	-40
Baran	197.3	147	20.0	-71	93.6	18
Bharatpur	7.5	-84	16.2	-69	31.5	-44
Bhilwara	202.9	316	19.3	-63	29.2	-38
Bundi	136.0	87	11.8	-80	130.2	141
Chittorgarh	215.5	239	12.8	-81	69.0	21
Dausa	29.0	-47	13.8	-73	78.8	24
Dholpur	10.3	-79	3.0	-95	71.2	-1
Dungarpur	287.9	445	36.2	-40	34.0	-28
Jaipur	52.1	2	22.4	-49	36.0	-24
Jhalawar	368.8	392	73.5	-16	80.5	9
Jhunjhunu	6.5	-80	26.1	-26	34.7	-2
Karauli	22.6	-64	14.0	-71	96.9	6
Kota	175.1	131	10.6	-83	147.4	118
Pratapgarh	360.0	403	32.2	-63	27.0	-49
Rajsamand	209.0	402	47.0	14	56.0	31
Sawai Madhopur	35.3	-49	25.2	-52	79.7	-3
Sikar	55.7	43	60.7	95	23.9	-29
Sirohi	655.0	650	87.6	4	12.1	-84
Tonk	96.1	74	14.2	-70	87.3	76
Udaipur	284.4	522	32.3	-43	46.6	3
West Rajasthan						
Barmer	241.5	1126	36.3	80	0.1	-99
Bikaner	64.3	199	84.9	396	15.8	3
Churu	29.0	3	62.9	152	19.6	-22
Hanumangarh	18.1	-25	48.4	120	0.3	-99
Jaisalmer	72.2	451	70.4	429	0.0	-100
Jalore	420.3	935	59.7	82	10.4	-70
Jodhpur	116.3	344	56.9	151	3.6	-84
Nagaur	74.4	153	68.7	199	19.1	-30
Pali	248.0	492	58.9	49	20.8	-43
Sri Ganganagar	33.1	88	68.2	334	0.9	-95
Gujarat Region						
Ahmedabad	195.3	310	6.2	-87	0.1	-99
Anand	219.2	228	7.4	-88	0.0	-100
Banaskantha	649.7	1108	46.9	-12	0.6	-99
Baroda	204.3	157	2.8	-96	2.5	-97
Broach	158.3	135	1.8	-97	2.3	-96
DNH	318.4	66	35.2	-82	16.7	-89
Dahod	157.0	115	11.1	-86	7.9	-89
Daman	256.8	34	16.0	-92	3.2	-98
Dangs	280.0	29	55.5	-67	18.0	-87
Gandhinagar	447.4	673	12.6	-80	0.0	-100
Kheda	242.8	249	12.9	-81	0.3	-99

Mehsana	460.7	793	30.4	-47	2.9	-94
Narmada	321.2	234	2.5	-97	4.7	-95
Navsari	267.0	59	15.0	-89	8.7	-93
Panchmahal	201.1	150	13.5	-83	3.6	-96
Patan	499.1	949	46.4	3	0.0	-100
Sabarkantha	328.7	378	48.6	-32	5.5	-92
Surat	275.7	149	6.1	-93	6.3	-93
Tapi	381.8	143	9.8	-92	6.8	-95
Valsad	350.4	110	25.1	-84	12.1	-90
S K & Diu region						
Amreli	108.3	178	0.7	-98	0.5	-99
Bhavnagar	97.0	132	0.7	-98	0.4	-99
Diu	29.0	-39	0.4	-99	2.6	-93
Jamnagar	171.0	332	0.4	-98	0.1	-99
Junagarh	135.2	109	3.7	-92	0.5	-99
Kutch	360.9	965	0.6	-98	0.1	-99
Porbandar	122.9	164	2.8	-92	0.8	-98
Rajkot	192.1	304	4.4	-88	0.3	-99
Surendranagar	204.0	427	1.1	-97	0.0	-100
Maharashtra & Goa						
Konkan & Goa						
Mumbai City	175.7	15	35.9	-76	48.0	-61
Mumbai Suburban	188.4	23	32.7	-78	53.1	-57
North Goa	257.0	-6	107.4	-55	162.8	-22
Raigad	211.3	-21	132.0	-47	88.6	-56
Ratnagiri	169.0	-39	174.8	-34	125.9	-43
Sindhudurg	199.6	-25	110.8	-49	194.2	5
South Goa	309.4	27	148.7	-28	174.4	-7
Thane	271.5	33	68.2	-66	41.1	-77
Madhya Maharashtra						
Ahmednagar	14.9	-38	7.3	-67	10.3	-39
Dhule	89.2	126	43.3	13	22.3	-31
Jalgaon	31.4	-31	66.8	28	35.6	-29
Kolhapur	73.5	-54	53.3	-62	57.7	-56
Nandurbar	254.5	269	22.8	-67	5.9	-90
Nasik	142.2	91	34.6	-54	28.5	-56
Pune	59.1	-14	35.4	-47	15.6	-73
Sangli	16.5	-49	11.9	-62	5.8	-80
Satara	26.4	-51	25.8	-54	22.2	-51
Solapur	1.2	-96	1.9	-93	7.6	-60
Marathwada						
Aurangabad	7.2	-83	36.7	-7	44.1	27
Beed	2.1	-94	10.8	-63	23.9	-17
Hingoli	15.5	-74	52.6	-18	86.5	57
Jalna	5.4	-88	44.1	10	64.9	87
Latur	3.3	-95	14.4	-73	29.6	-33
Nanded	28.3	-56	21.7	-66	50.6	-6
Usmanabad	2.3	-95	6.1	-83	42.9	46
Parbhani	9.0	-85	21.5	-60	26.0	-37
Vidarbha						
Akola	49.5	-2	177.0	236	49.4	-11

Amraoti	84.9	52	180.3	154	75.2	20
Bhandara	132.5	60	56.1	-42	33.8	-66
Buldhana	20.4	-54	145.9	170	44.5	-8
Chandrapur	89.0	5	31.4	-69	52.9	-35
Gadchiroli	53.9	-49	16.5	-86	60.2	-41
Gondia	118.1	30	67.5	-32	58.0	-44
Nagpur	98.1	55	112.1	44	51.5	-16
Wardha	131.3	121	158.1	111	55.4	-16
Washim	12.3	-74	176.7	163	63.9	-8
Yeotmal	39.9	-27	94.7	39	54.4	-14
Odisha						
Angul	150.7	126	68.6	0	5.2	-94
Balasore	150.2	110	63.9	-9	14.4	-83
Bargarh	37.2	-59	83.9	4	16.5	-80
Bhadrak	220.4	301	47.7	-41	17.7	-79
Bolangir	33.5	-60	21.9	-74	13.3	-84
Boudh	87.6	34	87.7	18	13.7	-85
Cuttack	151.1	82	54.3	-31	21.6	-74
Deogarh	162.6	87	85.4	-21	13.9	-88
Dhenkanal	167.0	137	87.7	9	4.6	-95
Gajapati	41.1	-36	2.6	-95	28.0	-54
Ganjam	41.2	-29	3.8	-92	34.6	-32
Jagatsingpur	278.2	307	71.1	-30	31.3	-55
Jajpur	263.6	295	50.8	-39	13.7	-82
Jharsuguda	127.9	63	176.2	77	18.0	-83
Kalahandi	46.1	-43	8.8	-89	19.2	-77
Kandhamal	58.6	-10	54.1	-27	11.9	-87
Kendrapara	202.0	292	44.0	-42	13.5	-85
Keonjhar	180.7	168	41.9	-43	12.8	-83
Khurda	70.9	0	58.5	-27	23.6	-70
Koraput	22.0	-76	13.2	-86	66.1	-35
Malkangiri	34.4	-66	18.0	-82	101.0	-4
Mayurbhanj	242.4	226	56.8	-27	14.4	-85
Nawapara	230.9	217	11.8	-82	32.4	-47
Nawarangpur	22.6	-77	2.2	-97	43.5	-56
Nayagarh	73.9	3	46.6	-32	14.4	-81
Puri	108.1	56	6.3	-91	48.5	-40
Rayagada	33.4	-57	12.5	-78	27.6	-54
Sambalpur	143.8	66	68.4	-37	11.0	-91
Sonepur	39.2	-53	50.4	-53	6.5	-94
Sundargarh	181.6	124	148.1	63	25.7	-67
West Bengal & Andaman Nicobar Islands						
A & N ISLAND						
Nicobar	13.9	-80	23.9	-56	35.8	-48
North & Middle Andaman	18.6	-83	126.1	30	232.6	111
South Andaman	41.0	-58	83.7	3	138.3	21
GWB						
Bankura	134.8	88	167.0	157	8.9	-87
Birbhum	238.4	255	183.7	153	6.7	-91
Burdwan	140.1	126	215.6	188	26.1	-59

East Midnapore	255.9	313	252.0	192	12.7	-80
Hooghly	222.7	226	213.2	204	9.8	-82
Howrah	396.3	426	184.5	81	22.0	-71
Kolkata	125.2	54	206.1	116	35.6	-49
Murshidabad	184.2	145	159.4	144	25.5	-47
Nadia	124.3	124	125.7	141	0.1	-99
24 Pargana (N)	97.1	32	195.4	136	23.7	-59
Purulia	235.3	303	116.6	68	9.3	-88
24 Pargana (S)	173.2	73	206.9	83	23.6	-74
West Midnapore	135.2	70	173.9	121	39.4	-50
SHWB & Sikkim						
Cooch Behar	50.0	-69	60.8	-65	46.2	-75
Darjeeling	53.1	-69	41.3	-73	134.7	-13
East Sikkim	109.5	-11	42.3	-64	51.3	-55
Jalpaiguri	48.6	-73	90.6	-39	127.8	-17
Malda	108.8	38	101.9	56	9.4	-83
North Dinajpur	27.9	-67	35.0	-22	44.6	-34
North Sikkim	32.7	-71	44.8	-57	110.2	31
South Dinajpur	67.6	-22	25.6	-53	4.3	-90
South Sikkim	90.8	-26	54.1	-54	48.5	-58
West Sikkim	61.0	-45	55.0	-47	24.0	-71
Karnataka						
Coastal Karnataka						
Dakshina Kannada	156.7	-45	146.9	-41	257.6	29
Udupi	222.5	-30	209.4	-16	273.4	19
Uttara Kannada	125.3	-43	124.5	-39	165.6	-9
NI Karnataka						
Bagalkote	2.7	-87	10.1	-46	11.0	-37
Belagavi	18.2	-55	10.8	-73	22.3	-37
Bidar	1.5	-97	24.0	-43	21.3	-47
Dharwad	8.1	-72	13.6	-54	12.2	-56
Gadag	1.8	-90	6.3	-67	4.6	-74
Haveri	10.0	-68	21.6	-35	30.0	-1
Kalaburgi	2.4	-94	10.2	-75	49.0	52
Koppal	0.6	-98	9.1	-49	21.3	5
Raichur	4.4	-87	12.5	-55	13.9	-48
Vijayapura	0.8	-97	9.1	-63	12.5	-22
Yadgir	3.0	-94	8.0	-78	19.6	-40
SI Karnataka						
Ballari	0.2	-99	11.1	-40	12.5	-37
Bangalore Rural	19.1	-20	17.0	-36	24.9	20
Bangalore Urban	13.4	-40	16.1	-44	16.4	-38
Chamarajanagar	4.4	-76	2.8	-82	4.0	-68
Chikaballapur	35.7	50	18.3	-19	5.2	-76
Chikkamagaluru	42.8	-69	42.7	-67	76.7	-34
Chitradurga	7.6	-48	6.5	-55	12.6	-8
Davangere	17.7	-28	17.2	-25	14.5	-35
Hassan	9.6	-78	13.1	-66	16.5	-48
Kodagu	80.2	-57	46.2	-71	131.7	-7

Kolar	4.0	-80	18.7	-7	3.3	-83
Mandya	7.5	-44	16.4	31	3.7	-59
Mysuru	8.8	-59	12.9	-23	12.6	-7
Ramanagara	10.1	-54	14.1	-42	8.1	-59
Shivamogga	59.4	-52	83.6	-34	118.9	14
Tumakuru	6.9	-61	18.6	-4	3.5	-78
Kerala						
Alappuzha	26.7	-74	19.7	-78	71.4	-13
Kannur	193.9	-11	39.3	-77	173.4	31
Ernakulam	40.3	-72	34.1	-69	87.2	-19
Idukki	72.9	-60	36.6	-75	118.7	-9
Kasaragod	204.7	-13	67.1	-66	167.0	5
Kollam	43.6	-49	18.3	-72	31.3	-44
Kottayam	45.1	-62	31.7	-67	93.7	-3
Kozhikode	187.3	-10	19.5	-88	115.6	-10
Malappuram	74.1	-57	15.4	-88	136.8	49
Palakkad	50.2	-62	12.8	-86	102.2	25
Pathanamthitta	20.3	-81	21.0	-77	89.4	4
Thiruvananthapuram	8.6	-82	2.3	-94	5.3	-84
Thrissur	65.2	-60	21.9	-83	132.5	20
Wynad	69.0	-72	17.0	-91	76.6	-50
Tamil Nadu						
Ariyalur	19.2	-15	11.3	-36	2.0	-91
Chennai	74.1	145	65.9	165	15.6	-53
Coimbatore	10.7	-21	3.9	-46	13.8	70
Cuddalore	58.6	147	21.5	17	3.0	-89
Dharmapuri	2.4	-89	5.7	-64	0.0	-100
Dindigul	11.8	-24	7.0	-44	2.3	-81
Erode	3.2	-70	20.6	157	0.4	-96
Kanchipuram	48.1	68	48.7	101	10.5	-71
Kanyakumari	6.0	-71	0.6	-96	3.7	-80
Karikal	0.0	-100	0.1	-99	10.0	-44
Karur	0.0	-100	2.6	-39	0.3	-97
Krishnagiri	9.1	-53	9.5	-47	1.1	-93
Madurai	10.5	-42	10.8	-17	0.6	-96
Nagapattinam	12.9	-29	24.3	83	3.3	-81
Namakkal	11.8	-39	9.3	-45	3.9	-81
Nilgiris	29.2	-51	12.4	-74	19.1	-55
Perambalur	25.1	41	55.0	540	0.0	-100
Puducherry	19.2	-51	42.8	135	11.1	-63
Pudukottai	43.9	114	11.4	-7	1.6	-93
Ramanathapuram	4.1	-62	12.8	137	0.6	-92
Salem	17.6	-31	17.0	-11	8.5	-62
Sivaganga	41.4	83	40.9	167	0.0	-100
Thanjavur	32.2	76	6.5	-52	0.3	-98
Theni	11.5	22	2.3	-60	9.4	36
Tirunelveli	3.7	-59	0.0	-100	1.5	-75
Tirupur	1.3	-82	0.0	-100	1.1	-81
Tiruvallur	102.1	284	70.3	199	2.7	-91

Tiruvannamalai	66.1	161	31.6	37	7.0	-75
Tiruvarur	10.7	-46	14.0	18	0.0	-100
Toothukudi	0.3	-95	1.8	-4	0.4	-83
Trichy	11.9	-16	8.9	6	0.2	-99
Vellore	37.2	32	20.5	-14	6.8	-74
Villupuram	55.7	107	29.5	48	3.6	-85
Virudhunagar	11.5	12	3.5	-36	0.1	-99
Andhra Pradesh						
Coastal Andhra Pradesh						
East Godavari	26.2	-50	51.7	36	58.7	15
Guntur	5.1	-86	17.2	-49	30.5	2
Krishna	22.6	-60	28.7	-39	38.8	-11
Nellore	8.5	-66	28.2	53	29.2	37
Prakasam	8.6	-67	15.0	-26	29.4	76
Sirkakulam	34.5	-24	3.0	-93	41.3	-6
Visakhapatnam	43.1	0	6.1	-84	69.5	79
Vizianagram	22.7	-47	11.4	-71	49.0	33
West Godavari	23.1	-62	43.1	-11	52.5	-15
Rayalaseema						
Anantapur	2.8	-84	10.7	-25	3.3	-77
Chittoor	17.0	-32	32.1	53	2.6	-90
Cuddapah	7.3	-74	13.7	-43	10.6	-56
Kurnool	10.0	-71	9.7	-65	19.5	-20
Telangana						
Adilabad	62.6	-18	11.1	-85	58.9	-16
Hyderabad	2.8	-94	2.0	-95	10.9	-75
Karimnagar	40.2	-37	7.0	-88	74.9	32
Khammam	34.4	-55	28.9	-58	54.9	-13
Mehabubnagar	6.5	-85	6.3	-84	43.9	40
Medak	2.4	-96	10.3	-82	35.2	-20
Nalgonda	8.7	-79	9.4	-72	42.4	39
Nizamabad	16.4	-78	11.0	-86	55.5	-19
Rangareddy	3.0	-94	11.7	-71	40.2	10
Warangal	43.6	-35	10.7	-82	53.5	0

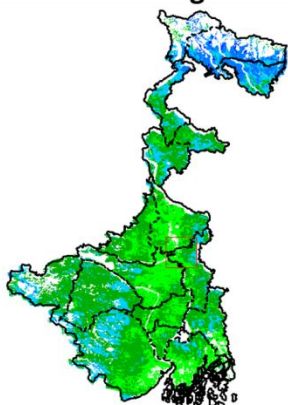
Legends

	(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

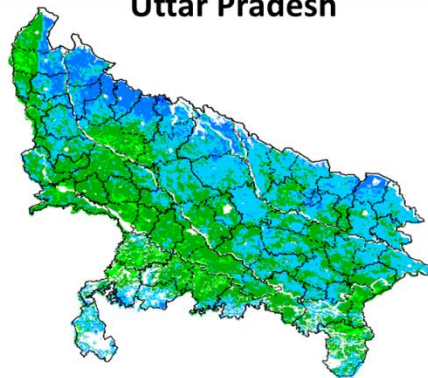
**INSAT 3A CCD NDVI COMPOSITE MAPS FOR THE WEEK ENDING ON
12th August 2015 FOR DIFFERENT STATES**

West Bengal



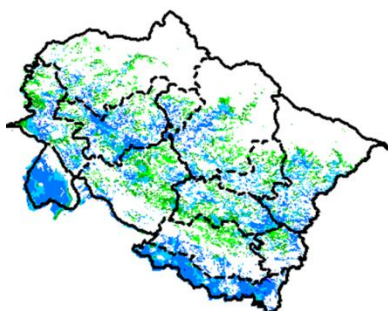
Agricultural vigour is very normal over the parts of West Bengal, whereas northern parts of West Bengal show dominantly higher values of NDVI varying from 0.4-0.6.

Uttar Pradesh



Agricultural vigour is good over the entire state of Uttar Pradesh where NDVI value varies from 0.4 - 0.5. In southern part normal NDVI values (0.2-0.4) are observed.

Uttarakhand



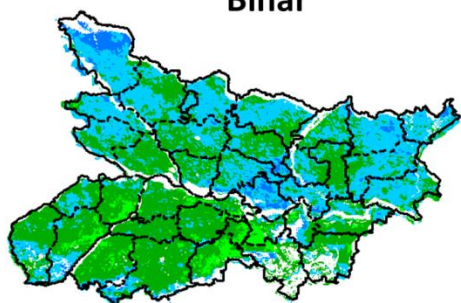
Agriculture vigour is good over entire state of Uttarakhand with NDVI value varying between 0.4-0.6, whereas isolated patches with normal value of NDVI are observed over some parts of the state.

Telangana



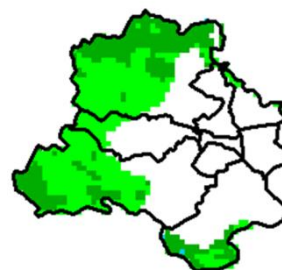
Agriculture vigour is normal all over Telangana where NDVI value lies between 0.2-0.4.

Bihar



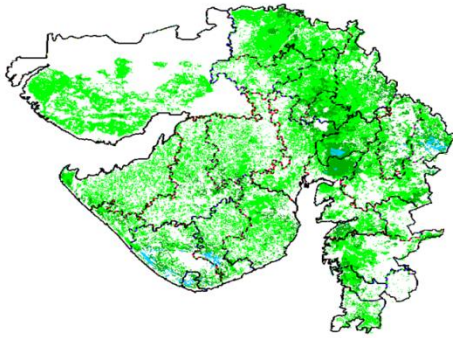
Northern part of Bihar shows comparatively a high value (0.4 -0.5) of NDVI, whereas normal value of NDVI is observed over the remaining parts of the state

Delhi



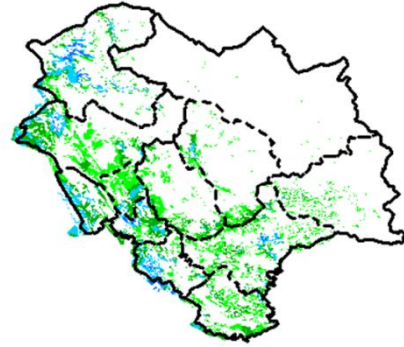
Agriculture vigour is normal all over Delhi where NDVI value lies between 0.2-0.3.

Gujarat



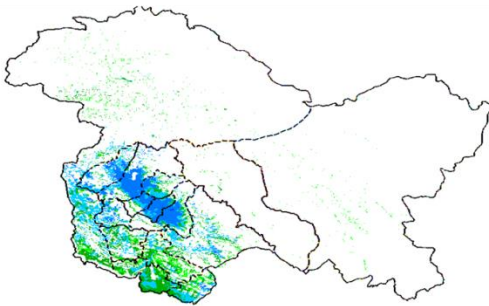
Agriculture vigour is normal over entire Gujarat where NDVI value lies between 0.2-0.3.

Himachal Pradesh



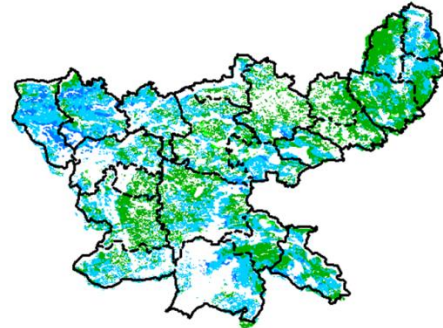
Agriculture vigour is normal over Himachal Pradesh where NDVI values lies between 0.2-0.3, whereas higher NDVI values are observed in southern part of the state.

Jammu & Kashmir



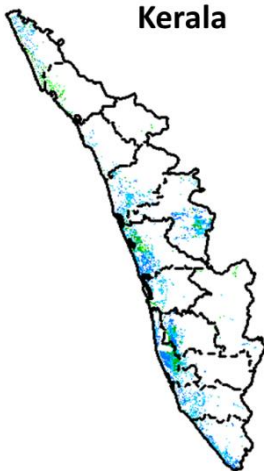
Agriculture vigour is good all over Jammu and Kashmir. NDVI value varies in between 0.4-0.5 in south western parts.

Jharkhand



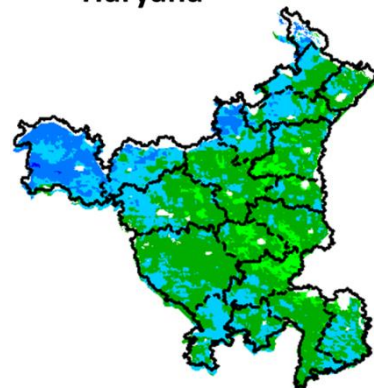
NDVI values vary from 0.4 - 0.5 over Jharkhand. Normal NDVI values are seen in some patches over eastern and southern parts of Jharkhand.

Kerala



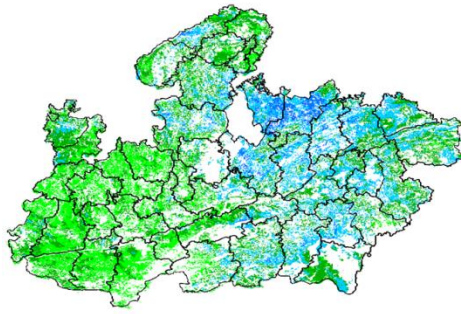
Central and coastal regions of Kerala shows increased NDVI values varying from 0.4 to 0.5, whereas rest of agricultural vigour of Kerala shows good values of NDVI.

Haryana



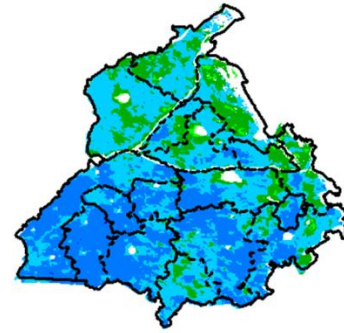
Agriculture vigour is good over the state of Haryana. NDVI values varies between 0.3– 0.5 over the state. Except few patches in eastern part where NDVI values in between 0.4-0.6.

Madhya Pradesh



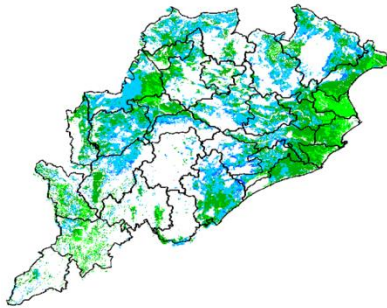
Agriculture vigour is normal (0.2-0.3) over entire state Madhya Pradesh. Higher (> 0.4) values are seen in some patches over north-eastern and eastern part of Madhya Pradesh.

Punjab



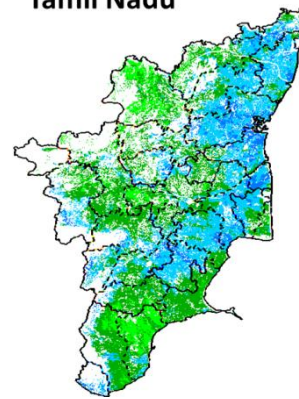
Agricultural vigour is very good over entire state of Punjab, showing NDVI value ranges from 0.4-0.6, whereas few patches of normal NDVI values observed in northern part of state.

Odisha



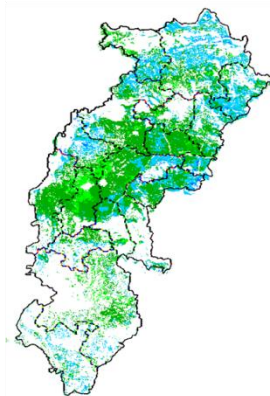
Agricultural vigour is normal over entire state of Odisha with NDVI value ranging between 0.2 - 0.4. Higher (> 0.4) values are seen in some patches over central and eastern part of the state.

Tamil Nadu



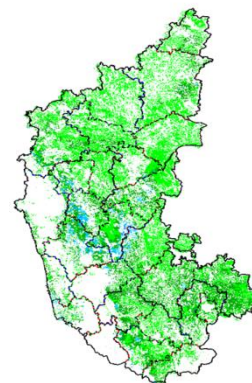
Agricultural vigour is good over Tamil Nadu with NDVI values varying from 0.4 - 0.5. Except south eastern and north western part showing normal NDVI value ranges from 0.3-0.4.

Chhattisgarh



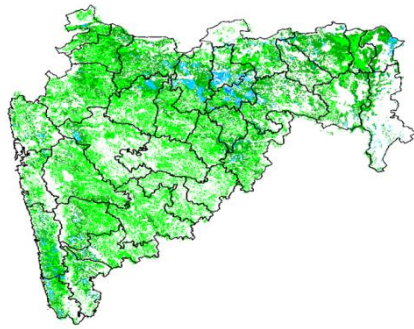
Agriculture vigour is Normal in central part of Chhattisgarh where NDVI value lies in between 0.2-0.3. South and northern part of state shows increased NDVI values in some pockets.

Karnataka



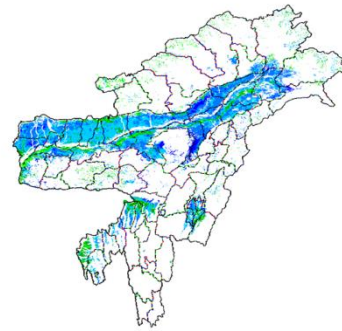
Agricultural vigour is normal over entire state of Karnataka between 0.2-0.3, except central part shows higher NDVI values in between 0.4-0.5.

Maharashtra



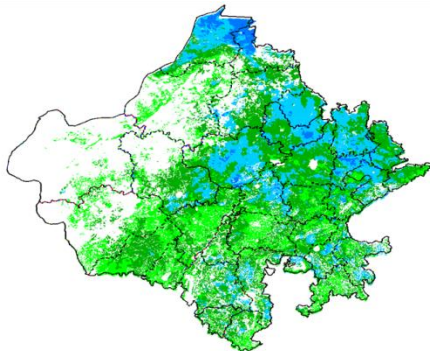
Agriculture vigour is good over western Vidarbha with NDVI values from 0.4 - 0.5, whereas NDVI is normal over parts of Marathwada, Vidarbha, western Maharashtra and Madhya Maharashtra region .

North East Region



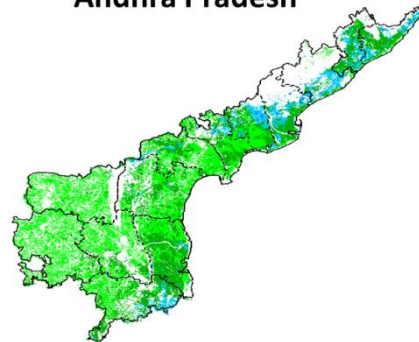
Agriculture vigour is good in valleys of North-East states which cover parts of Assam. NDVI values vary from 0.4-0.6. Normal NDVI conditions are observed all over NE region.

Rajasthan

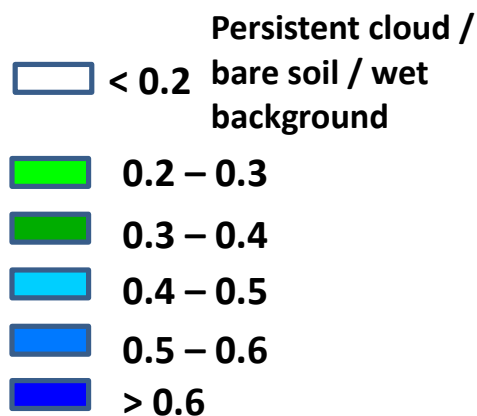


Agriculture vigour is normal (0.2-0.4) over entire state Rajasthan, except for few patches in northern and central Rajasthan where NDVI shows slightly higher values (0.4-0.5).

Andhra Pradesh



Agriculture vigour vary from 0.3 - 0.5 over coastal part of Andhra Pradesh. The NDVI is normal over remaining parts of the state.



Annexure III

List of varieties

North Inerior Karnataka

Groundnut: Bunch type of varieties, JL-24 and TMV-2, S-230, Mardur local

Paddy: short duration varieties Amrut, MGD-101, MTU-1001 in low lands, BR-2655, Tunga.

Sesame: E8,DS1, DSH9.

Maize: Arjun, 900 M.

Pearl millet: ICTP 8203 and ICMV 221

Pigeon pea: Maruti, TS 3 R.

Red gram: BRG-1, BRG2, TTB-7

Tamil Nadu

Banana:poovan, rasthali, monthan, karpooravalli and neypoovan.

Kuruvai rice:ADT 36, ADT 43, ADT 45 and CO 51.

Andhra Pradesh

Rice: MTU-1010, Nellore masuri, Dharani, Shwetha.Sannalu, Swarna, Vasundhara, Suraksha, Vijetha.

Varieties for Early Kharif Rice Plantings - Pushkala, Rasi, IR64.

Groundnut: Kadiri-6, Kadiri-9, Narayani and dharani.

Castor: PCH-111, PCH-222, Kranti, GCH-4, Haritha.

Assam

Sali/ kharif rice: Long duration high yielding varieties: Ranjit, Bahadur, Peoli, Moniram, Pankaj, Kushal , Swarna sub-1, Gitesh, Pankaj, Mashuri (for growing in typical lowland paddy area).

Medium duration paddy varieties : Satya and Basundhara (in medium lowland area).

Bau rice: Maguri, Panikekua, Amona, Negheri, Kekua, Pani Kekua, Padmapani.

Capsularis Jute: JRC 212, JRC 321(Sonali), JRC 7447 (Shyamali) and UPC 94(Reshma).

Olitorius Jute: JRO 524 (Navin), JRO 785 (Basudev), JRO 632(Baisakhtissa), Set-2 (Bahagi) and Tarun.

Papaya : Ranchi, Washington, Halflong, Coorg Honeydew.

Mesta : HC 583 and AMC 108.

Summer bottle gourd : Pusa Summer Prolofie long, Pusa Summer Profile round, Pusa Meghdoot and Pusa Manjiri.

Cowpea: Yard long bean & Pusa Barsati.

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

Finger Millet: INR1008, TANU-9, Banars and Local varieties.

Black gram: KU 301, USJD 113, PU 19.

Green gram: Pratap, SG 21-5

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

Manipur

Soybean: JS-335.

Groundnut: ICGS-76.

Meghalaya

Sali/KharifRice: High Yielding Varieties : Shahsarang -1, Lampnah, IR 64, Ranjit, RCPL 1-412, RCPL 1-410, RCPL 1-411.

Local varieties: Mendri, Manipuri.

Groundnut: ICGS 76, JL 24.

Soybean: JS 335, Bragg, Ankur, Pusa Soubean-1, Local JS 2.

Nagaland

Lowland rice:Short to medium duration HYV rice : CAU R1, CAU R3, RCM-9 and RCM-11.

Maize : DA 61A, RCM-75, RCM-76 and HQPM-1.

Tripura

Groundnut: TAG 24, TG 37A, ICGS 76.

Maize: DMH- 849, 117, HQPM 1, BQPM 9.

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,.

Odisha

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

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

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

Sesame: Uma, Kalika, Kanak, Nirmala, Prachi, Usha.T.

Turmeric: Roma, Surama, Rang, Rashmi.

Jute: JRO-524(Naveen).

Maize: Navjot, Shakti, Decan-107, Decan-109.

Rice: Early: Jogesh, Siddant, Hazaridhan, Mandakini, Jyotirmayee, Virendra.

Medium: Pratikshya, Manaswini, Tapaswini MAS, Konark, Surendra, Kharavela, Naveen, Abhisek

Late: Barsadhan, Ranidhan, Pooja, Mrinalini, RGL-2837, Moti, Ketakijoha, Padmini, Kanchana, Mahanadi, Jagabandhu.

Hybrid varieties: CR Dhan 701, NK 5251, JKRH 401, Ajay, Rajalaxmi, Arize 6444G.

Bihar

Moong: Pusa Vishal, Samrat, SML-668, Sona varieties are recommended for moong.

Urad: Pant U-19 and Pant U-31, Ultra and Type-9 for Urad.

Maize: Suwan, Deevki, Ganga-11, Shaktiman-1 and Shaktiman-2.

Turmeric: Improved Varieties- Rajendran, Sonia, Rajender Sonali.

Ginger: Improved varieties - Maran, Nadia

Rice: Low land: Rajshree, Satyam, Rajendra, Mehsooril MTU 7029(Swarna), Swarna sub-1

Medium land: Sita, Kanak, IR 36, Rajendra, Shweta, Santosh, Shahbhagi.

Medium duration (Hybrid): P.H.B.71, Pusa R.H.10, K.R.H 2, P.A.644, Pant Sankardhan.

Til: Krishna, Kaakee safed, Kalika, Kalika, Pragati

Jharkhand

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

Sugarcane: BO 147.

Rice: Upland Rice: Birsa Dhan 108, Birsa Vikash Dhan 109, 110, 111 & Vandana.

Medium land: Anjali, Sahbhagi, Naveen, Birsamati, Sugandha, BR-10, IR-36.

Low land: Swarna (MTU-7029), Rajshree, Sambha Mahsuri (BPT-5204), Birsa Dhan-202, Birsamati.

Finger Millet: Birsa marua 2, A-404, GPU 45, 47.

Urd Bean: T9, Pant U19, 30, 35 & Birsa Urd 1.

Arhar: Brisa Arhar-1, Narendra Arhar-1, Bahar, ICPH-2671.

Groundnut: A.K-12-24, Birsa Bold.

Sweet Potato: Birsa Sakarkandi & Shreebhadra.

Jammu & Kashmir

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

Rice: IET-1410, K-39, Ratna, PC-19, Jaya, China-1039 and Giza-14.

Maize: Vijay, Mansar, Him - 123, C 6 & C 8.

Uttarakhand

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

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

Potato: Kufri- Jyoti, Ashok, Anand.

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

Rice: long duration varieties like Pusa-44, Jaya, NDR-359, Sarju-52, PR-113, PR-114, Pant Dhan-18 or Pant Dhan-19.

late varieties VL-Dhan-154, Vivek Dhan-62, Vivek Dhan-65, VL Dhan-81, Vivek Dhan-82 or VL-Dhan-85.

Finger millets: VL-Mandua-124 and VL-149. However, its short duration (i.e. 95 to 100 days) varieties like VL- Mandua-204, Pant Mandua-3, PES-176, PES-110, VL- Mandua-146.

Bajra: PBN-83, YESHWANT (PBN-9), Pusa Composite 443, MP443.

Maize: Naveen, Sweta, Kanchan, Surya, Amar, Gaurav.

Lobia: Pant Lobia-1 or Pant Lobia-2, UPC-5286, UPC-622, UPC-625 etc.

Cotton: ANKUR-651, JAWAHAR TAPTI, SRUTHI, ANKUR-09 (WHH-09).

Himachal Pradesh

Cauliflower: Patna snowball and joint snowball.

Radish: Japanese white, Chinese pink and mino early white.

Capsicum: solan hyb-1, california wonder, yolo wonder, vl shimla mirch-2.

Brinjal: plr-1, azad (hybrid), Arka Nidhi, Arka Keshav, Hisar Shaymal, PPC, F1 Chhaya, F1 Sandhya.

Tomato: solan gola, Palam Pink, Palam Pride, F1 Avtar, F1 Rakshita.

Chilli: Surajmukhi.

Sunflower: EC-68415.

Moong: Pusa Baishakhi.

Mash: UG-218.

Garden pea: PalamPriya, Azad P-1, PB-89, PalamSamool and Lincoln.

Carrot:Nantes and Chantenay.

Palak:PusaHarit, Pusa Bharti.

East Uttar Pradesh

Rice: sarayu-52, narendra-359, pant dhan-4, indrasan, NDR-9, pant dhan-12, narendra-80, ratna or pusa-35, mahsuri, swarna, mahsuri, jal lahri, type-9, type-100, narendra-359, malviy dhan-36, narendra dhan-2026, narendra dhan-2064, narendra dhan-3112, sarju-52, pant dhan-4, Swarna, Pant-10, T-3, Poosa Basmati and Haryana Basmati.

Hybrid rice varieties: eraes-6444,6201,J.K.R.H.-401,PHB-71,narendra sankar dhan-2,3, KRH-2,PRH-10,US-312, RH-312,VSR-202,RH-1531. Narendra-8002, NarendraMayank (2008) Narendra-97.

Scented rice: Type-3,pusa basmati-1,basmati-370,malviya sugandh-105, malviya sugandh-4-3, narendra sugandh,Narendra usar dhan-1,3,CLR-10, or narendra usardhan-2008.

Moong:Narendra moong-1, Pant moong-1,3,4,PDM-11, Samrat, Malveey - Jyoti, Janchetana, Jagruti, Janpriya,Jankalyani, Asha, Shweta, Neha, TM-9937, MH-215.

Urad: Narendra urd-1, Pant U-35, 31, Azad urd-2,3, Shekhar-1,2,3.

Sugarcane: coj-64, cos-96268, cos-98231, cos-767, cos-84, cos-32, copant-84212, Ko.Sha.-88230, 95255, Ko.Sha.-95436, 01235.

Maize: pusa, agatishanker, makka-2, azad, uttam, sweta, Prakash,G-1, 5(hybrid varieties) and Tarun, Navin, Kanchan, Sweta and Jaunpuri (varieties for early sowing).

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.

Lobia:UPL-5287, UPC-4200, Ta-5269, Ta-2.

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).

West Uttar Pradesh

Ladies finger:VRO-6, VRO-5.

Rice:PRH 10, PB1, Pusa 1509, Sugandha5.

Pigeon pea:T-21, UPAS 120.

Cotton: H777, Dhanalakshami, HD107.

For fodder Jowar: JS 120, Lobia 88.

Punjab

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

Rice: Pusa-44, T.R-112 and T.R-113.

Delhi

Cotton: H-777, H-974, H-1098.

Pigeonpea: Pusa 2001, Pusa991, Pusa992, Paras manak, UPAS 120.

Bajra: Hybrid Bajra Pusa-605, Hybrid Bajra Pusa-415, Composite Bajra Pusa-383, HSV-67.

Maize:AH-421, AH-58 or Composites: Pusa composite-3, Pusa composite-4.

Guar: PusaNavbahar, DurgaBahar.

Radish:PusaChetki.

Cluster bean:PusaKomal.

Beans: PusaSem 2, PusaSem 3.

Spinach: PusaBharti.

Amaranths: PusalalChaulai, PusaKiran.

Ladyfinger: Pusa A-4.

East Rajasthan

Sugarcane: (late sown): COL8001.

Groundnut: RG 425, RG382, HNG10, GG20, TG37, TG39, M-13.

Kharif Onion N-53 , Agrifound Dark Red.

Okra: Ark abhay, Parbhani kranti, Pusa makhmali.

Guar: RGC-936,986,1002,1017,HG -365,563,Hg2-20. RGC-1003, RGC-1066.

Green gram RMG-62, RMG-268, K-851, G.M-4, RMG-492 & RMG-344 ML-131, IPM-02-03 (improved varieties).

Cowpea:FS-68, RC-19 and RC-101 (improved varieties).

Moth bean-R.M.O-40, R.M.O-257, R.M.O-225 and CAZRI moth-2. RMO-40 and RMO-225(Maruvardan).

Sorghum: CSH-6 (90-100 days), CSV-10 (100-110 days), CSV-15 (105-140 days).

Sesame : RT-125, RT- 127, RT- 346, RT -351.

Pearl millet : RHB-121, HHB-67.

Black gram: Krishna, T 9, Pant U-19, 31, KU-96-3, Pratap Urd-1.
Guava: Allahabad safeda, ArkaMradula and Lucknow 49
Pomegrante: Ganesh, Jhalore Seedless
Lime: Kagzi, Baramasi, Pramalini and Vikram
Aonla: Kanchan, Banarasi, Krishana, NA9, NA10 and Chakaiya
Ber: Sonor, Thornless, Katha Alwar, Gola and Umran
Papaya: Kurg Honeydew, PusaNanha, Pusa Dwarf and Pusa Delicious

West Rajasthan

Pearl millet: HHB 67, RHB 121.
Cluster bean: RGC 936, RGC 1002, RGC 1017 and RGC 1066.
Cowpea: RC-101, RC19 and RCp 27.
Moong: RMG 62, RMG 268, SML 668 and GM-4.
Moth bean: RMO-40, RMO 435, RMO 257and CZM-2.

Madhya Pradesh

Soybean: JS 95-60 (early), JS 93 -05 (Medium), JS 335 (Late).
Redgram: TJT 501, ICPL 87 (early) and JKM 189 (Medium).
Groundnut: TG 22, TG 26, JGN 3.
Rice: JR 345, JR-201, Poornima (short duration).
IR-64, IR-54, Madhuri, Kanti, Mahamaya, Pusa basmatai (medium duration).
Black gram: JU 86, JU 3, T 9.
Maize: JVM 421, JM 12, JM 216.
Green gram:TJM 3, JM 721, HUM 1.
Sugarcane: KO Jawahar-86141, 86572.
Guar: HG 365, HG 565.

Chhattisgarh

Rice:Purnima, Danteswari, Shabagi, MTU 1010,MTU 1001, Suwarna.
Brinjal: Punjab Shadabahr, KS 331, PH 5, PH 6, KS 224, ARBH 543.
Tomato: Pusa early dwarf, Sweet 72, Pusa rubi, Pusa Gurab, Mangala, Naveen, Laxmi 5005 & NS 815.
Soybean: J.S. 335, Indira Soya-9, J.S. 80-21, J.S. 93-05.
Groundnut: SB -11 (J 11), ICGS-37, ICGS-44, T.A.G- 24, T.A.G-28.
Sesame: T.K.G-21, T.K.G-22, T.K.G-55, T.K.G-8.